

MEDITERRANEAN

Steps Towards **Sustainable Consumption and Production** in the Mediterranean

CLEANER production



Regional Activity Centre for Cleaner Production (RAC/CP)
Mediterranean Action Plan



**Regional Activity Centre
for Cleaner Production**



 **Generalitat de Catalunya**
Government of Catalonia
**Ministry of Territory
and Sustainability**

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INTRODUCTION

According to the United Nations Environment Programme (UNEP), a green economy can be understood as an economic system that is dominated by investing in, producing, trading, distributing, and consuming not only environmentally friendly, but also environmentally enhancing products and services.

Accordingly, the shift to a green economy involves the application of a series of policy, regulatory and economic measures for sustainable consumption and production (SCP) that enable the progressive increase of the demand for, and supply of, environmentally friendly and environmentally enhancing products and services.

The SCP approach combines measures aimed at minimizing the negative impacts on the environment on the production side (cleaner production, energy efficiency, etc.) with the gradual introduction of mechanisms that integrate sustainability criteria in the value chain and in the consumer-producer cycle.

Involving the private sector in SCP requires, on the one hand, an attitude change among Mediterranean companies and industry through a shift from reactive focus to preventive focus in relation to the management of hazardous substances and wastes and, on the other, the creation of the necessary conditions to force a shift towards green competitiveness. In order to achieve these aims, it is essential to promote cleaner production (CP) mechanisms as methods which will enable industry to reduce pollution and emissions, as well as the implementation of environmental management systems.

At the political level, it is necessary that governments create the appropriate regulatory and institutional frameworks to boost and promote the adoption of such mechanisms for industry. In this respect, the concept of Integrated Pollution Prevention and Control (IPPC) has turned out to be an efficient tool whereby countries can gradually include cleaner techniques as compulsory aspects to authorize carrying out activities in the most polluting industrial facilities.

On the other hand, the aforesaid measures aimed at enhancing production processes in industry should be accompanied by a gradual setting up of the appropriate mechanisms to favour the market conditions which will enable companies to carry out the shift to an SCP approach and to enhance the awareness of consumers and their power to select sustainable products. In this sense, the introduction of eco-labelling systems play a key role in visibility in the market of environment-friendly companies, while at the same time providing consumers with objective information to enable them to identify products that are less harmful to the environment.

Finally, the integration of the concept of sustainable public procurement (SPP) by public administrations and the adoption of corporate social responsibility (CSR) in decision-making processes of the private companies are also turning into crucial tools to integrate social and environmental aspects in the management of the supply chain of companies and organizations.

According to this concept, the promotion of SCP and related mechanisms are key factors for a green economy, as they are triggers to increase the number of environmentally friendly and environmentally enhancing products and services as a proportion of total output and employment.

1. OBJECTIVES OF THE REPORT AND WORK METHODOLOGY

This report is the latest in a series prepared since 2001 by the Regional Activity Centre for Cleaner Production, with the aim of providing periodical updates on the progress made by member countries of the Mediterranean Action Plan (MAP) on measures to reduce the environmental impact associated with industrial and economic activity, placing special emphasis on those initiatives that encourage more sustainable consumption and production criteria.

Two issues detected after the previous reports were prepared which may contribute to improving its content have been included in this new edition: firstly, a less descriptive and more analytical focus with regard to the region as a whole has been adopted and, secondly, increased prominence has been given to initiatives aimed at corporate self-regulation or at influencing other organisations of civil society, together with public policies and instruments provided by public administrations in general.

These issues will be reflected in the themes covered by the study, which will embrace, along with the measures for the promotion of sustainable production already dealt with in previous reports, public policies and voluntary initiatives for promoting responsible purchasing and consumption and corporate social responsibility (CSR). Thus, the analysis of each country collected in the annexes to the reports reflects a new thematic structure, with an initial section devoted to sustainable production, similar to previous editions of the report, and two new sections (sustainable consumption and CSR) that focus on these new issues.

At the same time, the content of this document is structured differently to that of previous editions, with a new report on Mediterranean countries as a whole, grouped as follows:

- Mediterranean Member States of the European Union (EU): Cyprus, Slovenia, Spain, France, Greece, Italy and Malta.
- Balkan States: Albania, Bosnia and Herzegovina, Croatia and Montenegro.
- Countries of the Middle East and North Africa (MENA): Egypt, Israel, Lebanon, Morocco, Syria, Tunisia and Turkey.

The CP/RAC prepared this report with technical support from the Foundation for Ecology and Development and NEXOS, and the assistance of the National Focal Points Centre, designated by each member country of the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean (Barcelona Convention), and the Focal Points of the Union of Mediterranean Confederations of Enterprises (Businessmed), with which CP/RAC has a cooperation agreement for promoting eco-efficiency and the sustainability of Mediterranean companies.

In the preparatory phase of the document, a questionnaire was sent to the aforementioned National Focal Points, as well as to Spanish business development organisations active in MAP countries (chambers of commerce, ICEX commercial offices in embassies, etc.). The data obtained¹ has been supplemented with information from reports and official web pages of national ministries and institutions, as well as from international and regional programmes such as the United Nations

¹ In the case of three MAP countries, Algeria, Libya and Monaco, there was no response on the part of the National Focal Points, and for this reason they have not been included with a specific analysis in the annexes of the report. However, information obtained from other sources concerning the situation of these countries has been taken into account in the document of conclusions by regions.

Environment Programme (UNEP), the Mediterranean Action Plan (MAP), the United Nations Industrial Development Organisation (UNIDO), community delegations, the World Bank, EuropeAid, the European Bank for Reconstruction and Development, the Organisation for Economic Co-operation and Development (OECD), and the Regional Environmental Centre for Central and Eastern Europe (REC). At the same time, information has been gathered from the main business networks and international initiatives for the promotion of CSR present and active in the region (United Nations World Pact, national chapters of the World Business Council for Sustainable Development and the CSR Europe network, the Arab Sustainability Leadership Group, and others).

Prior to the publication of the report, information regarding each country was sent to the National Focal Points for revision and approval. In those cases in which the National Focal Point has not confirmed the information, this has been noted in a footnote at the beginning of the chapter corresponding to the country in question. It is worth pointing out that the study and its conclusions were prepared on the basis of information available from the aforementioned official sources, although in some cases it may not correspond to the true situation. This is due to the fact that the information is not always sufficiently precise or that national representatives may have interpreted the information provided in different ways.

2. EXECUTIVE SUMMARY

2.1. SCP IN THE POLITICAL AGENDA: TRENDS AND CHALLENGES

The Contracting Parties to the Mediterranean Action Plan vary in many ways, both in terms of their economic model and in terms of institutional development of the administrative structures which support the regulatory framework and the instruments used in the SCP approach. In any case, both in the region we denominated the Middle East and North Africa (MENA) and in the countries included in the Balkans, albeit with noticeable differences at the national level, a quest for a kind of convergence with European standards was detected, both to access EU markets and to facilitate access to aid and EU co-financing of projects. In the case of countries which plan to adhere to the EU in the near future, this convergence implies that the EC heritage is being assimilated and this includes environmental issues.

In the Balkans, the efforts aimed at reconstruction during the last decade and the desire to join the EU in the short or medium term explain the inclusion of numerous aspects of the EC heritage in the region's legislation. The growing trend towards privatisation and decentralisation underlines the importance of significantly improving competitiveness in order to boost trade with the EU. To that end, governments in the area are proposing and developing measures which will serve as guidelines for companies with regard to the environmental standards required by the EU's institutions and markets.

In the MENA region, one of the major challenges is to adapt and modernise industries which are often obsolete, inefficient, highly intensive in terms of resources and energy consumption, and very polluting; without damaging the main strategy for economic growth, based on the promotion and growth of the industrial sector. The SCP approach of the countries of this region (with a few exceptions), is hence marked by the search for the right mechanisms to facilitate industrial development and growth on the basis of the new environmental standards prevailing in global markets.

For their part, the Mediterranean Member States of the EU have built SCP into their economic and consumption strategies, as well as their development policies in a broader sense, it being one of the axes of the Community Lisbon Programme. Also, in the MAP as a whole, it is the EU members who have most rigorously implemented the techniques of cleaner production and have also been at the forefront in developing regulatory measures and frameworks related to sustainable consumption. All their national strategies related to sustainable development pursue SCP objectives, and some of these strategies establish specific lines of action.

At present, when policies on cleaner production and integrated pollution control and prevention are implemented, improvements can be seen. However, the implementation process still suffers from important shortcomings in some countries. Nevertheless, the process now seems irreversible and it is expected that in the next few years the handicaps and shortcomings of the system will be overcome. Nonetheless, the outsourcing of the European economy shifts SCP priorities towards the consumption framework, especially with regard to the final use of energy and transport. Setting out an institutional regulatory framework which defines and promotes sustainable consumption is essential and urgent.

2.2. SCP APPROACH TO THE STATE OF THE ENVIRONMENT AND ENVIRONMENTAL PROBLEMS

A common feature all the MAP countries is the high levels of pressure on land usage, especially in coastal areas and in regions where tourism is one of the main industries. This has led to overallocation of infrastructure and services in some areas. Similarly, in addition to urban pressures, activities linked to construction (mining, quarries, production of building materials, etc.) have a strong impact on the land and the atmosphere (due to the emission of suspended particles). Moreover, water, a scarce resource in the Mediterranean region, is subjected to intense pressure due to its extensive use in industry, by domestic users connected to the urban water supply networks and, in the case of the EU, due to agricultural use.

In this sense, it is worth pointing out in connection with EU countries that, through the Water Framework Directive (WFD), an EC framework has been set out to protect continental surface, transitional, coastal or underground waters, with a view to preventing or reducing pollution, promoting its sustainable use, protecting the environment, improving aquatic ecosystems, and mitigating the effects of floods and droughts.

Conclusions regarding the environmental situation in the countries analysed include:

- The ecological footprint of the EU countries and the Balkans, except Albania, exceeds their resources. In the Balkans the use of resources, especially of water and energy, remains inefficient. The ecological footprint of the MENA region is smaller, but pressure on natural resources is increasing.
- In some areas, such as Cyprus and a significant part of the MENA region, some episodes of overexploitation of the local water reserves, close to the limit in some cases, have been observed.
- The eutrophication of surface waters is taking place across wide areas, mainly in the EU countries, from industrial and urban wastewater.
- In the EU countries the reuse of treated wastewater is increasing, especially in agriculture.
- Cases of contamination of land and water due to acid rain have been recorded in areas around large industrial agglomerations.
- In the Balkans the volume of GHG emissions is much lower than that of the EU. This may be why there are few incentives to develop and implement renewable energy policies.
- A significant number of the countries in the MENA region are particularly vulnerable to climate change. In the region the main GHG emissions sources are transport and energy usage, essentially in industry.
- Waste management is a primary concern in the Mediterranean Basin countries. Those countries which achieved advances in waste management (essentially EU countries) should prioritise preventing and reducing the volume and hazards of waste, while the priority in the other countries analysed is to ensure they have the right management measures and the necessary infrastructures to implement such measures.
- In the Balkans there still exist problems related to obsolete heavy industry, both in relation to the inefficiency of the working machinery and to managing the hazardous waste and the contaminated land generated over the years and the process of dismantling some industrial plants without adequate control measures.
- The impacts of the chemical and petrochemical industries and the management of industrial waste and spills continue to be the main issues in the southern part of the Basin. It is not unusual to find abundant direct and indirect spills into the sea and uncontrolled discharges. It should be pointed out that social awareness about this is slowly growing.

2.3. ACTION FRAMEWORK AND MAIN PROMOTERS

At present, once policies on cleaner production and integrated pollution control and prevention are implemented, improvements can be seen, even though the implementation process still suffers from important shortcomings in some countries. The process now seems irreversible and it is expected that in the next few years the handicaps and shortcomings of the system will be overcome. Nonetheless, the outsourcing of the European economy shifts the SCP priorities towards the consumption framework, especially with regard to the final use of energy and transportation. Drawing up an institutional regulatory framework which defines and promotes sustainable consumption is essential and urgent.

In this European context, the Grenelle Act in France is an outstanding initiative which embraces numerous fields related to sustainable development and contains ambitious objectives. The aim of the Grenelle Environmental Summit, an initiative of the President of the Republic implemented in 2007, was to define the broad focus of government policy on ecological and sustainable development issues for the next five years. The measures approved as a result of this Summit highlight the role of consumption as a driving force of sustainable development, in many private and other sectors, and include new regulations related to the role of the State and the Public Administration as consumers and contractors, that is, sustainable public contractors. The planned revision of the text will prioritise issues such as energy efficiency, building, and transportation.

In the Balkan region, the last few years have been fruitful with regard to new environmental and, to a lesser degree, social legislation. The trend toward privatisation encouraged by the State has made it necessary to create frameworks for action embedded in comprehensive and transparent legal instruments. This process was accompanied by a degree of Westernisation in consumption patterns, using the EU model as a guideline.

In the MENA region, the uptake of SCP principles is also patchy. Israel is a clear exception in the region due to its level of development and economic power. In Egypt, important steps have been taken both in the public and private sectors. In the case of Morocco and Tunisia, institutional efforts aimed at the implementation of renewable energy stand out. Although a range of initiatives exists in the remaining countries, the road to consolidating SCP-related issues will be longer.

It must be emphasised that the instruments for fighting climate change and their incorporation into legislation have turned into mechanisms for transversally encouraging sustainability and SCP. In the case of the EU countries included in Annex I to the UNFCCC, the National Allocation Plans represent an effective tool for bringing about a more efficient and less carbon-intensive production model. In line with this, the Emissions Trading Scheme of the EU (EU ETS) has put limits on the CO₂ quantities which can be emitted each year by some 10,500 facilities, covering nearly half of the emissions produced in the EU.

Finally, it should be pointed out that we may conclude from the study that the support of international organisations and interregional agreements remains the driving force for developing the SCP approach in the MAP countries. The National Cleaner Production Centres and similar organisations are therefore essential for technical training and awareness raising in all countries.

2.4. CLOSING THE CYCLE: SUSTAINABILITY CRITERIA IN COMPANIES' AND ORGANISATIONS' VALUE CHAINS. CORPORATE SOCIAL RESPONSIBILITY (CSR)

The EU as a whole and some countries in the Mediterranean region, in particular, are today international benchmarks in the development of corporate social responsibility actions, whether at the level of public institutions, of markets or of civil society. Nevertheless, in some countries, especially the smaller ones, CSR is still understood in the old-fashioned sense of being linked mainly to corporate philanthropy. In general there is no correlation between the type of public policies on CSR (more or less interventionist in nature) and the development of CSR, but significant development can be seen in those countries where there has been some kind of institutional involvement. Those countries where CSR is less developed should build on the capability of local SMEs to adapt specific CSR tools to fit their own nature.

Public administrations may be expected to continue to develop measures such as redefining regulations on reporting and corporate communication, stimulating the socially responsible market through soft regulations for investment and pension funds managers, and the inclusion of social and environmental clauses in public contracting.

Many companies which adopted more advanced policies have done so partly in anticipation of future legal requirements, leading them to position themselves strategically. The companies which have advanced furthest in the development of such policies and tools have a clear advantage, which was exactly how some regions interpreted it when encouraging their companies to adopt CSR. It should also be mentioned that the study covered the adoption of information transparency models regarding social and environmental questions, especially as proposed by the Global Reporting Initiative (GRI).

Also noteworthy is the role played by socially responsible investment (SRI), a segment of the financial market which includes CSR considerations in its investment decisions. SRI decision-making criteria include environmental impact, social, and local government factors in addition to the usual financial criteria (profitability, liquidity). An increasing number of investors have started to use these criteria in their investment decisions in recent years. The role of these investors is crucial for encouraging large companies to adopt good CSR practices. France, Italy, and Spain (led by French institutions), have to a greater or lesser degree implemented SRI in depth.

In the Balkan countries, some efforts have been made in some aspects of CSR, which may serve as a platform for further development. However, corporate social responsibility appears to be necessary for more than just conforming to EU legislation; it also provides an opportunity to develop a more sustainable and productive corporate and social environment, which will be competitive in European markets.

Nowadays, there are many important, mainly international, organisations promoting CSR in the region, working in partnership with local associations and NGOs, as well as with receptive companies.

In the MENA region, CSR remains more linked to sponsorship, corporate philanthropy and social action. Moreover, it should be pointed out, in general, that the aspects with the greatest shortcomings are those related to good governance and transparency. The companies in the region with the most up-to-date approaches to CSR are usually suppliers to multinational companies. Given this starting point, there is major potential for progress in CSR by following the model of the EU countries.

Finally, we should mention the role played by the United Nations Global Compact, especially in the MENA and Balkan regions, where it is often the only really active initiative in terms of CSR. The Global Compact was created in 1999 as a voluntary initiative in which companies commit themselves to aligning their strategies and operations with ten universally accepted principles under four main headings: human rights, labour standards, the environment, and anti-corruption. Based on the number of participants (many thousands in over 100 countries), the Global Compact is the biggest CSR initiative in the world. Its role in promoting dialogue among the different interest groups and its ability to easily generate alliances between companies, civil society and public administration make it an important force in the region.

2.5. SUMMARY

For the MAP countries as a whole, it can be said that progress toward clean, more sustainable consumption and production is being made.

Nevertheless, there are still highly significant differences between the North, the South, and the East of the Mediterranean, where the introduction of sustainability criteria in the consumption model lags considerably behind those related to cleaner production. For the latter, the focus in recent years has remained on pollution control and prevention, and especially on promoting the best available techniques, but subject to improvements which have been explored in the last year by institutions of the EU.

With regard to sustainable consumption, closing the cycle related to CSR, and extending sustainability criteria to the whole value chain, only the most developed countries have started (some of them only recently) establishing an institutional framework and adequate regulations. The global impact of consumption and the shift of pressure on the environment and resources toward developing countries make it necessary to increasingly push for good practices and SCP at the international level, which will lead to the creation of a more environment friendly global goods and services market. Frameworks such as the Marrakech Process or the International Partnership for Energy Efficiency Cooperation will continue to be an effective vehicle for this.

Finally, reference should be made to the contribution made as the means of production are adapted to international requirements to combat climate change. This affects both the countries included in Annex I of the UNFCCC, which are committed to reducing greenhouse gases (GHG) and the countries analysed not included in Annex I, which can encourage cleaner production processes through implementing the flexible mechanisms of the Kyoto Protocol.

3. SCP IN THE POLITICAL AGENDA: TRENDS AND CHALLENGES

3.1. MEDITERRANEAN MEMBER STATES OF THE EUROPEAN UNION (EU)

The region we analyse under this heading includes countries which are Member States of the European Union and which have a Mediterranean coastline, namely, Spain, France, Italy, Slovenia, Greece, Cyprus and Malta.

The present situation of these countries is diverse, but clearly tending to converge, while the countries which recently joined the EU are notably integrating the *acquis communautaire* into their customs and laws and adapting to specific community requirements at the social, political, economic, and environmental levels.

Since the Lisbon European Council, the Union's economic strategy has been aimed at converting Europe into the most competitive and dynamic knowledge-based economy in the world by the year 2010. This strategic transition towards an information and knowledge society, regardless of whether the objectives have been achieved or not, is clearly reflected in the unquestionable preponderance of the services sector in the region, which is less intensive in its use of resources. This, together with the changes in the industrial sector over the two last decades, has led to the current situation in which the major impacts of economy on environment are not caused by industry, but by consumption and private transportation, which constitute the main end consumers of energy in the EU. This tertiarisation of the economy is also repeated in the EU's new Member States.

In principle, the levels of exploitation of resources have tended to remain stable during the last years, thus achieving a kind of decoupling between resource use and economic growth. However, although industry has restructured and modernised, including the relatively successful application of standards and regulations on pollution control, and all sectors have become significantly more energy efficient, production and consumption have grown, thereby increasing their impact on the environment. In other words, increased consumption and production neutralise the beneficial effects of improved energy and production efficiency. The rates of energy intensity in the region's countries vary, albeit not excessively: all, with the exception of France, are above the average energy intensity rate for the EU-15. This points to a clear difference between the more modernised economies of Central and Northern EU and the less efficient use of resources in the new Member States of the EU bordering the Mediterranean Sea.

In any case, the challenge for all EU countries is to decouple economic growth from the environmental impact caused by consumption, the use of natural resources, and the generation of waste. Additionally, the modernisation of industry and the tertiarisation of the economy entail, in many cases, the "delocalisation" of the largest environmental impacts to regions with less developed economies, and the globalisation of the pressure on natural resources. The total impact on the environment in the region is growing continually and the higher efficiency rates in the use of resources achieved in other EU countries have not yet been achieved.

All the countries in this region have an ecological footprint that is relatively greater than their resources, mainly because of their consumption patterns. According to the European Environment Agency (EEA), the consumption categories which generate the greatest environmental impact throughout their life cycle are food and drinks, urban transport, and housing; at the same time, tourism and air transport are emerging as key sectors for the near future:

Table: Energy Intensity rate table.

Country	Energy intensity: kg of oil eq. per €1,000 GDP
Spain	222.5
France	185.5
Italy	189.1
Slovenia	238.7
Greece	240
Malta	292.4
Cyprus	261.8
EU-15	187.5
EU-25	204.9

Source: Institute for Economic Studies and EUROSTAT (2004).

The fourth evaluation of “the Environment in Europe” by the EEA points out that globalisation is putting pressure on the environment to shift towards developing countries while environmental hazards are reimported through cross-border pollution and the trade in polluting products.

As the impact of developed countries’ consumption on the environment is constantly increasing, SCP in the region needs to be promoted over the next few years not only in terms of sustainable consumption and the final use of products, but in terms of correcting and improving the existing tools and regulations related to cleaner production as well. Moreover, the global impact of consumption means the promotion of good practices at the international level and an environmentally friendly international goods and services market must be included in EU strategies on SCP.

These issues are included in the EU’s political agenda on SCP. The recent Communication of the European Commission (dated July 2008) on the “Sustainable Consumption and Production and Sustainable Industrial Policy Action Plan” dedicates a whole chapter to global markets for sustainable products, highlighting sectoral approaches to emissions or energy efficiency in future international negotiations on climate change; promoting SCP within the framework of the United Nations (the Marrakesh Process) and the recently created International Partnership for **Energy Efficiency Cooperation**; and the liberalisation of trade in environmentally friendly goods and services through WTO negotiations and the adoption of international standards.

In general, albeit with national differences in its application and development, SCP is progressively being integrated into the industrial and consumption policies of the EU. The Community Lisbon Programme for 2008-2010 included SCP as one of its main axes. Thus, Community authorities have been extremely active over the last two years reviewing existing policies and setting out new SCP strategic lines. In addition to the aforementioned July 2008 Communication on the SCP Action Plan, there is the new IPPC 2008/1/CE Directive, which replaces that of 1996, and its corresponding impact evaluation, as well as the Communication of July 2008 on “Public procurement for a better environment”, which establishes ten priority sectors for harmonising green public procurement in the EU. At the same time, other key regulations for the development of SCP are under review, such as those related to the EMAS system or to ecological labelling, and the extension of the Directive on ecological design.

Looking individually at the Mediterranean Member States of the EU with Mediterranean coastlines, since the Kiev Conference, the SCP concept has featured, to differing degrees and with some nuances, more often in the political agendas. To that end, all the countries in the region have established and published, during the decade, their national strategy on sustainable development, and many of them are reviewing it with a view to updating it. All these strategies refer to SCP, either specifically or as a transversal issue.

The fields of action which are established in these national strategies in general are common to the countries in the region: the fight against climate change, reducing air pollution, the reduction and rational management of waste, water resources management, protecting biodiversity, and areas of special natural interest. In the case of Greece, for instance, the sectors of the economy particularly related to these actions are energy and industry, transport, agriculture, tourism, and town and country planning. Tourism is in fact one of the economic sectors which is vital for nearly all the countries belonging to the Mediterranean region of the EU: France, Spain, Italy, and Greece are international tourism powers, while for Malta and Cyprus tourism is a major sector.

Greece's 2007 report on the National Strategy for Sustainable Development contained a separate chapter on the progress achieved in SCP. Moreover, the review of the Strategy, which is presently being prepared, will contain a specific chapter on SCP. In the case of Malta, SCP is dealt with in a chapter of its draft National Strategy for Sustainable Development. In France, the principles of its strategy, including consultation and agreement with regard to the main action lines, have been modified in an ambitious piece of legislation on sustainable development (in which SCP is comprehensively included) called the Grenelle Act.

It is also important to note that the countries of this region have specific legislation on cleaner production, through the IPPC Directive, through an incipient common strategy on sustainable public procurement, and are implementing incentives for SCP.

The IPPC Directive dated October 30, 2007 should have come into force in all EU countries: at that date, some 52,000 industrial facilities all over Europe should have obtained or updated their permits (integrated environmental authorisations) from their national or regional authorities in order to start or continue their operations. Nevertheless, at the close of 2008, 4,000 of these authorisations had still not been granted.

In its Communication "Towards an improved policy on industrial emissions" (December 2007), the European Commission admits that it is necessary to review the legislation in force to ensure that legislation on industrial emissions is fully transposed. Specifically, it proposed merging the legislative texts in force in a single directive on industrial emissions, improving and clarifying the concept of "best available techniques" (BAT), reinforcing the measures related to authorisation, monitoring and control, and extending the scope of the IPPC Directive in relation to other sectors.

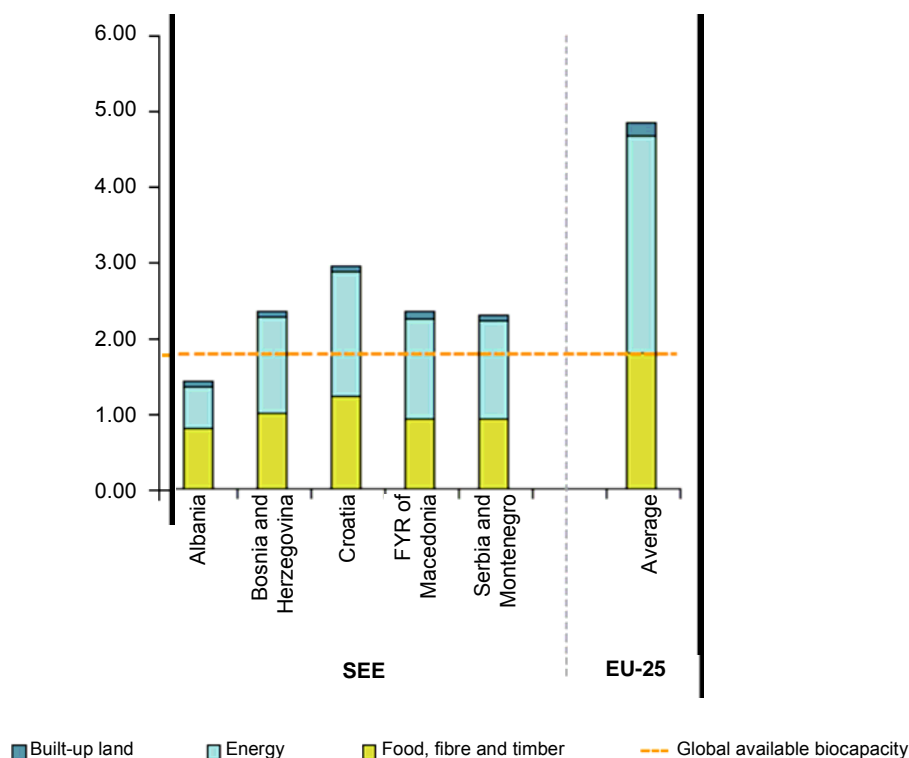
As regards setting, reviewing and/or improving SCP incentives, the Communication of the Commission on SCP (July 2008) mentions that a number of Member States are already providing incentives for acquiring environmental performing products (and "greening" their procurement practice). However, the criteria that these products have to meet to benefit from incentives can differ substantially from one country to another. This may result in fragmenting incentives in the Internal Market for the products concerned. Thus, it stated that the Labelling Directive will set a harmonised basis for public procurement and incentives provided by the EU and the Member States. In the same sense, the Communication of the Commission on "Public procurement for a better Environment" (July 2008) proposed setting minimum common criteria and drafting operational and legal guidance in order to facilitate the implementation of green public procurement.

3.2. THE BALKANS

The region analysed under the Balkans heading includes countries of south-eastern Europe which have a Mediterranean coastline, such as Albania, Montenegro, Bosnia and Herzegovina, and Croatia.

Restructuring and modernising highly polluting industries, with unsustainable resource consumption levels, is vital yet complicated, because in most of these countries strong industries with a key role in the country's economy are involved, and because high levels of investment would be required. Given the prevalence of oil, metallurgical, chemical, and mineral industries in the region, improving energy efficiency and sustainable (especially hazardous) waste management are key priorities.

Ecological footprint per capita in south-eastern European countries compared to the EU average (hectares/person).



Source: Global Footprint Network, 2006

In homes, access to clean energy and other basic resources in rural areas is still partial, with wood or coal still being used as a heating source; in cities electricity and water consumption is clearly unsustainable due to lack of awareness and incentives; waste generation, especially of plastics, is growing rapidly; and air quality is deteriorating alarmingly, especially in cities, as a consequence of industrial emissions, growing numbers of vehicles and the burning of waste in landfill sites.

Promoting SCP in the region should be centred on the efficiency of industrial production, on consuming less energy and other natural resources, and on incentives and other measures which redirect consumption in homes towards more sustainable and environmentally friendly patterns.

Given the present stage of development of the countries in the region, there is scope for guiding this development towards more sustainable patterns, as the irresponsible consumption levels of Western Europe have not yet been reached.

The four countries in this group have taken positions in favour of sustainable development, signing and ratifying numerous international agreements, as well as establishing sustainable development strategies, which, in some cases, include references to SCP, although without a practical application. Much more common are references to cleaner production (CP), towards which significant steps have been taken, such as the creation of National Centres for Cleaner Production, the setting of GHG emission limits, and the integration of prevention and control systems.

Croatia is, probably, the country in this group which has made most progress in promoting SCP, both at the institutional-legislative levels and in the corporate and social areas.

All the countries in the region are determined to raise standards to approaching EU levels, whether to join it or to benefit from better trade conditions. This is a contributory factor towards the setting into motion of measures in connection with SCP. In any case, there is still a lot of work to do, not only in the areas of legislation, regulation, and promoting SCP, but also in terms of control and systematically ensuring that the laws and measures approved are applied.

3.3. COUNTRIES OF THE MIDDLE EAST AND NORTH AFRICA (MENA)

This group includes the following Mediterranean countries of the Middle East and North Africa: Morocco, Algeria, Tunisia, Libya, Egypt, Israel, Lebanon, Syria, and Turkey.

There is significant variation between the countries in this region in terms of both the economic and political context and the extent to which sustainable consumption and production have been implemented. Thus, while in Israel, Tunisia and Egypt, government institutions are quite heavily involved in promoting sustainable development, in Libya this principle is still little known and rarely put into practice. The political and economic environment is, undoubtedly, a key factor in the introduction and promotion of the SCP concept.

Some critical factors for sustainable development in the countries of this region are:

- Clearly upward demographic trends, which are likely to produce more pressure on natural resources.
- The rapid pace of (often informal) urbanisation, as a result of migration from rural areas.
- High energy consumption, with the consequent generation of atmospheric pollution.
- The exponential increase in the number of vehicles and in transport, with attendant environmental consequences, particularly in cities.
- The still very significant levels of industrial pollution.
- Unsustainable levels of consumption of water and other natural resources, especially in industry, where reserves are gradually becoming scarce.
- The loss of biodiversity, land, cultural heritage, etc., as a result of unsustainable development patterns and scant awareness at all levels.
- The adverse consequences of environmentally irresponsible industrial growth policies and subsidies in the past.

Since the last edition of this report², progress has been achieved in many of the MENA countries in areas such as coordination between public institutions and ministries, the involvement of civil society in some strategic planning processes, training of qualified specialists, integration of environmental policies and measures on development strategies, etc.

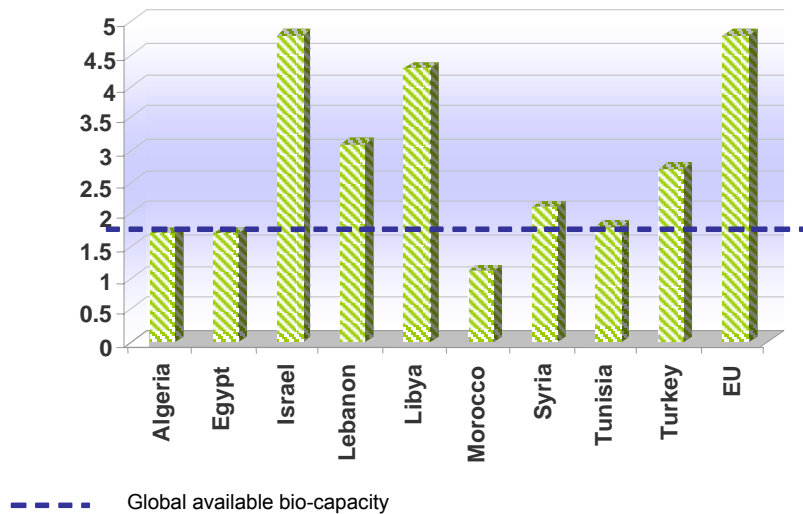
The introduction of SCP in almost all the MENA countries is, thus, among the initiatives adopted with a view to protecting the environment and achieving sustainable development.

In general, the issues described have affected how the SCP concept is promoted and accepted in the region and, consequently, it has focused much more on cleaner production than on sustainable consumption. It should be kept in mind that domestic consumption levels in most of the countries in the region are much lower than those of European countries and could not be qualified as unsustainable. Thus, the promotion of SC in the region does not seek to reduce consumption levels at the domestic level, but aims to modify some current consumption patterns which arise because of limited resources or inefficient and consumption-intensive technologies.

In fact, the majority of MENA countries have an ecological footprint which does not exceed their global available bio-capacity. Hence, the policies of the region are aimed essentially at generating wealth in the country, reducing pockets of poverty, and guaranteeing basic resources to the population. In order to fulfil these objectives, sustainable development strategies, mainly based on measures to ensure cleaner and more efficient production, seem to be more logical and easier to assimilate, both by the population and industry as well as public administrations.

² "State of the Srt of Sustainable Production in the Mediterranean". *MAP Technical Reports Series* No. 165, UNEP/MAP/CP/RAC, Athens, 2006.

Ecological footprints in MENA countries



Source: Global Footprint Network (2008/10/29)

If at the local level the SCP concept is still primarily being implemented on the cleaner production side, at the regional level, there is a shift towards a more comprehensive approach, with an emphasis on consumption. The First African Expert Meeting on SCP, held in Casablanca, Morocco, in 2004, considered four areas of action: the improvement of water supplies, access to energy and energy efficiency, urban development, and industrial development. Later, at the meeting in Kenya in 2005, measures along these lines were proposed, one of them being the development of eco-labelling projects.

Other similar initiatives, in which many countries belonging to the MENA region have participated, are Expert Round Tables on SCP in the League of Arab States (2008), a project aimed at developing a strategy to promote SCP in the Arab World, led by UNEP and ROWA and in partnership with other local organisations, and the Arab Initiative on Sustainable Development.

In summary, the concept of SCP is being introduced in the region, although mainly centred on the area of production. The majority of the countries in the region have set out sustainable development strategies in which provisions related to cleaner production have been included, but usually only as recommendations.

Even though the progress detected during these years is significant in many aspects, it is no less true that the repercussions of the measures adopted on national consumption levels have had little effect. The laws, standards, and regulations have evolved significantly, though with little real application in industry and cities. In spite of the fact that more progress can be achieved in the field of cleaner production, it is becoming evident that it will not be sufficient. It is necessary to include the “demand” element in the analysis, vigorously promoting the concept of sustainable consumption and implementing more effective measures in industry, agriculture, cities, tourism, etc.

The tools needed to efficiently implement sustainable consumption barely exist in the region and concepts such as life cycle analysis (LCA) or responsible purchasing practices are practically symbolic (more extended in Israel). States have (through public spending) considerable potential for promoting sustainable development, given that government spending as a percentage of GDP is high in almost all the countries in the area.

Political will, the involvement of the private sector and civil society, and the support of international organisations, are considered to be the necessary drivers for developing the concept of SCP in the region, together with the corresponding legal reforms and the technical training of professionals in the area.

The steps being taken are positive and the political will exists, so precedence should now be given to reinforcing these trends and increasing their impact. The present time of crisis and uncertainty in the global economy may hinder the process of sustainable development as a result of wasted markets and revenues. Assistance from international organisations and interregional agreements may be the best way forward to deal with this situation.

4. THE STATE OF THE ENVIRONMENT AND ISSUES FROM A SCP FOCUS

4.1. MEDITERRANEAN MEMBER STATES OF THE EUROPEAN UNION (EU)

The scope of the SCP approach, unlike the previous emphasis on cleaner production, not only extends beyond industrial and production activities (to include household consumption, public consumption, etc.), but also includes a greater number of actors representing all sectors of society (corporations, government agencies, NGOs, households, etc.). From this perspective, it is necessary to look at all the different areas that affect the environment: industry, agriculture, energy, transport, tourism, trade, domestic customs, etc., in order to analyse the situation in the Mediterranean region of the EU.

As the most significant aspects related to industry and production until 2005 have been dealt with in previous editions of this report, there is a specific section for this issue, and the remaining information will be grouped under headings such as "Climate Change" (emissions and energy), "Natural Resources", "Waste", and "Public Procurement".

4.1.1. Industry

As has already been pointed out, all over the EU the modernisation of industry and tertiarisation of the economy have resulted, in many cases, in the "offshoring" of major environmental impacts towards regions with less developed economies and the globalisation of the pressure on natural resources. As regards SCP in the EU, the points which deserve special attention are consumer markets, transport, and buildings. Moreover, in several countries in the region, household waste and discharges pose a challenge equal to or greater than the treatment of industrial waste.

However, industries are not adapting equally to eco-efficiency and to cleaner production in all the countries of the Mediterranean region of the EU.

This diversity is due to factors such as what are the most important industrial sectors in each country, the proportion of SMEs and micro-enterprises throughout the country, as well as the capacity of the administrative structures of the different Member States for monitoring, controlling and authorising. This capacity is influenced by factors ranging from how recently the country acceded to the EU to the size of the country and its administrative structures, and SPC priorities in its national strategies. It is indicated by the degree of compliance by the countries in the region with the requirements of the IPPC Directive or by variations in the implementation of environmental management systems pursuant to recognised standards and regulations (EMAS and ISO), variations which often depend on the sector, but are mainly geographical.

The following chapter on the framework for action and its main promoting entities deals more exhaustively with how the region's industries are adapting to the new pollution prevention or control requirements since the IPPC Directive came fully into force, and with how national industries have received the different incentives, market instruments, and the implementation of environmental management systems based on standards and regulations. This includes the availability of data on emission levels of a range of substances.

4.1.2. Climate Change

The volume of atmospheric emissions of greenhouse gases is higher in the Mediterranean countries of the EU than in the rest of the countries analysed in this report. However, EU Member States with a Mediterranean coastline have entered into international reduction commitments that place greater obligations on them than the other countries in the Mediterranean basin.

In 2000, the European Commission launched the European Climate Change Programme (ECCP), an initiative to work with industry, environmental organisations, and other actors with a view to identifying cost-effective measures to reduce GHG emissions. One of the pillars of community policies to tackle climate change is the Emissions Trading System of the EU (EU ETS), which was launched in 2005. EU governments have set limits to the amount of CO₂ which can be emitted each year by some 10,500 facilities (power plants and large GHG-generating factories) which, as a whole, account for the production of nearly half of CO₂ emissions in the EU.

The EU ETS establishes a market system that provides a financial incentive to reduce emissions. Facilities that emit CO₂ below the established limits can sell their unused emission quotas to other companies that emit more than the limit they are assigned. Companies that exceed their emission limits and do not offset this by buying the rights will have to pay large fines. The system ensures emissions are cut at the cheapest point and helps to reduce the overall cost of doing so.

The Kyoto Protocol created three market tools: emissions rights trading, the Clean Development Mechanism (CDM), and joint implementation. The National Allocation Plans (NAPs) 2005-2007 were essential for setting these mechanisms into motion. NAPs have been revised for the period 2008-2012, and the total volume of rights that need to be distributed has been determined, together with the regulations for distributing them across sectors and facilities.

Other ECCP measures are aimed at reducing fossil fuel consumption in transport, improving the energy efficiency of the transport system, increasing the use of renewable energy sources such as wind power and solar, tidal, biomass, and geothermal energy, and reducing methane emissions from landfill sites.

The Kyoto Protocol is the most important tool aimed at combating climate change. The European Council implemented it permanently in Europe pursuant to Decision 2002/358/EC on the Kyoto Protocol of the United Nations Framework Convention on Climate Change (UNFCCC), whereby the European Council approved the fulfilment of the joint commitments taken under said Protocol on behalf of the European Community. The States Parties to Annex I to the UNFCCC are committed to reducing their GHG emissions by at least 5% compared to the 1990 level during the period 2008-2012.

Pursuant to the national commitments made when the Kyoto Protocol was ratified and came into force, all the countries of the Mediterranean region belonging to the EU are parties to Annex I of the UNFCCC, with the exception of Malta and Cyprus.

In recent years, all countries, including non-Annex I members, have built these concerns into their national sustainable development strategies and their energy policies. Countries that are parties to Annex I also had to set up National Allocation Plans. Nonetheless, there have been significant differences between them with regard to the progress made and their emissions trends over the past four years.

France's performance stands out. The country's GHG emissions are estimated at around 541 MtCO₂e in 2006, according to the Ministry of Ecology's latest inventory. According to these figures, emissions declined between 2005 and 2006 by 13.8 MtCO₂e. Of this reduction, 3.6 MtCO₂e (27%) are linked to electric production and 2.5 MtCO₂e (19%) to combustion in manufacturing industry. These emissions are about 4% lower than the limit set by the Kyoto Protocol for the period 2008-2012, i.e. 564 MtCO₂e. France is one of the few industrialised countries whose emissions are currently below their international commitment.

Italy fell short of achieving its Kyoto objectives in 2004 by an estimated 95.0 MtCO₂e. The new National Allocation Plan for the 2008-2012 period calls for the production sector to reduce emissions from 207 MtCO₂e in 2008 to 177.4 MtCO₂e in 2012 (a reduction of 14.3 % in five years, after an increase of 12% during the previous fifteen years), which will entail significant difficulties for the economy as a whole.

In Spain, energy activities are responsible for approximately 80% of GHG emissions. GHG emissions derived from energy have grown 63% between the base year and 2005, however, in 2006, for the first time in many years provisional emission data showed a reduction of 4.1%. In 2007, the upward trend resumed with an increase of 1.8 % as compared to the previous year.

In Slovenia's environmental action plans, industry is not among the main targets of significant GHG emission reduction activities, since industry is responsible for just 8% of direct greenhouse gas emissions. The main emission sources are energy production and the consumption of energy in different sectors of the economy. In this regard, industry is responsible for emissions mainly in proportion to its share of overall energy consumption.

In Greece, the Second National Programme for Climate Change was approved in 2002 and updated in 2007. The National Allocation Plan (NAP) 2005-07 covers 139 industrial facilities (including power plants) and some 223.2 MtCO₂e emissions, with a 2.1% target. At the end of this first negotiation phase, the plants were fully compliant with the plan, with emissions lower than those assigned. The 2008-12 NAP covers 140 facilities and has a 16.7% reduction target. In 2006 a GHG Emissions Trading Office was established by the Environment Ministry, and the management of the National Registry Office was entrusted to the National Centre for the Environment and Sustainable Development. The operation of the Registry Office is financed through charging market operators an annual maintenance fee.

Malta and Cyprus do not have specific targets in order to comply with the Kyoto Protocol. Although they are EU Member States they are not parties to Annex I to the UNFCCC and, therefore, have not established emissions limits or reductions pursuant to the Kyoto Protocol. In this regard, they are potentially recipient countries of the flexible mechanisms contained in the Protocol. Therefore, companies in Cyprus and Malta cannot use emissions reduction certificates and emissions reduction units.

In 2005 Malta's emission levels were 54.8% higher than in the reference year 1990. In any case, given their size, population, and other characteristics such as near-total energy dependence, it is difficult to argue that they demonstrate the existence of a correlation between the absence of "tough" mechanisms and an increase in GHG emissions. In both countries the energy sector is the main source of emissions (83% in Cyprus' 2010 forecasts).

With regard to the 2020 deadline, which is common to a number of targets in various European directives and international agreements related to emissions, energy efficiency and climate change, the EU is still drafting the outlines of a common strategy prior to the Conference of the Parties (COP) of the UNFCCC, to be held in Copenhagen in December 2009, where an international agreement on GHG reduction beyond 2012 (the year in which the current protocol expires) will be ratified. The EU is willing to increase its commitment to reduce emissions from 20% to 30% in 2020, provided that an international agreement in Copenhagen is reached.

Atmospheric Emissions

It has been shown that, in some countries, a very large percentage of their emissions come from a relatively small number of large combustion plants.

In this regard, several countries in the region have established operational plans for the reduction and control of emissions in these plants, pursuant to Recommendation 2003/47/EC of the Commission on guidelines to assist Member States in the preparation of national plans for reducing emissions in relation to the provisions of Directive 2001/80/EC on the Limitation of emissions of certain pollutants into the air from large combustion plants. This directive was intended to limit emissions of sulphur

dioxide, nitrogen oxide and particles in suspension from large combustion plants (those whose rated thermal input is equal to or exceeds 50 MW). In this regard, the directive was not directly aimed at controlling and limiting GHG emissions, but has a similar effect as it encourages the combined production of heat and power (cogeneration). In Spain this national reduction plan was adopted in January 2008. In Slovenia (see box below) it came into force in 2006.

Slovenia: Operational Programme on the reduction of atmospheric emissions from large combustion plants

There are nine large combustion facilities in Slovenia. Seven will adjust to the new limits stipulated in a decree on limit values for gas emissions into the atmosphere from large combustion plants, while the remaining two will continue working for a limited time with the previous model. The operational programme also includes measures to achieve established values, carry out polluting emissions monitoring, and accountability. The operational programme approved sets the rules for emissions reduction from thermal power stations, one of the main objectives of air pollution prevention in this plan. The operational programme was adopted by the government in February 2006.

Energy Efficiency

As already mentioned, energy intensity rates differ markedly in the countries of the region. Only France and Italy maintain efficiency at the EU-15 competitiveness level (187.5 kg of oil equivalent for every 1,000 euros of GDP). The remaining countries exceed this figure, although in all of them there is potential for improvement in energy efficiency through the tertiarisation of the economy. This is still the case for national economies which, in general, depend heavily on foreign energy and which are experiencing a period of economic crisis which reinforces the need for improvement in this field. The EU as a whole was 50% dependent on foreign energy in 2005. Many countries in the Mediterranean region considerably exceed that percentage. Beyond industry, improvements in the consumer markets transport, energy use in buildings and domestic consumption are essential. During recent years, policies have been devised to achieve those objectives across the region as a whole.

Improving energy efficiency is a priority objective of EU policies. Thus, for instance, two regulatory tools to address this challenge have been adopted with regard to buildings and the construction sector: Directive 2002/91/EC on Energy Efficiency in Buildings and Directive 2006/32/EC on Energy End-Use Efficiency and Energy Services. Both directives call for improving competitiveness and reducing emissions. This sector is responsible for 40% of final energy consumption in the EU and 160 million buildings, making it crucial to reach the goal of reducing emissions by 20% by 2020.

Energy consumption and demand curves

Spain's electricity demand curve reflects inefficient consumption patterns. Experts on the electricity sector believe that it is necessary [...] to smooth the peaks and troughs to make it as stable, predictable and manageable as possible. The different sectors affecting the daily curve are responsible for this and their behaviour is quite predictable. Industrial consumption is stable 24 hours a day, while the services and residential sectors are responsible for the two peaks in demand around midday and 8 p.m., respectively. If we add to this behaviour an average increase of 4.7% in demand for electricity over a decade, [...] the result is an oversized electrical system. In other words, it is built to meet those moments of maximum consumption. There are around 300 hours per year for which some 6300 MW are needed, which are not exploited the rest of the year, according to REE (Spanish utility). The sector which made most progress in making consumption more manageable is industry, for which the cost of energy has become a key issue. In Spain there are around 200 companies with "interruptibility" contracts, whereby REE can cut their supply to meet peak-hour demand. In exchange, these companies get more economical rates from their suppliers. The fundamental principle guiding industrial consumption is the price signal, since energy is 4.5 times more expensive at peak-hours than at night time. Price is the best educator, and perhaps the signals have not yet been sent to the domestic consumer with sufficient clarity.

Source: *Entrelíneas* No. 10, October-December 2008

The Mediterranean countries of the EU are including these objectives in their strategic plans and legislation in various ways, although they coincide significantly regarding electrical consumption for lighting, insulation of buildings (with direct aid for the adaptation of old buildings, new construction standards and measures to set examples in public buildings) and incentives, and taxes on the efficiency of engines in vehicles. In general, building and transport are the main priorities.

Thus, for example, the revision of the Saving and Energy Efficiency Plan in Spain 2008-2011 is aimed at reducing the consumption of primary and end-use energy in Spain by 11% during this period. The plan includes the distribution of low consumption bulbs (55 million units), promoting electric cars, and reducing the speed limit by 20% in accesses to cities, the use of military airspace to reduce the distance of civilian flights, temperature limits in all government buildings, etc.

Cyprus also has launched its National Action Plan for Energy Efficiency (approved in 2006 and coming into force in January 2008), establishing several environmental targets for the production and consumption of energy:

- Incentives for buying hybrid vehicles, flexible- or dual-fuel vehicles, and electric vehicles.
- Financial support for installing thermal insulation in homes located more than 600 meters above sea level.
- Financial support for investment in insulation and energy conservation in public buildings and services.
- Promoting the use of biofuels through a "zero tax".
- Expanded use of school buses.
- Supply of low-energy "Compact Fluorescent Lamps" (CFL) to end consumers.
- Communication and information campaigns on energy saving.
- Modification of scheme by introducing State aid to promote small photovoltaic facilities, geothermal heat pumps, and solar thermal plants for heating and cooling.
- Generating electricity from wind power and large-scale photovoltaic systems, solar power concentration systems, biomass and biogas plants, with a view to contributing to the target of 6% of electricity produced from renewable sources by 2010.

In Italy, along with waste management, energy efficiency and combating climate change are priority environmental issues in the new government's programme. In this sense, in 2008 the functions of the Italian National Agency for Energy Efficiency were reformulated. They include:

- Developing, in compliance with Directive 2006/32/EC, technical proposals for the definition of methods for measuring and verifying energy saving, with the aim of verifying compliance with national indicators. Specific methodologies for implementing the mechanism of "white certificates" are also defined, with special attention to the development of standardised procedures that enable savings to be quantified without resorting to direct measurements.
- Providing scientific-technical support and advice to the State, regions and local authorities with a view to developing tools for achieving the national indicative targets for energy saving.
- Providing information to the public, businesses, public administrations and economic operators on ways to conserve energy.

40% of the electricity Spain consumed in March came from renewable sources

The thirty-second Electricity Observatory, recently released by WWF, stresses that "there remain two main trends in the Spanish electricity industry: demand is being reduced and CO₂ emissions are decreasing". More than 40% of electricity in the country is generated from renewable sources, while only 18 of every 100 kilowatts was produced by nuclear power stations.

According to the latest Electricity Observatory, a monthly report by the WWF of key statistics on electricity in Spain, emissions in the first quarter of 2009 were 24.3% lower than the same period last year due to "lower demand for electricity, combined with a higher contribution from renewable energy (i.e. non-greenhouse-gas emitting sources)".

Thus, "Spain currently has a electricity generation system that generates 60% less CO₂ per kilowatt produced than the European Union average," according to Heikki Willstedt, energy and climate change WWF Spain expert. Willstedt added that "this has not happened by chance, but due to efforts to develop renewables over the past twelve years".

Source: www.energias-renovables.com

Renewable Energy

The EU is heavily energy dependent. In addition, the depletion of traditional energy sources is expected to occur while renewable sources are insufficiently developed, as indicated in the EU *Green Paper on Efficiency Energy* released in June 2005.

At the European Council of March 2007, the Member States agreed that 20% of the energy consumed in 2020 should be renewable. The target will be mandatory for all members, though the specific measures taken by each country to reach it may vary. The agreement established a 20% reduction in greenhouse gases emissions by 2020 and the use of at least 10% biofuels by that date.

The new Renewable Energy Directive, adopted in December 2008, translates the above objectives into action plans for a range of technologies, including bioenergy, solar thermal and photovoltaic energy, small hydro, ocean, and wind energy. The Directive identifies the need to achieve the so-called "20-20-20 objective" by 2020: CO₂ emissions should be reduced by 20%, energy efficiency should be increased by 20%, and 20% of the energy consumed in the EU should be renewable. The European renewable energy industry, strongly established in some countries of the Mediterranean region, has welcomed the document, while civil environmental institutions have criticised some specific aspects, especially the support for biofuels (whose contribution to emission reduction targets and possible capacity to cause food crises generate heated debates).

Finally, although the Directive does not set restrictions on the origin of biofuels, as called for by these institutions in order to avoid using food cropland, incentives were established for the use of biofuels

from other sources. Nor does the Directive establish a mandatory minimum quota for second generation biofuels (produced from non-food sources), though they will be incentivised through a system of bonuses. Also, if these biofuels are to be accepted as such, they should provide a minimum emissions reduction of 35% as compared to fossil fuels in the first year of the Directive, and reach at least 50% in 2017.

The new directive states that each Member State must have a National Action Plan that details the methodologies to be adopted by June 2010. The Commission will assess these plans and the twice-yearly progress reports that States should produce.

As regards the development and current use of renewable energies, there are marked differences today in the EU countries of the Mediterranean. On the whole, they are all working on policies to develop and expand them, but applying them with varying degrees of success.

The European renewable energy industry is generally strong, although the relative weight of different technologies varies significantly. The European Renewable Energy Council (EREC), for example, has been stressing the importance of the sector for employment, which in Europe represents more than 400,000 workers and generates 40,000 billion euros annually. According to senior figures in EREC, thanks to the new directive, the industry could create two million jobs by 2020. The Spanish Association of producers of renewable energies (APPA) considers that the objectives of the directive are realistic and workable. The industry in Spain has mainly focused on wind technologies but also the production of biofuels .

The Renewable Energy Development Plan (PFER) 2000-2010 is still in force in Spain. It established targets to achieve, by 2010, at least 12% of total demand for primary energy to be met by renewable energy (in principle this target will be considerably exceeded). In 2008, Royal Decree 1578/2008 revised Decree RD 436/2004 establishing remuneration rules for energy produced from renewable energy sources to favour those technologies with greater potential for development.

The growth of renewable energy in Spain has been coupled with a series of incentives for wind power. The cost of generating energy from this source of energy, with great potential for growth in several countries in the region, is much lower than for other forms of renewable energies, such as photovoltaic or thermal solar. However, it is often opposed by local communities. In France and in Cyprus this has been the reason for its low take up so far.

In Cyprus, through a special fund for renewable energies, the installation of 163MW of wind power capacity has been approved but, so far, the facility has not been constructed, due mainly to the reaction of the local community.

In France, renewable energies accounted for 13.2% of the primary energy produced in 2004, far from the initial target of 21% by 2010. This objective is hardly attainable in spite of the new impetus the Grenelle Act has given to this sector. Renewable energy production has grown but at a lower rate than demand. Of these sources, wind and solar energy are developing rapidly, but are still marginal as a proportion of the total. In most cases, the introduction of new wind power installations is facing very strong opposition from local communities.

In Slovenia, an "Ecological Fund" managed by the Ministry of the Environment is currently the main institutional tool for financing investments in environmental projects in the country. Its main activity is to provide loans on favourable conditions for investments in energy efficiency and other environmental project measures. This Fund has granted loans to private entities for investment in renewable energies. However, the development of these energies in the country remains greatly unexplored.

4.1.3. Natural Resources

In EU countries most of the pressure on natural resources has been "delocalised" through global trade. However, there are still important impacts and pressures on such basic resources as land and water.

The development of tourism, the fastest growing industry in the region and the primary economic sector in several countries, has direct implications for land usage, for the pressure on coastal zones and marine environment, as well as for energy and water usage. In turn, the construction linked to the development of tourism in some zones constitutes the main source of demand for some extractive (quarries) and energy-intensive (cement manufacture) industries, which also have a strong impact on the land and are important emitters of suspended particles and other substances.

Even though the situation is changing, the sector suffers from a pronounced seasonality which has led to strong pressures on the territory in the form of oversized infrastructure, which stays idle during a long period of the year. Fortunately, the uncontrolled urbanisation which characterised the boom in the sector in many parts of the region seems to be coming to an end.

Apart from the aforementioned impact, another important problem related to the land in recent decades concerns discharge and waste generation. As will be discussed later, waste management is still one of the environmental priorities of most of the governments in the zone. In the island States, the impact of waste on the land, a basic resource, clearly demonstrates that the traditional approach to managing waste is no longer physically feasible.

NO_x and SO₂ emissions into the atmosphere, which cause acid rain, continue to affect both land and water in areas with a high concentration of industries (e.g. northern Italy, Slovenia, Greece, France).

Water Management

Across the whole Mediterranean region, water is a basic and scarce resource under intense pressure from industrial, household, urban, and, especially, agricultural uses. Moreover, in the whole region, and especially in the coastal zones, due to increasing demand from the tourism sector, consumption by the services sector should be added. On the European level, industry consumes 54% of water, agriculture 26%, and household use accounts for 20%, but this balance varies significantly between countries. The pressure from increasing water demand has resulted in local reserves being over-exploited, and they are approaching their limits in countries such as Cyprus and in the coastal zones of many countries of the Mediterranean region. This situation has led to the proliferation of desalination plants as a local supply solution in an increasing number of zones, with the associated environmental problems related to discharge into the sea and the intensive use of energy.

Industrial, agricultural and household waste have degraded the quality of water in a large part of the region, with impacts on environment and human health. In all the countries significant progress has been achieved both in the prevention and control of direct and indirect waste discharges, the relative success of which has been partly due to the application of the IPPC Directive, as well as to the increasingly widespread treatment of domestic wastewater.

In agriculture, in spite of the declining use of pesticides and fertilisers, concentrations are still present in most underground waters due to the often very long period of infiltration of pollutants in the phreatic layers. Moreover, water discharges from industrial or urban sources have helped generate excessive levels of phosphates and other organic compounds which cause, to a great extent, the eutrophication of surface waters.

For example, during 2008, Cyprus suffered serious water shortages to the point that natural water resources become practically non-existent. To deal with the situation, water supplies were cut off and water was imported from Greece in tankers. Currently, in addition to the existing two plants, the construction of new desalinating plants is out to tender. The new plants will add a total capacity of 100,000m³ per day, and it is hoped that the island will cease to be totally dependent on rainfall.

A key feature of recent years has been the successive implementation in national legislative systems of the Water Framework Directive 2000/60/EC, which introduces a Community framework for water protection and management. This Directive stipulates how European waters should be defined and how river basins and river basin districts should be demarcated, and it calls for management plans and programmes of appropriate measures for each water mass: continental waters, transitional waters, coastal waters, and groundwater, with the following objectives:

- Preventing additional deterioration and protecting and improving aquatic ecosystems, as well as dependent land ecosystems.
- Promoting sustainable uses of water.
- Promoting and improving the aquatic environment.
- Reducing the pollution of groundwater.
- Alleviating the effects of floods and droughts.
- Participation of interested parties in the management of the resource.

Starting from the implementation of the new legislation, good practices, more rational water management, and measures related to both the quality and the uses of water are becoming more widespread. The reuse of treated wastewater, especially in agriculture, is becoming more common in most countries of the region.

In Spain, the National Water Quality Plan is being implemented: Drainage and Treatment 2007-2015 (PNCA), in response to the new needs set out in the Framework Directive on Water and in the Ministry of the Environment's AGUA Programme (Actions for Water Management and Use). The plan is establishing the need to protect biodiversity and publicly owned water resources and coastal land, as well as the management of public assets, with a view to ensuring the quality and the good state of surface, transitional, and coastal water masses and groundwater.

In Greece, Law 3199/2003, on water protection and sustainable management of water resources, and Presidential Decree 51/2007, which integrated the Water Framework Directive into national legislation, are now in force. This new framework implies a radical change of direction for the Greek authorities and has introduced an innovative and global focus to water management, which explicitly recognises the ecological function of the resource. Emphasis is put on water management on the basis of river basins, as well as pricing water so that it reflects the total costs of management. The main aims of the new provisions are to protect, on a long term basis, water resources, to prevent deterioration and to protect and restore degraded water resources and wetlands, reducing and, in some cases, gradually eliminating polluting discharges, reducing groundwater pollution, as well as mitigating the effects of floods and droughts.

In France, the Grenelle Act (2008) fixed clear objectives and guidelines regarding water management:

- Achieve or preserve, by 2015, the good ecological state of water masses as a whole, be they continental or marine. The idea is to double the quantity of water masses in good condition by 2015, with a view to achieving two thirds of the total.
- Acceleration of the adaptation of purification plants to comply with regulations with a view to achieving compliance levels of 98% in 2010 and 100% in 2011.
- Development of the recovery and reutilisation of rainwater and wastewater, abiding by health regulations.
- Launch of specific action to ensure the widespread detection of leaks in networks and programming the necessary works.
- Prohibition of phosphates in detergents from 2012.

4.1.4. Waste Management

Waste management, both urban and industrial, is a priority issue in national strategies on sustainable development across the region as a whole, in addition to being an important part of current Government programmes. Inadequate waste management has a range of impacts (on water, land, air, on biodiversity and health) which are very costly. Eliminating or treating waste for reuse and recycling consumes large quantities of other resources.

The EU is one of the regions which produces the highest waste rate per capita and per year in the world. Each Community citizen generates 3.5 tonnes of waste per year. With regard to urban waste, the latest figures from 2004 suggest 520 kilos per capita each year, with some estimates of up to 680 kilos, representing an increase of nearly 50% in 25 years. The Mediterranean Region of the EU is no exception. In this regard, consumption and production are among the clearest indicators of unsustainability, making waste treatment a primordial political issue which, in recent months, has reached the level of a national emergency in some countries of the region.

The management of industrial and hazardous wastes has been highly specialised for some time now, with sophisticated techniques to alleviate their impact being used across the region, with relative results and variable success. A hierarchical principle of waste management and the design of waste plans has been gradually taking root: prevention, reuse, recycling, recovery, and final disposal. In particular, specialist reuse and recycling industries are already well established in the region.

Legislative tools setting higher technical specifications for the type of treatment applied to different types of waste have proliferated in recent years, especially with regard to the treatment of hazardous waste.

In 2008, the Waste Framework Directive was approved. Its main aim was to achieve "a European recycling society". The Directive contains a new stipulation obliging all Member States to prepare prevention programmes within their respective waste planning frameworks, introducing a hierarchy of actions with landfill sites as the last resort. It also requires the inclusion in prevention programmes of quantifiable objectives and indicators for monitoring them.

The Directive also sets specific reuse and recycling targets for the year 2020. In the case of urban waste, including household and similar waste, these activities should cover at least 50% of the total, while for waste from construction and demolition, the figure is 70%. In the case of organic waste, selective collection, specific treatment, and standards of use for the resulting subproduct (compost) are required.

The incineration of urban waste to recover energy has undoubtedly been the most controversial issue of the new Directive as it moves it up the hierarchy from "disposal" to "recovery". It is classified as recovery provided certain minimum energy efficiency conditions are complied with.

The new Directive makes waste producers more responsible. The Member States may take legislative or non-legislative measures to ensure that any natural or legal person who professionally develops, manufactures, processes, treats, sells or imports products has extended producer responsibility.

The Member States should recycle or reuse at least 50% of the paper, plastic, and glass in urban waste, as well as 70% of non-hazardous waste generated by construction and demolition. Some of these objectives seem realistic. In Spain, for example, according to Ministry figures, in 2005 44% of glass, 69% of paper, 60% of metals, 44% of wood, and 21% of plastics were recycled.

What are the immediate priorities and measures currently being implemented in the region in terms of waste management? Some representative examples are given below.

In Slovenia, one of the main environmental problems of the country is the lack of the capacity of landfill sites. The Government has not yet defined the final form of urban waste treatment. At the local level, the use of many types of technologies, such as waste incineration, treatment by plasma and methane production, and fermentation and production of solid fuel, is being studied. Thus, most of the work to restore the environment and build waste treatment plants has been carried out on a small scale by local authorities.

In Malta, where space is evidently limited, the management of hazardous waste is a priority issue which, up to now, has been solved by exporting to countries which hold licences to treat it. However, during recent years, new treatment plants for this type of waste have started operating or are under construction.

In Italy, the inadequate treatment of industrial waste has been a major problem. In spring 2008 the Chief of the Italian Civil Protection Department was appointed Subsecretary of State in the Council of Ministers in charge of waste problems. Waste management problems constituted a national emergency in some cities during 2008.

In Greece, twelve "alternative waste management systems" are currently in operation for the treatment of packaging material, batteries and accumulators, lubricants, used tyres, scrapped vehicles, and electric and electronic devices. In most cases, the planned targets have been reached although many problems were initially encountered as the legislation was implemented (both on the part of industry and those living near the facilities). At present, it can be said that recycling is on its way to being adequately established in Greece: industrial recycled material has increased from 328,000 tonnes (2003) to 700,000 tonnes (2007).

In Spain, the National Integrated Waste Plan (PNIR) 2006-2018, which will be approved in February 2009, contained important implications for industry. In fact, during the years prior to its approval, multi-sector dialogue has taken place with businesses putting forward proposals for good practice. One of the main objectives of the PNIR is to establish the principle of the producer's responsibility for all wastes, which means that the collection and management of the resources must be paid for by those who put the products on the market in the first place. The PNIR applies to urban waste and similar wastes, waste with special legislation (scrapped vehicles, tyres, batteries and accumulators, waste electric and electronic devices, construction and demolition waste, treatment plant sludge, etc.), polluted land, and some non-hazardous agricultural and industrial waste with no special legislation.

4.1.5. Sustainable Public Procurement (SPP)

Sustainable public procurement refers to integrating social, ethical, and environmental aspects into the processes and stages of public procurement. Sustainable purchasing decisions involve not only contracting the product or service required to meet a specific need, but they should take into account other aspects such as the production methods and conditions, or the raw materials used in meeting said need, employees' working conditions and the direct and indirect short- or long-term consequences of producing the goods or providing the service.

Sustainable procurement has been a focus of interest for numerous citizens' organisations in the region, particularly, as will be seen, in countries such as Italy. The first steps towards implementing it in public administration took place, mainly, at the local level, through cooperation with these civil institutions. Later, such clauses were included in the terms of major public contracts by the managing organisations (e.g. ministries in charge of infrastructure). Possible implications for the principle of free competition have yet to be clarified.

Mention of SPP in the Directive 2004/18/EC:

"This Directive is based on Court of Justice case-law, in particular case-law on award criteria, which clarifies the possibilities for the contracting authorities to meet the needs of the public concerned, including in the environmental and/or social area, provided that such criteria are linked to the subject-matter of the contract, do not confer an unrestricted freedom of choice on the contracting authority, are expressly mentioned and comply with the fundamental principles mentioned in recital 2". These are "the principles of the Treaty and in particular ... the principle of freedom of movement of goods, the principle of freedom of establishment and the principle of freedom to provide services and ... the principles deriving therefrom, such as the principle of equal treatment, the principle of non-discrimination, the principle of mutual recognition, the principle of proportionality and the principle of transparency".

Sustainable public procurement is, today, an indisputable driver of change towards sustainable consumption and production. This is not only thanks to the huge purchasing and procurement capacity of public administrations (between 15% and 20% of GDP in the countries belonging to the Mediterranean region of the EU), but also because it sends a clear signal to the markets when these

measures are implemented following consultation and dialogue with producers and contractors and because of the leading role of the State, as reflected widely in national environmental legislation.

However, the legislative tools which favour sustainable public procurement are very recent. In fact, both European standards and national laws have been traditionally regarded as placing limits on including social and environmental clauses in the conditions of public contracts.

Directive 2004/18/EC, on the coordination of procedures for the award of public works, supply, and services contracts was key to enabling such requirements to be included in public contracts. Along with the legislation, we should mention the Commission Interpretive Communication on the Community law applicable to public procurement and the possibilities for integrating environmental considerations into public procurement, and the Commission Interpretive Communication on the Community law applicable to public procurement and the possibilities for integrating social considerations into public procurement.

These possibilities were translated to the national level through the central agencies for public purchasing, if they existed, or through legal requirements to take into account environmental and social considerations in public contracts. In the first case, the first steps were usually centred on specific groups of products and services, either because it was easier to establish standards for these groups or because of the balance between the impact and the cost of certain products such as office supplies, including electronic products.

An example of using a public purchasing centre to implement environmental considerations can be found in Italy. CONSIP, a public agency created by the Italian Economy Ministry in 1997, is responsible for implementing the Public Goods and Services Rationalisation Programme through the use of information technology and innovating purchasing tools. At the beginning of 2004, CONSIP had already established 56 framework agreements on more than 30 product categories with 130 providers. The agency has been rolled out as a purchasing centre for ministries and other government services. Along with coordination and cost rationalisation efforts, CONSIP has started to introduce sustainable purchasing procedures.

CONSIP went on to bring its experience to bear in the preparation of a National Action Plan on Ecological Public Procurement, approved in 2008. This Plan involves the publication of a series of decrees which define the minimum environmental criteria which should be included in purchasing processes above and below the Community Reference threshold for the different categories of goods defined by the Finance Law of 2007 (and in keeping with the objectives identified in this Plan).

In Spain, two milestones related to the drive towards sustainable public procurement should be pointed out. The first took place in August 2005, when the Ministry of Public Works and Transport approved the new special administrative specifications sheet applicable to contracting construction work. This included for the first time clauses relating to three types of social policy objectives: employment stability, gender equality, and employment of the disabled. These are among the fundamental objectives stated in Directive 2004/18/EC.

The second was the approval of Law 30/2007, regarding public sector contracts. Article 101 of this law (rules for the establishment of technical specifications), indicates that the technical specifications may be defined "in terms of performance or functional requirements, incorporating in the latter, when the object of the contract affects or may affect the environment, the consideration of environmental concerns". In 2008, The Council of Ministers approved the Green Public Procurement Plan, intended to gradually implement environmentally friendly practices in public procurement.

In other countries of the region, a legal framework for ecological public procurement is being gradually implemented. In Greece, the revision of the institutional framework for sustainable public procurement requires the cooperation of the Ministries of Public Works and Transport, Economy, and Environment. Up to now, there are only some isolated cases and pilot projects launched by the local authorities, for example as participants in the EcoProcura project.

As will be seen in the next chapter, both sustainable purchasing (not only by governments) and other sustainable criteria in product markets (eco-labelling) are witnessing an important boom in such

sectors as tourism, propelled by agents such as citizens institutions, chambers of commerce, and employers' federations, with the financial support of numerous European programmes.

France's objectives (the Grenelle Act 2008) on environmentally friendly public purchasing:

- As of 2009, vehicles purchased by the State will emit less than 130 g of CO₂ per kilometre.
- From 2010, wood will be certified or extracted from sustainably-managed forests.
- To reduce paper consumption by 2012 together with the use of recycled paper only or, failing that, of paper from sustainably managed forests.
- 15% of products procured for public catering in 2010 should be organically sourced and 20% in 2012, while seasonal products and products with "weak environmental impact" should be used in identical proportions.

4.2. THE BALKANS

The SCP approach, unlike the previous one which focused solely on cleaner production, not only extends beyond industrial and production activities (to include household consumption, public consumption, etc.), but also includes a greater number of actors representing all the sectors of society (businesses, public organisations, NGOs, households, etc.). In order to assess the situation in the Balkans it is therefore necessary to evaluate the different areas which affect the environment, namely industry, agriculture, energy, transport, tourism, commerce, household habits, etc.

As the most significant aspects related to industry and production until 2005 have been dealt with in previous editions of this report,³ there is a specific section for this issue, and the remaining information will be grouped under headings such as "Climate Change" (emissions and energy), "Natural Resources", "Waste" and "Public Procurement".

4.2.1. Industry

Since the break up of the Balkan countries in the 1990s, their industries have been subject to widespread changes and restructuring which has produced significant sustained growth in recent years, together with the closure and dismantling of the most polluting factories and plants. However, many of these abandoned plants represent a serious environmental hazard, both due to the waste they contain and the sustained impact they have had on their surroundings. Many of the critical environmental sites in the region are in these zones of old very polluting industrial activity, still in a process of recovery.

³ State of the Art of Sustainable Production in the Mediterranean". *MAP Technical Reports Series No. 165*, UNEP/MAP/CP/RAC, Athens, 2006.

Some important critical locations in Albania.

Critical site	Activity	Impacts	Present state
Porto Romano	Manufacture of Pesticides.	Hazardous wastes	In recovery. 500 tonnes were removed. Specific facilities are being built.
Laç City	Metallurgy and chemicals.	Hazardous wastes	Under study
Elbasan zone	Metallurgy and ferrochrome.	Hazardous wastes	Under study

Source: CP/RAC National Focal Point for Albania.

In the region of south-eastern Europe, both due to the Soviet legacy and to the existence of natural resources, heavy industries such as oil production and refinery, metallurgy, mineral extraction or chemical manufacturing have had a considerable presence. The food and textile sectors are also very present in the region, adding their significant negative impact on the environment to those of the aforesaid heavy industries.

In recent years, another factor worth emphasising in the Balkan region is the significant increase of small- and medium-sized businesses, both in number and in commercial presence. From a SCP point of view, this phenomenon poses greater challenges since this type of business does not have access to the appropriate means or training to meet significant challenges related to infrastructure, while it generates numerous and hard-to-quantify environmental impacts due to its presence in many types of market and because it is not subject to strict monitoring by the authorities.

The environmental problems produced by industrial activity include environmental and air pollution, waste generation and untreated spillages. Other important concerns are the inefficient use of resources, especially of water and energy, polluting fuel consumption, insufficient management of toxic and hazardous resources and the lack of environmental management systems.

The construction sector, as the main consumer of raw materials and fossil fuel, is also relevant in the countries studied due to the reconstruction work carried out during the last years, among other causes.

Even though progress has been achieved in this area recently, data on industrial emissions and consumption of other resources is very scarce and, in many cases, minimally reliable. Similarly, although new legislation has been approved in relation to emissions limits, pollution taxes, toxic waste management systems, etc., its implementation is somewhat deficient, not only due to the reluctance of the industrial sector, but also due to the lack of sufficient human or administrative resources.

There are two reasons to be hopeful with regard to improvements to the regulation and monitoring of industrial activities in the near future. Firstly, the desire shared by the four countries in the region to join the EU, directly or indirectly, means they must adopt measures and legislations in force in the Union, implying stricter control of industrial activity. Secondly, these efforts are being supported by the EU itself through various projects in areas such as energy efficiency, resource management, and the development of clean and renewable energies. Located on the margins of the EU, the economic development of the Balkan countries depends on its balance of trade. The region needs to reduce its dependence on foreign imports and at the same time increase the volume and quality of the goods it exports. Since its target markets are Europe and North America, Balkan industry needs to adopt quality, efficiency, and environmental standards which will allow it to market its products there and to be competitive.

Finally, another key factor in the modernisation of industry is the widespread process of privatisation taking place in the region, with visible consequences in all areas. Ignoring the earlier stages of privatisation, in which corruption played a major role, the new model is facilitating improvements aimed at ensuring greater competitiveness.

4.2.2. Climate Change

Greenhouse Gas Emissions

The volume of emissions into the atmosphere from the four countries under study is significantly lower than in the EU while for the volume of emissions caused directly by households, i.e. excluding industrial and productive activity, the difference is even greater. These lower volumes reflect a lower purchasing power which does not favour excessive consumerism. This situation, however, may be changing as Western consumption habits are increasingly adopted. In any case, the current situation in relation to emissions in the Balkans is far from optimal and is marked by several factors:

- A huge increase in the use of motor vehicles in recent years. There are several reasons for this, notably the fragility of the public transport system, increasing household incomes, and the opening up of the countries to Western markets (for used vehicles). These often elderly vehicles also generate more pollution because of their less efficient engines.
- The use in households, vehicles, and industry of low-quality fuel, which, apart from being less efficient (lower calorific power), is more polluting.
- Transportation of passengers and goods by road at the expense of cleaner systems such as trains (due to insufficient or poor infrastructures and the great difficulty of attracting investors).
- Traffic in large cities, with constant congestion, largely due to the rapid increase in the number of vehicles before the roads, rules and customs needed were in place.
- Inefficient use of energy (making it necessary to produce higher amounts), both in industry and in agriculture and households. In the latter areas, the lack of meters and incentives to save energy add to the habits inherited from Soviet times, when basic resources were heavily subsidised and there was no emphasis on using them rationally.

It is also worth mentioning that the existing data on emissions levels in these four countries are only relatively reliable because there is evidence that industrial plants, many power plants, and almost all buildings lack adequate measuring systems, or that their owners even avoid doing the calculation, for fear of the corresponding payment. It is further estimated that between 15% and 35% of energy generated, depending on the country, is lost in the supply network because of the poor state of the infrastructures.

Among the positive aspects to emphasise, all the countries have prohibited the use of leaded fuel as part of their energy policies, so it should soon disappear. Furthermore, international agreements to protect the ozone layer have been ratified, resulting in policies that prohibit the production and use of substances that damage the ozone layer.

In general, as will be discussed in Chapter 6, the four governments have made a very clear commitment to the fight against climate change, incorporating measures into national strategies, plans of action and legislation in general. However, effective implementation of these policies will require heavy investment on the one hand, which must come from external institutions, both public and private, and on the other, a strong commitment to educating industry and SMEs, as well as the general public. In this regard, partnerships with corporations, business associations and civil society organisations will be essential to organise and coordinate effective measures.

Investment in Cleaner Technologies

All the countries of the region have set targets for improving energy efficiency. Apart from the environmental benefits of reducing emissions and the consumption of natural resources, savings in energy consumption are key to reducing the cost of products and, therefore, being more competitive in the international and regional markets.

There are however some key regional issues to be taken into account in relation to energy efficiency in the Balkans.

- The infrastructures for energy generation and supply are often in poor condition, which accounts for losses during the transport of energy of up to 30%.
- Approximately a third of the energy used in the region is used in residential, public, and commercial buildings, with heating and air conditioning, hot water, household appliances, and lighting accounting for most of the consumption.
- Although transport consumes less energy than in the EU, the trend is growing, and the age of the vehicle fleet makes it more inefficient and polluting.
- In many countries in the region, a great deal of electricity is consumed for air and water heating, which generates high and inefficient electricity consumption.
- The former model of central planning with high subsidies led the average citizen to think that energy and water are free resources and to lack environmental awareness in this regard. There are few incentives to save these resources (in many cases, due to the absence of meters, the payment is made for the whole building, so there are no incentives to save energy since it belongs to the entire community).
- Energy consumption in agriculture, although only a small proportion of the total (around 2%), is inefficient and polluting in many cases, due to the use of low-quality fuels and unsustainable energy sources (wood for heating, etc.).
- The recent improvement in income and living standards in the region strongly influences the proliferation of household appliances and other devices that consume electricity.
- The design and condition of buildings is associated with very poor thermal insulation levels that cause, in turn, high energy consumption during the cold seasons.

As mentioned before, all governments in the region have implemented measures to improve energy efficiency, both in industry and in households, although in many cases they lack the human and material resources to implement the measures and ensure compliance with them.

Countries in this region could significantly reduce energy and water consumption through the implementation of stricter construction codes in buildings and taking into account the factors of insulation and energy efficiency.

Furthermore, although it has already been started, the process of reformulating energy prices to reflect the real cost of producing it should be undertaken by the relevant authorities and reinforced through public education campaigns aimed at ordinary consumers.

Changing the energy sources used in buildings for both heating and hot water in favour of more efficient systems, together with energy cogeneration projects, could produce significant savings in the whole region.

So far, most progress has been made in the industrial area, firstly as companies seek to be more competitive, and secondly because it is easier to monitor and the legislation (aimed at convergence with the EU) is stricter.

However, major investments are necessary to bring about the required infrastructure improvements to buildings and industrial facilities, such as power plants and supply systems. Considering the average economic situation of the four countries, these investments will have to continue to come, in large part, from international projects.

Renewable Energy

There are marked differences in the use of renewable energy by the four countries. These differences are due to, mainly, specific aspects of the geography and resources of each country. For example, Albania has a very high percentage of hydropower, due to its geography, which allows it to obtain fairly clean electricity (despite the many leakages from its supply network).

One of the main obstacles to further development of renewable energy is the low price of conventional energy, which, in many cases, does not reflect the real cost of generation, thus discouraging investment in research and development.

In general, however, there is a clear desire for progress by governments in the region, who seek funding sources to enable the development of new facilities, especially hydropower (the most widely used nowadays), solar power, and wind power. As some of the countries are heavily forested, biomass is proving to be another valid alternative, especially in rural areas. Other legislative measures and economic incentives will be discussed in point 6.

Another legacy of the Soviet era is the presence of energy utility centres in districts or neighbourhoods, which offer an opportunity to develop cogeneration systems, whereby greater energy efficiency could be achieved.

4.2.3. Natural Resources

There is generally no problem of scarcity relating to the first and most important natural resource, water, given the profusion of mountains, springs and rivers in the Balkan region. However, there are aspects of the consumption of this resource which constitute a problem both in terms of quality and sustainability.

The domestic and industrial consumption of water is subject to the same unsustainable consumption patterns as energy, due to lack of public awareness (habits inherited from the Soviet era), low and unrealistic pricing, uncontrolled consumption through informal wells, especially in industry, intensive consumption in specific industries and agriculture, and, finally, great losses caused by weak infrastructure, which exceed 30% (in Croatia, in 2006, losses were estimated at almost 50%).

The other big regional problem associated with water is pollution, and the implications for access to safe drinking water. As we saw in the chapter on Industry, discharges and waste generated are not treated or disposed of properly, and in many cases are discharged into rivers and other watercourses. Moreover, untreated waste accumulates in landfill sites without adequate infrastructure and seeps into the ground, reaching natural watercourses and polluting them. Especially serious are highly toxic wastes such as heavy metals or chemicals, very typical of traditional Balkan industry.

This situation is critical in areas where heavily polluting industrial plants used to stand. Although closed down, they are still being dismantled, and contain huge amounts of toxic waste which pollute soil and water.

Although an abundant resource, there are times of the year in which the regulated supply of water is insufficient in some rural areas of Croatia and Bosnia and Herzegovina. In other cases, the use of untreated water in agriculture contaminates both soil and plantations, causing a serious risk to human and animal health.

In many cities, public or private suppliers are making an effort to incorporate measurement systems and meters that encourage saving.

With regard to the soil, again lack of awareness, coupled with a scarcity of resources in poorer areas, has led to the intensive exploitation of natural resources such as trees or grass. Tree felling levels in the four countries, for wood fuel or to extend grazing land for livestock, remain clearly excessive and unsustainable. The livestock sector is also problematic in some regions due to the lack of measures to manage or treat waste in intensive farms, resulting in high levels of soil nitrogen and contaminated natural aquifers.

A good opportunity in this area arises from the fact that the use of pesticides, fertilisers, and fungicides is still scarce, though growing, so there is scope for promoting ecological or organic farming, a market with growing demand in the EU. Moreover, rural manpower is still abundant and economical, which could make it a profitable and interesting activity from the standpoint of local development.

Another important environmental impact linked to biodiversity and the coastal landscape is the high level of pollution on the Mediterranean coast of these countries. In addition to dumping and solid waste discharges by major industries in the area, as mentioned in the chapter on the industry, another increasingly important sector, tourism, is causing serious pollution problems, both due to its inherently polluting nature and to the phenomenon of uncontrolled urbanisation. Although there are initiatives in this direction, with some areas of particular natural value having been declared as protected areas, each year more tourists visit the region and there is still no clear and firm policy regarding the management of tourism and its impacts.

Finally, other environmental problems are becoming evident in some areas, such as desertification, salinisation or soil erosion. The reasons range from excessive or uneven grazing to intensive agriculture, and include the use of chemicals or slurry for fertiliser.

4.2.4. Waste Management

This is probably the main environmental issue for the entire region. From the perspective of sustainable consumption and production, waste involves direct negative impacts on air quality, water quality, public health, and biodiversity. Moreover, it indirectly causes other problems such as the valuable natural area being occupied and contaminated by illegal dumping and the emission of polluting gases arising from the frequent burning of waste in open air.

In terms of natural resources, the generation of large quantities of waste which is disposed of without recycling or reuse also leads to increased consumption of energy and water, as well as raw materials.

In general, waste management in the Balkan countries is still very precarious. There are many illegal landfill sites, hazardous waste is frequently disposed of without being treated or separated from other inert waste (in many cases deposited in municipal waste containers), water is polluted by discharges (also toxic), and recycling levels are very low (somewhat higher in Croatia).

Among the existing legal landfill sites, there are few that meet the standards of the EU, they are generally saturated (they are insufficient for the level of waste generated), and in some cases, the location implies additional negative impacts on air quality or water and soil pollution (when they are located in close proximity to villages or when they are in very permeable soils and coastal areas).

Another factor that aggravates the situation is the shortage of municipal collection services, often nonexistent in rural areas, and such services as exist rarely have the means to segregate the waste by type.

As previously stated, the predominant type of industry in this region generated high levels of waste, in particular, hazardous wastes such as heavy metals, oil or chemicals. This accounts for the high per capita average in these countries, although the quantities of household waste are significantly lower than those of the EU. In any case, the growing migration of populations from rural to urban areas, coupled with the growth of domestic incomes and the assimilation of unsustainable consumption patterns, imported from Western countries, leads us to anticipate a worsening of the problem if long term measures are not immediately adopted.

As a first step, while work is undertaken to recover critical locations, it is necessary to implement control systems and realistic and stable measurement systems in order to provide valid information about the reality of the problem. The very low figures presently reported by countries such as Bosnia and Herzegovina and Albania are a reflection of the fact that many industries are not providing information on the waste they generate and much less about the wastewater they discharge.

The gradual incorporation of technologies and cleaner production methods could be crucial to reducing the amount of waste generated, but would only be an acceptable solution if accompanied by investment in hazardous waste treatment and recovery and recycling systems. In all four of the countries studied, projects to build treatment plants are underway, and in many cases they are responding to very serious situations. Further action is clearly called for including the introduction of recycling plants, etc.

In relation to other types of hazardous waste, in recent years advances in the treatment and disposal of medical waste have been achieved, putting in place collection, sorting and handling systems, based on the standards of the most advanced countries in these matters. However, there are still places where this type of waste is removed together with inert waste, and it is likely that the amounts reported do not correspond to the quantities actually generated.

From the municipal perspective, the lack of resources, low public awareness, and limited legislation pose major obstacles to the implementation of effective collection services. In some countries like Bosnia and Herzegovina, complex management structures and the lack of coordination between the different structures involved make this a political problem. Moreover, virtually all the waste collected will be dumped, without any real effort to recycle useful waste. In this regard, in addition to funds needed to create separation and recycling facilities, it is important that the population is made fully aware of the scale of the problem, which could also lead to better consumption patterns.

Over the last few years, governments have taken on waste management as a priority, including mitigation measures both in legislation and national strategies for environment and sustainable development. The need to adhere to the standards of the EU in order to join it is another driving force to keep in mind, due both to the importance given to the issue by governments themselves and to the technical and financial support received from the EU.

The commitments and agreements signed by the four countries in the field of hazardous waste, air pollution, protection of the ozone layer, etc., could represent a meeting point for regional cooperation through joint projects, promoting synergies and regional standards.

Among the opportunities that exist, it is worth mentioning the high content of organic waste in the total waste generated which, if separated, could become a source of energy through its use as fuel or compost for agriculture.

In any case, neither the existing measures nor those that are underway will be very effective unless the proper means for correctly implementing and monitoring them are put in place. Thus, apart from laws and strategies, it is important to have institutions with real power, as well as sufficient human, financial and administrative resources. The organisation of functions at the municipal level, subject to financial sustainability criteria such as charging realistic fees for collection and treatment services, and above all, the implementation of control and monitoring systems that allow the quantities generated to be correctly identified, and adequate law enforcement are also essential.

Finally, both government and civil society must continue in their efforts to raise awareness among the public and businesses in order to create lobbies to ensure that the processes established function, to report irregularities, and to participate in development processes.

4.2.5. Sustainable Public Procurement (SPP)

The particular historical and economic context of the region, characterised by a traditionally pervasive State and a later difficult period of transition to the free market, have a special importance for the concept of public purchasing.

Due to the heavy presence of the State in the economy, public procurement agreements have traditionally been a high percentage of the total. However, the change of system, coupled with scarce public resources, have significantly affected this trend. In any case, the current legislation of public procurement is very new in all countries and, so far, has focused on detailing the procedures and requirements necessary to qualify for tenders. A widespread perception among all social strata that corruption, bribery, and fraud were very common in awarding public contracts has led governments to pursue these new laws, in which the procedures to follow and scales for awarding contracts are in the public domain.

Furthermore, once again, national aspirations to join the EU are significantly influencing the development of laws, inasmuch as they should reflect EU standards. In this regard, Croatia most

closely meets the standards applied by the EU, although it requires further emphasis on the mechanisms of complaints and audits.

Examining public purchasing from the perspective of sustainability, the situation is quite different. No evidence was found that the four countries have formally incorporated in their public procurement policies criteria of a social or environmental type. While in some cases it has been reported that environmental considerations have been taken into account in awarding the contracts, it was not done in a systematic way, nor did it respond to predetermined criteria.

Perhaps the country that has best approached the concept of sustainable public procurement is Bosnia and Herzegovina, which in its Public Procurement Law (2004), mentions the environmental characteristics of the product among the criteria for assessment in awarding a contract. In another part of the same law, it is mentioned that the technical specifications of a product offered must include those relating to the protection of health and safety of citizens and the environment. These good intentions, however, are not backed up by a system of evaluation and clear scoring, but are, for now, dependent on the assessment and decision of the relevant civil servant in charge.

In general, the concept of sustainable public procurement does not apply in any of the four countries studied, although there are some promising initiatives in this regard, such as in Bosnia and Herzegovina, or the current project to amend the Croatian public purchasing law, which could include some considerations of a social or environmental type.

4.3. COUNTRIES OF THE MIDDLE EAST AND NORTH AFRICA (MENA)

As in the previous section related to the Balkan region, in the Middle East and North Africa the concept of sustainable consumption and production is mainly focused on production. Thus, and taking into account that the previous edition of this report⁴ focused on this point, we will include a first section on industry. Then, the environmental situation of the countries in the region will be assessed, addressing the main areas affected or influenced by both current production practices and unsustainable consumption habits, whether public or private. The most important areas covered are “Climate Change”, in particular greenhouse gas emissions, energy efficiency and renewable energy, “Natural Resources” and “Water”, the “Management of Solid Waste” and “Dumping”, and the presence of “Sustainable Public Procurement”.

4.3.1. Industry

Despite the considerable differences between the countries of this vast region, the last two decades have been a period of widespread industrial growth. Among the many reasons for this trend, there is the need for States to reduce their imports of strategic goods, further reducing their dependence on other countries. Moreover, industrialisation has allowed many of these countries to increase their GDP and income per capita, create jobs, and export to international markets with a consequent inflow of currency remittances, etc.

The local benefits of industrialisation are evident throughout the region. It has meant greater availability of goods and services, greater efficiency and a wider range of options in transport, better communication systems, etc. However, these economic and social improvements have been accompanied by serious environmental problems in the areas of human health, the deterioration of natural resources and biodiversity, and climate change.

In most countries of the region, the paradigm shift from a rural agricultural to an urban and industrial society has brought a number of social and economic imbalances reflected in high unemployment

⁴ “State of the Art of Sustainable Production in the Mediterranean”. *MAP Technical Reports Series No. 165*, UNEP/MAP/CP/RAC, Athens, 2006.

rates, high pollution levels, uncontrolled urbanisation, and new risk factors for health (toxic waste, air quality, water pollution, etc.).

In the case of Israel, considered an exception, the transition has been less costly in environmental terms due, inter alia, to greater financial support and to institutional commitment to industrial development in the field of advanced technologies, considerably cleaner than heavy industry or manufacturing.

Moreover, the type of industrial development, especially in heavy industry, has been marked largely by the resources available in the region, such as oil, metals and minerals. While some of these resources have brought in recent years substantial revenues for some countries (those with oil, mostly), it is no less true that, in general, they have led to severe environmental pollution problems, both of land and water.

One of the most widespread forms of industry throughout the region is in the chemical and petrochemical sector, manufacturing, among other products, fertilisers, pesticides and fungicides. This particular industry involves the production of high amounts of toxic wastes which also contaminate soil and water for a long period of time.

The main industries belong to the food sector, textiles and tanning, petrochemicals, fertilisers, cement and construction materials, oil refineries, transportation, primary metal smelting plants, natural gas, and electricity generation.

Many of these industries were created during the 60s and 70s, so their structures and technologies are now suffering from problems of obsolescence, resulting in higher levels of pollution and environmental degradation. Furthermore, significant population and, in some cases, economic growth have generated a significant increase in the demand for goods and services, leading to increased production volumes. This growth, poorly planned and with little concern for its environmental impacts, has been rapidly consuming the natural resources of the region, already scarce in many instances (as in the case of water).

In many countries in this region, the energy industry is one of the main sources of pollution, due to its high energy intensity, accounting in some countries for up to 50% of the overall emissions of SO₂. There is also a serious problem related to the generation of solid waste and effluents, both hazardous and inert. Despite legislative progress, too much is still generated and it is inefficiently managed. Recycling and reuse systems are still rare and ineffective, with Egypt and Israel as the most advanced in the region.

Throughout these years, governments have strengthened their legislation and regulatory framework, so that many of the newly created industries must comply with requirements designed to achieve better environmental performance. In the same line, several governments in the region have launched programmes to relocate industries, taking them out of cities and their outskirts, to place them in specific areas with better industrial services.

In recent years there has been some progress in relation to the problem of the lack of skills and the human resources needed to implement clean technologies, largely as a result of projects carried out by national cleaner production centres, international agencies and civil society organisations.

The main challenges facing industries in MENA countries in the coming years are related primarily to international trade and how they can adapt to the strict environmental standards of western markets. The ongoing processes of privatisation of industries and the liberalisation of international trade call for greater competitiveness. In many countries, however, this depends on subsidies or minimum prices guaranteed by the State. Without these advantages, and given the tough competition from Asian and European industries, those in the MENA region are forced to assimilate standards and policies for cleaner production and sustainable consumption, which might enable them to participate in the new globalised markets.

4.3.2. Climate Change

In the region, the consumption of fossil fuels is the largest source of greenhouse gases (GHGs). Subsidised prices, energy intensity in industry, and the huge increase in the number of vehicles, explain this situation.

Other forms of air pollution are also still common, such as the emission of particles into the air (common in Syrian cement factories which do not use filters), the emission of gases produced by burning waste in open landfill sites (in many countries of the region), or emissions from private homes through the use of generators for electricity (as in Lebanon).

The impact of climate change on the region has been assessed and discussed in recent years, given that many of the countries concerned are particularly vulnerable. Desertification, erosion, and water loss are increasing and could get even worse, creating periods of drought, floods and plagues. These conjectures are part of the general uncertainty about the future consequences of climate change and the palliative effects more sustainable development patterns could have.

Greenhouse Gas Emissions

In addition to the emissions generated by industry and, especially, the energy industry, the largest and most widespread greenhouse gas emission producer in the region is transportation. The last two decades have brought an explosion in the number of vehicles, as well as the creation of road infrastructure, in virtually all the countries studied.

This significant growth in the number of vehicles is due to different factors in each country, such as increased purchasing power, deteriorating public transport systems, migration to cities, and increased local and regional trade (transport of goods, etc.). However, the problems generated in terms of air pollution and poor air quality are fairly uniform throughout the region and are due to a greater or lesser extent to the following factors:

- Low energy efficiency of vehicles: they are often imported from Western countries and have been used for many years previously.
- Inadequate road networks, coupled with inefficient traffic management: the rapid increase in the number of vehicles has not been offset by an equal increase in road infrastructure or traffic education, leading to congestion and constant traffic jams.
- Low fuel quality: although some countries have enacted laws to that effect, others still use fuels with little heat output or which contain highly polluting substances such as lead.
- Lack of awareness and/or incentives: there is as yet little public awareness of climate change issues while, in many countries, subsidised prices do not encourage austere fuel consumption habits.

Although the air quality situation in big cities is far from being acceptable, most governments have launched projects and initiatives aimed at improving it. In some cases, such as Egypt, the government has adopted a policy to progressively introduce vehicles that use natural gas, replacing the traditional diesel vehicles in its fleet of public transport. In others, the use of leaded fuels has been banned and consumption of diesel limited.

The Clean Development Mechanism (CDM) projects available through the Kyoto Protocol are gaining acceptance in the region, and some of the countries have taken the necessary steps to accommodate these initiatives.

Another indicator of progress identified in recent years is the commitment of governments to the Montreal Protocol on the eradication of substances that deplete the ozone layer. Most countries have adopted policies in this regard and are developing initiatives to facilitate this process in industry. Effectively implementing these new measures is, perhaps, the outstanding issue for governments, which do not allocate sufficient resources to ensure the standards are rigorously applied.

In general, governments' commitment to combating climate change and, more specifically, to improving air quality has grown significantly over recent years. Laws and legislation to reduce emissions have been enacted, while practical measures and projects have been launched, often supported by foreign institutions. Almost all countries have implemented new systems to detect and measure air pollution, essential tools for preventing and reducing excessive levels of pollution. These systems, mainly located in cities, are serving also to raise public awareness about the problem, backed by civil society organisations.

Energy Efficiency

Both the Middle East and North Africa are regions rich in energy resources, especially oil and natural gas. The energy sector in many of the countries in the MENA region has been a key factor in their industrial and economic development. Apart from enabling countries with surplus resources to earn currency through export, energy has been a driver of industrial development thanks, in many cases, to prices well below their true environmental cost.

Recent years, however, mark a turning point because of the steady increase in demand, which has led some countries traditionally in surplus to have to import energy to ensure self-sufficiency (e.g., Tunisia). Moreover, the power generating industry in this region has been characterised typically inefficient (essentially coal- or oil-fired), while other industries have been intensive consumers of electricity.

The remarkable growth in transport and the use of appliances and other electrical equipment has led to increased demand for electricity, not only due to population growth, but also because of increasing per capita consumption (which, nevertheless, remains far lower than in EU countries).

Populations and energy needs are forecast to grow, adding to the problems described and making energy a key issue in developing countries.

At the regional level, various measures to tackle the problem have been taken. In most countries, the concept of energy efficiency has been gaining acceptance, albeit to varying degrees. In some cases, governments' interest in industrial growth and attracting capital investors has offset the drive to implement energy efficiency measures. The systematic lack of enforcement of the current laws and regulations in this area is undoubtedly caused by insufficient human and material resources, but also by the desire to avoid putting too many obstacles in the way of industrial development.

In many other cases, however, remarkable progress on implementing energy efficiency measures has been made, both due to their incorporation in regulations, laws, and permit systems, and thanks to the work of the National Cleaner Production Centres in raising awareness and applying them in businesses.

These measures, together with growing awareness among companies, and the need to be more competitive in global markets, have generated some improvements in the industrial sector. There has been little change to the upward trend in transport and household consumption, however, and it seems unlikely that this will change in the near future.

Locally, interesting steps have been taken such as the development of sustainable construction manuals, the launch of eco-labelling systems, energy awareness campaigns, etc., while at the regional level collaborative plans, regional energy networks, and trade agreements with other regions have been established.

Renewable Energy

Today, virtually none of the renewable energy sources with real potential in the region are being exploited, or the projects are only at the pilot stage. Only water heating using solar energy is clearly widespread in all countries of the region, possibly because of the investment required is not great and maintenance costs are negligible.

The climate of this region means that other forms of renewable energy be reasonably profitable. However, in most countries existing efforts are minimal and unsystematic, apart from large hydroelectric plants and the consumption of biomass. Morocco, Egypt and Tunisia, with large wind farms and combined cycle plants projects under construction, are perhaps the countries with most experience in this field. According to recent estimates⁵ Morocco is the country with the highest proportion of its energy produced from renewable sources excluding water, at 1.1%.

Cogeneration is another possibility with a future in the region which, for the moment, is not being exploited except in some pilot projects related to the treatment of organic waste, and in some industrial processes in Egypt and Syria.

The following are some of the major barriers to the deployment of renewable energy sources:

- Lack of funding, so that in many cases projects only happen when they have foreign funding. When they occur, there is seldom any continuity in the creation of new facilities.
- The lack of technical training and qualifications for the installation and maintenance of the technologies involved. While this could be true, things are changing thanks to the many programmes sponsored by national cleaner production centres and similar organisations.
- Few incentives to change. Investment is discouraged by the prices of fossil fuels, which are highly subsidised, the cost of the necessary technological changes and the lack of institutional aid, although in Israel there is notable progress in this direction.

Nevertheless, certain advances have been made in recent years both in terms of energy efficiency and in cleaner energy (using natural gas instead of diesel in Egypt, for example). However, further assistance and aid programmes are required to make this kinds of project more attractive to private investors.

4.3.3. Natural Resources

Water Management

The most essential and threatened resource in the Middle East and North Africa is fresh water. Although the extent to which countries suffer from water shortages varies, in all of them water resources are affected by pollution and solid waste discharges. In most of the countries of the region water resources per capita are lower than 1,000m³, and it is expected that by 2025, due to population growth, the average in the Middle East will be down to 667m³.

The region, due to its topography and climate, is prone to irregular rainfall distribution, which has become worse in recent years, and to periods of drought. Added to this already delicate situation, there are the problems of industrial and domestic discharges (with the growing impact of the tourism industry), solid waste pollutants that seep into the ground, dust and other volatile contaminating agents that are deposited in runoffs, etc.

On the consumption side, the region in general suffers from a notable lack of control over water resources, except in the case of Israel, which has a fairly strict and fairly sustainable policy. Industries in almost all these countries often have their own wells, which extract unknown and unreported quantities of water, and through which they may eventually eliminate pollutant discharges. Water consumption by industry, in the absence of corroborating data, is probably very high and unregulated.

In homes and cities, the situation is different. In many cases, especially in rural areas, there are periods of severe shortages that sometimes make it necessary to transport water from other places to cover minimum needs. However, many small businesses and industries that are located within cities, especially those in water intensive sectors, make unsustainable use of the resource.

⁵ *Current Status of Renewable Energies in the Middle East – North African Region*, UNEP/ROWA, 2007.

Finally, there has been some progress in recent years in the agricultural sector, another major consumer of water. This progress, however, remains insufficient, given the unsustainable irrigation models developed in many countries due to policies to subsidise water and chemicals such as fertilisers and pesticides. In some countries, irrigation models using treated wastewater are being tested, which, if extended, would substantially relieve the pressure on the resource.

Although all governments have recognised the importance and severity of water shortages, the policies adopted are varied. Some countries have taken more or less direct measures, creating sound and strict laws with prices reflecting costs, as in the case of Israel, or creating a separate agency to implement large-scale projects in desalination infrastructure or the treatment and recovery of discharges, as in Tunisia. In other countries some such measures have also been implemented, such as treatment plants, desalination plants, pollution controls, studies, etc., but on a much less significant scale.

In any case, apart from greater investment in water generation and recovery, a change of approach on the demand side is necessary, particularly in industry, to reduce the consumption of a resource whose reserves are decreasing year by year.

Biodiversity

In all the Mediterranean coastal areas of the MENA region there are pollution hotspots which threaten and destroy biodiversity and the environment. In addition, the fishing industry in many of these countries uses unsustainable models that pose a threat to marine life due to overfishing. The frequent traffic of oil tankers and merchant shipping, combined with spills of oil, chemicals and other pollutants, also impacts on coastal biodiversity.

In inland areas, frequent drought and the mismanagement of resources, such as excessive tree felling or overgrazing, are contributing to the rapid degradation of ecosystems, soil erosion and desertification. This situation leads to lower agricultural-livestock yields, driving greater migration to the city, more rural poverty, and fewer resources.

In countries with forestry masses such as Turkey or Lebanon, the loss of vegetation and trees as fires are deliberately started and land is cleared is contributing to climate change by reducing the natural sources of carbon sequestration. This practice, coupled with inefficient water management and agrochemical use, results in the salinisation, erosion and desertification of these areas.

Little progress has been detected in this field. Although there are local and international projects to recover threatened areas and some countries have increased the number of protected areas, the most important causes of biodiversity loss and soil are still there. Many regional governments have adopted laws and regulations to protect biodiversity and natural heritage. However, just as in other instances, in many cases the law is not effectively applied, quite possibly due to insufficient awareness of the issue on the part of the institutions and the parties involved, or to a lack of financial resources and personnel with the necessary training.

4.3.4. Waste Management

Society as a whole has become substantially more concerned in recent years regarding the issue of solid waste and discharges in all countries in the region. The effects, level and source of solid waste pollution and discharges remain the same as those described in previous editions of this report⁶. However, the legislation and the implementation thereof have advanced dramatically.

As already discussed, to a greater or lesser extent, all the countries in the region have critical issues due to pollution from solid waste discharges, very often on the coast. The sources are industries, often

⁶ "State of the Art of Sustainable Production in the Mediterranean". *MAP Technical Reports Series* No. 165, UNEP/MAP/CP/RAC, Athens, 2006.

chemical, oil-related, metallurgical, etc., cities and urban settlements, tourist centres, and agricultural areas. Among the waste which is discharged directly or indirectly into the sea without treatment are: industrial discharges, including heavy metals, chemicals, toxic substances, used oils, etc., agricultural discharges, including organic and agrichemical waste, and domestic discharges.

The problems related to the existence of uncontrolled landfill sites, the burning of solid waste in the open air, rural and urban areas without waste collection, the mixing of hazardous waste with inert waste, among others, are still present in many countries of the region, although there have been general improvements in some areas. Municipal collection services have been expanded and strengthened considerably, especially in large cities. There are many disparities between the countries in this regard, but in all the cases studied, progress has been achieved in municipal waste management via privatisation or professionalisation, by extending the scope of services or via better disposal of the waste collected.

In relation to storage, progress is modest and depends on the degree to which recently enacted legislation has been implemented. In general, there are many informal landfill sites, which do not have the necessary measures in place to prevent contamination of the subsoil, water and air, where waste is often burnt in the open air, and which occupy areas of valuable land. In many countries, work has been undertaken to build, rehabilitate or recover landfill sites. However, the dimension of the problem in some countries shows that greater efforts are needed.

Solid waste treatment plants have also increased in number, including, in some cases, separation, recycling and recovery systems. However, in addition to being insufficient in number, these plants are not greatly efficient in terms of recovering waste to reduce the consumption of natural resources and energy. In some cases, such as the waste collection plants of Greater Cairo, Egypt, the whole system has improved considerably, ensuring the collection and transfer to landfill sites of most of the waste from the urban area. The same contractor that runs the service is also responsible for treating and recycling waste. According to the estimates received, since the introduction of the system a few years ago, only 20% of the waste has been recovered, mostly with a view to produce compost, with low recycling or recovery rates.

At the legislative level, waste management has been included in all the strategies and action plans proposed by the various countries and in various laws and specific amendments. The Israeli Law on Cleaning and Maintenance is particularly noteworthy. It introduces the concept of a tax for each tonne delivered to landfill operators, aiming to reduce waste and to finance the treatment thereof.

Although waste management remains one of the greatest environmental problems in many countries of this region, the first steps seem to have been taken some years ago. Now it is necessary to apply more rigorously the laws enacted, to continue to invest in the recovery of critical locations and the construction of more sustainable facilities, and to try to raise public awareness of the urgency of the problem. To achieve this, all countries will need technical and particularly financial support, which could mean progress may be slower, given the present economic climate.

4.3.5. Sustainable Public Procurement (SPP)

Sustainable public procurement, understood as the inclusion of social and environmental considerations as criteria in purchasing decisions or the awarding of public contracts, does not exist in the region except in Israel. In this country, the Government Purchasing Operations Division is responsible for incorporating these considerations into public procurement processes for some products and services. Likewise, the Finance Ministry has been instructed to formulate regulations that prioritise green goods and services in public consumption.

In the remaining countries, the situation is quite different. Until a few years ago, in general, public purchasing laws did not exist or were very old. Usually they dealt with the more functional aspects of the process and did not cover aspects such as the right to appeal, the right to information, the role of bidding agents, etc. Over recent years, as processes have become more open and civil society more involved, and relationships with markets and foreign investors have developed, public procurement laws have been instigated or updated in many of the countries under study.

Some are more transparent and participatory than others, but none incorporate specific provisions favouring more sustainable products or services. The closest concept, in terms of social responsibility, is a clause contained in some of these laws (such as those of Tunisia or Egypt) giving precedence to local suppliers over foreign suppliers, with a price premium of up to 10%.

Nevertheless, many governments in the region have accepted that this is a political issue and are therefore beginning to take steps in the right direction.

5. ACTION FRAMEWORK AND MAIN PROMOTERS

5.1. MEDITERRANEAN MEMBER STATES OF THE EUROPEAN UNION (EU)

Unlike the other countries of the Mediterranean, the countries included in this study that are EU Member States benefit from the Community acquis, with a series of binding Directives in addition to Community communications and recommendations focused on various aspects of SCP.

One aspect in which the EU countries of the Mediterranean region differ is, as we shall see, the growing emphasis on consumption within the SCP equation. Cleaner production, energy efficiency and waste and resource management are accepted as necessary and are thus on their way to being just one more part of companies' and organisations' "license to operate". However, measures to encourage sustainable consumption, despite the progress made and range of agents pushing for it, are relatively new. The concept is, therefore, still in the process of being defined, at least more than issues related to production, which, as pointed out, are "more in the revision stage than in the implementation stage". This is a new frontier which, together with a more comprehensive approach to CSR, will be more clearly defined in coming years.

5.1.1. Legislative and Strategic Framework

As noted previously, the SCP concept has featured more highly on the political agenda since the "Environment for Europe" Ministerial Conference held in Kiev. Ignoring national differences in how it is implemented and rolled out, SCP is already a substantial element of the industrial and consumption policy strategies of the EU. In fact, the Lisbon Community Programme for 2008-2010 included SPC as one of its principal axes.

In turn, all the countries of the region which are EU Member States have established and published their national strategies on sustainable development during the last decade. Many of them are currently under review with plans to update them. They all refer to SCP, differing only in how much attention they pay to the issue. Some strategies contain a specific chapter while others treat it as a crosscutting issue; some set out specific action lines while for other countries it is merely a desirable goal. Future reviews of these strategies will, undoubtedly produce more homogeneous results inasmuch as during the decade over which they have been published the rules of the game have started to change and certain approaches to SCP, especially those relating to consumption, have begun to be the object of EU communications and announcements of specific legislation.

Key documents from this period include the July 2008 Commission Communication on the Sustainable Consumption and Production and Sustainable Industrial Policy Action Plan; Directive 2008/1/EC on IPPC, replacing the 1996 Directive, and its accompanying impact assessment; and the July 2008 Communication "Public procurement for a better environment" which sets out ten priority areas for harmonising green public procurement in the EU. Moreover, other regulations vital for the development of SCP are being reviewed, such as those related to the EMAS system or to eco-labelling, and the extension of the directive on eco-design.

The practical implications of the new legislation are presented below, together with the main issued and agents involved in developing the SCP approach in the EU Member States.

5.1.2. Integrated Pollution Monitoring

In the EU, large industrial plants are responsible for a large part of the atmospheric emissions of major pollutants (83% of SO₂, 34% of NO_x, 43% of suspended particulate matter and 55% of volatile organic compounds). They also have a major impact on the environment through emissions into water and soil, waste generation and energy use.

to that end, the EU Mediterranean countries have had a single reference framework since 1996 with regard to the prevention and control of pollution in the form of the IPPC Directive. In January 2008, Directive 2008/1/EC was approved, modifying the system. The new model is intended to unify in a single instrument the successive modifications carried out to the original Directive, with a view to rationalising and clarifying its provisions without altering its fundamental principles.

In accordance with the principle of subsidiarity, in the implementation of the Directive, each State is responsible for determining how permits are granted (Integrated Environmental Authorisation), for defining best available techniques (BAT) based on the IPPC Bureau's BREF reference documents and sector adaptations thereof, for regulations which support and define emission limit values (ELVs) and for determining the inspection methods used to monitor compliance with the environmental conditions of the permits. Member states are also responsible for deciding the extent to which SCP measures (cleaner production, energy efficiency, management systems, etc.) are a prerequisite for obtaining permits and for determining the sanctions imposed for breach of the regulations.

In the case of Integrated Environmental Authorisations, the directive sets out an administrative procedure which replaces, for the facilities affected, all existing environmental authorisations and defines the environmental conditions under which industrial complexes may operate. Each country establishes the application mechanisms and bodies (state or regional) responsible for granting these permits.

In Italy, for example, in order to fully implement the IPPC Directive, an IPPC Observatory was created within the Ministry of the Environment (IMELS). This is a monitoring body which ensures the implementation of the rules on the prevention and reduction of pollution. The functions of this monitoring body are:

- Overseeing the presentation, acceptance and evaluation of applications for the Integrated Environmental Authorisations which the state is responsible for granting, and public participation in this process.
- Circulating documents to participants in interdepartmental meetings (*Conferenza dei Servizi*) held to investigate and monitor the granting Integrated Environmental Authorisations for which the State is responsible.
- Fulfilling obligations regarding the communication of information (between regional administrations and IMELS).

The Observatory operates via a database and a webpage (which will become operational in late 2009) for the exchange of information between competent authorities, industry, and the public including access to better information on best available techniques and future developments, in order to ensure current legislation is more effectively enforced. The adoption of measures related to cleaner production, energy efficiency, and the efficient use of natural resources are prerequisites for obtaining the permit. Additionally, if an industrial plant is accredited by EMAS, the permit is valid for eight years (instead of five).

Greece took a different approach to the application of the IPPC Directive, choosing instead to apply it through the existing system of environmental authorisations. The basis for the permits is the Law on Environment Protection of 1986 and a 2003 ministerial decision, which established the process for preparing environmental impact assessments and the varying requirements depending on the polluting potential of the facility. For the definition of BAT, Greece relied on the BREF, but with a significant local influence. In 1999 the Ministry of the Environment carried out a series of sector studies on Greek industries and the existing technologies and best available techniques for each sector. ELVs were not defined when applying the IPPC model to Greece. To meet the requirements of the licensing

process, limits established in other legislation such as the law on large combustion plants, the law on incineration, and a 1981 presidential decree on the performance of industries (decree number 1180) have been used. It should also be noted that the Greek inspection service has recently been strengthened. In fact, an added difficulty for the implementation of the IPPC Directive in the smaller countries has been the relatively complex administrative structure that it requires.

With regard to transparency and access to information, principles also established in the IPPC Directive, in 2007 the European Pollutant Release and Transfer Register (E-PRTR) replaced the European Pollution Emission Register (EPER), following the adoption in January 2006 of Regulation 2006/166/CE on the establishment of this register. The purpose of the E-PRTR Regulation is to improve public access to environmental information through the establishment of a coherent and integrated European register, thereby helping to prevent and reduce environmental pollution, providing data for the establishment of policy guidelines and facilitating public participation in decision-making processes on environmental issues. The E-PRTR includes specific information on atmospheric emissions, discharges into water and soil, as well as off-site transfers of waste and the presence of pollutants in wastewater destined for treatment. At the close of 2008, the national emissions registries established or adapted to the E-PRTR did not have data for the year 2007, the first year for implementing the new reporting criteria contained in the Regulation and also the first which should reflect the implementation of the IPPC Directive.

Implementation of the E-PRTR Regulation: The French Pollution Emissions Register

The French Pollution Emissions Register is designed to facilitate public access to information on environmental matters such as emissions into water, air and soil as well as the production and processing of hazardous and non-hazardous waste in industrial and agricultural facilities.

The register contains data reported each year by companies. The Order dated January 31, 2008 on the annual statement of emissions of classified facilities subject to prefectural authorisation (ref. DEV0773558A) established the reporting obligations of the managers of industrial plants (specific pollutants and reporting thresholds). Collecting these data allows France to meet the requirements of the European Regulation E-PRTR (Regulation 2006/166/EC).

The register covers 91 pollutants discharged into water, 85 substances emitted into the air (particularly toxic and carcinogenic substances), 67 soil pollutants, and 400 categories of waste. Companies can report any discrepancies that arise to the Classified Facilities Inspection Service to which they report, and apply for their published data to be modified. These data are used by the government in a range of measures to reduce pollution, which are determined annually by the Classified Facilities Inspection Services.

We should note that the application of the IPPC Directive is turning out to be especially complex and difficult. In fact, when the new Directive was codified at the beginning of 2008, it was accompanied by a Commission Staff Working Document which included an analysis of the main problems encountered in recent years in implementing the IPPC Directive.

This document states that the integrated approach based on BAT is a sound basis for the development of future EU legislation on emissions, but also that there are shortcomings in the implementation of the current legislation that hinder the full exploitation of BAT, that make enforcement at Community level very difficult and that are not conducive to preventing unnecessary administrative burdens.

This series of difficulties is related to the vagueness of the provisions on BAT and the flexibility for competent authorities (national or regional) to deviate from them in the permit process. This difficulty is a clear call for attention by the Member States.

The report also notes that this vagueness (also with regard to compliance and review of permits) results in large variations between Member States, distorts the internal market and does not provide incentives for innovation.

Another difficulty lies in the fact that the legislation is complex and sometimes inconsistent, with some requirements overlapping or being misaligned leading to unnecessary administrative costs (this difficulty was partly resolved through the amendment of various provisions in the new directive). A simplification of permit awarding is therefore recommended. The document also recommends widening the scope of application of the IPPC Directive to include new sectors and combustion plants of between 20 and 50 MW. Finally, the document recommends allowing Member States to achieve BAT-based emissions levels through an emissions trading system instead of BAT-based permit conditions for NO_x and SO₂.

5.1.3. REACH Regulation

The framework established by the IPPC system is complemented with regard to the production and use of toxic and dangerous substances by the REACH Regulation, in force since 2007.

Regulation (EC) 1907/2006 concerning the registration, evaluation, authorisation and restriction of chemicals (REACH) came into force on 1 June 2007. There are various positive aspects of the REACH Regulation, but it is worth mentioning that, in accordance with the precautionary principle, it establishes a framework for replacing some of the most dangerous substances (those which are persistent, liable to bioaccumulate and toxic) when suitable economically and technically viable alternatives are available.

The Regulation requires companies wishing to produce or import chemicals in the EU to demonstrate that the substance is safe. Prior to the Regulation, it was the duty of governments to show whether the substances sold were dangerous and prohibit or restrict their use if they posed a serious risk to health or the environment. From now on, the producers of chemicals are obliged to prove their safety. Companies must register all substances produced or imported in quantities above 1 tonne/year (about 30,000 substances), providing certain basic information. The registration of substances produced or imported in quantities above 10 tonnes/year (12,500 substances) also required Chemical Safety Report (CSR) which should include assessments of the hazards to health and the environment according to the different uses of the substance (exposure scenarios), and the maximum exposure levels or derived no-effect level (DNEL). The Member States of the EU and the European Chemicals Agency are responsible for reviewing the evaluations.

These obligations involve improving existing information on chemical substances, since previously companies only had to notify the Agency when they placed new substances on the market, but could continue manufacturing and importing more than 100,000 substances already existing in the market without providing any information about their characteristics.

We must also bear in mind that REACH requires companies to respond in 45 days to requests for information by consumers on the composition of a given product and its contents in a report on substances of very high concern. The European Chemicals Agency must publish the first listing of substances of very high concern in 2009. Any person who buys a product on the EU market may contact the distributors and manufacturers and inquire about the presence of chemicals in the consumer products detailed in this list.

5.1.4. Voluntary Instruments and Initiatives

It is worth mentioning the modest success of the European eco-labelling system in the countries of the region in recent years, especially for certain groups of products and services and in determined sectors such as tourism (in the roll-out of which European programmes such as the LIFE environmental programme and cooperation among Member States have proved decisive).

A good example is the network of tourist resorts awarded ecolabels in Cyprus, Greece and Malta, which are jointly promoted with the support of the European Commission. Some of these labels were obtained following the development of the "Malta and Environmental Management Systems" (M&EMS) which was co-funded by the EU and managed by the Malta Standards Authority (an ISO partner institution in the country).

The European Ecolabel has proved to be a powerful tool for encouraging suppliers of goods and services to voluntarily adopt SCP practices that fall outside the compulsory requirements which generally affect a limited number of industrial sectors. In terms of the number of producers, products and services registered in the region, France and Italy occupy the second and third ranking countries in the EU according to the number of products certified with the European ecological label.

In the case of Italy, between 1998 and 2008 a total of 250 Ecolabel licenses were issued, with 3,822 products and services labelled. The trend is upward for both licenses and products and services, with the largest increase recorded in the tourism sector. This increase has been facilitated by, among other factors, the development of professional skills and expertise through participation in EMAS and eco-labelling at the local level, with the aim of providing basic training to qualified professionals (environmental consultants, eco-labelling consultants).

To understand this increase, it is helpful to note that environmental criteria are included in invitations to tender for public contracts, with extra points awarded to companies whose products are certified. This has led to a significant increase in the interest shown by companies in this instrument. This incentive has worked remarkably well in product groups such as detergents, textiles, and paper.

In Greece, the European Ecolabel has been awarded so far to 131 products from 21 companies, and to two tourist facilities. The total number of labels issued to Greek companies' products places the country in fourth place in the EU. During 2006 and 2007, the European Ecolabel was particularly strongly promoted in the textile industry and for hotel facilities.

Regarding certified environmental management systems subject to standards and regulations (EMAS Regulation, ISO 14001), there is some disparity between Mediterranean EU countries in terms of the number of companies and organisations registered and certified.

Firstly, it must be noted that, for certain industrial facilities in some countries, being EMAS-registered makes it easier to obtain IPPC permits, or said permits are valid for a longer period. The legislation thus reflects the fact that the certification of environmental management systems involves the adoption of measures related to cleaner production, energy efficiency and efficient use of natural resources.

EMAS Registered Organisations		
Country	Organisations	Facilities
Cyprus	4	4
Slovenia	2	6
Spain	1,060	1,284
France	12	12
Greece	62	462
Italy	965	1,355
Malta	1	1

Source: EU Eco-Management and Audit Scheme (EMAS).

Excluding the importance of the incentive for the limited number of facilities subject to the IPPC Directive, the conspicuous disparity in the application of the EMAS Regulation depends on factors such as how recently the country joined the EU and the average size of the businesses in the different countries. In Cyprus and Malta, most are SMEs and micro enterprises, which often have greater difficulty in organising and funding the implementation of management systems.

In the case of France, where the scarcity of EMAS registered companies and facilities is striking, it should be noted that the ISO standards have greater prestige. The number of ISO 14001 certifications is growing (2,607 firms in 2005).

Finally, we should stress the example of Cyprus where four facilities are registered in spite of the relatively small size of its companies. Over the past two years, numerous seminars have been held to promote the EMAS Register. In 2007 a subsidy was announced to encourage organisations to participate in EMAS. Cyprus is one of the countries participating in the EMAS EASY project funded by the European Commission (through the Directorate-General for the Environment), together with six other southern European Member States. The main aim of EMAS EASY is to train consultants for the implementation of a simplified EMAS methodology which is particularly suitable for SMEs.

In addition to these systems, the countries of the region offer a wide range of subsidies, loans, grants and specific funding for both the sale and importing of various products and services based on an SCP approach to public policy. These incentives range from the elimination of taxes on certain products, such as small cylinder capacity, electrical and/or low emission vehicles to the financing of domestic renewable energy facilities.

In the following table, as an example, we list some of the incentives provided in Cyprus for promoting sustainable energy use in transport.

Cyprus: measures adopted to promote the use of sustainable energy in transportation

- 15% reduction in taxes on the import of medium- and small-size vehicles.
- 15% reduction in the tax on the import of automobiles with CO₂ emissions below 150 g/km, and a 10% tax on vehicles with emissions over 275 g/km.
- Elimination of the tax on the import and registration of electric cars and a 50% reduction for hybrid cars.
- Incentives for the scrapping of vehicles more than fifteen years old.
- Subsidies for the purchase of electric vehicles of up to 400 CYP.
- Subsidies for the purchase of vehicles with low CO₂ emissions (below 120 g/km) up to 400 CYP.

5.1.5. Main Actors and Programmes

All the EU countries of the Mediterranean region have departments related to sustainable consumption and production within their administrative structures, normally in their environment ministries. The issues concerning the development of SCP are generally included among the responsibilities of these ministries, although there are aspects that require interdepartmental action or which are the responsibility of other ministries, as in the case of public purchasing and procurement, which is sometimes managed by ministries of finance or economy.

As already noted earlier with regard to the legislative framework, a significant part of the activities of the competent authorities are concerned with putting into practice the EU directives on environment, production and consumption which have been implemented in their national legislations, although sometimes, as in the case of France's Grenelle Act, they are also responsible for the adoption and implementation of specific policies relating to the subject.

It should be noted that the role of European institutions is not confined to the establishment of directives and regulations. The European Commission has also often co-funded many activities and projects in the field of SCP. We should emphasise here the role of the LIFE environmental programme which has co-financed several transnational projects in the region, which are described in the country-specific analysis contained in the annexes to this report. An example is the Eco-Textile project to promote the eco-labelling system in the Greek textile industry, which ran between 2003 and 2006, and which benefited from LIFE financing.

In several cases, SCP issues which fall within the competence of ministries of environment are managed, in practice, by public agencies which are either relatively or fully independent. In Italy two agencies operate in this field, providing an example of inter-departmental cooperation on the development of SCP. The Higher Institute for Protection and Scientific Research Environment (ISPRA) is the main government agent for promoting SCP, carrying out technical and scientific activities to protect the country's environment, water resources and land. Meanwhile, the mission of CONSIP, an agency established by the Ministry of Economy in 1997, is to rationalise public spending on goods and services. The involvement of this agency is a prerequisite for the development of the Italian plan for sustainable procurement.

In France, the Agency of Environment and Energy Management (ADEME) is responsible for many of the issues related to SCP. The agency is jointly managed by the Ministry of Ecology and the Ministry of Higher Education and Research, with the latter being competent in matters related to R&D&I, which are fundamental for the application of environmental innovation in industry.

It is increasingly common for these agencies to establish partnerships with various stakeholders, both public and private. ADEME, for example, has an explicit policy of alliances, including co-financing policies and projects for partnerships with companies, with professional associations and local authorities, with consumer and environmental organisations and other public bodies working in the field of research and education.

In Malta, a similar agency under the Ministry of Resources and Rural Affairs, the Malta Environment and Planning Authority (MEPA), is responsible for implementing and developing environmental regulations in the country. Within MEPA, the Unit of Control and Pollution Prevention is the agency that maintains the regulatory and inspection functions required to comply with the Community acquis on the environment, including compliance with the IPPC Directive. The MEPA agency also participated in an interdepartmental plan for developing a National Action Plan on Green Public Procurement in collaboration with the Department of Procurement and a working group that also included the Malta Standards Authority, the Ministry of Resources and Rural Affairs, and the Ministry of Finance.

Civil society organisations are also key players in pushing for many environmental improvements by raising awareness, reporting problems and activism and, more recently, through partnerships, training and the dissemination of good practices and demonstration projects. In general, many activities relating to SPC implemented by public institutions have their roots in previous activities of civic organisations originally started in partnership with local governments.

There are also initiatives in different multilateral agencies working together and many groups in civil society and institutions. A prominent example operating in four countries in the region is the youthXchange network (YXC), a programme designed by UNEP and UNESCO "to help trainers and individuals to understand and communicate on sustainable lifestyles". It aims to raise awareness of SCP issues among young people, giving special weight to sustainable consumption. In The Mediterranean Region of the EU, YXC has developed programmes and projects in partnership with organisations in Italy, Slovenia, Greece and Spain.

In the field of management systems and their regulatory implementation, standards agencies, the national representatives of the International Organisation for Standardisation (ISO), play a vital role in the dissemination of quality and environmental standards, both for processes and products. Throughout the continent, they provide clear benchmarks for the standardisation and mainstreaming of good practice in industry. In the case of smaller countries in the region they are major promoters of environmental management systems and the European eco-labelling system. For example, the Malta Standards Authority of (which represents ISO in the country) has been instrumental in promoting the European Ecolabel, which has enjoyed remarkable acceptance in one of the country's major industries, tourism.

In the business world, we should also mention certain business networks working in the field of sustainability, such as the World Business Council for Sustainable Development (WBCSD) and its country branches (including in many of the countries of the group under study), corporate foundations, or the national partner organisations of the CSR Europe network (in all the countries of the group).

Their most significant activities are detailed in the country-specific analysis contained in the annexes to this document, although it is worth noting that they have played a major role in the dissemination of good practices and benchmarking programmes among their corporate members. To some extent these networks also sometimes act as think tanks and lobbies. The successful implementation of SCP and CSR measures gives their partners certain competitive advantages that are extended further if the government establishes new requirements in that direction. Business associations in the field of renewable energy have also become key players, especially in countries of the region with significant government incentives and subsidies in this area. We can expect this business sector to become stronger throughout the region in the light of national strategies on energy and sustainable development.

5.2. THE BALKANS

The area in which there has been the most progress in terms of SCP within the Balkans region in recent years is probably in the establishment of a common regulatory framework. To a lesser or greater extent, every country has set sustainable development national strategies, environmental action plans, laws on energy, water and waste, and laws on the use of substances which harm the ozone layer or to prohibit the importing of hazardous waste.

Moreover, specific projects and financing schemes have been launched and specialised, independent agencies created.

Financial tools have been made available to facilitate investments, some steps have been taken towards applying the EU directive on pollution prevention and control (IPPC), and on regulating the issue of operating permits. In general, voluntary initiatives such as environmental impact assessments, eco-labelling and awareness raising campaigns have also been encouraged.

It is likely that convergence with the EU will bring further regulatory and legislative progress in the years to come.

5.2.1. Legislative and Strategic Framework

Each of the four countries in the region have approved framework documents in recent years in order to implement environmental policies.

- **Croatia:** National Strategy for Sustainable Development, which contains explicit references to SCP as a key for development.
- **Montenegro:** National Strategy for Sustainable Development (2007), which contains repeated references to encouraging cleaner production.
- **Bosnia and Herzegovina:** National Strategy for Sustainable Development (2008), which mentions cleaner production as general objective.
- **Albania:** National Strategy for Sustainable Development and Integration 2007-2013, which contains references to cleaner production and technology.

A wide range of laws and regulations related to specific topics like energy, water, waste, etc., have also been approved, in line with the adoption of with EU standards. Croatia is probably the most advanced country, with laws that regulate packaging and wrapping in order to reduce waste (in line with the EU directive), or include points related to eco-labelling.

Montenegro and Bosnia and Herzegovina have created the National Committee for Sustainable Development and the Governing National Committee for the Environment and Sustainable Development respectively, as organisations in charge of promoting and monitoring these national strategies.

One of the main weaknesses in this area is that the chosen standards are often unrealistic or unattainable for companies, and are therefore not effective. Legislation is not accompanied by measures needed to apply it, there are insufficient financial tools to encourage the investment needed, regulations and powers often overlap across various administrative bodies, and, in general, the application of these laws is not greatly prioritised, reflecting the fact that little importance is still attached to environmental issues.

The areas to which most attention has been paid and resources dedicated are those that lead consumers to think about immediate savings or benefits, such as energy efficiency. When applied to renewable energies this also helps to reduce energy dependency in some cases.

Croatia has incorporated the buildings life cycle concept into its policies on energy consumption. A programme has been set up aimed at reducing energy demand in buildings, from design right through to final use. This country, together with Albania, also uses an energy eco-labelling for electric appliances which is in line with the EU directive on energy labelling.

Lead-based fuels are disappearing, thanks to provisions approved by the four countries, while in some cases, measures are being considered to regulate car emissions and fuel quality standards.

Although many institutions state that they put into practice measures for recycling and waste prevention, systematic measures do not really exist, and only Croatia has set specific objectives in this area.

5.2.2. Integrated Pollution Control

The four countries have worked to develop environmental operating permit systems for their industries. Although all of them introduced the IPPC concept (Integrated Pollution Prevention and Control), they are at different levels of development and implementation.

There are some weaknesses in the permit granting processes and processes to incorporate the IPPC Directive, especially in terms of adapting them to the real situation of the countries. For instance, the permit system is, in some cases, the same for all types of industries, while each government body's responsibilities and the coordination between them is not very clear, or some points fail to be considered, such as impacts on the soil or biodiversity.

5.2.3. Voluntary Instruments and Initiatives

The most widespread economic tools are sanction-based, with pollution taxes, and fines in the event of infractions. In spite of the fact that these taxes have been in force for a long time and the amount has been revised on various occasions, they are still too low, and they do not therefore constitute a strong incentive for companies. Nevertheless, new measures, tariffs and sanctions are being studied, based on the "polluter pays" principle.

Recently, support in the form of subsidies, loans and soft credits to encourage investment in cleaner technologies is becoming more common. Croatia has established an Environmental Protection and Energy Efficiency Fund, responsible for subsidising and supporting projects in this field, especially in relation to resource management.

Internationally recognised certification schemes such as ISO or EMAS are still in the early stages of development. The number of companies certified with ISO 9001 quality or ISO 14001 environmental certificates is still very small and are mainly multinational or predominantly exporting companies. Some institutions are promoting the EMAS system, with convergence with the EU as a constant aim, but up to now, has only been minimally applied in the region.

Other initiatives like eco-labelling or environmental seals are emerging, and various governments are developing strategies in this line. In Croatia, however, an eco-labelling model has been promoted on

an ongoing basis, and has included services since June 2008. It is planned to incorporate hotels, restaurants and other tourist sector agents in 2009.

5.2.4. Main Actors and Programmes

All the countries of the region have adopted and created national centres to promote cleaner production. Nonetheless, neither Montenegro nor Albania have put them into practice yet, in spite of taking all the necessary political steps. These centres, which are much more focussed on sustainable production than on consumption, offer services for companies (especially small- and medium-size), in the fields of energy efficiency, waste management, environmental management system, technical training, etc. In spite of their efforts, up to now, their impact in the business sector has remained limited, due to a lack of resources, among other reasons. In some cases, the centres are enlarging their approach or scope, incorporating the idea of corporate social responsibility in their objectives and services. Croatia's National Cleaner Production Centre, for instance, has launched a project in cooperation with UNIDO aimed at integrating CSR in the country's industries.

In general, these centres focus mainly on SMEs which, because of their smaller scale and operations, do not have easy access to new sustainable technologies markets, loans or training programmes in the environmental field. The National Cleaner Production Centres provide training, economic and technical support that SMEs could not obtain otherwise.

Some other major projects are being implemented by agencies or institutions created for this purpose by governments, and there are many initiatives to provide training, technical support or support for innovation. In Albania, the National Agency for Energy has developed innovative cogeneration projects for the country's largest hospital and for the campus of Tirana University.

In addition to state initiatives and the agencies and institutions created by the public sector, other actors with a relevant role in the SCP field of the region are international organisations that develop projects in partnership with local organisations.

The United Nations, for example, through programmes such as UNDP, UNEP or UNIDO, are very active in SCP initiatives in the region. In Albania, UNDP, in collaboration with the Albanian government, launched a fund to develop policies and action frameworks in the field of solar energy to heat water. In Montenegro, the Italian Cooperation Agency supports and takes part in a project aimed at introducing clean development mechanisms and air quality monitoring systems in the Skadar Lake area.

Civil society organisations with roots in environmental movements have been actively involved in promoting sustainable consumption and production, mainly through awareness campaigns, demonstrational workshops and training projects for SMEs and other organisations which have an impact on the environment. An example is the Regional Environmental Centre for Central and Eastern Europe (REC) which is active in all the countries of the region, as well as in neighbouring countries such as Hungary, Romania and Turkey. Apart from organising events and activities like the ones described, it carries out studies at the regional level, gives annual grants to NGOs and other groups involved in environmental matters, and awards prizes for the best environmental performance. There are many more, including the Cener21 NGO in Bosnia, with projects for energy efficiency in buildings, and Eko Revija in Croatia, a range of awareness-raising initiatives.

There are also business organisations that have added their voices to efforts to promote cleaner production, often with projects that take a more practical approach. In Croatia, for example, the Croatian Business Council for Sustainable Development (CBCSD), a member of the world WBCSD organisation has been very active for years, as has the Croatian Entrepreneurs' Association, which organises workshops and round tables related to issues like waste management, economics, climate change or the application of the IPPC Directive. In Montenegro, the Montenegrin Entrepreneurs' Federation is also much involved, carrying out feasibility studies in a range of areas.

In some cases, companies themselves promote projects aimed at improving environmental management, especially multinational companies, which already have protocols and more developed

systems. In Bosnia and Herzegovina, for instance, a German-Bosnian company has proposed the development of a heat production plant using geothermal energy to supply the heating for a group of buildings in a suburb of Sarajevo.

5.3. COUNTRIES OF THE MIDDLE EAST AND NORTH AFRICA (MENA)

Major political and economic changes have taken place in the MENA region over the last decade, with many points in common between the countries, but also significant differences at all levels. These changes, marked by a growing openness to international influences as a consequence of globalisation, have led to the need to modify and enlarge the legal and legislative framework in many aspects. The international agreements they have signed up to, as well as the need to compete internationally, have led states to create new laws and standards that favour convergence with European standards alongside economic growth.

The legislative and strategic framework in force related to environment and sustainable development is starting to be defined in this context. The SCP approach is still in the early phases of development.

5.3.1. Legislative and Strategic Framework

Generally, the main laws, national strategies, national plans and programmes that form the development directives of the region's countries do not include the SCP concept, apart from clear exceptions such as the Egypt's new National Sustainable Development Strategy (2008), in which the SCP concept is included in some of the eleven defined priorities, such as industrial and urban development, solid waste management, energy transport and efficiency.

In general, the framework of standards related to issues such as water or solid waste management, cleaner production mechanisms or energy efficiency is based on fairly new specific laws, such as the Water Law in Tunisia, or the Clean Air Law in Israel. While it is true that in some national strategies and laws for environment protection, such as Syria's or Algeria's, sustainable development and even cleaner production are mentioned, it is done in a very general way.

While action plans and programmes indicate a public willingness to make progress towards sustainability, in many cases, effective compliance is obstructed by diverse factors, including the following:

- Insufficient information about and dissemination of the new regulations.
- Scarcity of qualified human resources.
- Lack of administrative and financial resources.
- Conflicting interests with regard to non-compliance.
- Lack of incentives for those affected by the laws.

Nevertheless, year on year, the legislative heritage concerning sustainability and sustainable consumption and production is growing. International meetings and round tables attended by many countries of the region could lead to more agreements and so more commitment from governments.

5.3.2. Integrated Pollution Control

In general, the permit systems in the region have evolved along similar lines. All of them require the presentation of an activity report, which shows if the standard is complied with or not.

Recently, many of these countries have introduced changes in their permit systems, requiring environmental impact assessments. Some countries, like Egypt, even reserve the right to ask some particular sectors to adopt specific cleaner production or energy efficiency measures.

Algeria, apart from requiring an environmental impact study, also carries out checks on possible harmful effects on health, environment, heritage, etc., and reserves the right to carry out an audit. The use of clean technologies is also taken into account.

The adoption of an integrated approach for the prevention and control of pollution similar to the European model does not seem to be included in most of the region's governments' immediate plans. Israel has already implemented it for large industries, and Turkey is apparently getting ready to do so, and has already started a pilot project.

5.3.3. Voluntary Instruments and Initiatives

There are no changes to report under this heading. At the punitive level, some of the governments in the region may impose fines and sanctions and close down operations temporarily or even permanently, but these are not often strictly applied. Once again, the fact that most governments do not want to hinder activities that imply economic growth affects their readiness to impose economic sanctions.

However, without a real fear of sanctions, industry does not have enough incentives to carry out the investments needed in order to comply with the law.

The incentives which have some slight positive effect are those such as soft loans and small subsidies. Given the cost of the investments needed, and the type of support available, if the law is not rigorously enforced, these incentives are not attractive either.

The range of voluntary instruments available in the region is not wide, being limited to the introduction of environmental management systems (EMS), and in some countries, the promotion of the eco-labelling system.

The few EMS that exist in the region's industries are based on the ISO 14001 standard. Apart from initiatives launched by exporting companies themselves, in several countries diverse organisations promote and facilitate the implementation of the standard in companies.

With regard to environmental labelling, the systems adopted by Egypt for the textile sector, the green stamp in Israel and the Ecolabel Tunisien in Tunisia are the most notable. Although they are not well accepted and recognised, they do have institutional and international support, so there will probably be more similar initiatives to come.

5.3.4. Main Actors and Programmes

In all the countries studied, the most active entities in the field of promoting sustainable consumption and production are in the public sector. In most, the Ministry of the Environment is responsible for implementing initiatives concerning waste management, water treatment, energy consumption rationing, etc. In several cases, the government has created specialised agencies, which, while reporting to the ministry, have more freedom and capacity to act in the development of current programmes.

Undoubtedly, the organisations with the most presence at the local and regional level are the national centres and institutions dedicated to promoting cleaner production, which exist in almost all the countries of the region. These organisations have been and still are in charge of transferring to companies, and to a lesser extent to government and social organisations, knowledge about cleaner production techniques, clean development mechanisms, energy efficiency measures, etc.

They organise numerous projects and activities throughout the region, in three main areas:

- Training in cleaner production techniques so that specialists and technicians will be able to implement these types of measures.

- Demonstration projects, usually carried out in companies, aimed at implementing cleaner technologies and activity protocols.
- Awareness campaigns, aimed both at industry and at civil society organisations.

In addition, they often advise government bodies and, in some countries, participate in the design and implementation of new environmental legislation and regulations.

Apart from these centres, in many countries of the region, civil society organisations have been involved in promoting cleaner production as part of their institutional mission or as a necessary means of achieving a larger and more general goal such as environmental protection or sustainable development.

The number and activities of these organisations have continued to increase in recent years, partly thanks to the wider availability of information and partly to partnerships established with governments, companies and international organisations. Some of these organisations have played an important role both in defining environmental policies and monitoring compliance with them as well as in reporting irregularities.

As previously mentioned, most initiatives to promote sustainable consumption and production promotion are based on giving financial and technical support to international institutions. Given the number of countries in the region, many with specific ties of friendship to countries of other regions, the number of international organisations involved is large. The main institutional and international promoters are the United Nations, through its environmental (UNEP or MAP), development (UNDP) and industrial development (UNIDO) programmes; the World Bank with initiatives such as METAP (Mediterranean Technical Assistance Program); and the EU, with programmes like LIFE or MEDA. However, other institutions such as cooperation agencies in some countries (Italy, France, Germany) also take part in important bilateral programmes. Regional networks are sometimes created, which may include European countries, as in the case of the Maghreb and France, and which also become involved to a certain degree in promoting the SCP concept.

Nevertheless, taking into account the current situation in many of these countries, as well as the shortage of suitable resources, more internationally financed projects will be necessary if the progress made in recent years is to be continued.

6. CLOSING THE CYCLE: SUSTAINABILITY CRITERIA IN COMPANIES' AND ORGANISATIONS' VALUE CHAINS, CORPORATE SOCIAL RESPONSIBILITY (CSR)

6.1. MEDITERRANEAN MEMBER STATES OF THE EUROPEAN UNION (EU)

6.1.1. Introducing CSR in the Regional Context

The corporate social responsibility (CSR) model is not uniformly applied within the EU countries of the Mediterranean region, neither in their approach to CSR nor in the degree to which the concept has been developed.

There is, in principle, a favourable climate for CSR in the countries of this group: they are institutionally stable, solid democracies in the heart of the EU social model that rank relatively low on the corruption perception index (although with notable differences between some countries) and have enjoyed a period economic growth that, to a certain extent, has facilitated the investment of resources in research into and the implementation of new forms of governance in companies. The current recession will undoubtedly test commitment to these practices.

CSR practices in the Mediterranean countries of the EU are generally more advanced than in the rest of the Mediterranean basin and the rest of the world in general, although the highest standards are still only applied by a minority of companies. Companies' approaches to philanthropic and social activities have become more sophisticated as they have integrated CSR into their general management and strategies.

The main achievement in the field of CSR in these countries is that its principles are being adopted, at least formally, by a growing segment of large companies. Also, because CSR is well understood, it permeates the entire business activity value chain, including customers and suppliers as well as internal processes, products and relationships. The great many SMEs in the region are far from assimilating this approach, but it is encouraging that an increasing number of these companies are moving closer towards it, not only by adhering to formal policies but also by offering socially and environmentally innovative products.

Finally, another area in which the practices of Mediterranean countries of the EU are advanced is that of transparency. One indicator of this is that the Global Reporting Initiative (GRI) is on the way to becoming a *de facto* standard for business reporting. The use of this voluntary initiative, which has been formulated by various parties, has constantly increased throughout the decade.

Its acceptance has given companies a formal basis for defining the criteria for CSR, both in its basic requirements and where the highest standards are being pursued.

In general, in the development of CSR practices in the Mediterranean region of the EU, there is a clear distinction between the smaller and the bigger countries. The latter have a critical mass of big companies that have begun to implement CSR policies in recent years, for reasons of both prestige and competitiveness.

Meanwhile, many SMEs are struggling just to comply with legal requirements on the environment.

6.1.2. Main Interest Groups and Good Practices

The more advanced forms of CSR, going beyond philanthropic practices or opportunism, have developed in the context of:

- Companies participating in national and international networks and associations that promote CSR. This participation usually entails, apart from dialogue with other actors and the transfer of good practices, adopting formal policies and extending them to management systems.
- The adoption of transparent models for the communication of social and environmental information, in particular that of the Global Reporting Initiative. For large, listed companies, this means extending the scope of the information they are obliged to include in their annual shareholders' reports both in terms of the issues covered and the target public, to include all stakeholders (employees, customers, suppliers, local communities, etc.). Models for transparent communication adapted for SMEs also exist.
- The growth of socially responsible investment (SRI). This involves incorporating issues related to the environment, social impacts and corporate governance into investment decision-making criteria, as well as the usual financial criteria (profitability, liquidity). An increasing number of investors have started to build these criteria into their investment decisions during the last few years. The role of these investors is crucial for encouraging big companies to adopt good CSR practices.

Government Bodies

The role of governments in encouraging the development of any or all of the three areas described above in the Mediterranean countries of the EU has been varied. It includes facilitating dialogue, establishing new requirements for specific companies, acting as a role model, participating in public-private alliances, and establishing incentives and subsidies.

In the first area, that of formalising policies and joining initiatives, no government of the Mediterranean countries of the EU has taken a "hard" or prescriptive stance, obliging companies to establish specific management systems and/or business policies. However, the recent establishment of environmental and social clauses in public purchasing processes in some countries, such as Spain, is providing an incentive to companies to formally adopt CSR to help them demonstrate that they meet these new requirements.

The governments of Member States belonging to the OECD also have the option of obliging companies that receive certain types of export incentives to consider or adopt the *OECD Guidelines for Multinational Enterprises*. So far, among the Mediterranean countries of the EU, only France has established such measures at the national level.

Nevertheless, at the regional level, as early as 2001 in the Italian region of Tuscany, government bodies encouraged local companies to adopt a specific management system, the SA 8000.

Apart from such measures to encourage companies to formally adopt CSR, the main role of government bodies has been to recognise the main networks and initiatives as interlocutors, or to take part in them through different agencies and organisations. An example is the CSR Expert Committee established in the Spanish Ministry of Labour and Social Affairs, which has become consolidated as the new State Council for CSR (representatives of the main initiatives, such as the United Nations Global Compact, take part in this council).

It is also worth mentioning alliances such as the one created in Greece between CSR Hellas and the Ministry of Interior.

Governments have participated more actively in the adoption of transparent communication models. In France, since the adoption of article 116 of the New Economic Regulations Law, in 2001, companies listed on the stock market are obliged to provide an annual report of their social and environmental impact. The 700 companies affected by this regulation are free to use their own methods in order to

fulfil this obligation, although the model proposed by the Global Reporting Initiative (GRI) offers guidelines for most parts of the report.

In the rest of the region, GRI publishing has notably increased, but with other promoters. Some government bodies, like the Aragon regional government in Spain, provide assistance for the publication of reports (and for the establishment of management systems) within the framework of its industrial policy.

Concerning the development of socially responsible investment (SRI), the role of public institutions is also diverse. Some European countries, such as the United Kingdom and the Netherlands, required investment and pension funds managers to show if they take into account ethical, social and environmental criteria when making their investment decisions.

In the Mediterranean countries of the EU, no government has taken legislative measures in this line. In the case of France, as is fully explained in the specific analysis of this country, the main promoter of SRI in the country has been the public pensions fund (after the rules regulating it were modified to facilitate taking into account social and environmental criteria). In Spain, in 2007, it was announced that a percentage of the Social Security Reserve Fund would be invested in accordance with CSR criteria, but the measure has been postponed to an unspecified date.

All the examples given above are related to the most powerful countries (the largest in the region). That does not mean that government bodies in the rest of the region are not active in this area, but the measures, so far, have been less advanced. In Cyprus, the Planning Office created a Committee made up of different stakeholders, state authorities and business associations whose mission is to monitor the progress of CSR policies all over the EU, as well as to encourage local companies to voluntarily introduce the concept.

Companies and Civil Society Organisations (CSO)

Before governments became involved, the three ideal contexts for the development of CSR development described above were, in many cases, driven by specific market segments, by competition between businesses, by cooperation in networks, and by demands and pressures from civil society.

The “Global Compact” between the United Nations and the business world is the most significant initiative in this area. The Compact came into operation on 26 July 2000, inaugurated in the United Nations Headquarters in New York. The goal of this compact is to “enable all the world's people to share the benefits of globalisation and embed the global market in values and practices that are fundamental to meeting socioeconomic needs”. The Global Compact was therefore created as a voluntary initiative, in which companies commit to aligning their strategies and operations with ten universal principals in four areas: human rights, labour, the environment and anti-corruption.

Because of its number of participants, many thousands in more than 100 countries, the Global Compact is the largest CSR initiative in the world. They include more than two thousand companies from the majority of the Mediterranean countries in the EU.

Several of these countries have gone on to establish national business networks and organisations attached to the Global Compact (Italy and Spain in 2002, France in 2004, Cyprus in 2006, and Greece in 2008), and aimed at both promoting its principles and training its members in the use of management tools to develop its principles.

Also noteworthy is that almost all the countries have a national partner organisation in the European business organisation CSR Europe. In some cases, they are business foundations and in others associations with a stable secretariat. Their activities include training and disseminating good practice amongst their members, as well as raising the public profile of these activities. Many of the alliances and cooperative agreements between companies and civil society organisations are promoted by this type of organisation.

The most representative organisations, Impronta Etica in Italy, Fundación Empresa y Sociedad in Spain, CSR Hellas in Greece, IMS in France, etc., are fully described in the country reports in the annexes.

In the area of corporate transparency, the Global Reporting Initiative (GRI) is a multi-party and international initiative with a permanent secretariat in Amsterdam. Early in the decade, GRI published its first *Sustainability Reporting Guidelines*, the use of which has since increased exponentially throughout the world. Some Mediterranean countries of the EU are amongst the major publishers of sustainability reports. However, only France has established a standard that obliges certain companies to publish social and environmental information.

Therefore, the increase in this type of report is due to causes that include the need to satisfy new demands made by society, in the form of companies' stakeholders or other organisations. This now affects not only large companies but also SMEs and all kinds of organisations, including governmental agencies. In some cases, this is for reasons of prestige and to imitate the leading companies in their sector; in other cases because customers directly require it, and in general because it provides companies with a way to publicise their actions, organisational improvements, and social and environmental results.

Large companies have developed these reports in response to demands by financial markets for social and environmental information. The growth of socially responsible investment has been a clear driver for the implementation of CSR in large companies (which, in turn, disseminate the concept to their customers and suppliers). As already mentioned, an increasing number of investors have started to introduce ethical, social and environmental criteria in their investment decisions in recent years. This additional pressure from financial markets has been added to the existing scrutiny of business activities carried out by civil society in general and specific activist organisations in particular, which have found a new way to respond to business controversies concerning social and environmental issues.

The role of civil society has been crucial to the establishment and selling of SRI financial products. In many countries, the first SRI investments funds ("ethical funds" and "green funds") were developed by ecological, development and human rights NGOs, but they are managed and sold by traditional funds managers. In Italy, a notable number of religious entities participate in these types of financial products.

The involvement of trade unions in the management of pension funds (see analyses of France and Spain, for instance) represented a qualitative step forward in the development of SRI. Finally, a number of major investment houses have decided to include some SRI criteria in their general investment policies, in order to manage non-financial risk and to guarantee returns.

To implement SRI, its promoters and users need a fundamental tool: reliable information. This information is collected and classified by CSR rating agencies who classify all the information demanded by SRI actors, very diverse in principle, and, to some extent, channel the new demands raised by society on to the companies. The sources of information are the companies themselves, trade unions, tax authorities, and information organisations in third-party countries. Various Mediterranean countries of the EU have had agencies of this type for many years (AIS and Ecología y Desarrollo in Spain, Vigeo in France, Avanzi-Vigeo in Italy).

These new demands are the main reason for the exponential increase in sustainability reports published by large list companies. The GRI model, for example, covers almost all the data demanded most often by SRI investors. An excellent shop window for SRI has also been available in Spain since 2008 in the form of the Madrid stock exchange's sustainability index, which follows similar examples created in London and New York.

6.1.3. Summary

With regard to the role of government organisations, it is hoped that they will continue to develop achievable measures which have already been relatively successful in other countries: redefining

standards on business reporting and communication, promoting SRI in the market through soft regulatory requirements for pensions and investment funds managers, and including social and environmental clauses in public purchasing processes. There is major scope for development in all these areas.

In turn, several companies that adopted more advanced policies did so partly in expectation of future legal requirements. This expectation led them to take strategic positions. In the rest of Europe, there are already legal standards that regulate certain aspects of policy formalisation, business communication and the introduction of CSR criteria in investment products. The most advanced companies in developing these policies and tools have a clear advantage, and some regions have been aware of this when promoting CSR in their business sectors. This example will undoubtedly spread.

Tools linked to CSR provide civil society organisations with an additional means of achieving their objectives apart from their traditional activism or acting as passive receivers of funds. These new tools provide them with opportunities to meet and to cooperate on improving the social and environmental impact of companies, while companies, in turn, can use these tools as a means to access specialised knowledge in the social and environmental fields.

In the smallest countries, where CSR is less developed, it is worth analysing local SMEs' capacity to adapt specific aspects of CSR global tools to their particular characteristics. If governments opt not to legislate, they are at least responsible for facilitating access to the main international initiatives and getting involved as another actor in their development.

6.2. THE BALKANS

6.2.1. Introducing CSR in the Regional Context

The following factors, which reflect the historical, social and economic context of this group of countries, are critical for the development of CSR in this region:

- Economic difficulties with high levels of unemployment and inflation (improving over the last few years) and problems of corruption and lack of transparency.
- The legacy of the Soviet era for values, management style, social expectations, government presence, etc.
- The goal of joining the EU. CSR is perceived as an important issue in achieving this goal.

Country	Corruption perception index (2008)	World ranking (total 180)
Croatia	4.4	62
Montenegro	3.4	85
Albania	3.4	85
Bosnia and Herzegovina	3.2	92

Source: Transparency International, <http://www.transparency.org>.

As can be seen from the table, the perception of corruption is high in all the countries. Moreover, the legacy of the Soviet era has clear repercussions on social responsibility. While it is common for businesses to sponsor or support communities and become actively involved in important events,

there is also a certain tendency to “leave everything” in the hands of the government, perhaps as a reflection of practices from the aforementioned era.

Finally, the EU’s commitment to allowing these countries to join once they comply with the necessary conditions acts as a clear incentive for the development of good practices, especially in the area of the environment, good governance, and transparency.

Largely for this reason, the main promoters of CSR in this region come from international organisations such as the EU or the UN, which develop programmes focused on training, awareness raising, and good practices in partnership with government bodies and other business and social organisations.

6.2.2. Main Interest Groups and Good Practices

Government Bodies

Their governments play a fairly similar role in the promotion of CSR, marked by three factors:

- A certain laxity in some sectors of the business world and society which regard social wellbeing, good working conditions and protecting the environment as the responsibility of the State, which should therefore take the initiative on such issues.
- These governments lack experience and resources with regard to CSR. In fact, there are no specific strategies in this sense in any of the countries studied.
- A generalised perception that it is not a priority, given other, more pressing economic problems such as the privatisation process, economic recovery (unemployment, poverty) and the opening up to foreign trade that is needed to improve the balance of payments deficit.

Although none of the governments explicitly promote CSR, the process of converging with EU legislation means that some CSR considerations are included in a range of regulations and initiatives.

- The government in **Croatia** was the first to begin encouraging the development of CSR, as a result of its being named as an official candidate for entry into the European Union in 2004. The National Strategy for Development 2006-2013 mentions CSR as a key factor, although no practical considerations, laws or action plans are included.
- In **Bosnia and Herzegovina**, the Ministry of International Trade and Economic Relations has shown interest in leading CSR initiatives in the country.
- In **Albania**, the National Strategy for Development and Integration covers some aspects of CSR such as transparency and corruption, consumer protection, improving the business environment, etc. Along the same lines, a code of good practice is being discussed for some industries and agriculture, as well as the incorporation of environmental criteria in public purchasing contracts. In spite of these considerations at no time is CSR mentioned.
- In **Montenegro**, the Council for the Development of Small- and Medium-Size Companies is one of the agencies most involved in the promotion of CSR. This organism participates in the international initiative financed by the German Government, “Establishing CSR in Southeast Europe” (ECSRSE). As part of this initiative, the Council presented awards for the “Best CSR Company of 2007”.

One important aspect to be borne in mind for the whole region is the speed and abundance of new legislation affecting economic, business and environmental activities. In many cases, companies have not had the time or the financial and human resources to assimilate this new legislation. Where significant difficulties are found in complying with current legislation, it is unrealistic to expect to find voluntary practices that go beyond the legislation.

Companies

Many studies undertaken in the region state that a high number of local businesses claim to be involved in aspects of social responsibility. This is undoubtedly due to the different perception of CSR predominant in the Balkans compared with other regions. Those few companies capable of complying with the many new laws and standards referred to in the last paragraph are likely to think and claim that they are being socially and environmentally responsible (in fact, compliance with legislation is a necessary, but not a sufficient, prerequisite of CSR).

In general, the main promoters of CSR within the business community are large multinational companies with subsidiaries in the countries of the region or large net exporters with important markets in the EU or the US. The former usually incorporate the practices in place in subsidiaries in other countries, more to maintain coherence and uniformity across the corporation than due to local pressure. Small and medium size companies, on the contrary, are still not very involved.

The integration of CSR into the business framework of the Balkan countries is closely linked to the scarcity of financial, technical and human resources that small and medium-sized companies suffer from. The business community's interest in CSR is also greatly affected by its lack of knowledge of the issues, the options available, or the initiatives in progress. While some aspects of CSR are widely known about in Balkan society (sponsorship and social work above all), others are not understood to the same extent (good governance, transparency).

The process of integration into the EU has brought with it the adoption of all types of laws in the sphere of working conditions, environmental protection or corruption. These laws, however, are often more mere declarations of intent given the lack of regulation, control bodies and instruments to ensure they are genuinely applied.

The main areas in which CSR is understood and practised in these countries are:

- **Philanthropy:** voluntary contributions from companies to culture, sport and, other groups, to important events and to social causes in the company's general surroundings. As stated in the previous point, this is the most extended and understood practice of CSR in the region, closely associated with the brand image and values of the company.
- **Environment:** the stress placed on this aspect of CSR at both at the local and international level, together with new international obligations and the proliferation of laws and strategies related to it, have forced Balkan companies to embrace the principles of environmental management. They still fail, however, to comply with much of the existing legislation. The best practices in this sense are within the framework of recycling and energy saving.
- **Community Development:** as a result of its Soviet past, this concept is quite well developed in Southeast European societies, through investment and support for the development of local communities. It is also positive that this investment tends to be very practical and functional, obtaining positive results for the community in the very short term (infrastructure, construction etc.). Like sponsorship, this form of CSR is closely associated with raising the profile and enhancing the reputation of the company.
- **Wellbeing of the employee:** although this aspect of CSR is less frequently espoused than those mentioned above, there is a certain emphasis on employees' wellbeing and the creation of better working conditions. Some companies, though few, have policies on the employment of disabled people and people in situations of exclusion. Meanwhile, throughout the region, but especially in Croatia, there is also a clear policy of continuous training of employees, encouraging them to attend courses, seminars etc. This measure, however, is more linked to the shortage of qualified personnel in the country than to promoting CSR.

Civil Society Organisations (CSO)

Although very recent, there is a growing social movement in the Balkans which takes the form of associations, foundations and other types of organisations with very diverse objectives and activities. These young NGOs include many groups working in fields related to CSR such as the environment

(the most extensive activity), human rights, social integration etc. In general, however, there is little support for CSR, and only in those aspects that coincide with the general objectives mentioned. There are very few organisations whose strategic objectives are to promote CSR, and they depend enormously on finance from foreign institutions and donors (predominantly from the EU).

The organisations in the region whose main activities include promoting CSR can be classified in three main groups:

- Monitoring and reporting organisations: not highly visible and few in number, these organisations focus on supervising the activities of companies, governments and other relevant agents, detecting and reporting bad practices, abuses or irregularities. Among the few that exist, the majority are international NGOs.
- More common, but still scarce, are those that focus on providing training and support to the business community and the public administration. The members of this type of organisation often include companies, professionals and experts in different subjects related to CSR. In their functions and type of activity they are similar to consultancy services, and the work of some consists of carrying out studies related to CSR but of specific interest to the company financing the study.
- Development NGOs promote CSR in an indirect or transversal way, in the defence of human rights, the fight against sex discrimination, for good working conditions etc. Although they effectively deal with aspects of CSR, the organisations themselves are in many cases unaware of this, and do not therefore communicate the concept to their target audiences (companies, government bodies, other social groups etc.).

Within the region, Albania is the country with the fewest CSOs, whether dedicated to CSR or to general causes, while Croatia has the most. In Bosnia and Herzegovina, given the devastation caused during the war and the still delicate political situation, NGOs are more likely to focus on social development and human rights. In Montenegro, programmes and projects to promote CSR are appearing, such as the Centre for the Development of Non-Governmental Organisations, which could be considered as the organisation most involved in the application of CSR in the country. In Croatia, the number and activity of NGOs of a business nature, i.e. created by and for companies that are interested in CSR, is of note.

Finally, it should be mentioned that there are other representatives of civil society involved in CSR in some way, such as academic institutions (universities, institutes etc.), trade unions, and the media. Whilst the first focus on research and the more theoretical aspects, the second are mainly concerned with working conditions. A small, highly specialised segment of the media promotes responsible practices through studies, expert articles, examples of good practices, etc, but its audience is very limited and therefore can only be found in on-line bulletins and magazines and specialist magazines on economics.

6.2.3. Main Actors and Initiatives

As commented earlier, the main promoters of CSR in the Balkans region are the international organisations of the UN, the EU, and the agencies for cooperation of some developed countries.

Although the EU does not have any specific programme in the area, many of the countries of the Union participate in and finance bilateral projects to promote CSR.

Possibly the best-known agent is the UNDP, both in its own right and as the promoter of the United Nations Global Compact. In many countries, the UNDP pioneered projects and initiatives to encourage the introduction of CSR practices, while the Global Compact has become one of the most effective and active instruments for promoting CSR practices among companies and, to a lesser extent, amongst government bodies. The UNDP named CSR as one of the five priority areas of the 2007 Private Sector Strategy paper. In the same year, the Global Compact opened permanent headquarters in Croatia and Bosnia, and is active in the other countries through the offices of the UNDP. Both institutions have developed a multitude of initiatives in training, good practices, accreditation, etc.

Another important programme in the region, especially in Albania, Bosnia and Herzegovina and Montenegro, is financed by the German Government and the international German organisation InWent, in cooperation with local partners, and has been functioning since 2007. The programme aims to increase awareness of CSR, obtain commitments and encourage activities in this area, promote joint projects between businesses and local NGOs, and also foment the best practices among companies.

UNIDO is also active through its "CSR in Central and East Europe" programme, which includes Bosnia and Herzegovina. Its aims, like those of the other organisations mentioned, include the creation of a regional CSR network in Central and East Europe, focused on improving competitiveness and access to international markets.

Other international organisations with programmes to promote CSR in the region include the International Finance Corporation (IFC), the International Labour Organisation, and USAID.

6.2.4. Summary

The Balkan region is in a very particular situation due to the political and economic transition it is undergoing, together with the shared aspirations of all the countries which make up the region to enter the EU. To this end, CSR is seen not only as necessary for convergence with the legislation of the EU, but also as an opportunity to develop a more sustainable and productive business and social environment that can compete in European markets.

At present, certain aspects of CSR, such as sponsorship, community development, protecting the environment and certain considerations towards employees, are known and put into practice. These aspects could serve as a platform for further development. The most critical areas include the lack of transparency, the widespread perception of corruption and, in general, the lack of interest shown in good practice in corporate governance.

Various organisations currently promote CSR in the region, notably international bodies that work in partnership with local associations and NGOs as well as with partner companies. Closer links between governments may be necessary, provided they are accompanied by the necessary resources and means to ensure that the measures adopted are genuinely implemented and that voluntary initiatives by the business world and society are supported. Although they would be very useful, and bring many competitive advantages, there is for now little likelihood of regional coordination and common standards or policies on CSR.

6.3. COUNTRIES OF THE MIDDLE EAST AND NORTH AFRICA (MENA)

6.3.1. Introducing CSR in the Regional Context

The general context is defined by the complex historical and cultural forces affecting the countries of this group, whose situations vary widely, many of them currently facing profound changes and tensions. This diversity is reflected in varying interpretations of what CSR means and how it should be applied, together with the different phases of development which can be found. It exists to a greater or lesser extent in all the countries, having begun in the majority of cases with philanthropic practices unrelated to companies' business activities or through multinational companies influencing their local suppliers.

In general, in the region, the debate on the voluntary aspect of CSR, of going "further than what is legally demanded", appears to be irrelevant given that the states have limited capacity to supervise even legal compliance. In many cases, merely complying with the law represents a clear advance in the assimilation of social responsibility by companies.

In the overall analysis, Israel warrants special attention. Given the strength of the state and the structure of civil society, there is greater scope for the application of CSR, which might lead us to expect greater advances than we see at present.

The most extended CSR practice in the region is, without doubt, business philanthropy, due to a range of possible causes, including cultural aspects and the incapacity of the state to provide basic services for some segments of the population. At the same time it allows companies to gain legitimacy within the communities in which they operate.

The proportion of small and medium size companies and family businesses in the region is extremely high. Their size, the scope of their activities and their specific needs must be taken into consideration when promoting CSR. However, for any real progress to be made, the demand must come from local consumers and not only from multinational companies to their suppliers or exporters.

6.3.2. Main Interest Groups and Good Practices

Governments play a fairly similar role in the promotion of CSR, one marked by an inability to enforce compliance with legal requirements and by a lack of resources to provide all segments of society with basic services, making public-private alliances an attractive option. As we have said, Israel represents a special case⁷.

Some examples of government initiatives are given below.

- In **Egypt** the government has done a little work in the fields of CSR both in terms of its own internal governance (e.g., with the Investment Ministry's Transparency Unit to combat corruption) and internationally (it was the first Arab country and the first African country to sign the OECD declaration on International Investment and Multinational Enterprises), but there remains a long way to go.
- **Tunisia** has launched a general strategy for sustainable development based on the principles of social welfare and equality in protected, healthy surroundings closely linked to the environment. This strategy has important links to CSR.
- In **Lebanon**, the government is not very involved at the moment, leaving leadership on the issue to companies. However, the country is undergoing a process of integration into the global economy: the signing of the Lebanon-EU Association Agreement, joining the World Trade Organisation (WTO), and participating in GAFTA. Encouraging corporate social responsibility should be an integral part of this process of reform.
- In **Morocco**, the Customs and Indirect Taxes Authority works with the federation that promotes the CGEN Seal of Social Responsibility.
- **Israel** is one of the countries in the region whose government has the greatest capacity to supervise the application of legislation. The Ministry of the Environment coordinates efforts to promote the efficient use of resources, while high levels of social awareness about environmental sustainability encourage the advancement of CSR.
- In **Libya**, the National Authority for Industrial Zones and the Environment General Authority are agents to watch even though CSR is not on their agenda or part of their objectives.
- The government in **Algeria** does no specific work in the CSR field, although the efforts of the last few years on environmental issues and cleaner production could serve as a base for introducing the concept into the political agenda.
- In **Syria**, the government, through its State Planning Commission, and in cooperation with the UNDP, is carrying out a four-year project focused on reinforcing the role of civil society in CSR through partnerships between CSOs and companies.

⁷ For more details see the country analysis report of this country.

- In **Turkey**, the government, in cooperation with organisations such as the UNDP, is becoming involved in programmes to promote CSR, such as the creation of partnerships between government and CSOs, supporting the participation of interest groups in designing national strategies, and promoting business benchmarks such as the ISE 30 Index (Istanbul Stock Exchange).

Companies

The main areas in which CSR is practised in these countries are centred principally on the following aspects:

- **Philanthropy:** this is the most widespread form of CSR in the region, and the reason behind most CSR practices. It remains, however, at a basic stage of “philanthropy not linked to company strategy”, generally in response to individual initiatives, and therefore has a long way to go.
- **Environmental:** given the environmental problems of many of the countries, whether due to scarce resources (such as water) or population pressures caused by poorly controlled urban development, environmental issues, of which there is greater awareness, could open the door to work on other aspects of CSR. As with all aspects of CSR, companies that are suppliers to multinationals are those that do the most work in this area.
- Some aspects of human rights and labour relations are addressed by countries whose economies have a significant export component and in some specific sectors such as textiles, but this is not the case in general.

In the more detailed analysis by country, we can see that various initiatives exist that could be replicated from one country to another, once their effectiveness and the real benefits have been evaluated. Examples include the General Confederation of Moroccan Companies' CGEM Seal on Social Responsibility established in 2006, or, in Israel, the MAALA Corporate Social Responsibility Index (2005) and KAYEMA, a clean technology investment fund.

Civil Society Organisations (CSO)

In general, civil society, except in the case of Israel and incipiently in Jordan, Morocco, Tunisia and Turkey, is not an agent with significant presence in the promotion of CSR.

An interesting example, although with a very Anglo-Saxon bias in its initial premise, is the organisation Maala-Business for Social Responsibility in Israel. Founded in 1998, this NGO was inspired by the American organisation Business for Social Responsibility (BSR). More than 110 companies in the country are members of the organisation, employing 23% of Israel's labour force and accounting for 48% of its GDP, making it the leader in terms of CSR in Israel.

Some of the organisation's main activities are:

- The Corporate Social Responsibility Index (2005).
- The Israeli CSR Management Guidelines.
- The Corporate Social Responsibility Management Course.
- The annual Business and Society conference.

As an indicator of the penetration of CSR, the table below summarises the level of involvement of different agents in CSR and the number of participants in the Global Compact initiative ⁸.

⁸ Based on Ararat, Melsa. *Corporate Social Responsibility Across Middle East and North Africa*. World Bank Working Paper. April, 2006, with the authors' contributions. For more details see the corresponding country analysis report, Annex III.

	Government and Legislation	Companies	Society and NGOs	International (EU / Companies / UN)	Participants in the Global Compact
Egypt	A-B-C	A-B		A-B	21
Israel	A-B	A-B-C	A-B-C	A-B-C	11
Jordan	-	A	A	A	25
Lebanon	-	A	-	A	2
Libya	-	-	-	A	0
Morocco	A-B	A-B-C	A	A-B	16
Tunisia	A	A	A	A	18
Turkey	A-B-C	A-B	A	A-B-C	166

Data on participants extracted from the official web page of the Global Compact. Includes companies, NGOs and other entities such as business associations and cities adhering to the Compact.

A: Basic level

B: Medium level

C: Advanced level

6.3.3. Main Actors and Initiatives

The main promoters of CSR in the region are international organisations of the UN (Global Compact, UNDP), the EU, and the cooperation agencies of some developed countries.

Multinational companies are an important driving force for their subsidiaries and the companies which supply them. The transfer of CSR to the supply chain, through responsible procurement policies, will be an important working tool for the future.

At the regional level, there are at least two initiatives underway that could be influential in the region and support this process:

- National Investment Reform Agendas (NIRA), which include specific measures to boost investment in environmental projects and mention the role of CSR in this respect, supported by the OECD.
- The Institute for Corporate Governance (HAWKAMA), established in Dubai in 2006 to support advances in corporate government in the MENA region.

Although these organisations may offer a global vision for the region, in many countries they are not prominent and other agents play more relevant roles in promoting and developing CSR.

6.3.4. Summary


There is significant scope for improvement in the field of CSR. Although there are disparities in the extent to which it is applied, it is possible to advance from philanthropy to other aspects of CSR, provided there is clear support from local governments. Some aspects with scope for development in the region in relation to CSR are:

- Improving CSR practices through international examples of good practices between companies, using multinationals as a driving force for CSR in relation to their supply chain.
- Introducing and applying codes of conduct and of good governance (general and/or by sector) and advances in the control of corruption.
- Improving the application of legislation and its monitoring by public bodies.
- Encouraging the participation of women in business and politics.
- Raising awareness among companies of international campaigns and projects such as the Global Compact or UNDP programmes.
- Obtaining better information on how companies behave and their participation in campaigns by international NGOs related to sustainability and CSR.
- Fostering public-private alliances on development goals or other aspects covered by CSR, including the work of universities and business schools.
- Establishing a ranking system or, if applicable, a stock market sustainability index.

ANNEXES

ANNEX I: SUMMARY OF COUNTRIES ANALYSED. EUROPE

Analysis of the situation in the MAP countries: Mediterranean Member States of the European Union (EU).

 <p>CYPRUS</p>	POPULATION: 722,000
	AREA: 9,251 km ²

1. INTRODUCTION

Cyprus can be classified as a country with high income, per capita income being €19,676 in 2007. The average annual growth rate over the last three years was approximately 4%, while the inflation rate stood at 3.4%, and unemployment at 3.1%. Cyprus joined the European Exchange Rate Mechanism II in May 2005, leading to the country's accession to the eurozone in January 2008. Economic policy depends on the revised version of the Governance Programme, which establishes ambitious but realistic fiscal targets, and the promotion of structural reforms across a wide spectrum of sectors through the application of the Lisbon Strategy. The area of the Republic of Cyprus under the control of the government has a market economy dominated by the service sector, which represents 78% of GDP. Tourism, financial services and basic goods are the most important sectors. The irregular growth rates during the last decade reflect the dependence of the economy on tourism, fluctuating according to economic conditions in Western Europe. However, the economy of the zone controlled by the government has grown by well over the EU average since 2000. Cyprus joined the European Exchange Rate Mechanism II in May 2005, and adopted the euro as the national currency in January 2008. A programme of austerity in the previous years contributed to a surplus of 1.2% in 2008. This prosperity will be tested in 2009 due to the reduction in tourism, a result of the present global financial crisis. One of the key environmental elements is the scarcity of water, a perennial problem, although desalination plants have been added to existing installations over the last year.

Economic data			
GDP	\$23.18 billion	GDP growth rate	3.6% (2008 est.)
GDP per capita	\$29,200 (2008 est.)	GDP by sector	Agriculture 2.6% Industry: 20.5% Services: 78.3% (2008 est.)
Labour force by sector	Agriculture 8.5% Industry: 20.5% Services: 71% (2006 est.)	Unemployment rate	3.8% (2008 est.)
National debt	49% of GDP (2008 est.)	Inflation rate	5.1% (2008 est.)
Exports	\$1.53 billion (2008 est.)	Trading partners - exports	Greece 21.1%, U.K. 14.3%, Germany 6.6% (2007)

Imports	\$8,689 billion (2008 est.)	Trading partners - imports	Greece 17.7%, Italy 10.2%, U.K. 9.6%, Germany 9.4%, Israel 6.5%, France 5.4%, China 5.3%, Holland 4.1% (2007)
Main industries	Tourism, food and drink processing, cement and plaster, ship repairs, textiles, light chemicals, metal, wood, paper, stone, clay	Electricity production	4.52 billion kWh (2007 est.)
Electricity consumption	4.15 billion kWh (2006 est.)	Electricity exports	0 kWh (2007)
Electricity imports	0 kWh (2007)	Oil production	0 bbl/day (2006 est.)
Oil imports	55,970 bbl/day (2005)	Oil consumption	57,830 bbl/day (2006 est.)
Natural gas production	0 m ³ (2007)	Natural gas consumption	N/A

Source: www.cia.gov, *The World Factbook*.

2. CLEANER PRODUCTION

2.1. Industry and the Environment

As stated, Cyprus' economic activity depends heavily on tourism. The main industries are equally tied to the tourism sector: construction, quarries and the mining of aggregate. With respect to environmental impact, therefore, the following points should be highlighted:

- The GDP of the construction sector has grown significantly in the last three years, reaching 7.4% growth in 2007. It should be borne in mind that the sector had negative growth rates some years ago (-1.2% in 2000). This growth is due to the increase in tourism and the consequent massive construction of homes on the island, increasing pressure on natural resources.
- The extraction industry sector has also grown substantially in the last three years, given the demand for construction materials. This growth contributes to the exhaustion of geological wealth and to an increase in environmental impacts such as noise and dust from mines and quarries, affecting neighbouring communities.
- The government has approved the development of fourteen new golf courses with their corresponding urban complexes, which will add to the pressure on water resources on the island as well as affecting various ecosystems and the balance of agricultural use of land.
- The rapid development of tourism has direct implications for land use, pressure on coastal areas and the marine environment and also for the use of energy and water supplies.



The main environmental problems on Cyprus are the alteration of the coasts, mining activity and the management of urban wastewaters. The leaching of nitrogen due to intense agricultural activity and the excessive use of fertilisers continues to be a problem in the Bay of Liopetri and Ayia Napa. In the Bay of Vasilikos an electricity generating plant, aquiculture and, especially, mining have increased pollution in the area.

Thus, the areas for special attention are the electricity generating plants, mines and quarries, and a series of areas listed as highly protected given their unique natural surroundings and the fact that they are at present threatened by development activities.

ATMOSPHERIC EMISSIONS - ENERGY

In relation to climate change Cyprus has not been part of Annex B of the Kyoto Protocol and, for the first period of application (2008-2012), has no quantified obligations. Apart from this, Cyprus shares the preoccupations and concerns about the consequences of climate change and the country has adopted measures for the promotion of clean energy.

The presence of Cyprus in the Kyoto Protocol's Second Commitment Period after 2012 is inevitable. The application of a Strategic Plan for the Reduction of Emissions of Greenhouse Gases (for the period 2010-2020) requires Cyprus to negotiate realistic objectives to comply with the requisites of the second period. Forecasts show that a significant increase in the emissions of greenhouse gases, from 2000–2020, is expected.

- The total increase in emissions with respect to those of 1990 (in tonnes of CO₂ equivalent) is 111% for 2010 and 187% for 2020.
- The energy sector is the principal source of emissions. It produced 74% of emissions in 1990 and the figure is expected to reach 83% in 2010 and 88% in 2020.
- Emissions of greenhouse gases in all sectors will increase with respect to 1990 levels, with an annual increase of 3.4% for CO₂ until 2020, and a 2.8% annual increase for NO₂ and 1.2% for NH₄.
- It is expected that emissions in the industrial and waste sectors will be reduced by 4%, with another 4% reduction in agriculture.

2.2. Promotion of Cleaner Production

INTEGRATED CONTROL OF POLLUTION

The IPPC Directive was incorporated into Cypriot legislation in 2003. There are approximately 120 facilities that require permits in accordance with IPPC regulations. To this end between August 2006 and April 2007, the Environmental Service of the Ministry of Agriculture, Natural Resources and the Environment sub-contracted a study of the level of compliance by the installations subject to IPPC permits (excluding emissions to the atmosphere) in various sectors: ceramics, abattoirs, metal, electricity generation and waste management.

By October 2007, 88% of the permits had been granted.

ENERGY EFFICIENCY

A series of initiatives regarding energy production is planned:

- Vasilikos Energy Centre (VEC). It is expected that the VEC will begin operating in 2013. This centre will include a double system of production/distribution. On the one hand, it will have a terminal for the importing, storage and re-gasification of liquid natural gas (LNG). Additionally, it will have a second terminal for the import of oil products. Once functioning, the VEC will allow natural gas to be imported on the island for the first time, in the form of LNG, which will contribute to more efficient power generation and a reduction in greenhouse gas emissions.
- The Programme of Energy Savings and Use of Renewable Energies. The programme, which was implemented in 2004, establishes economic incentives in the form of operational assistance and investment in the field of energy conservation and the promotion of further use of renewable energy sources. The programme is financed through a special fund, the income for which is obtained from a tariff of 0.22 euros/kWh applied to electricity bills. Over the last three years there have been a number of changes in the development of this programme. At the beginning of 2006 (following the first report of the European Commission on the Lisbon Strategy and the continuous rise in the price of oil) additional measures were adopted to make the programme more efficient and flexible:
 - Applicable procedures have been simplified together with the evaluation mechanisms.
 - New areas of investment which can receive subsidies have been included and the amounts of the subsidies have been increased.
 - The integrated planning of large renewable energy installations has been taken into account.
 - The Electricity Authority of Cyprus must give priority to buying electricity from independent producers.
 - The programme has acquired a double investment focus: individuals and non-profit making organisations on the one hand, and companies and other legal entities on the other.

These measures have made the programme very popular, as shown by the fact that the applications presented reached 28,000 in the period 2004-2008. 15,423 of these applications were accepted and paid for by July 2008.

- Special Fund for Renewable Energies. This fund has approved the installation of 163MW of wind turbine energy, but these facilities have not been installed, due mainly to the reactions of the local community. The cost of energy produced by wind turbines is much lower than other forms of renewable energy such as photovoltaic. The objective for 2010 is to achieve a total capacity of 837MW, sufficient to cover 6% of the total production of electricity through renewable energies.
- European Structural Funds. The structural funds will be used to install photovoltaic systems in schools, government buildings and military camps (budget 4.5 million euros). Solar thermal energy will also be installed in government buildings (budget 1 million euros).

- National Action Plan on Biomass. The Cypriot National Action Plan on Biomass, developed in 2008, covers the three main areas of the European Action Plan: biomass for the production of electricity, biomass for heating and refrigeration, and the use of biofuels in transport. At present, objectives are being identified for the production of electricity. With respect to transport, the objective for 2020 is to use 10% of biofuels in transport. Four biomass cogeneration plants already exist. It has been estimated that by 2010, 60 GWh/year will be generated, which will allow the target of 1.2% of national electricity consumption to come from biomass generation to be approached.

ECONOMIC INSTRUMENTS

The gradual adoption of sustainable consumption and production should lead to a more ecological market through the convergence of more conscious consumers who steer companies towards the production of more sustainable goods, services and technologies.

For the public administration, there remains the challenge of the promotion of sustainability through market instruments designed for the long term, employing the provision of technical and financial incentives, alongside existing legislative instruments.

In Cyprus, apart from the usual difficulties, there are other considerations to be taken into account with respect to the development of market instruments for promoting cleaner production and sustainable consumption. Firstly, the size of the companies, given that 99% are small to medium-sized companies, the majority being micro-companies. The reduced size of the internal market complicates economies of scale. With respect to R+D+I, the small scale of industry favours imports against investment in technology. These factors complicate the adoption of voluntary instruments.

Following accession to the EU in 2004, Cypriot companies have been extensively informed of the Community acquis and the new requirements and corresponding rules, but the voluntary adoption of environmental tools and systems has not been widespread.

For these reasons, in the case of Cyprus, the intensification of the dialogue between the public and private sectors is fundamental to the success of such measures. The role of the State, in this case, is to reward actions and changes that favour cleaner production.

Along these lines, the Ministry of Commerce, Industry and Tourism set up a programme of subsidies to protect the environment by avoiding industrial pollution, which has been applied since 2004. The system offers help for investment in systems of pollution control in the mining and quarry sectors, in manufacturing industry and in automobile maintenance, in packaging, in waste management and recycling, in dry-cleaning and for the conservation of natural resources. The Ministry will accept applications for subsidies until the end of 2009.

VOLUNTARY INSTRUMENTS

During the last two years numerous seminars have been held on the island to present the European Eco-Management and Audit Scheme (EMAS). In 2007, a subsidy was announced as an incentive to the different organisations who decided to participate in EMAS.

Cyprus is one of the participants in the EMAS Easy project, financed by the DG of the Environment of the EU, in which another six Southern European Member States participate. The project's main objective is the training of consultants for the execution of EMAS, an approach which is especially suitable for small and medium-sized companies. There are currently five companies which are EMAS registered.

3. SUSTAINABLE CONSUMPTION

ENERGY EFFICIENCY

Cyprus is an island state, its electricity network is small and it is isolated without interconnections, or autochthonous sources of energy, apart from a small contribution of solar energy. The country therefore depends totally on imported energy. Previous to its accession to the EU in 2004, there was no policy or regulation regarding energy efficiency.

The breakdown of energy consumption on the island is as follows: 20% domestic use, 14% the service sector, 52% transport, 11% industry and 3% agriculture. The consumption of electricity has increased by around 80% in the period 1995-2005, mainly in the domestic and service sectors. The indicators for industry show improvements in energy efficiency during the same period. Average annual electricity consumption in the whole country has increased by 7.5%.

The greatest potential for energy savings is thus in domestic use, in construction and transport. The industrial sector has less potential. With respect to transport, it should be highlighted that Cyprus does not have a railway system, the public transport system is not developed and, furthermore, its use has dropped dramatically in recent years.

Within the framework of the National Plan for Energy Efficiency (approved in 2006 and operational in 2008) various objectives have been established for environmental improvements in the production and consumption of energy. The plan was prepared in accordance with the obligations anticipated under Directive 2006/32/EC Directive, whose objective is to achieve a 20% saving in energy consumption by 2020.

Amongst the objectives of the Cyprus Action Plan are the following:

- Increase the contribution of renewable energy sources from 2.1% in 2006, to 4.2% of total energy consumption in 2010. (Based on the new calculation methods, the contribution of renewable energies for 2005 was 2.1% of final energy consumption. Earlier methods of calculation had raised this figure to 4.7%. In accordance with the new calculations, the previous objective of 9% was lowered to 4.2%.)
- An increase in electricity generation based on renewable sources from 0.03% in 2006 to 6% of total consumption of electricity by the year 2010.
- A reduction in the annual consumption of energy of 60,000 tonnes of oil equivalent until 2010.
- An obligatory target of 10% for the use of biofuels in transport by 2020.

At present a five-year programme is being implemented (action plan) for the period 2006-2010, promoting energy saving in the public and private sectors. The plan includes the following measures:

- The establishment of incentives for the purchase of hybrid vehicles, double/flexible propulsion vehicles and electric vehicles.
- Financial support for the installation of thermal insulation in homes in regions at altitudes higher than 600 metres above sea level.
- Financial support for investment in insulation and energy conservation in public and service sector buildings.
- Promotion of the use of biofuels through the adoption of “zero tax” on biofuels.
- Extension of the use of school buses.
- The supply of CFL low consumption lamps to end users.
- Communication and information campaigns on energy saving.
- A new subsidy scheme that envisages state aid to promote the installation of small photovoltaic systems, geothermal heat exchangers, and solar energy installations for heating and air conditioning.

- Large scale generation of electricity by wind turbines and photovoltaic systems, concentration of solar energy systems, biomass and biogas installations, with the aim of contributing to the goal of 6% electricity production from renewable sources by 2010.

TRANSPORT

The measures adopted for the promotion of the sustainable use of energy in transport include the following:

- Reduction of 15% in the taxes on the import of small and medium-sized vehicles.
- Reduction of 15% in the taxes on the import of vehicles with CO₂ emissions lower than 150 g/km, and a tax on vehicles with emissions above 275 g/km.
- Elimination of the import tax registration of electric cars and a 50% reduction for hybrid cars.
- Incentives for the withdrawal of cars more than 15 years old.
- Taxes on the import of vehicles, which will be returned to public transport on the island.
- Subsidies for hybrid vehicles of up to 1,166 euros.
- Subsidies for vehicles with flexible fuel/dual propulsion of up to 1,166 euros.
- Subsidies for the purchase of electric vehicles of up to 660 euros.
- Subsidies for the purchase of vehicles with low CO₂ emissions (below 120 g/km) and up to 660 euros.

WASTE MANAGEMENT

Waste management continues to be a priority issue in Cyprus. Presently new landfill sites are being created, within the framework of the strategy for waste management. On the island, following the application of a regulation relating to the responsibility of manufacturers for waste from their production activities, the company Green Dot has been established for the selective collection of packaging. The company, which is affiliated with ProEuropa, is financed by the manufacturers.

NATURAL RESOURCES

During 2008, Cyprus suffered a severe water shortage to the point that natural water resources have become practically non-existent. The situation was dealt with by measures such as cuts in water supplies and it was necessary to import water from Greece using tankers. At present, the construction of new desalination plants is in the tender phase, and they will eventually join the two existing plants. The new plants will add a capacity of 100,000 m³/day so that the island will no longer be dependent on rainfall.

Further, a code of good practice has been prepared with information on the use of recycled water for agricultural use. The code focuses on the wider use of recycled water from treatment plants, especially for agriculture, which at present consumes 70% of the total water resources of the country.

ECOLABEL

The European Ecolabel has been promoted through information campaigns focusing especially on groups of products in which industry has shown particular interest: tourist accommodation, mattresses, paint and varnish, cleaning products soaps and shampoos. Four companies have obtained the ecological label: one producing paints and varnishes, one making window cleaners and two providing tourist accommodation.

3.1. Sustainable Public Procurement

The Action Plan for Green Procurement for Cyprus was formulated in the period 2007-2009 and came into operation in March 2007. The global budget for the plan is approximately 2.2 million euros. The plan is coordinated by the Ministry of Agriculture, Natural Resources and the Environment.

The objectives of the Plan refer mainly to the following product groups: office equipment and supplies, electrical equipment and products, cleaning and hygiene products, water saving, new construction and building restoration, food, and cars and internal combustion engines.

Environmental measures are proposed for each of these sectors. They include energy saving (for example, through the bio-climatic design of buildings and the use of energy saving systems), measures to reduce emissions in general and from energy production in particular, the purchase of vehicles with low carbon dioxide emissions, recycling of obsolete equipment and paper, a reduction in the use of paper, the use of cleaning materials that do not harm the environment, etc.

4. CORPORATE SOCIAL RESPONSIBILITY (CSR)

The authority in charge of the promotion of corporate social responsibility is the Planning Bureau. A committee has been formed of different interest groups, state authorities and business associations, whose mission is to monitor the evolution of policies related to CSR in the EU and also promote the concept on a voluntary basis among local businesses.

UNDP's initiative, Action for Cooperation and Trust in Cyprus, carried out the "Global Compact Cyprus Environment Survey" in 2006-2007. The project, carried out in cooperation with the Cyprus Chamber of Commerce and Industry, was a study of the Greek-Cypriot and Turkish-Cypriot business communities on the island, to examine their attitudes to principles 7, 8 and 9 of the Global Compact (Environmental Principles).

- Principle 7: Businesses should support a precautionary approach to environmental challenges.
- Principle 8: Businesses should undertake initiatives to promote greater environmental responsibility.
- Principle 9: Businesses should encourage the development and diffusion of environmentally friendly technologies.

This survey served not only to examine existing attitudes towards corporate environmental responsibility, but also to encourage the business sector to lead the way in terms of cooperation between the two communities.

The project was one of the first exercises in the evaluation of the environmental impact of business activities from both Cypriot communities and has been a key element in demonstrating the links between these practices and their effect on the island. The initiative has meant an increase in awareness, and the application of corporate social responsibility principles has grown on the island. The report on the survey was released during the annual conference of the Cyprus Environmental Stakeholder Forum (www.cyef.net), which took place in April 2008.

With respect to the Partnering Against Corruption Initiative (PACI), established by the World Economic Fund, whose "Principles for Combating Bribery" have been endorsed by dozens of companies throughout the world, not one Cypriot company or institution has signed. The voluntary requirements established under PACI have made it, for the present, one of the most reliable indicators of the implementation of CSR practices by a company and, by extension, in a territory.

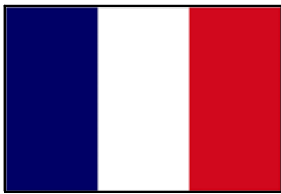
Finally, it is of interest to note that some of the largest companies on the island, such as the Bank of Cyprus, have joined the Greek network for the promotion of CSR, CSR Hellas.

In conclusion, the approach towards CSR by Cypriot companies is recent and limited, mainly for reasons of scale. 99% of the country's companies are small and medium sized companies. The

involvement of the Planning Bureau and Chambers of Commerce can contribute to greater awareness of the main international initiatives among the business community on the island and thus consolidate this first contact with CSR. The importance of tourism for the economy of the island is also an opportunity for the generalisation of good practices in the sector, as the industry is aimed mainly at northern European countries, where an important segment of demand is sensitised to this principle.

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 FRANCE ⁹	POPULATION: 60,876,136
	AREA: 675,417 km ²

1. INTRODUCTION

France is the fifth world economic power after the United States, Japan, Germany and China. In 2008, activity slowed and the GDP (gross domestic product) grew by only 0.4% as against 2.3% in 2007 and 2.2% in 2006.

Economic data			
GDP	\$2.443 billion	GDP growth rate	0.4%
GDP per capita	\$38,107	GDP by sector	Agriculture: 2.2% Industry: 20.3% Services: 77.4%
Labour force by sector	Agriculture: 3.8% Industry: 23.3% Services: 71.8%	Unemployment rate	7.6%
National debt	67% of GDP (2008 est.)	Inflation rate	2.8%
Exports	\$646 billion	Trading partners - exports	Germany 12%, Spain 7%, Italy 7%, United Kingdom 6%, Belgium 6%, U.S.A. 5%, China 2%
Imports	\$706.4 billion	Trading partners - imports	Germany 14%, Belgium 7%, Italy 7%, Spain 6%, United Kingdom 4%, U.S.A. 5%, China 6%
Main industries	Machinery, products chemicals, car industry, metal working industry, airplanes, electrical devices, textiles, industry, food, tourism	Electricity production	549.1 million kWh (2007 est.)
Electricity consumption	494 million kWh	Electricity exports	58.7 million kWh
Electricity exports	10.7 million kWh (2007)	Oil production	71,400 bbl/day (2007)
Oil imports	2.465 million bbl/day (2005)	Oil consumption	1.95 million bbl/day (2007)
Natural gas production	953 million m ³ (2007 est.)	Natural gas consumption	42.69 billion m ³ (2007 est.)

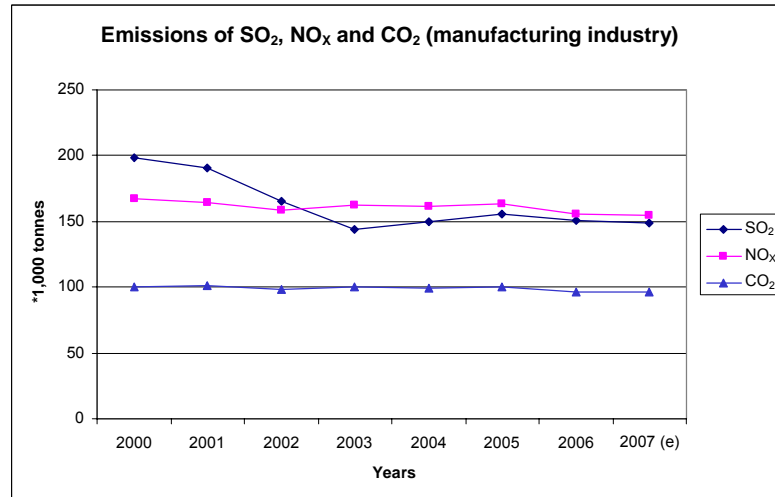
Source: INSEE, EUROSTAT (data converted into USD, reference year 2008).

⁹ The information given in this section has not been confirmed by the CP/RAC National Focal Point for France.

2. CLEANER PRODUCTION

2.1. Industry and the Environment

From 2000 to 2007 emissions of SO₂, NO_x and CO₂ in French industry were reduced by 21.5%, 7.2% and 4% respectively (see chart).



The control of environmental hazards is improving as well. The number of industrial and technological accidents for all sectors has decreased from 1,852 in 2000 to 1,209 in 2007.

The number of ISO 14001 certifications (2,607 companies in 2005) keeps on growing, but at a lower pace than in neighbouring countries. France is in ninth position in the EU, after countries such as Spain, Germany, the United Kingdom and Italy. The number of companies affiliated to EMAS has decreased since the previous edition of the report.¹⁰ From the twenty certified installations in 2005, we have gone to twelve at the end of 2008, far behind the results in countries such as Spain (1254), Italy (1329) and Greece (462).



¹⁰ "State of the Art of Sustainable Production in the Mediterranean". *MAP Technical Reports Series No. 165*, UNEP/MAP/CP/RAC, Athens, 2006.

Part of France's power production is obtained from nuclear energy. The annual production of radioactive waste is 1 kg per capita, and the country possesses a stock of 1 million cubic metres of radioactive waste. The new act promulgated on 28 June 2006 on the Management of Radioactive Materials and Waste plans reversible storage in deep geological strata.

The production of renewable energies accounted for 10.5% of total energy consumption in 2006. Renewable energy production has increased more slowly than demand. Among renewables, wind power and solar energy are developing quickly but their percentages of the total are still low. In most cases, the establishment of new wind facilities faces strong opposition from local councils.

Other matters of concern and environmental risks are related to volatile organic compound (VOC) emissions. An inspection of the limits of VOC emissions is one of the main priorities of the Ministry of Ecology for the year 2009, in the area of "chronic risks". For instance, more than half of the 2,500 industrial facilities dealing in surface treatment and cleaning with chlorinated solvents do not respect the limits, including the emission of highly toxic solvents, such as trichloroethylene.

ENERGY - GHG EMISSIONS

Estimated greenhouse gas (GHG) emissions in France were around 531 million tonnes of CO₂ equivalent (MtCO₂e) in 2007, after the last inventory by the Ministry of Ecology and Sustainable Development.

According to these numbers, GHG emissions decreased by 5.6% in France between the years 1990 and 2007. This reduction of 13.8 MtCO₂e was achieved thanks to the following measures with the results described:

- 4 MtCO₂e, i.e. 30% of the reduction, is related to heating systems in the residential sector and the efforts made concerning energy economy, as well as the milder meteorological conditions in 2006 compared to 2005.
- 3.6 MtCO₂e, i.e. 27% of the reduction, is related to power production. Power production coming from renewable energies has progressed substantially between 2005 and 2006 (an increment of 9.2%), thanks to increased rainfall for hydroelectric production.
- 2.5 MtCO₂e, 19% of the reduction, is related to combustion in manufacturing industry.
- 1.5 MtCO₂e, 11.5% of the reduction, comes from agriculture.

These emissions are 4% below the maximum set by the Kyoto Protocol between 2008 and 2012, i.e. 564 MtCO₂e. France is one of the few industrialised countries where the emissions are below international commitments.

The Agency of Environment and Energy Management (ADEME) has developed a methodology to calculate CO₂ emissions coming from companies and communities which allows appropriate action plans to reduce GHG emissions to be defined, as well as the costs related to them. The adoption of such methods is not compulsory but, in most cases, they trigger the adoption of specific measures by the interested party. The results of their application in recent years are as follows:

- Since 2004, more than 2,000 French entities have measured their GHG emissions using this tool, either in the private sector (Grands Vignobles en Méditerranée, Champagne, Laurent Perrier, TF1, banks such as la Caisse Régionale du Crédit Agricole, Val de France, etc.) or in the public sector (the Ministry of Agriculture and Fisheries, the Ministry of Defence, the National Assembly, regional councils such as Hérault or Hauts-de-Seine, the city councils, universities such as Paris Dauphine, etc.). Nevertheless, 95% of the carbon assessments have been carried out by companies.
- In 2007, 220 assessments were carried out and in 2008, the number increased to 1,200 (1,000 companies, 130 local councils, 60 administrations, and 10 different entities). In 2009, according to the ADEME forecasts, numbers will easily exceed those for 2008. (In spite of the limited success it had at the beginning, its use has spread quickly.)

The ADEME has developed a subsidies system for the evaluation of GHG emissions. These can be allocated to companies, associations, and public administration after their case has been studied. The subsidy is granted using the normal mechanisms for ADEME financial support. For companies, the total amount of aid can amount to 50% of the cost, with a limit of 15,000 euros. For local communities, up to 50% of the cost can be awarded, with a limit of 30,000 euros.

A new provision contained in the Grenelle 2 bill, whose approval is scheduled for 2009, considers GHG emissions assessments as compulsory for companies, public administrations, and communities, as of 2011. This provision will be applied to companies with more than 500 employees, public administrations with more than 250 people under their responsibility and regional communities with more than 50,000 people. These assessments have to be carried out every five years.

However, this system might be less complete than the present ADEME carbon assessment and, for the moment, the instrument which would be compulsory has not been defined. In this sense, only direct GHG emissions might be taken into consideration, not including all the direct and indirect emissions, as is the case in the ADEME carbon assessment. Moreover, if the system becomes compulsory, then companies would not be able to benefit from the present financial subsidies of the ADEME, and this might limit their willingness to implement improvements.

Table: example of a carbon assessment of the Ministry of Agriculture and Fisheries (July 2008).

Carbon assessment of the Ministry of Agriculture and Fisheries (July 2008)

In line with the State's wish to set an example, confirmed by the Grenelle Act for environmental protection, and measures to integrate sustainable development in public policies, the minister has decided to commit the services of the Ministry of Agriculture to reducing GHG emissions. Furthermore, a carbon assessment of the central offices of the ministry (6 buildings in Paris and one in Toulouse) has been carried out.

The total emissions produced by the activities of the Ministry amount to 3,000 tCO₂e. They are caused by:

- Transport (53% of emissions)
- Energy consumption (17%)
- Use of materials and services (paper, supplies, food, maintenance) (16%)
- Use of equipment, basically computer material (13%)

This represents an annual average for every employee (2,317 employees) of approximately 1.3 tCO₂e, compared to the 2.2 tCO₂e produced by a normal French citizen every year in his private and professional life.

Consequently, an action plan has been introduced for these 7 buildings, a hierarchical plan according to its technical and financial impacts, in various stages with a view to reducing GHG emissions by 22% by 2012.

These resolutions involve the use of modern means of communication, such as videoconferencing, the conduct of a thermal assessment of the ministry's premises, and the increased availability of biological or local products from the ministry's catering service.

This carbon assessment will be extended to the decentralised services of the ministry in the regions, with approximately 9,700 employees in 218 buildings, and to the public centres for agricultural studies, with approximately 14,000 employees on 225 farms.

2.2. Promotion of Cleaner Production

INTEGRATED CONTROL OF POLLUTION

For decades, France has had a concept in its legal system which is, in a way, a precedent for current regulations on permits and limitations of emissions in connection with the integrated control of pollution. It deals with “classified installations for the protection of the environment” (ICPE).

An ICPE is an installation operated by any person or organisation, public or private, which may threaten or cause inconvenience to the wellbeing of the local population, their safety or health, the conservation of nature and the environment, or the preservation of monuments and special locations. Procedures aimed at reducing such risks are defined. The ICPE system has been in operation since 1917 and was substantially updated in 1976 and 2000. There are 600,000 agricultural and industrial facilities that can be potentially included in the system. The number of facilities covered has decreased in the last two decades, going from 42,000 in the eighties down to 39,000 at present.

In 2004, 6,014 ICPE facilities complied with the commitments set in the IPPC Directive, compared to 5,489 in 2001.

THE FRENCH REGISTER OF POLLUTING EMISSIONS

The French Register of Polluting Emissions aims to provide information to the public about the environment concerning waste discharged in water and on the land, emissions into the atmosphere, and the production and treatment of hazardous and non-hazardous waste in industrial premises and farms.

The register contains data declared by the companies annually. The requirement for the supervisors of the industrial premises to submit reports (depending on specific polluting substances and threshold levels for declaration) was established on 31 January 2008 in regulations related to the annual declaration of polluting emissions from classified premises subject to the authority of the prefect (ref.: DEVP0773558A). The compilation of such data allows France to comply with the requirements of the Regulation 166/2006/EC concerning the establishment of a European Pollutant Release and Transfer Register.

The register refers to 91 polluting substances discharged in water, 85 substances for atmospheric emissions (particularly toxic and carcinogenic substances), 67 polluting substances for discharge in soil and 400 waste categories. This data is used by the public administration within the framework of various measures they carry out to reduce pollution, established annually by the Classified Premises Inspection Services.

The data also allows a national survey of air quality to be conducted, the fulfilment of the country's international commitments to be verified, European regulations to be enforced and information to be provided for the National CO₂ Register, created through the transposition of the EC Regulation 2003/87, which establishes an exchange mechanism for greenhouse gas emissions quotas in the European Union.

PUBLIC ADMINISTRATION FOR THE INDUSTRIAL RISKS

The French policy of major risk prevention involves a large section regarding industrial risk, with special attention to safety in industrial processes, the manipulation of materials and pollution. Responsibility for the proper management of such risks is divided between different public agencies, which do research and work in cooperation with industry, local associations and other organisations. Among these agencies, we would point out the following:

- BARPI: Industrial Pollution and Risk Analysis Office. This service is answerable to the Ministry of Ecology and Sustainable Development. The office is responsible for the consolidation of all information regarding pollution and accidents happening in France.

- DRIRE: Regional Management of Industry, Research and the Environment. The role of this state service is to monitor, on behalf of the prefectures, industrial premises subject to IPPC and Seveso regulations.
- IRMA: Major Risk Institute. Association working on information about and prevention of risks, in the regions of Rhône-Alpes and Isère.
- SPPPI: Permanent Secretariat for the Prevention of Industrial Pollution . In areas where the industrial concentration calls for such a service, these offices are established and count on the participation of different agencies (politicians, civil servants, company owners, experts, nature protection associations) in order to define guidelines for local policies to prevent industrial pollution.

3. SUSTAINABLE CONSUMPTION

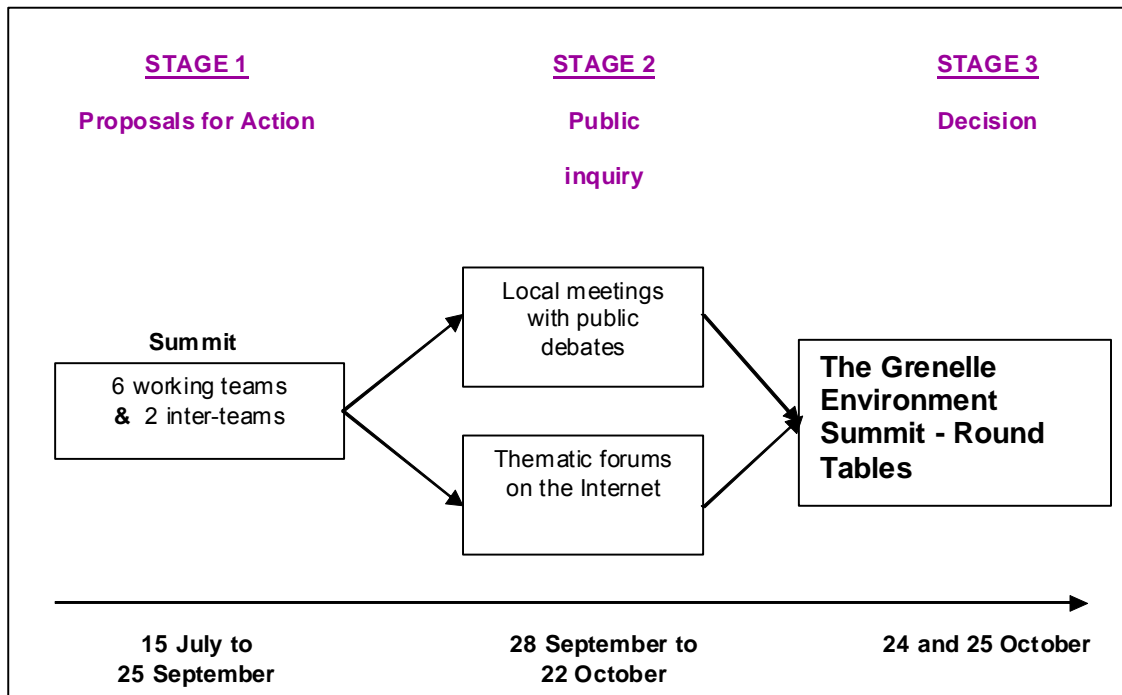
Progress in this field is considerable: promotion of organic agriculture, environmentally friendly public procurement, low energy-consumption buildings, etc. Many of these measures are included in the Grenelle Act.

3.1. The Grenelle Environment

The aim of the Grenelle Environment Summit (2007), an initiative of the President of the French Republic, was to define the main guidelines for government policy related to ecology and sustainable development for the next five years.

This ambitious project offers a global vision of the economic implications of sustainable development. Its scope takes in industry, cleaner production and the principles of sustainable development in business through social responsibility. But, basically, the conclusions coming from the Grenelle project and the measures subsequently adopted focus on consumption: it is the driver of sustainable development, in the private sector and many others. This also includes new regulations related to the role of both the State and government bodies as consumers and entrepreneurs, which implies sustainable public procurement.

Table: Stages in the Grenelle Environment Summit.



The Grenelle process gathered, for the first time and at the same table, the representatives of civil society and public services, a total of five participants: the state, trade unions, employers, NGOs and local associations, so that all parties involved in sustainable development would be represented.

Six working teams were set up and they met for three months with the aim of proposing specific measures to be carried out, at national, European and International level. These teams were made up of 40 members of the groups mentioned. The working teams dealt with the following areas:

- Fighting against climate change and controlling energy demand.
- Preservation of biodiversity and natural resources.
- Establishment of a health-friendly environment.
- Adoption of sustainable production methods and consumption habits.
- Building an ecological democracy
- Promotion of forms of ecological development favouring employment and competitiveness.

The proposals put forward were considered by different groups during the month of October 2007. At the end these surveys, four round tables were organised. The conclusions of the discussions were submitted to the President of the French Republic on 25 October 2007. Following on these discussions, up to the end of 2007, thirty operational committees met with the intention of transforming the guidelines and objectives into operational programmes. Finally, on 21 October 2008, the Grenelle Act was adopted. Its main points can be summarised as follows:

Housing / town planning:

- Insulation and thermal renovation of buildings will be a priority (400,000 renovations per year starting in 2013).
- The “low consumption building” standard (consumption under 50 kWh per square metre per year) will be applied to all building at the end of 2012 and, before this, from late 2010 to public buildings and services.

- For existing buildings, the objective is a 38% reduction in energy consumption by 2020.
- Faster implementation of the econeighbourhood programmes.
- Fighting against urban expansion.
- Introduction of a green and blue network to halt the disappearance of biodiversity.

Transport:

- Priority in the development of public transport and railway and sea freight (“sea highways” to Spain, Italy and Portugal) to increase the proportion of transport outside road and air routes from 14% to 25% by 2022.
- A budget of 16 million euros for the creation of 2,000 km of new high-speed railway lines before 2020.
- The objectives proposed for air transport in 2020 are a reduction of 50% in fuel consumption per passenger/kilometre and in carbon dioxide emissions, 80% in nitrogen oxide emissions and a 50% reduction in noise.

Agriculture:

- Development of organic agriculture to 6% in 2012 and 20% in 2020, supported by the doubling of credit in favour of organic agriculture.
- Environmental certification of the agricultural holdings so that 50% of farms are committed to environmental requirements by 2012.
- Removal by 2010 of the 40 substances causing most concern in phytosanitary products.
- Emergency plan for an independent report on the toxic effect of pesticides on bees.
- Priority for organic agriculture on the perimeter of water catchment areas.

Energy:

- Stronger objective for renewable energies (23% as against 20% in the previous forecasts for 2020).
- Regional plans for renewable energies.
- More detailed regulations for the wind power sector in order to identify priority areas for the building of wind farms.
- Biofuel produced in France will be subject to energy and environmental efficiency criteria (impact on soil and hydro resources).
- Second and third generation organic fuel will be considered a priority.
- New projects for coal-fired power plants have to be equipped with systems to capture CO₂.
- Energy labels for all the high consumption electrical appliances used in the house.
- Ban on selling incandescent bulbs in 2010.

Eco-taxes:

- Study for the adoption of an energy tax in order to reduce energy consumption and GHG emissions.
- Consideration of an eco-tax for road transport applied to heavy goods vehicles off motorways from 2011.

Water:

- To achieve or preserve in 2015 a satisfactory ecological condition for all masses of water, whether they are continental or marine. The aim is to double the masses of water in good condition by 2015, so that they account for two thirds of the total.
- Speeding up of treatment regulations in order to achieve 98% compliance by 2010 and 100% in 2011.
- Development of the recovery and reuse of rainwater and wastewater, respecting sanitary restrictions.
- Specific measures for the detection of leaks in water networks and a programme for the work needed.
- Prohibition of phosphates in cleaning products in 2012.

Waste:

- Reduction of 5 kg per inhabitant per year, and a 15% decrease in the quantity of waste incinerated and stored by 2012.
- Increase the percentage of recycled organic waste from 24% at present to 35% in 2012 and 45% in 2015.

Prevention of environmental and health hazards:

- To have a better knowledge of substances with harmful effects and to reduce their use.
- To monitor exterior and interior air quality in buildings.
- To combat noise and excessive emissions of artificial light.
- To prevent major, emerging, technological and nano-technological risks.
- Control of electromagnetic pollution in radio-telephone networks.

The State leading the way:

The State, like any public body, must take environmental consequences into account in its decision-making processes.

- The State will take appropriate measures for government bills to be presented together with a study of economic, social and environmental impacts, for every item of legislation being planned,
- Environmentally friendly public purchasing:
 - From 2009, vehicles purchased by the State will emit less than 130 g of CO₂ per kilometre.
 - From 2010, wood will be certified or come from forests managed sustainably.
 - By 2012, paper consumption will have been reduced and only recycled paper will be used, or, failing this, paper coming from forests managed sustainably.
 - 15% of catering products in 2010 and 20% in 2012 will have to come from organic agriculture and, the same percentages of products will have to be seasonal and products with limited environmental impact.
- Energy consumption and greenhouse gas emissions:
 - Inspections to be carried out in all administrative buildings (2009).
 - State building improvement programme, in order to improve energy efficiency by 20% in 2015.

Other measures:

- 20,000 hectares of wetlands will be bought by public bodies for their preservation.
- France will support the Arctic Protection Project.
- Suppression of the burden of proof concerning attacks on the environment. This means that respect for the environment will be a priority in all public action unless it can be shown that it is impossible to avoid harming the environment without exceeding a reasonable cost.

On the closing date of this report (February 2009), we may also mention a series of measures, envisaged in Grenelle 1, that have been successfully implemented:

- Introduction of the sea highways programme with Spain.
- Launch of eco-housing funds for the renewal of social housing.
- Eco-loans with zero interest to improve the efficiency of homes built before 1 January 1990 and used as normal places of residence.
- Launching of *Grenelle de la mer*, with a similar procedure to that of Grenelle Environment. By summer 2009 it should produce a programme with objectives, commitments and specific, quantifiable measures, based on the fullest agreement among the participants, with a view to validation by an inter-ministerial committee on the sea. The objectives of *Grenelle de la mer* are the following:
 - A better knowledge of the sea and its condition.
 - To consolidate maritime and coastal activities, both essential for the economy.
 - To ensure the place of France in the world (the French Exclusive Economic Zone, at more than 11 million km² is the second largest in the world) and to assume the country's responsibility concerning the planet.

After the first Grenelle stage, a new text plans a series of measures intended to achieve the commitments contemplated in the law. The hundred or so articles it contains are designed to generate the judicial, economic and regulatory mechanisms for attaining the objectives set in Grenelle 1.

The text will be addressed primarily to the transport sector and codes for town planning, the environment and health, with provisions for the following:

- Improvements in the energy efficiency of buildings.
- Alternatives to road transport.
- Energy and climate.
- Biodiversity and protection of natural locations.
- Risk, health and waste.

The procedure for drawing up the objectives of Grenelle I and its subsequent adoption by the National Assembly (526 votes in favour and 4 votes against) shows a broad-based consensus between the representatives of civil society, government bodies and political power.

Nevertheless, part of the approved procedure is a text expressing a commitment. This is the reason why most of the ecological organisations involved, while recognising and approving of the progress made, insist on its limitations (for instance, the increase in the carbon assessment threshold for companies from 250 to 500 employees) and the possible contradictions and conflicts between the Grenelle Act and the new 2009 plan to reactivate the economy. This plan involves the financial laws for 2009 and the bill for administrative simplification (which, for instance, provides more flexible conditions for authorising premises classified for environmental protection).

These organisations fear that the legislation passed recently, and that still to come in the present situation, will not be sufficient to make the plan to reactivate the economy “green” and that it will not provide an effective solution for both the ecological and economic crises.

3.2. Ecological Bonus-Malus System

We should also consider the new scheme for reducing CO₂ emissions in the transport sector as well as the results obtained. In 2008, the ecological bonus-malus system for vehicles was created its aim being to promote the purchase of low-pollution cars (through the application of taxes for highly polluting cars and a subsidy for low-pollution cars). This mechanism has been complemented by a “super-bonus” scheme in order to scrap cars that have been used for more than 15 years.

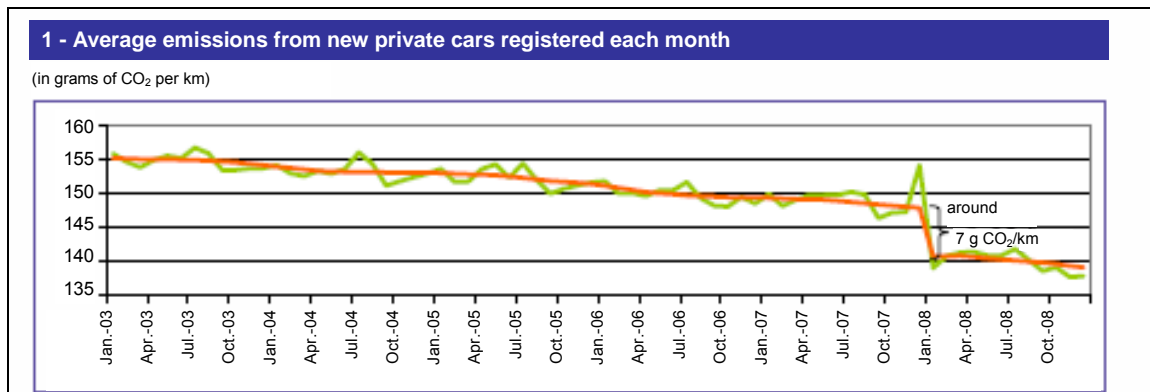
According to the Statistics and Observation Service, a year after the launch of the bonus-malus system, emissions from new vehicles registered had dropped by 9 g of CO₂ per km and per vehicle, making it possible to achieve the target of the European voluntary commitment set in 1999 for CO₂ per km and per vehicle not to exceed 140 g in 2008.

The introduction of this system has led to a considerable increase in sales of less polluting vehicles, reinforcing a trend already observed in recent years, reinforced by the increase in fuel prices in 2007 and 2008.

The annual reduction, of the order of 1% between January 2003 and November 2007, rose to 1.4% between February and December 2008.

In 2008, of a total of 2,050,283 new registrations, 917,000 received a subsidy (emissions under 130 g CO₂/km) while 287,000 new registrations which emitted more than 160 g CO₂/km were penalised.

Table: Emissions of CO₂/km from new vehicles registered in France (monthly figures).



Source: SoeS, Central Vehicle Register

4. CORPORATE SOCIAL RESPONSIBILITY (CSR)

The development of a new approach by companies to social responsibility in France is similar to that in neighbouring countries. Some public policies have played a special role, as we will see below, as has happened in the United Kingdom or in Holland, the European countries where CSR has made most progress. Although the case of France is totally different from the Anglo-Saxon pattern, which is geared more to “soft” regulations, the existing interest in the country by certain investors and civil society organisations, and the role played by the unions, as observers of the employers’ activity and their participation in the administration of pension funds, has led to the implementation of CSR policies in a considerable percentage of large French companies.

The three main engines of CSR development in France are:

- The participation of companies in networks and associations for the promotion of CSR, both national and international.
- The adoption of transparent information policies in social and environmental matters, especially as proposed by the *Global Reporting Initiative*, reinforced by regulations introduced in 2001.
- The role played by socially responsible investment (SRI), a segment of the financial markets which incorporates CSR considerations in their investment decisions. Its importance has grown considerably in France due to the adoption of this investment philosophy by pension funds.

4.1. Promoters and Projects

IMS-ENTREPRENDRE POUR LA CITÉ

The European network CSR Europe, with headquarters in Brussels and with associates in most countries of the European Union, is one of the most important networks fostering benchmarking in CSR at European level. One of the associates is the French organisation IMS-Entreprendre pour la Cité.

Its explicit objectives include contributing to social and economic development, the development of new business models for the base of the pyramid, creating new products and financial services, and helping social entrepreneurs in developing countries.

In France, IMS, through its network of over 200 companies in different sectors, is one of the forums where companies can work together in order to create networks and participate in events and workshops. Through the exploration of new topics, such as diversity, sustainable management in the supply chain, marketing, or the relationship between financial results and business diversity, IMS has “idea labs” for each issue. For instance, the CSR laboratory dealing with the introduction of diversity in the company, provided by the IMS in conjunction with L’Oréal since 2007, has defined needs related to this matter and the activity has been extended through the creation of networks at European level.

In December 2008, the IMS presented an event in conjunction with the AFD (French Development Agency), called “Investing in Development”, as part of the official agenda of the French presidency of the European Union. The event brought together hundreds of experts from international companies, NGOs, donors, public and academic institutions with the aim of focusing on new trends in corporate investment in development and developing the potential associations between private and public agencies as well as NGOs.

ORSE – CSR OBSERVATORY

ORSE is a French network focusing on research into and promotion of CSR as well as socially responsible investment. Created in June 2000, ORSE is a non-profit making organisation, working with a varied group of participants from companies, trade unions, professional organisations, academies and non-governmental organisations.

ORSE is the only organisation constituting a study group made up of a vast group of different actors, all committed to the development of ISR and CSR. Among its objectives we have:

- Supervising a network of agents working within the framework of CSR.
- Developing tools and mechanisms that help members to create and apply CSR policies.
- Promoting the exchange of experiences between members and the identification and dissemination of best practice in France and Europe.
- Promoting study, especially through working groups consisting of companies, representatives, experts, academics, trade unionists and non-governmental organisations.

With 100 members approximately, ORSE’s services include the following:

- Participation in work groups, conferences and other events with national and international experts.
- A database only available to members (www.orse-info.org) containing information related to companies' corporate social responsibility performance, including reference documents.
- Records of the main events and seminars related to the subject, monthly bulletins, a press review and a bilingual public website (www.orse.org)
- Promotion of three clubs, one for CSR managers, another for the members of the financial services sector and a third for purchasing.

UNITED NATIONS GLOBAL COMPACT

The French network of the Global Compact was set up in 2004, and it was formally established as an association in May 2005, under the name of *Forum des Amis du Pacte Mondial en France*. In these years, 577 companies in France have endorsed the Compact, mostly SMEs. This has made France the country with the highest number of companies belonging to this worldwide network. The Global Compact is a voluntary initiative in which companies commit themselves to bring their strategies and operations into line with ten universally accepted principles in four subject areas: human rights, work regulations, the environment and the fight against corruption. Because of the number of participants (several thousand in more than 100 countries) the Global Compact is the biggest CSR initiative worldwide.

TRANSPARENCY PATTERNS

After the adoption in 2001 of the Law regarding new economic regulations (Law 2001/420) and the Decree applying it (2002/221), the companies listed on the stock exchange have been required to provide an annual report on their social and environmental impact (Article 116 of the law). This obligation goes beyond the recommendations given in other countries which are followed on a voluntary basis.

However, the almost 700 companies affected by the regulation are free to choose the method they want to apply in order to fulfil this duty, although the model proposed by the Global Reporting Initiative provides guidelines for most aspects of the presentation of accounts. Furthermore, to reinforce the objectivity of reports, since 2001, specialised audits have been introduced, establishing methods and verifying data.

In 2005, 90% of the companies in the CAC 40 (the reference index on the Paris Stock Exchange) complied with legal requirements and 53% of them were independently verified. The smallest listed companies do not apply the law or apply it inadequately. Beyond legal limitations, the definition of strategically validated objectives can be a source of economic productivity, social efficiency and environmental compatibility.

For instance, a report about the application of the law in the communication sector (The communication sector and its environmental responsibility: what are the appropriate instruments beyond the law about new economical regulations?., Department of Economic Studies and Environmental Evaluation, 2008) shows that of the 57 listed companies in the sector, only 32 published a CSR report in 2005 and 2006, and only 13 take their environmental impact into account. Nevertheless, the regulations are leading to the integration of social and environmental concerns in the management of listed companies, acting as a catalyst and promoting further action.

However, in contrast to the success enjoyed by the French affiliation with the United Nations Global Compact, only 21 French companies are on the list of those submitting reports to the Global Reporting Initiative, far behind the data collected by other countries where regulations similar to those in France do not exist.

4.2. Socially Responsible Investment

The principles of socially responsible investment involve the inclusion in the investment decision-making process of the impact of environmental, social and corporate governance factors, together with the traditional financial criteria (profitability, liquidity, etc.). An increasing number of investors have started to include these criteria in their decisions in recent years. The role of these investors is essential for the adoption of good CSR practices by big companies. The usual way to access the information relevant to these criteria is to use the products of agencies which analyse CSR.

SRI was introduced in France in 2000. At present, all the French banks and the insurance companies have a supplier of SRI analysis. In 2008, SRI has three different categories of clients: investors (mainly pension funds), employee saving plans (with strong commitment by the unions) and individual clients (retail banking). Furthermore, SRI is an area for negotiations in companies between human resources management, employees and unions.

As in other European countries and North America, in France, a pension fund has proved to be the main promoter of SRI practices.

The supplementary pension fund for civil servants (ERAFP) has existed since January 2005 and is managed as a joint committee, which means that the representatives of the major civil service unions sit on the Board of directors. It is the first French institutional investor to work systematically towards placing all its assets under SRI management. With this intention in March 2006 it adopted an SRI charter, defining its five value areas:

- Rule of Law and Human Rights.
- Social Progress.
- Social Democracy.
- Environment.
- Good Governance and Transparency.

This charter covers 75% of its investments as at the end of 2008. To traditional financial parameters, the fund added two criteria for selecting countries' public debt:

- The level of respect for major international agreements, especially concerning rights in the work place.
- The position of the countries in the annual classification of corruption by the NGO Transparency International.

These principles led initially to an increase in the weighting of the Scandinavian countries and a reduction in that of some southern European countries such as Italy, Portugal or Greece.


The ERAFP has selected the administrators BNP PAM, IDEAM and Robecco as the agencies to manage their SRI policy. These agencies are responsible for managing the largest French SRI fund, which should reach 1,200 million Euros over the next 4 years.

ERAFP it is not a unique case. The FRR (Pension Reserve Funds) chose the following management companies in 2006: AGF AM, Dexia AM, Morley Fund Management, Sarasin Expertise AM, and Pictet AM, for the administration of €600 million according to ISR criteria.

The same year, the pension organisation AGIRC ARRCO developed a pilot SRI project, investing €100 million following social responsibility principles. For this purpose, five management companies were selected to carry out its new policy: BNP PAM, Groupama AM, IDEAM, Dexia AM and Sarasin Expertise AM.

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 GREECE	POPULATION: 10,722,816
	AREA: 131,940 km ²

1. INTRODUCTION

The Greek economy grew by nearly 4.0% per year between 2003 and 2007, due partly to infrastructure spending related to the 2004 Olympic Games held in Athens, and in part to an increased availability of credit, which has sustained record levels of consumer expenditure. But growth dropped to 2.8% in 2008, as a result of the world financial crisis as well as the tightening of credit conditions.

From 2001 to 2006, Greece did not fulfil the budget deficit criterion of not exceeding more than 3% of GDP, as specified within the EU Stability and Growth Pact. However, it did comply with the limit in 2007-2008. National debt, inflation, and unemployment are above the eurozone average, but are falling. The Greek government continues to grapple with cutting government expenditure, reducing the size of the public sector, and reforming the labour and pension systems, in the face of often vocal opposition from the country's powerful labour unions and the general public. The economy remains an important domestic political issue in Greece and, while the government has had some success in improving economic growth and reducing the budget deficit, Athens faces long-term challenges in its efforts to continue its economic reforms, especially social security reforms and privatisation.

Economic data			
GDP	\$351.3 billion	GDP growth rate	2.8% (2008 est.)
GDP per capita	\$32,800 (2008 est.)	GDP by sector	Agriculture: 3.5% Industry: 23.4% Services: 73.1% (2008 est.)
Labour force by sector	Agriculture: 12.4% Industry: 22.4% Services: 65.1% (2008 est.)	Unemployment rate	8% (2008 est.)
National debt	90.1% of GDP (2008 est.)	Inflation rate	4.4% (2008 est.)
Exports	\$27.4 billion (2008 est.)	Trading partners - exports	Germany 11.6%, Italy 10.8%, Cyprus 6.6%, Bulgaria 6.5%, UK 5.5%, Romania 4.5%, France 4.2%, US 4.2% (2007)
Imports	\$82.28 billion (2008 est.)	Trading partners - imports	Germany 12.9%, Italy 11.7%, Russia 5.6%, France 5.6%, China 5%, Netherlands 5% (2007)
Main industries	Tourism, food and tobacco processing, textiles, chemicals, metal products, mining, petroleum, shipping	Electricity production	59.33 billion kWh (2007 est.)
Electricity consumption	55.97 billion kWh (2006 est.)	Electricity exports	1.962 billion kWh (2008 est.)

Electricity Imports	5.894 billion kWh (2007 est.)	Oil production	4,265 bbl/day (2007 est.)
Oil imports	557,200 bbl/day (2005)	Oil consumption	441,400 bbl/day (2007 est.)
Natural gas production	24 million m ³ (2007 est.)	Natural gas consumption	4.069 billion m ³ (2007 est.)

Source: www.cia.gov, *The World Factbook*.

2. CLEANER PRODUCTION

2.1. Industry and the Environment

The Greek National Strategy for Sustainable Development dates back to 2002. In the absence of the official revision of the strategy (currently being drawn up) the priorities contained in the document serve as a valid reference for identifying progress in the main issues. The main areas of action have been the fight against climate change, the reduction of atmospheric pollution, the reduction and rational management of waste products, management of water resources, protection of biodiversity and of natural areas of special interest. Sectors of the economy especially related to this are energy and industry, transport, agriculture, tourism and territorial planning.

Although sustainable consumption and production was one of the main issues incorporated in the National Strategy for Sustainable Development, there was not a specific chapter dealing with it; rather, it was treated as a transversal issue. However, there is a separate chapter on progress in this matter in the 2007 report on the strategy. In addition to this, the revision of the strategy (currently being prepared) will contain a specific chapter on sustainable consumption and production.

The areas of the country which continue to require special attention are the same as in the previous edition of the report¹¹, notably the Thermaic Gulf south of Thessaloniki and Attica, the area in which Athens is located, due to both industrial and urban pollution. With regard to the dumping of toxic substances, progress has been made in the Saronic Gulf, where the Psyttaleia sewage treatment plant is operational, as is a sludge treatment plant.

¹¹ "State of the Art of Sustainable Production in the Mediterranean". *MAP Technical Reports Series No. 165*, UNEP/MAP/CP/RAC, Athens, 2006.



The major problems concerning atmospheric pollution are to be found around the large urban centres, and the lignite mining areas.

In some industrial areas, problems of atmospheric pollution can also be found. The National Strategic Plan points out that effort should be centred on the most dangerous contaminants (particulate matter, benzene, ozone). Noise pollution continues to be a problem, with important consequences for the tourist industry.

As far as industrial waste is concerned, Greek industry initially had reservations regarding collective waste collection and management systems but today, through training programmes, systems are operating with relatively good results. Several industrial units (of all sizes) have been financed and constructed, with the aim of absorbing and using recycled materials.

The National Strategic Plan of Reference 2007-2013 points out that there is still a major deficit relating to the treatment and elimination of industrial and hazardous waste products. The problem is more serious in abandoned areas where there had previously been industrial activity. The main sources of industrial and hazardous waste products are installations such as chemical plants, refineries, cement factories and fertiliser factories. The main kinds of waste are sludge from the treatment of wastewater, and filter pulp. Up to now, in Greece, there have not been enough adequate installations and deposits, and the main methods of elimination have been, until very recently, temporary storage and exportation.

As far as public-private partnerships and voluntary agreements are concerned, agents consulted in Greece are of the opinion that greater cooperation in this field may be necessary. However, it is considered that, for improvements to come about, both industry and the general public need to be better informed and existing legislation needs to be more effectively applied in order to motivate the private sector.

ATMOSPHERIC EMISSIONS

The second National Programme on Climate Change was approved in 2002 and updated in 2007. Greece participates in the European Union Emission Trading Scheme for CO₂ (EU ETS), which has been operational since 2005. The National Allocation Plan (NAP) 2005-2007 includes 139 facilities (including energy plants) and 223.2 MtCO₂e emissions with a reduction target of 2.1%.

At the end of the first round of negotiations, facilities had fully complied with the plan, so much so that emissions were less than had been assigned. The 2008-2012 NAP, which includes 140 facilities with a 16.7% reduction target, was approved by the European Commission and is already operational. An Office of Emission Trading for greenhouse effect gases was established in 2006 in the Ministry of the Environment, to be responsible for the national registry at the National Centre for the Environment and Sustainable Development. An annual maintenance charge, paid by the operators, will finance the functioning of the registry.

2.2. Promotion of Cleaner Production

At present, in Greece, subsidies and aid are granted for cleaner production projects only to companies that have implemented and certified an EMAS or ISO 14001 system of environmental management or that have products certified with an ecological label. The Ministry of Development awards this aid through the Operational Programme of Competitiveness.

INTEGRATED POLLUTION CONTROL

Greece opted to apply the IPPC Directive through an existing system of environmental authorisations. In accordance with Greek legislation, permits are required for all industrial installations, with variable requirements depending on pollution potential. The permits are based on the Environmental Protection Act of 1986, as amended by Law 3010/2002, and a ministerial decision (2003), which establishes the framework for environmental impact assessment (EIA). To obtain a working authorisation from the Ministry of Development, the EIA needs first of all, to be approved by the Ministry of the Environment, or by regional authorities, which have to establish that the industrial installation conforms to environmental requirements.

Greece's definition of the best available techniques (BAT) is based on the *BREF*, but with an important local influence. In 1999 the Ministry of the Environment prepared seven sector studies, which presented the essential information relating to the particularities of Greek industry and described the existing technologies, as well as the best available techniques for each of the industries in question.

The emission limit values (ELV) were not defined in the application of the IPPC Directive. The requirements of the authorisation process were based on the limits established in other directives (the Large Combustion Plants Directive and the Waste Incineration Directive) or in a 1981 presidential decree (Decree 1180) on the functioning of industries. IPPC inspection verifies compliance with the environmental requirements of the facility's permit. Failure to comply with the conditions may give rise to different penalties, including the shutting down of the installation. The Environmental Inspectorate recently increased its number of employees in order to improve the application of current regulations.

Approximately 650 industrial installations in Greece fall within the sphere of application of the IPPC Directive. A good number of these establishments are located near Athens and Salonica. More than half of them belong to the food industry.

After significant progress during the last few years, the chemical industry has achieved a high level of environmental compliance, thanks to technological development. The majority of the paper pulp installations are subject to the IPPC Directive. In general, they adopt the best possible techniques soon after their entry into the market.

Only one installation for tanning leather and hides is subject to the IPPC Directive. The rest of the firms in this sector, mainly small family businesses, do not use the best available techniques, nor do they apply modern technology to prevent pollution, mostly through their inability to make the necessary investment.

Regarding the textile industry, which is one of the main industrial sectors in Greece (15% of GDP), the size of installations is tending to increase and more and more are adopting new technologies.

Regarding non-ferrous minerals, cement production installations are well equipped to use the best available techniques, whereas lime kiln installations are behind schedule when it comes to good environmental practice and few of them are equipped with the necessary equipment to keep emission levels down. As far as the installations for the manufacture of ceramic products using kilns are concerned, only some of the large installations are equipped to control emissions.

DEVELOPMENT OF EMAS

During the last few years, there has been a sharp increase in the number of certified organisations registered with EMAS. The number of registered organisations increased from one in 2001 to ten in January 2004, and to 51 in January 2007. The last count showed 62 organisations and 462 facilities registered with EMAS. Even so, Greek participation is still limited.

The registered organisations come from diverse business areas, mainly from the services sector. Furthermore, new environmental services companies have also been registered, and the public sector has begun to show interest. The annual European EMAS prize-giving ceremony was held in Athens in 2006, the same year in which Greece was recognised by the European Commission as the EU country with the greatest increase in the number of EMAS-registered entities.

Meanwhile, companies from all sectors (industry, services, commerce, and tourism) have received financial aid for the implementation and certification of environmental management systems. This growing interest is demonstrated by the 180 companies included in the latest round of the Ministry of Development's "Competitiveness" programme.

Also, a 2005 law (Law 3325) requires companies in the Attica region to establish and achieve EMAS or ISO 14001 certification by 2010, if their operations have a significant impact on the environment.

ENERGY EFFICIENCY

The recent Law 3734/2009 unifies procedures on the concession of cogeneration licences, encouraging the use of combined heat and power systems in order to save primary energy and to avoid energy wastage in power plants that use oil- or natural gas-based fossil fuels.

The law also specifies cogeneration technologies and their efficiency, and includes incentives such as feed-in tariffs and network connection priority for cogeneration power plants. The law is intended to promote investment in energy saving, through cogeneration and the recycling of useful heat, thus contributing to the sustainability of these installations.

WASTE MANAGEMENT

In Greece there are twelve operational "alternative systems of waste management" for containers and packaging, batteries and accumulators, lubricants, used tyres, scrapped vehicles, and electric and electronic equipment. In most cases the anticipated objectives have been achieved, even though, at first, there were many problems in the application of the current legislation (both by the industries and by those living near the facilities). We can be confident that a management model based on recycling has now been adequately established in Greece.

In quantitative terms, recycled industrial material increased from 382,000 tonnes in 2003 to 700,000 in the year 2007. New legislation on the management of hazardous waste products was approved in 2006 and imposed stricter conditions on the manufacturers, establishing a frame of reference for permits and authorisations.

With regard to other new legislation on waste management, it should be noted that the Presidential Decree on alternative management of batteries and accumulators has been modified in accordance with Directive 2006/66/EC.

WATER MANAGEMENT

In December, 2003, a new legislative and institutional framework came into effect in Greece with Law 3199/2003 on water protection and sustainable management of water resources and Presidential Decree 51/2007, which incorporates the Water Framework Directive into national legislation.

This new framework implies a radical reorientation of Greece's administrative structures and has introduced a new and global approach to water management, explicitly recognising the ecological function of the resource.

Emphasis is placed on water management based on hydrographical basins, as well as on water tariffs, with the aim that these should reflect the real and total cost of the resource. The main objectives of the new regulations are the long-term protection of water resources, preventing deterioration, protecting and restoring degraded water resources and wetlands, reducing and in some cases gradually eliminating contaminating waste residues, reducing the pollution of subterranean water and preventing further deterioration, as well as flood and drought relief.

Law 3199/2003 also incorporates the "polluter pays" principle and the objective of maintaining or achieving the good ecological state of all water resources, through the control of pollution. It also introduces new approaches to protecting water quality, as well as transnational cooperation for the protection of cross-border lakes and watercourses.

The new legislation for the protection and sustainable management of Greece's water resources provides detailed identification of thirteen Regional Water Directors, who are responsible for organising and coordinating water policies and the specific activities of the water programmes and action plans, with specific measures for the country's hydrographical regions. They are in charge of applying the Water Framework Directive in the hydrographical regions, under the auspices of the Central Water Agency, a governmental authority with general responsibility for establishing national water policy. The new legislation also takes into consideration the most efficient options for creating legal coordination mechanisms for the designation and management of the river basins that cross the borders of their jurisdiction.

3. SUSTAINABLE CONSUMPTION

The National Strategy for Sustainable Development serves as a framework for different activities relating to sustainable consumption. Some interministerial agreements are included in this framework—for example, the Ministry of the Environment and the Ministry of Development collaborate in supporting both the EMAS system and the Ecolabel.

Regarding other issues dealt with in this chapter (energy efficiency, consumption and urban waste), the National Strategic Plan 2007-2013 reports that, during the last decade, emphasis has been placed on the creation of infrastructures for the transportation and the elimination of urban waste and, in particular, on the creation of landfill sites and waste management installations. It has not been possible to establish an integrated waste disposal system for the treatment of urban residues. The delay in regional planning for waste treatment has been mainly a result of the lack of social acceptance of the location of the necessary infrastructures. As for the treatment of urban wastewater, treatment plants and, more especially, sewage and drainage systems are deficient. It is important to emphasise, however, that important progress has been made in the last few years.

ENERGY EFFICIENCY

Greece has incorporated in its legal code the EU regulations regarding energy efficiency and the labelling of electrical equipment.

Energy efficiency has been promoted in the public sector through a joint decision involving five ministries. This initiative includes measures to offset power consumption in buildings, requiring all public buildings to be connected to the natural gas network (replacing gas oil with natural gas for

heating purposes in order to reduce GHG emissions), to replace all incandescent lamps with low-consumption fluorescent lamps, and to perform preventive maintenance of air conditioning installations at least once a year.

The joint ministerial decision, published in May 2008, codifies and unifies all the regulations concerning energy efficiency and introduces a new calendar for their application. Also, it standardises the minimum rules for energy efficiency in public procurement and the regulations pertaining to energy use in all public buildings.

Law 3661/2008, which is in line with Directive 2002/91/EC, regulates the minimum requirements for energy efficiency in new, large buildings and for important alterations to existing buildings, the regular inspection of boilers and air conditioning systems and the displaying of energy performance certification in a visible place in public buildings.

ECOLABEL

The Ministry of Development is responsible for the institutional framework that regulates public procurement. This ministry also grants financial aid to SMEs interested in obtaining ecological label certifications and in relation to the Third Community Aid Plan.

So far, the European ecological label, Ecolabel, has been awarded to 131 products of 21 companies, as well as to two services facilities (hotels). The total number of labels awarded to products from Greek companies puts the country in fourth place among the EU Member States. During 2006 and 2007 the European ecological label was especially promoted in the textile industry and hotel facilities. Two of the main initiatives are highlighted below:

ECO-TEXTILE PROJECT

The project, developed between 2003 and 2006, was aimed at promoting the ecological label system in the Greek textile industry, and was co-financed by the LIFE environmental programme. It was drawn up by the Hellenic Fashion Industry Association, in collaboration with a consultant and a consumers' organisation.

During the course of the project, three informative workshops were carried out, covering the entire geographical area of Greece. In addition, numerous informative articles were published, 300 key actors in the market—trained in the promotion of the ecological label during two training seminars—were mobilised, and a range of informative material was produced and widely disseminated. The main result of these activities was to increase awareness of the European ecological label among Greek consumers, from 1.2% to 30%.

Four pilot projects were also carried out in textile companies, which included the preparation of application dossiers for the label, and the drawing up of a guide to good practice for the concession of the ecological label. And finally, an eco-consultation office was set up in the premises of the Greek Association for the Fashion Industry, for the provision of all the necessary information and technical assistance to companies interested in gaining Ecolabel certification.

GREEN DRACHMA II PROJECT

The objective of the "Green Drachma II" Project was to develop the necessary conditions for sustainable tourism in the Greek region of Chalkidiki. The project, financed by the LIFE programme, involved a series of innovative actions, including a campaign to raise public awareness, and the pilot application of the European Ecolabel in tourist accommodation.

More specifically, around 25 hotel owners and managers attended a two-day training seminar in October 2005 on the requirements, the criteria and the details of the ecological label procedure. All the participants received a copy of the corresponding *Guide to Qualification* prepared by the project team.

Five hotels from the twenty that showed interest were chosen and have benefited from additional support. Audits were carried out to evaluate the performance and the management of the hotels in accordance with the criteria and requirements of the ecological label. Analytical environmental reports were drawn up for each hotel, and a detailed plan of action was proposed for each one of them to take the necessary steps in order to comply with the requirements and the criteria of the ecological label.

The project's web page offers additional information about other activities that have been carried out, including green procurement, promotion of local products, an international conference on sustainable tourism, and an environmental award. With regard to green procurement, a catalogue of environmentally friendly suppliers from three different sectors is noteworthy.

3.1. Sustainable Public Procurement

The legal framework for sustainable public procurement is gradually being established. The revision of the institutional framework for Green Paper public procurement requires the cooperation of the Ministry of Development, the Ministry of Economy and the Ministry of the Environment. Up to now there have only been a few isolated cases and pilot projects set up by local authorities, for example, as participants in the EcoProcura project.

However, 23 Greek municipalities are members of ICLEI (International Council for Local Environmental Initiatives), a network which participated in a LIFE programme project called the LEAP Project, coordinated by Leicester City Council, which finished in 2006.

The LEAP Project (Local Authority EMAS and Procurement) was intended to develop more systematic and efficient action for green procurement by local authorities. Three Greek municipalities were among the eleven participants in the project: Holargos, Amaroussion, and Kallithea-Rhodes. The two main objectives of the project were:

- To examine ways to improve the management and implementation of green procurement by integrating environmental management systems.
- To develop practical methods of obtaining environmental and financial benefits through joint procurement.

One of the studies carried out by Greek municipalities during the project was, in fact, into the joint procurement of recycled paper in Greece; in that case they included other municipalities and companies that were not part of the LEAP project. The main result of the project was a toolkit for the integration of green procurement in the management of local authorities and other organisations, including an analysis of legislation relating to public procurement in Europe. This toolkit is now available for interested entities, together with the case studies. The steps to integrating green purchases into management were classified as follows:

- Tool A - Green procurement policy.
- Tool B - Integrating green procurement into the EMS (environmental management system).
- Tool C - Barriers to effective green procurement.
- Tool D - Joint procurement models.
- Tool E - Standard specifications.
- Tool F - Environmental requirements in procurement.
- Tool G - Information on specifications, products, etc.
- Tool H - Promoting a green market.

4. CORPORATE SOCIAL RESPONSIBILITY (CSR)

The present approach to social responsibility is fairly recent in Greece, as far as the general public is concerned. In addition, no initiatives to promote CSR on the part of the Greek public administration have been detected during the last few years. Nor do international initiatives regarding transparency on sustainability appear to have much success among Greek companies. For example, only four companies have published their reports in accordance with the Global Reporting Initiative model. However, since the beginning of this decade, the country does have a business organisation dedicated exclusively to the promotion of CSR, called CSR Hellas.

The year 2008 marked a turning point regarding this issue, with the official launch in Greece of two international initiatives for the promotion of CSR and for the integration of sustainable development in company operations: the United Nations Global Compact, and the World Business Council for Sustainable Development (WBCSD).

Finally, the results of a survey by the United Nations Environment Programme Financial Institutions Initiative in the Environment have been presented. This study stresses that the limited development of CSR in the Greek financial sector is partly due to an absence of scrutiny and pressure from the civilian population. Perhaps this conclusion could be extended to CSR in business activity as a whole, in which case it is evident that there is room for improvement and for greater stakeholder involvement in the integration of best practice in Greek companies.

4.1. Promoters and Projects

In relation to the promotion of CSR, the following points are noteworthy:

- The Greek Business Council for Sustainable Development: the Federation of Greek Industries officially launched a new national branch of the World Business Council for Sustainable Development (WBCSD) in November 2008.
- CSR Hellas: a group of large-scale companies have been publicising their CSR activities for a while, under the title of CSR Hellas, acting as a point of intersection for companies interested in CSR. Today CSR Hellas is the national member of the European network known as CSR Europe, and its members include 113 companies and eight business organisations. The organisation's activities include raising awareness in the business community and among employees for the promotion of social cohesion in Greece, compiling and distributing resources for the achievement of social cohesion, developing mechanisms for communication and coordination between member companies for joint action or the exchange of best practice, and public dialogue about ideas and suggestions that governments and other institutions may adopt in the future.

In May, 2007, CSR Hellas, in collaboration with the Greek Federation of Industries, organised the first CSR workshop in Greece.

- The United Nations Global Compact in Greece. The Global Compact was officially presented in Greece in May 2008. At present there are 73 Greek participants, and almost all of them have produced some kind of progress report regarding the initiative, which indicates that they are not merely signatories. Most of the participants are private companies, and nearly half of them are SMEs. There are also public institutions (chambers of commerce), universities, and non-profit organisations, including religious institutions.

4.2. Socially Responsible Investment


SRI is not very well developed in Greece, although the first steps have already been taken. The National Bank of Greece launched an "ethical fund" in 2003 but, even so, the market for these financial products is almost non-existent at present in the country.

At the beginning of 2007, under the auspices of the Office of Financial Institutions of the United Nations Environment Programme Financial Institutions (UNEP FI), a congress was held on "Sustainability and CSR in the Greek Banking and Insurance Sector". During the event, in which more than 50 representatives of the sector participated, a survey carried out the previous year was presented on the role of financial institutions in social and environmental development, with the following conclusions:

- The Greek financial sector acknowledges the great importance of sustainability issues, but appears to limit its action to internal environment management and, in some cases, to offering green financial products. Sustainability has not been incorporated into the core aspects of business, i.e. lending and investment. Environmental awareness has not led to real business opportunities.
- International financial institutions are not as strong in implementing their sustainability policies in their Greek subsidiaries as they are in their headquarters' operations. Local institutions seem to be much more advanced than subsidiaries of international institutions, even though these have the potential to be pioneers regarding sustainable finance in the Greek financial market.
- Private, public and non-governmental financial stakeholders involved in environmental issues are not well informed about the indirect environmental impacts of the financial sector. Unlike other EU countries, civil society and in particular non-governmental organisations (NGOs) are currently not exercising scrutiny or vigilance on the sustainability of financial operations, nor are they pushing for the management of environmental and social issues in the core business areas of financial institutions..

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 ITALY	POPULATION: 58,145,321
	AREA: 301,230 km ²

1. INTRODUCTION¹²

The Italian economy rebounded significantly in 2006. Growth remained well above its potential rate, also entailing a sharply lower public deficit. The main driver has been strong foreign demand and an evident adjustment process among Italian exporters that has allowed them to benefit from better external conditions.

Even so, Italy's export structure remains heavily biased toward low-skill production. The process of deindustrialisation has not triggered a decline in the services sector. This can be traced to a lack of absolute productivity growth. One of the main policy challenges is to increase human capital and market competition to spur both the supply of and demand for innovation and skills, providing the dynamism the economy needs. Job creation has been one of the main strengths of the economy, but for it to go further modifications are needed in job protection to counteract the dual standard in the labour market.

Economic data			
GDP	\$1.801 trillion (2008 est.)	GDP growth rate	0% (2008 est.)
GDP per capita	\$31,000 (2008 est.)	GDP by sector	Agriculture: 2% Industry: 26.7% Services: 71.3% (2008 est.)
Labour force by sector	Agriculture: 4.2% Industry: 30.7% Services: 65.1% (2005)	Unemployment rate	6.8% (2008 est.)
National debt	103.7 % of GDP	Inflation rate	3.6% (2008 est.)
Exports	\$566.1 billion (2008 est.)	Trading partners - exports	Germany 12.9%, France 11.4%, Spain 7.4%, U.S.A. 6.8%, Great Britain 5.8% (2007)
Commodities exports	Engineering products, textiles, industrial machinery, cars, transportation equipment, chemical products, foodstuffs, beverages and tobacco, minerals and non-ferrous metals	Commodities imports	Engineering products, chemical products, transportation equipment, energy products, minerals and non-ferrous metals, textiles, foodstuffs, beverages and tobacco

¹² Sources: *Economic Survey of Italy 2007*, OECD; *The World Factbook* (refer to the references at the end of this chapter).

Imports	\$566.8 billion (2008 est.)	Trading partners - imports	Germany 16.9%, France 9%, China 5.9%, Netherlands 5.5%, Belgium 4.3%, Spain 4.2% (2007)
Main industries	Tourism, machinery, iron and steel, chemical products, food processing, textiles, cars, clothes, footwear, ceramics	Electricity production	292.1 billion kWh (2007 est.)
Electricity consumption	316.3 billion kWh (2006 est.)	Electricity exports	1.916 billion kWh (2007 est.)
Electricity imports	34.56 billion kWh (2007 est.)	Oil production	166,600 bbl/day (2007 est.)
Oil imports	2.223 million bbl/day (2005)	Oil consumption	1.702 million bbl/day (2007 est.)
Natural gas production	9.706 billion m ³ (2007 est.)	Natural gas consumption	84.89 billion m ³ (2007 est.)

Source: www.cia.gov, *The World Factbook*.

2. CLEANER PRODUCTION

2.1. Industry and the Environment

A number of locations in Italy contain most of the industrial facilities with high risks of serious accidents. These locations are listed below, based on the data collected by the National Institute for Environmental Protection and Research (ISPRA) with the approval of the Ministry of the Environment, Land and Sea (IMELS).

The regions with the greatest concentration of facilities at risk of serious accidents are Lombardy, Emilia-Romagna, Veneto and Piedmont. The plants are concentrated mainly in cities such as Turin, Milan, Bergamo, Brescia and Ravenna, besides Rome and Naples.



Of particular note among municipalities with 4 or more major accident hazard (MAH) establishments are Venice, Ravenna, Rome and Naples.

This classification of the MAH establishments is based on the application in Italy of Legislative Decree No. 238/2005 for the implementation of Directive 2003/105/EC.

The main types of establishments with a high risk of accidents are the chemical and petrochemical factories and LPG depots (approximately 50%). The first category is essentially concentrated in the northern regions, while the second is also widespread in the south.

Together with the MAH establishments, waste management and climate change are also a major priorities within the policy agenda to decouple industrial development from environmental degradation in Italy. With regard to waste generation and management the fact that, in spring 2008, the head of the Department of Italian Civil Protection was appointed as Undersecretary of the State in the Council of Ministers, responsible for waste problems, clearly reflects the priority given to that issue, especially due to the urgent situation which has arisen in the Campania region.

Concerning climate change, in December 2006, the Ministry of the Environment, Land and Sea approved the National Allocation Plan (NAP) for CO₂ quotas in the period 2008-2012. The final decision on the allocations was approved in February 2008. The NAP clearly reflects the difficulties which Italy will have to face in order to fulfil its international obligations regarding emissions of greenhouse gases (GHG). The NAP's preface states that "the decision to ratify the Kyoto Protocol requires Italy to reduce the emission of greenhouse gases by some 6.5%, compared with the levels of emissions in the 90s, which means that the quota of emissions in 2008-2012 cannot be higher than 485.7 MtCO₂e/year. The national survey of the level of greenhouse gas emissions in 2006 shows that in 2004, the total volume of emissions of greenhouse gases (580.7 MtCO₂e) had increased by 11.8% compared with 1990 (519.5 MtCO₂e).

Thus, the distance which separates the country as it was in 2004 from the achievement of the objectives marked in the Kyoto Protocol is estimated to be 95.0 MtCO₂e."

Therefore, the NAP compels the production sector to reduce emissions of CO₂ from 207 million tonnes in 2008 to 177.4 million tonnes in 2012 (which means a reduction of 14.3% in just five years, after the increase of 12% in the previous fifteen years), posing a serious challenge for the entire economy of the country.

There have also been considerable changes in the distribution of allocations with regard to the previous plan (2005-2007): the second plan reduces emissions rights mainly “for the sectors less exposed to international competition”. Accordingly, the energy sector will be the main sector to assume responsibility for the fulfilment by Italy of its international obligations. This sector will therefore have to reduce its emissions from 130 million tonnes to 100.7 million tonnes, which means a reduction of 30%.

2.2. Promotion of Cleaner Production

LEGAL AND POLITICAL FRAMEWORK

General remarks

The Environmental Action Strategy for Sustainable Development in Italy, approved by the Interministerial Committee for Economic Planning, on 2 August 2002, is considered a framework document providing overall guidance for Public Administrations to fulfil specific objectives in four main areas:

- Climate change and atmospheric pollution.
- Nature and biodiversity.
- Urban life and environmental quality.
- Sustainable use of water resources and waste management.

Each of these areas includes recommendations and a number of measures to be implemented, based on commitments made by Italy under multilateral and regional environmental conventions and agreements.

The IMELS has drawn up a National Strategy for Sustainable Consumption and Production through the work of several management committees and specific working groups, which published, on 20 September 2008, *Contributi per la strategia italiana SCP* [Contribution for a National Strategy for Sustainable Consumption and Production]. Currently, the IMELS has started an internal and external consultation process on this document, to be used for the review of the New Italian Strategy for Sustainable Development, which will include SCP as its main theme. This new strategy will be in line with the policies included in the EU Strategy for Sustainable Development adopted by the European Council in June 2006.

As far as the regulatory framework is concerned, the following main acts concerning cleaner production and related fields have been issued in Italy, since 2005:

- Legislative Decree 30/5/2008, No. 115, implementing Directive 2006/32/EC on energy end-use efficiency and energy services and repealing Council Directive 93/76/EEC; incentives and certification for sustainable building. (*Gazzetta Ufficiale* (GU) No. 154, 3 July 2008).
- Legislative Decree 6/11/2007, No. 201, implementing Directive 2005/32/EC of the European Parliament and of the Council of 6 July 2005 on establishing a framework for the setting of ecodesign requirements for energy-using products and amending Council Directive 92/42/EEC and Directives 96/57/EC and 2000/55/EC of the European Parliament and of the Council. (GU No. 261 del 9-11-2007 - Ordinary Supplement No.228).
- Legislative Decree 29/12/2006, No. 311, implementing corrective and integrating dispositions on Legislative Decree 19/8/2005, No. 192, implementing Directive 2002/91/EC of the European

- Parliament and of the Council of 16 December 2002 on the energy performance of buildings. (GU No. 26, 1-2-2007- Ordinary Supplement. No. 26).
- Legislative Decree 30/5/2008, No. 116, implementing Directive 2006/7/EC of the European Parliament and of the Council of 15 February 2006 concerning the management of bathing water quality and repealing Directive 76/160/EEC (dissolved oxygen) (GU No. 155, 4-7-2008).
 - Legislative Decree 11/7/2007, No. 94, implementing Directive 2006/7/EC of the European Parliament and the Council of 15 February 2006 concerning the management of bathing water quality and repealing Directive 76/160/EEC (dissolved oxygen) (GU No. 163, 16-7-2007).
 - Legislative Decree 30/5/2008, No. 117, implementing Directive 2006/21/EC of the European Parliament and the Council of 15 March 2006 on the management of waste from extractive industries and amending Directive 2004/35/EC - Statement by the European Parliament, the Council and the Commission. (GU No. 157, 7-7-2008).
 - Legislative Decree 26/6/2008, No. 120, implementing corrective and integrating dispositions on the Legislative Decree of August 2007, No. 152, implementing Directive 2004/107/EC of the European Parliament and of the Council of 15 December 2004 relating to arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air (GU No. 162, 12-7-2008).
 - Legislative Decree 14/2/2008, No. 33, implementing Corrective Legislative Decree of 27 March 2006, No. 161, implementing Directive 2004/42/EC of the European Parliament and of the Council of 21 April 2004 on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain paints and varnishes and vehicle refinishing products and amending Directive 1999/13/EC (GU No. 53, 3-3-2008).
 - Legislative Decree 9/11/2007, No. 205, implementing Directive 2005/33/EC of the European Parliament and of the Council of 6 July 2005 amending Directive 1999/32/EC (GU No. 261, 9-11-2007 – Ordinary Supplement No.228).
 - Legislative Decree 6/11/2007, No. 202, implementing Directive 2005/35/EC of the European Parliament and of the Council of 7 September 2005 on ship-source pollution and on the introduction of penalties for infringements (GU No. 261, 9-11-2007 – Ordinary Supplement No.228).
 - Decree 25/10/2007 of the Ministry of Transport, implementing Commission Directive 2005/78/EC of 14 November 2005 implementing Directive 2005/55/EC of the European Parliament and of the Council on the approximation of the laws of the Member States relating to the measures to be taken against the emission of gaseous and particulate pollutants from compression-ignition engines for use in vehicles, and the emission of gaseous pollutants from positive ignition engines fuelled with natural gas or liquefied petroleum gas for use in vehicles and amending Annexes I, II, III, IV, and VI thereto (Text with EEA relevance) (GU No. 27, 1-2-2008- Ordinary Supplement No.28).
 - Decree 25/9/2007 of the Ministry of Transport, implementing Directive 2006/40/EC of the European Parliament and of the Council of 17 May 2006 relating to emissions from air-conditioning systems in motor vehicles and amending Council Directive 70/156/EEC (GU No. 282, 4-12-2007).
 - Decree 2/3/2006 of the Ministry of Transport, implementing Directive 2004/26/EC of the European Parliament and of the Council of 21 April 2004 amending Directive 97/68/EC on the approximation of the laws of the Member States relating to measures against the emission of gaseous and particulate pollutants from internal combustion engines to be installed in non-road mobile machinery (GU No. 43, 21-2-2007- Ordinary Supplement No. 47).
 - Legislative Decree No. 238 of 21/09/2005 implementing Directive 2003/105/EC of the European Parliament and of the Council of 16 December 2003 amending Council Directive 96/82/EC on the control of major-accident hazards involving dangerous substances.

The main problems frequently faced in the application and enforcement of regulations relate mainly to the allocation of competence among the institutions concerned and the assignment of competences among legislative actors. Nevertheless this situation is progressively improving through the enactment

of framework laws establishing guiding and coordinating principles for the institutions in charge of producing executive regulations (for example, regional provisions following a national law).

An instrument playing a strategic role on the internal coordination of Italy's regulatory framework with regard to the country's participation in European Policies—including those on the protection of the environment is the CIACE (Comitato Interministeriale per gli Affari Europei - Interministerial Committee for EU/Community Affairs). The CIACE was established by Law No.11 of 4 February 2005 enacting the "General provisions governing Italy's participation in the European Union's legislative process and the procedures for complying with Community obligations". Based on the experience of other Member States, the Committee aims at enabling an in-depth analysis of issues related to Italy's participation in the European Union. The Committee coordinates the Ministries concerned according to the items on the agenda. Furthermore, regions, autonomous provinces and local authorities can take part in CIACE activities. The CIACE is divided into several sections, the first being based on environment and energy.

Climate change

Regarding climate change and energy efficiency, progress has been made through the approval of the Legislative Decree of 30 May 2008, No.115, regarding energy consumption and the reduction of emissions of greenhouse gases, which pursues the establishment of the indicators, the mechanisms, the incentives and the financial, institutional and juridical conditions necessary to eliminate the obstacles and faults in the market which currently prevent the efficient use of energy. It also aims to create the conditions for the development and promotion of an energy services market , and other measures which would allow the improvement of energy efficiency for end users. The Decree also redefines the functions of the National Agency for Energy Efficiency. Among the new responsibilities of the Agency, the following deserve special attention:

- In accordance with Directive 2006/32/EC, the implementation of technical proposals for the methods of measurement and verification of energy saving in accordance with national targets. Specific methods for the application of the "white certificate" mechanism are also defined, with special attention to the establishment of standardised procedures, which would allow the evaluation of savings without resorting to direct measurement.
- Technical and scientific support, and assessment to the State, regions, and local authorities, to develop the necessary means to achieve national energy saving objectives.
- Supplying information to the general public, enterprises, government bodies and financial operators on different ways of saving energy.

The establishment of the IPPC Observatory within the IMELS, according to the Legislative Decree for the complete endorsement of the IPPC Directive in Italy (Legislative Decree No. 59 of 18 February 2005), is expected to contribute to a more effective implementation of that Directive in Italy. The Observatory is a monitoring body to guarantee more efficient application of the rules regarding the prevention and reduction of pollution. Its functions are:

- Presentation, acquisition, evaluation and public participation regarding the application of Integrated Environmental Authorisations the concession of which is under State responsibility.
- Circulation of documents among the subjects participating in interdepartmental meetings in order to carry out investigations and monitor the integrated environmental authorisations under State responsibility.
- To fulfil obligations regarding to the communication of information (between IMELS and regional administrations).

The Observatory operates through a database and a website (which will come into operation by the end of 2009) for the exchange of information between competent authorities, industry and the public, so as to promote a more effective application of the Directive, including access to wider knowledge of the best available techniques and future developments.

Likewise, the Decree encourages the adoption of measures linked to cleaner production, energy efficiency and the efficient use of natural resources, since this is a requirement in order to obtain the permit. In accordance with the Decree, if an industrial facility has EMAS certification, the permit is valid for 8 years (instead of the 5 years scheduled for other installations).

ECONOMIC INSTRUMENTS

Due to increasing concern about the unsustainable consumption of energy as one of the main causes of climate change, many economic and financial instruments have focused on promoting energy efficiency and the use of renewable energies by Italian companies. The 2007 Financial Act launched the *Industria 2015* programme, promoted by the Ministry of Economic Development with the aim of increasing the competitiveness of national companies, e.g. in the energy efficiency and renewable energies markets. To this end, the programme envisages new instruments, such as the “Industrial Innovation Projects”.

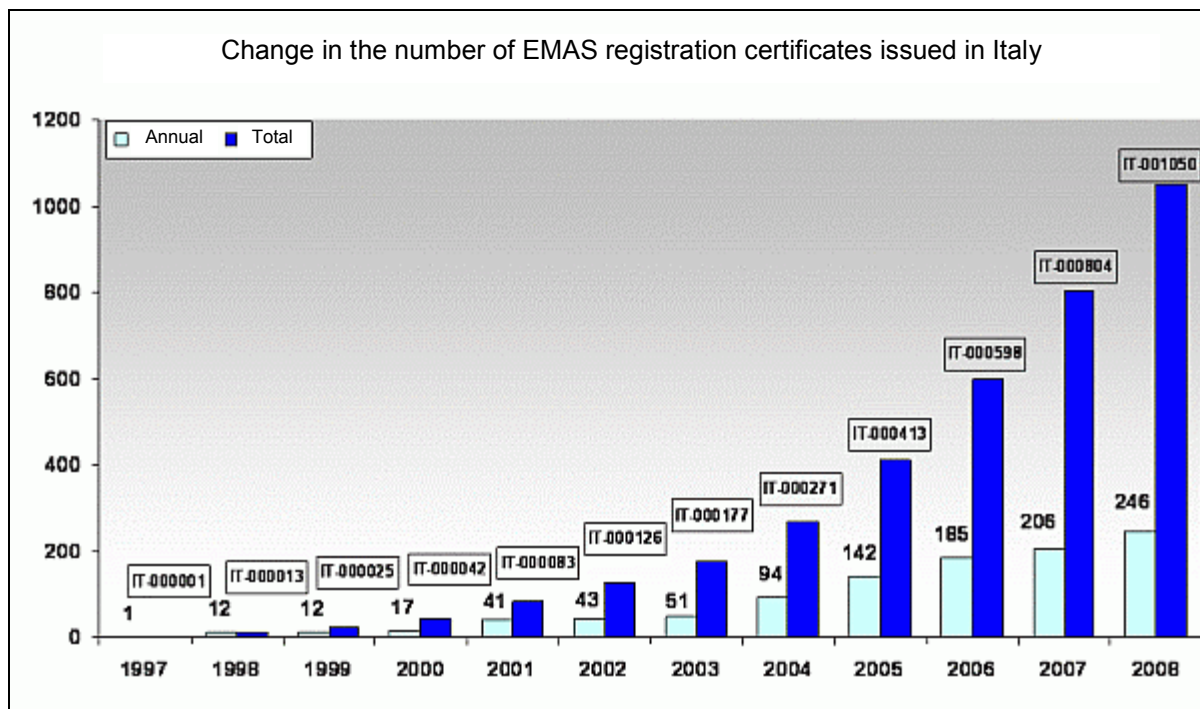
The first award was launched on 5 March 2008, in the field of energy efficiency and it included the financing of 30 projects in the fields of: photovoltaic energy, bioenergy, wind power, high-efficiency building materials and advanced industrial technologies. The total value of the incentives is €200 million, 54% of which was granted to SMEs.

On the other hand, the Interministerial Decree of 18 December 2008 (issued by the Ministry of Economic Development in agreement with the IMELS), applying the 2008 Finance Act, introduced new incentives for electricity produced by plants utilising renewable energy. The total amount of the incentives is €10 million.

VOLUNTARY INSTRUMENTS

The number of companies ensuring their environmental quality, as well as that of their products and services through the use of voluntary instruments has increased in Italy in the last few years. The main references for this objective are the European EMAS and the Ecolabel Regulations, together with the international ISO 14000 series of regulations.

From 1997 (the year in which EMAS and Ecolabel Regulations became effectively operative in Italy) to the present day, the penetration of the two regulations has grown continuously, showing a significant annual increase (see figure below).



Source: <http://www.apat.gov.it/certificazioni/site/it-IT/EMAS/Statistiche>.

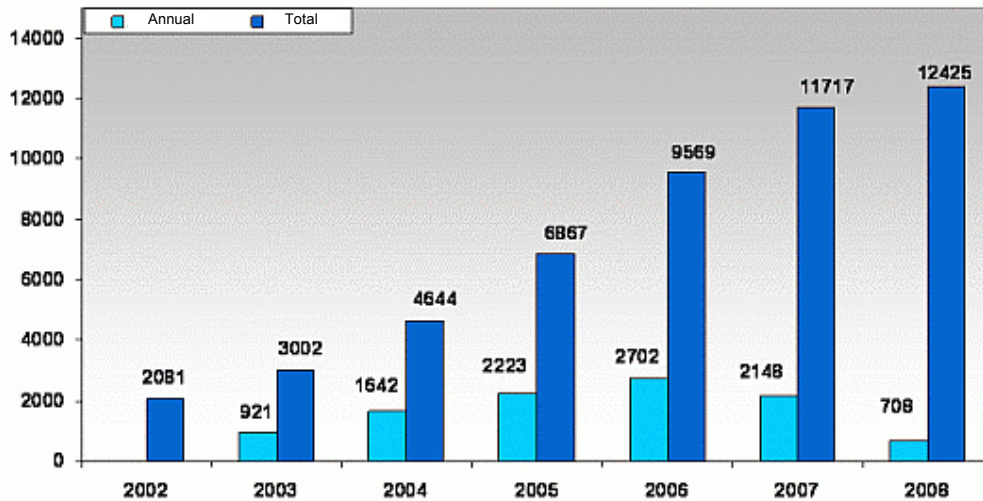
In Europe, Italy ranks third in terms of EMAS, after Spain and Germany, and after France and Denmark for the Ecolabel.

Five regions account for most of the organisations registered with the EMAS: Emilia Romagna, Tuscany, Lombardy, Piedmont and Veneto, while Campania, in southern Italy, holds the sixth position. The largest number of Ecolabel licenses is registered in Trentino Alto Adige, followed by Tuscany, Emilia Romagna, Piedmont and Lombardy.

Among other factors, the increase in EMAS and Ecolabel has been favoured by the development of professional skills and technical knowledge through participation in processes at local level, with the aim of providing basic training to qualified professionals (EMAS auditors, environmental consultants and Ecolabel consultants), with specific training programmes.

Finally, the number of installations certified under the ISO 14001 standard has increased, reaching 12,425 companies in 2008 (see figure below). With this data, we can clearly see a generalised presence of environmental management systems.

Change in the number of EMAS registration certificates issued in Italy



Source: <http://www.apat.gov.it/certificazioni/site/it-IT/EMAS/Statistiche>.

3. SUSTAINABLE CONSUMPTION

Italy is characterised by a long tradition of promoting sustainable purchasing through fair trade and green shopping initiatives developed by organisations in civil society. Progressively, these practices have also extended to a significant number of local administrations. As far as public procurement and contracting are concerned, the progress is more recent, as will be explained later.

Furthermore, in recent years there has been some progress, both in the regulatory framework and in programmes of public/private cooperation, promoting other aspects of sustainable consumption, both domestic and industrial, in relation to energy efficiency, recycling, the wider use of the ecological label, and the proper use of natural resources.

REGULATORY INSTRUMENTS

During the last three years, and over and above the standards related to public procurement and contracting, which we shall deal with later, there have been various legislative changes in matters related to sustainable consumption, especially regarding the impact of energy consumption. The most notable among them are the following:

- Decree of the Ministry of Economic Development (21/9/2005), implementing Commission Directive 2003/66/EC of 3 July 2003 amending Directive 94/2/EC implementing Council Directive 92/75/EEC with regard to energy labelling of household electric refrigerators, freezers and their combinations .
- Legislative Decree No. 26/2007 applying Directive 2003/96/EC of 27 October 2003 restructuring the Community framework for the taxation of energy products and electricity.
- Legislative Decree No. 115/2008 on the implementation of Directive 2006/32/EC of the European Parliament and of the Council of 5 April 2006 on energy end-use efficiency and energy services.

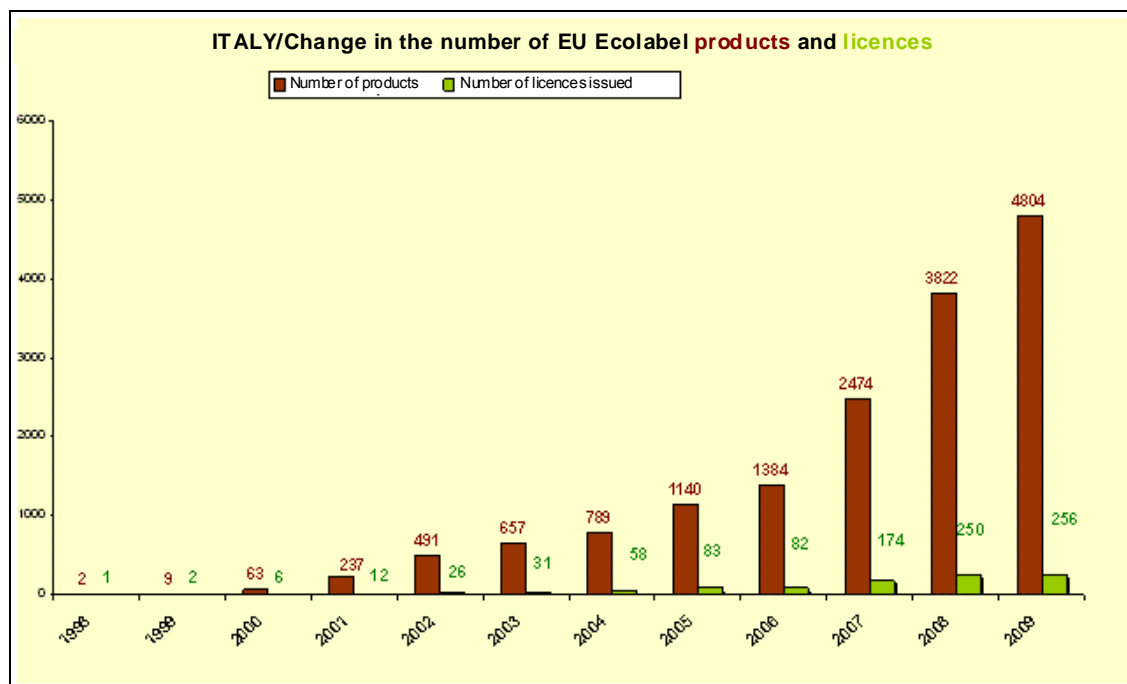
ECONOMIC INSTRUMENTS

The 2008 Financial Act grants tax deductions to *Gruppi di Acquisto Solidali* (Fair Purchasing Groups - GAS). These groups, promoting the consumption of seasonal products, contribute to the reduction in the environmental impact of the slow transport of goods from distant countries.

VOLUNTARY INSTRUMENTS

The number of companies guaranteeing the environmental quality of their products and services by using the Ecolabel has increased greatly in Italy in the last few years.

From 1997 (the year in which EMAS and Ecolabel Regulations became effectively operative in Italy) to the present date, the penetration of eco-labelling has grown continuously, showing a significant annual increase (see figures below).



Source: <http://www.apat.gov.it/certificazionil>.

In 2008 alone, a total of 250 new Ecolabel licences were granted for a total of 3,822 labelled products and services. This tendency is positive for both the licences and the products and services. It is worth mentioning that the greatest growth was registered in the tourism sector.

To explain the increase in eco-labelled products we may point to the fact that environmental criteria have been progressively included in the bidding processes of government bodies, and that points have been awarded to companies whose products are certified, which has led to a significant increase in interest in eco-labelling. Specific proof of this is provided by the increase in certified products and licences in a number of product groups such as detergents, textiles and paper. Nevertheless, as mentioned above, the largest increase during the last year occurred in the tourism accommodation sector, where a far-reaching promotional effort throughout the country, together with incentives offered by a number of local government bodies, have stimulated the demand for participation in the EU Ecolabel scheme, increasing the number of licences more than three-fold.

GREEN PUBLIC PROCUREMENT

The National Action Plan on Green Public Procurement (hereinafter GPP NAP) for sustainability in public procurement has been recently approved by Interministerial Decree No. 135 of 11 April 2008.

The GPP NAP has been drawn up by the IMELS with the assistance of CONSIP (whose work is explained below), in agreement with the Ministry of Economic Development and the Ministry of Economy and Finance. According to the GPP NAP, the IMELS will issue a series of decrees defining the minimum environmental criteria to be included in public purchasing procedures for the commodity categories identified by the Finance Act 2007. The decrees will also set out specific methodological guidelines.

This document outlines the strategy for the dissemination of GPP, the categories of basic products, references to the environmental targets to be attained, both qualitative and quantitative, and methodological aspects in general. The purpose of the GPP NAP is thus to promote the dissemination of GPP among public bodies and to provide the conditions needed for GPP to achieve its full potential as an instrument for improving the environment.

In line with the guidelines provided by the European Commission, the Italian plan has the aim of contributing to the spread of green public procurement through the following activities:

- participation of the different interest groups in green public procurement at a national level;
- dissemination of information and training in the government and other public bodies on GPP;
- definition of methodological guidelines on sustainable procurement processes and environmental criteria to be included in tender specifications, for products, services and works identified as priorities according to their environmental impact and volume of spending;
- definition of national targets to be attained and redefined every three years;
- periodical monitoring of the dissemination of GPP and analysis of the environmental benefits obtained.

Moreover, the GPP NAP asks the Italian regions and local bodies to include GPP in their regional and sector regulations in order to assess:

- the possibility of channelling the financial incentives provided by the current legal framework in order to support tenders with sustainable criteria;
- the introduction of environmental criteria in the process of rationalising the procurement of goods, services and works in their own administrative bodies under the networking system between CONSIP at regional level and the centralised procurement agencies;

Provincial and local administrations are also asked to comply with the content of the National Action Plan by promoting energy efficiency schemes in the building of schools and by including the minimum environmental criteria identified by the GPP NAP in their procurement procedures. Likewise, EMAS or ISO 14001 registered local administrations and those involved in the Agenda 21 process are particularly requested to align their policies and programmes with the targets set by the GPP NAP.

In addition to the specific regulations on GPP that will be prepared according to the GPP NAP, the following existing regulations are also worth mentioning:

- The preliminary approval of the *Codice Unico degli Appalti* by the Council of Ministers, which will implement EU Directive 2004/18/EC of the European Parliament and of the Council of 31 March 2004 on the coordination of procedures for the award of public works contracts, public supply contracts and public service contracts.
- The Financial Law of 2006 emphasised the need to rationalise public expenditure, which should be achieved through the compulsory application of CONSIP standards.

CONSIP, a public agency created by the Ministry of Economy in 1997, has the task of implementing the Programme of Rationalisation of Public Expenditure on Goods and Services, through the use of computerised technologies and innovative purchasing tools.

Law 191/2004, an “emergency provision for reducing public expenditure”, establishes that all public administrations (with the exception of municipalities with a population below 1,000 inhabitants) have to use CONSIP for their purchases, or should, at least, apply the quality/price parameters defined in the CONSIP agreements. At the beginning of 2004, CONSIP signed 56 framework agreements on more than 30 categories of products from over 130 suppliers, and the number is constantly growing. CONSIP has already become the purchasing centre for the ministries and other government bodies.

In addition to its work on coordination and rationalisation of public expenditure, CONSIP has already started to introduce procedures for “green” purchasing. Likewise, at a regional level, purchasing centres similar to CONSIP are being created.

4. PROMOTERS AND PROJECTS

The IMELS and ISPRA are the main actors in the promotion of SCP in Italy. These institutions carry out coordinated work regarding the IPPC Directive, the EMAS registry, the ecological certificate, recycling and the minimisation of waste, water quality and the water cycle, industrial risks, air quality and atmospheric emissions.

Recent partnerships signed by the IMELS with relevant stakeholders include:

- Agreement with COOP ITALIA (customer cooperative - department store) for the promotion of new sustainable consumption and production patterns.
- Agreement with Friuli Venezia Giulia Regional Administration, Pordenone Province, CCIAA, ASDI, Unione degli industriali di Pordenone, Consorzio tra imprese COMAD, CGIL, CISL, UIL (Trade Unions) and Furniture Consortium of Livenza for the adoption of an environmental label in the furniture sector of Pordenone.
- Agreement with Matera Province for promoting the application of environmental certification tools in the tourism sector.
- Agreement with the Italian section of ISES (International Solar Energy Society) to launch, in October 2008, the *Città Solari* (Solar Cities) awareness campaign, to promote solar energy use. The campaign has shown that renewable energies and energy saving methods can be applied in cities and in housing.

As far as the implementation of SCP projects is concerned, since 1999, Italy has received co-financing from the LIFE programme and has implemented several projects related to SCP. The specific fields covered by these projects are: waste management and recycling, clean technologies, environmental friendly production systems, eco-labelling and green public procurement.

Some of the most recent Life projects related to SCP are the following:

Clean technologies:

- Minimising the environmental impact of glass production and recycling. LIFE06 ENV/IT/000332
- New clean technology for the decoration of all kinds of ceramic surfaces, whether smooth or textured. LIFE04 ENV/IT/000589
- New Eco-Spray system. LIFE04 ENV/IT/000414
- New ESD (eco-sustainable drawing) environmentally friendly system to process steel wire rods/by-products. LIFE04 ENV/IT/000598
- Uninterruptible pneumatic machine system: an uninterruptible pneumatic power generator. LIFE04 ENV/IT/000595
- Eco-sustainable ultrasound micro-cut system. LIFE06 ENV/IT/000254
- Showing innovative technologies that significantly improve the environmental performance of bearings. LIFE06 ENV/NL/000176

Sustainable building:

- Sun and wind. LIFE04 ENV/IT/000594

Eco-labelling and GPP:

- European Flower Week campaign for the EU Ecolabel. LIFE03 ENV/DK/000052
- Promotion of the European Ecolabel for footwear. LIFE02 ENV/E/000241
- Sustainable management of hotels in Mediterranean islands - A demonstration project in Corsica and Sardinia. LIFE04 ENV/FR/000340

- Demonstration project for the Environmental Product Declaration: the flowers of Terlizzi and the local ecolabel. LIFE04 ENV/IT/000480
- GPPnet Network for Green Public Procurement. LIFE02 ENV/IT/000023

Among the above mentioned projects, the “GPPnet Network for Green Public Procurement” is of special interest. This project has been selected as one of the 21 best LIFE environment projects in 2005-2006. The GPPnet project, carried out from 2002 to 2004, involved the Province of Cremona and 13 municipalities in the Lombardy region and created a GPP network aimed at promoting GPP among Italian government agencies, encouraging them to integrate environmental considerations into their procurement decisions and processes. During the development of the project, a set of rules was introduced with regard to the purchasing of products with ecological labels, energy and water-saving electrical appliances in the home, recycled products, and business contracts with certified suppliers. The government agencies involved sought to improve their own environmental performance and to influence the behaviour of other organisations. After the end of this LIFE funding, the Province of Cremona continued its GPP activities (as explained below).

Last but not least, several awards are supported by both public and private institutions to promote sustainable patterns of production and consumption. In this sense, the Ecohitech Award, the *Premio Cinque Vele* (Five Sails Award) and the *Premio Nazionale Comune Riutilizzatore* (National Recycling Municipality Award) were already referred to in the previous edition of this report¹³. In addition to those initiatives, the following are also worth mentioning:

- *Premio all'innovazione Amica Dell'ambiente* (Environmentally Friendly Innovation Award)

Since 2001, this award has been granted annually to businesses using technologies, processes, products, services and innovative management systems which produce significant environmental improvements. This award aims at creating a favourable environment for research and innovation exchange. The three areas on which the last edition (2008) focused were: climate-friendly innovation, low carbon homes (towards a zero emissions building) and efficient products for green purchasing. This award is organised under the auspices of the European Commission and the IMELS and it is promoted by Legambiente, the Region of Lombardy, and the Milan Polytechnic University in collaboration with the Regional Environmental Protection Agency (ARPA) of Lombardy, CONAI, the Eni Enrico Mattei Foundation, the Green Management Institute and the Kyoto Club.

- *Premio Comuni Ricicloni* (Award for Recycling Municipalities)

Since 1994, this award has been promoted by Legambiente and sponsored by IMELS. It is given to municipalities which have the best results in the field of municipal waste recycling, in particular those with the best integrated waste management systems, and for the purchase of goods and services which increase the value of materials recovered from separate waste collection.

- *Premio Oscar dell'imballaggio* (“Oscar” for Packaging)

This award belongs to the “Thinking about the Future” project, carried out by CONAI (the National Packaging Consortium) and promoted by the Milan Polytechnic University, with the patronage of CONAI and the Italian Packaging Institute. Every year, it recognises the best environmentally friendly packaging products of Italian industry. It is aimed at disseminating the sustainable development concept among Italian businesses and improving their involvement in waste prevention.

- *Premio Consumo Sostenibile* (Sustainable Consumption Award)

Since 2004, the Fondazione ICU (Consumers and Users Foundation) has promoted this award for graduation theses dealing with sustainable consumption issues such as: material saving and measures to prevent waste, the benefits of renewable energies, and economic tools for more sustainable consumption.

¹³ “State of the art of sustainable production in the Mediterranean”. *MAP Technical Reports Series* No. 165, UNEP/MAP/CP/RAC, Athens, 2006.

- Premio "Compraverde" per la Pubblica Amministrazione Sostenibile (Green Purchasing Award for Sustainable Public Administrations)

This new award was created in 2008 in the context of the International Buy Green Forum and it is an annual award giving recognition to public bodies which publish "green tenders" or which apply specific green procurement policies in the award of contracts. This award is promoted by the Cremona Department, the Italian Local Agenda 21 Association, the Region of Lombardy, and private groups such as Ecosistemi-SDI Group and Adescoop-Agenzia dell'Economia Sociale S.C., under the patronage of the Italian Office of the European Parliament, the IMELS and the Italian Ministry of Education, University and Research.

- Premio ENI – PROTEZIONE PREMIO DELL'AMBIENTE (Environment Protection Award)

This award replaces the Italgas Award, which in 2006 reached its 19th edition. Since 2007, ENI (the Italian multinational oil and gas company and currently Italy's largest industrial company) has presented this award annually to encourage better use of energy sources, to promote environmental research and to add value to the new generation of Italian and foreign researchers. This award, under the patronage of the President of the Republic, underlines the priority given by ENI to scientific research and to sustainability-related themes, with particular emphasis on sustainable energy.

At international level, Italy is strongly supporting the UNEP's Marrakech Process to promote SCP. During the 14th Session of the UN Commission on Sustainable Development (May 2006), the IMELS launched a thematic Task Force on Education for Sustainable Consumption (ESC). The objective of the task force is to achieve progress in introducing sustainable consumption and production issues into formal education and a definition of clear links to this question in non-formal education. In this way, it is hoped that the Marrakech process can be supported through initiatives, activities and pilot projects in this sector at both regional and national level. During its First International Meeting held in Genoa in April 2007, the Task Force drew up a two-year working plan defining activities and objectives for the period 2007-2009.

The Italian ESC Task Force, jointly with the UNEP, UNESCO and the Consumers Citizenship Network, has drafted a document *Here and Now! Education for Sustainable Consumption*, defining guidelines and recommendations on the integration of ESC into formal learning processes. The document is aimed at involving policy makers, teacher trainers and teachers in integrating ESC into formal learning processes and has been shared with relevant stakeholders and national policy makers. The guidelines have also been presented in international and regional fora, and will be submitted for approval to the fourth meeting of the UNECE Steering Committee on ESD Strategy.

As far as bilateral cooperation is concerned, it is worth mentioning the Egyptian-Italian Bilateral Cooperation Programme on the Environment, signed by the Ministry of Environmental Affairs of the Republic of Egypt and the IMELS. Within the framework of that programme, ISPRA has carried out the project, "Capacity Building & Environmental Data Yearbook", for strengthening the capacity of the Egyptian Environmental Affairs Agency (EEAA) in environmental education and training.

Among the workshops on environmental topics held within the project, ISPRA organised a workshop on best available techniques (BAT) in March 2007, regarding the application of Council Directive 96/61/EC of 24 September 1996 concerning integrated pollution prevention and control (IPPC) and the best available techniques (BAT), and reference documents on BAT (BREFs) in the following sectors: cement industry, smelting and metal industries, fertilisers, paint and plastics and recycling.

5. CORPORATE SOCIAL RESPONSIBILITY (CSR)

In Italy, contrary to what has happened in neighbouring countries, the first steps in the development of social responsibility, in its modern sense, have been characterised by the extensive participation, in the first initiatives, of associations of companies and cooperatives, rather than large-scale industry.

A distinctive feature of Italian companies with regard to the rest of the EU is their size. In Italy, the average is 3.9 workers per company (both industrial and service companies), while in the EU-15 the

average is 6 workers per company. In the industrial sector, businesses with more than 250 workers represent only 19.7% of the total number of companies in Italy, as against 34% in the EU-15. This huge number of SMEs gives rise to, and forms part of, numerous local networks based on informal relationships, the results of which are very difficult to measure, as is pointed out in modern approaches to CSR (for example, the Global Reporting Initiative).

In short, the Italian business structure is dominated by SMEs and, historically, the cooperative movement has been very important. If we also add to this the importance of local government bodies, it becomes clear that the present development of CSR in Italy has developed, to a large extent, in the direction of supporting the legalisation of business activities in a local geographical environment, with social matters being of prime importance.

The importance of the cooperative movement and the influence of religious congregations have greatly contributed to the definition of CSR in Italy, mainly on the demand side, represented by a segment of the financial market, through socially responsible investment (SRI). The influence of these two groups has stimulated greater and faster development of SRI in Italy than in other EU countries.

5.1. Promoters and Projects

Below is a general overview of CSR in Italy, as seen in initiatives by the business sector, government bodies, academic institutions, and civil society:

- **Impronta Etica:**

Founded in 2001, Impronta Etica is a non-profit making association made up of companies, public services and organisations from the public sector, whose objective is to encourage companies to implement CSR policies, develop good practices, and introduce appropriate tools and procedures. Together with Sodalitas, the organisation is one of the two Italian members of the European network CSR Europe.

In 2003 the Association published its *CSR Manifesto*, in which the key aspects of CSR are found, according to the criteria of Impronta Etica. One of these aspects is the emphasis given to the participation of interest groups, since without dialogue and confidence between companies and their interest groups we cannot even speak of CSR. Impronta Etica also upholds the model role that government bodies can play in promoting CSR policies among the private sector. Impronta Etica confers a special importance to local government bodies, in particular to those “that have implemented the Agenda 21 programme for social and environmental accounting, as established by the Aalborg Charter”.

- **Sodalitas:**

Together with Impronta Etica, Sodalitas is one of the two Italian members of the CSR Europe network. Founded in 1995, Sodalitas is promoted by Assolombarda (part of Confindustria, the Italian Entrepreneurial Association) and aims at acting as a bridge between the business sector and civil society, promoting the culture of sustainable development and social cohesion, enhancing the creation of associations between companies and NGOs in order to solve problems in society. Within this area, it offers consultancy services to organisations in civil society to help them to improve the efficiency and quality of their assistance programmes. It also offers assistance programmes to companies for the configuration of CSR and their initiatives in community investment. Sodalitas provides its members with the following key services:

- Monitoring of and research into the development of CSR in Italy and in Europe, the publishing of a monthly journal, and the updating of its database of best practices.
- A forum for the exchange of ideas and experiences through the Centro per lo Sviluppo della RSE (Centre for the Development of CSR).
- Comparative evaluation of management systems (benchmarking).

- Interactive workshops about the main practices and tools of CSR.
- Sodalitas Social Awards.

Since 2002, the Sodalitas Social Award has been presented to companies that are actively involved in social issues in seven categories: the best programme of social responsibility in the field of human resources, the best sustainable initiative, the best community partnership programme, the best social marketing campaign, the best social responsibility initiative implemented by SMEs, the award for the innovative product or socially, environmentally or financially responsible service, the award for the best social responsibility initiative by a local body, public or educational institution.

United Nations Global Compact in Italy. In 2002, starting with the coordination activities of the organisation Cittadinanzattiva, with the support of the Global Compact in New York and the International Work Organisation (IWO), it became possible to establish the first Global Compact network in Italy. This initiative attracted a number of universities, companies and institutions: the Chamber of Commerce of Milan, the CISL, Fondaco, the Foundation for Active Citizenship, the Fondazione Eni Enrico Mattei, the Frascati Group for Corporate Social Responsibility and its company members, the IEFE-University Bocconi and the Region of Tuscany.

In 2006, the Italian network wanted to revitalise its role, and play a more important part in the promotion and dissemination of CSR among Italian companies. On 14 September 2006, the Executive Committee, at a meeting held in the headquarters of the IWO in Rome, approved the appointment of Fondaco, the Foundation for Active Citizenship, as Technical Secretary of the Italian Network.

The World Pact Italian Network now has some two hundred members, 70% of which are companies. Its activities are directed mainly at education and organising events for spreading best practices.

Unioncamere. Unioncamere is actively involved in the dissemination of the CSR culture in Italy, according to an Agreement signed in 2003 with the Ministry of Labour. Unioncamere has opened 44 corporate social responsibility offices, which aim at providing information and assistance to companies (in particular SMEs) interested in implementing CSR principles. Unioncamere also reports studies on CSR and it provides companies with a database of CSR best practices.

Corporate Social Responsibility and Social Commitment Project. This project was launched by the Italian Ministry of Labour and Welfare in 2002. Its main objectives are to:

- Disseminate approaches to CSR, sustainable development and best practices.
- Support SMEs in the development of CSR policies and strategies.
- Establish a set of easy and flexible standard social indicators.
- Spread the use of indicators.
- Promote the exchange of experiences among countries to identify the best practices at international level.
- Promote the active involvement of private companies in social initiatives according to a modern concept of public-private integration.

The national stakeholders involved in the project are companies, the Italian Ministry of Labour and the CSR Forum. The elements of the system are: the Social Statement and the set of indicators; the Social Statement audit procedure; the facilitation of systems (e.g. taxes); mechanisms for moral persuasion. Some of the indicators identified in the CSR Programme are strictly related to the environment: energy consumption, materials and emissions (energy, water, raw materials, emissions, wastewater, solid waste) and the relationship between environmental strategy and the (local) community.

- **SA 8000 Standard:**

The SA 8000 Standard is an international standard for the improvement of working conditions, available only through independent organisations authorised by the Social Accountability Accreditation Services (SAAS). According to SAAS Italy currently has 795 facilities certified under the SA 8000 Standard.

In 2001 the Region of Tuscany's government took a pioneering step on a world scale in the promotion of CSR by government bodies, launching its *Fabrica Ethica* project for ethical manufacturing. The region decided to initiate a process of cooperation with local companies aimed at the promotion of the SA 8000 certification for the region. Thanks to this initiative, *Fabrica Ethica* was selected among 300 European projects and it was awarded the European Enterprise Award in the "Responsible Entrepreneurship" category for its involvement in the promotion of CSR at regional level, with grants of €3.5 million leading to investments of nearly €7 million, a specific regional law, and a national award for socially certified enterprises. In Tuscany there are currently 219 SA 8000-certified companies, which is the highest concentration in the world.

- **EconomEtica:**

EconomEtica is an inter-university centre for economic ethics and corporate social responsibility, located at the Milano Bicocca University and associated with its Department of Economics. It is a stable and organised form of cooperation among over 20 Italian universities. It engages in academic training, basic and applied research, and the dissemination of ideas for the development and implementation of operational models and tools which are useful for the ethical improvement of companies, organisations and economic institutions. EconomEtica is neither a virtual network nor simply an agreement between universities. It is a research centre endowed with an operative structure to which prominent scholars and young researchers belong. Its board, the scientific committee and working teams comprise professors and researchers from numerous Italian universities who have been involved for many years in research into subjects related to economic ethics and CSR. EconomEtica's activities range across the following areas:

- Inclusion in the academic curricula of courses in Economic Ethics and CSR.
- Promoting and conducting basic and applied research projects at a national and an international level.
- Disseminating knowledge and promoting the implementation of CSR management systems and tools among companies, public and private organisations, and institutions.
- *Premio Anima per la Crescita di una Coscienza Etica* (Anima Award for Increasing Ethic Awareness):

- ***Premio Anima per la Crescita di una Coscienza Etica* (Anima Award for Increasing Ethic Awareness):**

Anima is a non-profit association created in 2001 and promoted by the Industrialists and Enterprise Union of Rome. Since 2002 it has awarded this prize to reward contributions to the world of arts and culture within the categories of cinematography, journalism, literature, music and theatre. The prize is awarded to professionals who have worked to spread the culture of CSR and sustainable development among the general public. This prize enjoys the patronage of the President of the Italian Republic and the Mayor of Rome.

Finally, we list below some of the national companies and institutions applying a programme of corporate social responsibility in Italy:

- ATC (Bologna municipality public transport company)
- CAMST (one of the most important Italian enterprises in the catering sector)
- CONAD (distribution firm)

- COOP Adriatica (distribution firm)
- COOPFOND (COOP's mutual fund)
- GRANAROLO (food & beverage company)
- SCS AZIONINNOVA (professional advisory services on CSR)
- ABB Italy (power and automation technologies with low environmental impact)
- Accor Services
- ALCOA Italia (primary aluminium producer)
- Several Italian banks (Banca Popolare di Milano, BNL Group, Intesa Sanpaolo, UBI Banca, Unicredit Group)
- TNT
- Telecom Italia
- Ferrovie dello Stato
- Pirelli
- Nestlé Italia
- SMEG
- L'Oréal
- Kraft
- Indesit
- ItalCementi
- Ideal-Standard
- Mondadori
- ENEL
- Coca Cola Italia
- DHL
- GAS Natural Italia

5.2. Socially Responsible Investment

The criteria for socially responsible investment incorporate, in the analysis of investment decision-making, the impact of environmental, social and corporate governance factors, as well as the usual financial criteria (profitability, cash-flow, etc.).

An Italian agency, Avanzi SRI Research (merged with the French VIGEO), has been the European pioneer in making this type of analysis. Avanzi offers assessment and information about socially responsible investment, contributing to the spread of the CSR culture. The organisation also provides research and consultancy services to a wide audience composed of banks and financial institutions in general, pension funds, foundations, and non-governmental organisations. From 2001 to 2006, Avanzi gathered data on the total assets handled by all the socially responsible investment funds in Europe. These comparative studies showed a considerable difference in this kind of investment between the United Kingdom and continental Europe year after year. However, these investment products, even if not reaching the British level, are quite well-rooted in Italy.

Another promoter of ISR in Italy is the *Forum per la Finanza Sostenibile* (Forum for Sustainable Finance) which is the Italian partner of the European Network of Social Investment Forums, Eurosif.

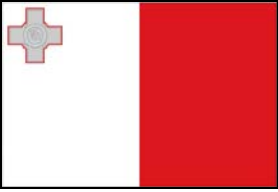
The forum is a non-profit organisation whose mission is “to promote the culture of social responsibility in financial investment practices in Italy”.

It pursues, through the dissemination of information and knowledge, the development of innovative proposals directed at fund managers and users of financial services, the formulation of policies and an increase in the competitiveness of business professionals, as well as the promotion of dialogue between different stakeholders.

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 <p>MALTA</p>	POPULATION: 403,532
	AREA: 315,6 km ²

1. INTRODUCTION

Since the mid-1980s, Malta has become a transshipment point for goods, a financial centre and a tourist destination. Malta became a EU member in May 2004 and started to use the euro in 2008.

Malta produces only about 20% of its food needs, it has limited freshwater supplies and few sources of energy. Malta's geographical position between Europe and Africa makes it a magnet for illegal immigration. The financial services industry has grown in recent years, but it is not totally modernised. The economy depends on foreign trade, manufacturing (especially electronic and pharmaceutical products) and tourism, sectors which have been negatively influenced by the global economic recession. In 2009 the Government of Malta has to face the challenge of cutting public expenditure, which increased to approximately 4.1% of GDP in 2008, thus exceeding the 3% limit for the euro area.

Economic data			
GDP	\$9.801 billion (2008 est.)	GDP growth rate	3% (2008)
GDP per capita	\$24,200 (2008 est.)	GDP by sector	Agriculture: 1.4% Industry: 18% Services:80.6% (2008 est.)
Labour force by sector	Agriculture: 2.3% Industry: 29.6% Services: 68% (2005 est.)	Unemployment rate	6.4% (2007)
National debt	N/A	Inflation rate	4.4% (2008 est.)
Exports	\$3.491 billion (2008 est.)	Trading partners - exports	Singapore 14.4%, Germany 13.7%, France 12.6%, US 11.3%, UK 10%, Hong Kong 6.1%, Japan 4.9%, Italy 4% (2007)
Imports	\$4.963 billion (2008 est.)	Trading partners - imports	Italy 26%, UK 15%, France 9.5%, Germany 8.8%, Singapore 5.2% (2007)
Main industries	Tourism, electronics, naval construction and repair, construction, food and drinks, pharmaceuticals, footwear, clothes, tobacco	Electricity production	2.14 billion kWh (2007 est.)

Electricity consumption	1.85 billion kWh (2007 est.)	Electricity exports	0 kWh
Electricity imports	0 kWh	Oil production	0 bbl/day (2007 est.)
Oil imports	18,910 bbl/day (2005)	Oil consumption	18,600 bbl/day (2006 est.)
Natural gas production	0 m ³ (2007 est.)	Natural gas consumption	0 m ³ (2007 est.)

Source: www.cia.gov, *The World Factbook*.

2. CLEANER PRODUCTION

Sustainable consumption and production are dealt with in a subsection of the draft for the Maltese National Strategy for Sustainable Development. However, unlike other chapters of the strategy, there is no mention of achievements, activities and innovations and only future measures and lines of action are mentioned. They may be summarised as follows:

- Promoting patterns of consumption and production that economise in the use of non-renewable resources, minimise both waste and pollution, and allow sufficient time for the regeneration of renewable resources.
- Promoting eco-efficiency and trying to increase productivity in the use of resources.
- Maintaining the level of imports within the limits of the economy and the country's export capacity.
- Encouraging saving and economic investments to maintain the social capital of future generations.
- Taking measures to deal with polluting products that can be replaced by others that are environmentally friendly.
- Reviewing the public procurement system in order to emphasise the issue of sustainability in the products and services acquired by the Government.



2.1. Industry and the Environment

One of the main environmental concerns is the construction and exploitation of quarries, activities that are often associated with environmental damage and unsustainable practices on the island. These

operations tend to produce a large amount of inert waste and to create noise pollution. They also generate a large amount of dust and suspended particles, with negative impacts on health, environment and landscape. The majority of contractors in the construction sector are SMEs, and so far it has been difficult for them to implement good practices. Since 1999 the exploitation of quarries has decreased by 1.2% and in 2007 they occupied 2.3 km² (0.76% of the area of Malta). The European Commission warned the local authorities in 2008 about emissions of suspended particles in the atmosphere, which are very high in certain locations, such as Lija.

Another important point is the management of hazardous waste, which has largely been exported to countries licensed to treat it. During recent years, however, new treatment plants have begun to operate or are being built on the island. A new facility for the management of certain hazardous waste substances has been brought into service in Marsa.

ATMOSPHERIC EMISSIONS

The main source of atmospheric pollution, in addition to the abovementioned problem, is the generation of electricity and transport. In recent years, emissions of greenhouse gases have increased due to the rising demand for electricity and the growth of private car ownership. This situation is leading to atmospheric pollution by lead, sulphur, nitrogen oxide and volatile organic compounds, including benzene. Pollution by ozone has been detected at times, originating from industrial areas in neighbouring countries

Landfills have also been a source of atmospheric pollution for many years. The ongoing rehabilitation of old landfills is expected to resolve some of the negative impacts associated with older practices.

CLIMATE CHANGE

Malta has no specific targets for compliance with the Kyoto Protocol. Even though it is a Member State of the EU, it is not included in Annex I of the United Nations Framework Convention on Climate Change (UNFCCC) and, therefore, it is not affected by the limitations or the reductions of emissions established by virtue of the Kyoto Protocol. Malta is a country that could potentially benefit from Clean Development Mechanism (CDM) projects. Companies in Malta, therefore, cannot use certificates of emission reduction and emission reduction units. However, the level of emissions in Malta was 49% lower in 2007 than in the reference year, 2005.

Aviation has been included in the European Emission Trading System (EU ETS).

WASTE MANAGEMENT

Waste produced by construction and demolition, i.e. the reuse and recycling of rubble, can be a resource, but so far it has not been appreciated as a sub-product. This rubble is contributing substantially to the problem of waste management. The National Strategy for Sustainable Development refers to the need to create incentives for recycling stone and discouraging the use of new building materials.

The management of hazardous waste is still an environmental problem. The country lacks special facilities for the treatment or disposal of the most hazardous waste substances. During recent years, considerable efforts have been made to export such waste to appropriate facilities abroad, incurring very high costs.

As noted in the previous edition of the report¹⁴, a reorganisation of waste management has taken place with the creation of a new semi-state company, WasteServ Malta Ltd. This company is responsible for organizing, managing and operating integrated systems of waste management,

¹⁴ "State of the art of sustainable production in the Mediterranean". *MAP Technical Reports Series No. 165*, UNEP/MAP/CP/RAC, Athens, 2006.

including minimisation, collection, transport, sorting, reuse, recycling, treatment and disposal of urban, industrial and hazardous waste.

Among the various facilities being planned and developed are:

- A structure for the elimination of non-hazardous waste generated in the Maltese islands.
- A landfill for the disposal of hazardous waste and a treatment facility for hazardous waste storage that will undertake the following activities:
 - Receiving hazardous waste.
 - Classification of hazardous waste.
 - Separation and storage of waste.
 - Treatment of specific types of waste.
 - Elimination of waste in landfills.
 - Transfer of hazardous waste to other European countries for treatment.
- Civic amenity sites.
- Bring-in sites. By the year 2008 there were already 300 sites designed for the collection of municipal waste.

2.2. Promotion of Cleaner Production

By way of introduction, it should be noted that the difficulties detected in the development of cleaner production in Malta have to do with the short time that the country has had to assimilate the EC's environmental heritage in the country's governmental structures, to which we can add the small size of industrial enterprises, which makes adapting to the new legislative requirements a difficult process.

INTEGRATED CONTROL OF POLLUTION

The Directorate for Environment Protection of the Malta Environment and Planning Authority (MEPA) is the agency within the Ministry of Resources and Rural Affairs (MRRA) responsible for the development and implementation of environmental regulations. Within the MEPA, the Pollution Prevention and Monitoring Unit carries out regulation and inspection as required to comply with the community environmental heritage. As noted in the previous edition of the report, much of the work of this unit has to do with the development of the structures and administrative systems needed to comply with EU legislation.

The IPPC model has been implemented through the basic rules for the integration of permits. "Integrated" means that the permits should take into account all the environmental performance of an industrial plant: air, water and soil emissions, generation of waste, the use of raw materials, energy efficiency, noise, accident prevention, risk management, etc. This helps to identify ways of reducing the pollution generated by industrial plants.

All installations covered by Annex I of the IPPC regulations must obtain a license or permit from the MEPA to operate. In 2007, the process of issuing industrial licences (and those for intensive agricultural activities) took place. This process included a wide-ranging training programme for MEPA, supported with funds from the EU, consisting of various activities:

- Training seminars in Malta.
- *In situ* inspections of a representative range of the facilities expected to be given permits in Malta.
- Field visits by the MEPA team to a number of facilities with IPPC permits in Ireland.

- MEPA team meetings with their counterparts dealing with the implementation of legislation in Ireland.
- Support in the compilation of conditions for IPPC permits.

This training programme was complemented by the preparation and the provision of guidance notes, step by step, for the inspection of Maltese power plants, industrial facilities and Intensive livestock installations. Initially, priority was given to the energy sector and the chemical industry.

There are barely a dozen facilities in Malta that require authorisation. On its website MEPA provides an interactive map with direct access to all these facilities, as part of its duty to provide access to information.

However, Malta is among the nine EU Member States against which the European Commission took action at the beginning of 2009 because they failed either to issue new permits for industrial facilities or to update the old ones. The permits were due to be issued before October 30, 2007 under the IPPC guidelines. The local media reported that at least one of the main sources of industrial pollution in Malta, the power generation plant in Marsa, still had no permit. The MEPA has indicated that this authorisation is at the public consultation stage.

VOLUNTARY INSTRUMENTS

No new elements have been detected since the previous edition of the report¹⁵ with regard to the adoption of voluntary instruments, such as EMAS or ISO 14001 management systems by the industrial sector, despite the efforts of the Malta Standards Authority (MSA).

At the end of 2008, only one industrial plant in Malta had been certified according to the EMAS regulation. Regarding eco-auditing and the implementation of environmental management systems other than EMAS, some companies have started to implement them since specialised consultants, such as Moody International, UKAS, etc., opened offices on the island. 5 companies have also been certified according to ISO 14001.

Competitions that reward cleaner production in industry include the biennial Environment Award for Industry presented by the Cleaner Technology Centre in the categories of management, conservation and environmental initiatives in SMEs. Prizes have been awarded since 2001, and over the decade this competition has become a prestigious event.

3. SUSTAINABLE CONSUMPTION

Beyond issues directly related to marketing, such as eco-labelling and green purchasing, other issues related to sustainable consumption should be noted in Malta, such as energy efficiency and the use of resources, as well as the management of urban waste. It is significant that these matters occupy an important place in the National Strategy for Sustainable Development.

ENERGY EFFICIENCY

Renewable energies are not widespread in Malta, although their practical local implementation could be achieved immediately. The generation of electricity from photovoltaic panels is currently limited to a small number of specialised applications. In practice the use of photovoltaic energy is determined by economic factors (the cost of panels and associated equipment).

Since 2005, the government has established a series of measures to support electricity production from renewable energy. These include financial incentives in the form of subsidies for the investment

¹⁵ "State of the art of sustainable production in the Mediterranean". *MAP Technical Reports Series No. 165*, UNEP/MAP/CP/RAC, Athens, 2006.

costs of photovoltaic installations and micro-systems of wind power generation for domestic use. The purchase of surplus power from small-scale photovoltaic systems at set rates by the energy company Enemalta has been established. Moreover, there are subsidies for the purchase of domestic solar thermal water heaters.

The use of alternative fuels is also being supported. The government has introduced financial incentives to promote biofuels, exempting the biomass content in bio diesel from special taxes. The fuel produced in Malta comes from waste cooking oil, for which collection programmes have been established.

WATER MANAGEMENT

Water is a basic resource in Malta and is scarce, being subject to intense pressures of use. Lack of availability has been addressed primarily with a significant investment in desalination plants, with high energy costs.

The quality and the integrity of groundwater are currently at risk due to excessive exploitation (including uncontrolled extraction), leading to increased salinity and to contamination by nitrates and other pollutants. On the positive side, the Water Services Corporation has stepped up its efforts to conserve water and reduce losses in the distribution network (between 2004 and 2007 they were cut by 42%).

New facilities for the treatment of wastewater are being built, and two out of every three planned plants have been commissioned.

WASTE MANAGEMENT

There have also been advances in the incineration of waste, including hazardous waste. Obsolete incinerators have been closed, and a new facility has been built, compatible with European legislation on incineration, in the main slaughterhouse.

As previously mentioned, there are other recent initiatives related to the semi-state agency for waste management WasteServ Malta Ltd., dealing with the management of urban and inert waste. Firstly, a temporary transfer station has been built for waste generated on the island of Gozo.

Secondly, improvements are being made to the Sant Antnin waste treatment plant in Marsascala. It is hoped that it will treat part of the urban waste produced in Malta and Gozo, with a view to recycling and recovering the maximum amount of waste and thus reducing the amount of waste managed in landfills. This project includes the following elements:

- A materials recycling facility with a maximum capacity of 36,000 tonnes per year, capable of dealing with glass, paper, metals and plastics from selective household collection.
- A mechanical treatment plant for unclassified household waste, where it will be delivered and classified.
- A processing plant to treat separately collected biodegradable waste with a biomethanization process, able to treat 35,000 tonnes annually.

ECOLABEL

The Malta Standards Authority (MSA) has had greater success in promoting the eco-certification of services and products than in environmental management systems and the European Ecolabel has gained widespread acceptance in one of the country's main industries: tourism.

It is important to note that in May 2006 an international conference on sustainable tourism was held in Malta, paying special attention to islands and small states, organised by the Institute of Islands and Small States, whose headquarters are in Malta. The conference dealt not only with the environmental

impacts of tourism but also with the competitive advantage of small countries in attracting demand for sustainable tourism.

Nowadays, with the support of the European Commission, there is a network of tourist resorts that have the ecological label and that are promoted together in Cyprus, Greece and Malta. Some of these labels for tourist services were obtained after the development of the programme "Malta and Environmental Management Systems", co-funded by the EU and managed by the MSA. A homegrown voluntary tool (Eco-Certifications Scheme) is also in operation: 13 hotels have already been certified. One of the most popular beaches has also been awarded the blue-flag label.

ENVIRONMENTAL EDUCATION

During the last decade, the incidence of environmental topics and issues related to the environment has increased considerably in various study programmes. Environmental education is included in primary studies. A scheme involving 76 schools with a total of 30,000 students, called Eko-Skola, is in progress. At secondary level, issues related to sustainable development are also included in subjects such as domestic economy. Transversal issues such as education for democratic citizenship and human rights education also expose students to the different dimensions of sustainable development.

The University of Malta also offers various courses related to the environment in various faculties and a diploma course in Environmental Sciences. The next step in the development of this field will be the offer of a bachelor's degree in Environmental Sciences. At master's-degree level, the University of Malta offers a course in Sustainable Environmental Resources Management in conjunction with the James Madison University in America. In 2004, the Centre for Environmental Education and Research (CEER) was set up as a result of a joint agreement between the university and the government.

3.1. Sustainable Public Procurement

Malta has prepared a draft of the National Action Plan on Green Public Procurement (GPPAP). This plan was drawn up during 2006 and is currently under review. The GPPAP is a renewable three-year plan that establishes the first steps that need to be taken in Malta, based on an understanding of the current situation and an analysis of the best practices in national action programmes in other EU Member States. A revised version is expected to be implemented as of January 2010.

The Contracts Department is the body responsible for centralised public contracting, as defined in the terms of the 2005 regulations on public contracts and the regulations to ensure compliance with EC regulations by entities for which it is responsible. Its role in sustainable public procurement is essential to ensure that the principles and measures are practical and workable within the legal framework. The Contracts Department reports to the Ministry of Finance, Economy and Investment, the responsibility for implementing the plan thus falling primarily upon the MEPA and the DOC.

4. CORPORATE SOCIAL RESPONSIBILITY (CSR)

On 19 March Malta celebrates CSR day. This could lead one to think that modern standards of social responsibility are fully implemented in the island's businesses and institutions. However, there is no Maltese company among the thousands around the world that follow the model of the Global Reporting Initiative, nor has any company on the island signed the principles of the UN Global Compact. Only the Entrepreneurs Association has links on its website to the ten principles, by way of advice for its members.

For some years the Chamber of Commerce and Enterprise of Malta has also contributed to the spread of the modern approach to CSR, by publicising best practices and initiatives through seminars.

However, the situation is not altogether surprising, as the vast majority of companies in the island are small, and there are still difficulties in the effective implementation of environmental management standards and systems, which have usually been a step preceding the adoption of CSR policies. The

fact that there are hardly any big companies listed on the stock exchange which are sensitive to sustainability demands from a growing segment of the financial markets, and that the country had not yet joined the EU when the European Commission published its *Green Paper on CSR* in 2001, also helps to explain the current situation.


However, the interest shown by hotels and the tourism industry in general in the European Ecolabel, mainly to satisfy the tourist demand from the north of Europe, may imply a gateway for more sophisticated approaches to CSR, as the instruments that have been implemented require not only internal management measures but also respect for the entire value chain of the establishments. In 2007, the Malta Tourism Authority held a conference in its office in London to study the implications of CSR in the islands tourism industry, especially concerning the requirements of non-seasonal tourism and the increased social and environmental demands of organisers of incentive travel and conferences.

The leading participants in CSR Day 2009 were mostly Maltese subsidiaries of big multinational companies, such as Deloitte and HSBC Bank, who devoted the working day to publicising their sponsorship and social action activities, placing a very limited value on corporate social responsibility.

Finally, it should be noted that the draft of the National Strategy for Sustainable Development includes a subchapter about social responsibility, although it refers to the ethical component of sustainable development more on an individual scale than on a corporate one.

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 SLOVENIA	POPULATION: 2,007,711
	AREA: 20,253 km ²

1. INTRODUCTION

On 1 January 2007, Slovenia became the first country to adopt the euro since the extension of the European Union in 2004. The country is a model of stability and economic success for the region. With the highest GDP per capita in central Europe, Slovenia has excellent infrastructures, a qualified labour force and a strategic location between the Balkans and Western Europe. Privatisations have been delayed since 2002, and the economy has one of the highest levels of state control in the EU. Structural reforms designed to improve the business environment have allowed greater foreign participation in the economy of Slovenia and have helped reduce unemployment. In March 2004 Slovenia became the first country to change its status from World Bank borrower to donor partner. In December 2007, Slovenia was invited to initiate discussions for its accession to the OECD. Despite its economic success, foreign direct investment in Slovenia is lower than the average for the region and taxes remain relatively high. In addition, the labour market is often seen as inflexible and the legacy firms are losing sales to China, India and other countries.

Economic data			
GDP	\$51.78 billion	GDP growth rate	4.5% (2008 est.)
GDP per capita	\$30,800 (2008 est.)	GDP by sector	Agriculture: 2.2% Industry: 34.2% Services: 63.6%
Labour force	920,000 (2008 est.)	Unemployment rate	6.7% (2008 est.)
National debt	22% of GDP (2008 est.)	Inflation rate	6% (2008 est.)
Exports	\$34.27 billion (2008 est.)	Trading partners - exports	Germany 18.7%, Italy 17.1%, Austria 11.7%, France 5%, Croatia 4.6% (2007)
Imports	\$38.12 billion (2008 est.)	Trading partners - imports	Germany 18.1%, Italy 17.1%, 11.7%, Austria, France 5%, Croatia 4.6% (2007)
Main industries	Lead and zinc smelting, electronics (including military electronics), trucks, automobiles, electrical equipment, wood products, textiles, chemicals, machinery.	Electricity production	14.13 billion kWh (2007 est.)
Electricity consumption	13.4 billion kWh (2006 est.)	Electricity exports	5.89 billion kWh (2007 est.)
Electricity imports	6.14 billion kWh (2007 est.)	Oil production	5 bbl/day (2007 est.)

Oil imports	59,110 bbl/day (2005)	Oil consumption	54,310 bbl/day (2006 est.)
Natural gas production	4 million m ³ (2006 est.)	Natural gas consumption	1.105 billion m ³ (2006 est.)

Source: www.cia.gov, *The World Factbook*.

2. CLEANER PRODUCTION

2.1. Industry and the Environment

Concerning previous editions of the reports on cleaner production in the Mediterranean, and according to the information provided by the CP/RAC National Focal Point in the country, neither important organisational changes nor the launching of new initiatives relevant in the private sector by new agents have been detected in Slovenia.

Industrial activity in certain parts of the country is generating a series of environmental problems. Specifically, it is worth mentioning the pollution of the Sava River due to industrial waste, the contamination of waters along the small Slovenian coast due to heavy metals and toxic chemicals, and forest damage near Koper, due to air pollution and acid rain originating in the port and industrial areas of the city.



As noted in the previous edition of this report¹⁶, hazardous waste treatment still represents a problem in Slovenia.

In 2007 there were 97,680 tonnes of hazardous waste, 0.4% more than in 2006. Of the total amount of hazardous waste, along with that generated in 2007, 72,373 tonnes (70%) have been delivered to others for recycling or disposal (8% more than in 2006) and 9,782 tonnes (10%) were exported abroad (57% more than in 2006). The remaining hazardous waste, 21,082 tonnes (20%) will be recycled or will be temporarily stored internally by the industries in customised facilities (26% less than in 2006) for subsequent removal.

¹⁶ "State of the Art of Sustainable Production in the Mediterranean". *MAP Technical Reports Series No. 165*, UNEP/MAP/CP/RAC, Athens, 2006.

The levels of the main air pollutants in Slovenia are higher than the national limits. The main emission sources are energy production and energy consumption in different sectors of the economy. The industrial contribution is relatively small, the largest proportion being represented by the emission of heavy metals.

In recent years, there has been a decline in industrial consumption of natural resources. In 2007, Slovenian industry consumed 70 billion m³ of water, a decrease of 8.9% vs. 2006. With regard to waste discharges and pollution of water, the most critical points of water pollution, particularly those in the Danube basin, are related to agriculture or the treatment of municipal waste.

2.2. Promotion of Cleaner Production

The structure of the Environmental Protection Agency (EPA) of the Ministry of the Environment has not changed substantially with respect to previous editions of the report. There have been no significant organisational changes within the public institutions regarding activities related to mechanisms for cleaner production.

EPA coordinates the analysis of experts, regulations and administrative tasks related to the environment at national level. Among other actions, a wide variety of environmental authorisations are managed from the Ministry of the Environment, including IPPC permits.

At the moment there are 105 companies in the IPPC permit system, of a potential total of about 180. Cleaner production measures are necessary to obtain permits, companies being required to describe measures for cleaner production, waste minimisation, reduced use of materials, recycling and reuse.

Among civil society organisations that have contributed to the promotion of cleaner production in Slovenia, mention should be made of the Slovenian office of the Regional Environmental Centre for Central and Eastern Europe (REC). Established in the country in 1993, REC has oriented its activities and knowledge dissemination primarily to the industrial sector and to the establishment of public-private partnerships.

ATMOSPHERIC EMISSIONS

The following initiatives can be highlighted in relation to atmospheric emissions:

- **Operational programme for the reduction of atmospheric emissions from large combustion plants (Ministry of the Environment)**

This operational programme includes a new classification of major combustion plants in accordance with European Commission standards. There are nine major combustion plants in Slovenia. Seven of them will adjust to the new limits set by decree while the remaining two will continue to work for a limited period of time. The operational programme also includes measures to reach the targets set, carry out the monitoring of pollutant emissions and for accountability. The programme establishes the approved operational rules for reducing emissions from thermal power stations, a major objective in the prevention of pollution under this plan. The programme was approved by the government in February 2006. The Slovenian government is also considering the possibility of building a new coal-fired power plant.

- **Operational programme for the reduction of greenhouse gas emissions (Ministry of the Environment)**

The operational programme for the reduction of greenhouse gas emissions includes changes in the recording and updating of projections of emissions in different sectors. Existing measures were extended to incorporate other flexible mechanisms established by the Kyoto Protocol (joint implementation projects and clean development mechanisms). The programme was the subject of a public debate in 2006.

- **Emissions trading quotas**

The Environmental Protection Agency launched a register of emissions quotas on 28 November 2005. The system is valid for equipment operators as well as for private companies and other institutions. The register includes 98 records of equipment operators and 7 records of private companies and other institutions. During the first year of operation, more than 100 trade emissions operations were conducted.

ENERGY EFFICIENCY

Of particular interest in this area is the approval of the National Energy Programme of Slovenia in April 2004. In the field of energy efficiency, the plan formulates the following objectives for 2010:

- To increase the efficiency of the final use of energy in industry, services and transport by 10% in 2010 compared to 2004.
- To increase the efficiency of the final use of energy in buildings (except in industry) by 10% in 2010 compared to 2004.
- To increase the efficiency of the final use of energy in the public sector by 15% in 2010 compared to 2004.
- Double the amount of electricity coming from cogeneration: from 800 GWh in 2000 to 1,600 GWh in 2010.

The Agency for the Efficient Use of Energy (AURE)—specifically its Department for the Efficient Use of Energy and the Use of Renewable Energy Sources—of the Ministry of the Environment, is responsible for the execution of the national programmes of energy efficiency in different sectors, several of which are taking place at the present time. The development of these programmes has been supported by the European Union within the framework of the PHARE program.

In addition, several energy efficiency programs are supported by the Eco Fondo, the Ecological Fund of the Republic of Slovenia. It is a public fund, the successor to the Ecological Development Fund, and it is today the main institutional financier of investment in environmental projects in the country. Its main activity is to provide loans on advantageous terms for investments in energy efficiency measures and other environmental projects. The Ministry of the Environment is responsible for the running of the fund. The volume of loans for investments to corporate bodies increased by 3.2 compared to 2003, whereas those to the public have decreased by 84%. Hence, it can be clearly seen that the fund is gradually acquiring a clear industrial orientation.

To the multiple projects financed by the Eco Fondo, which were mentioned in previous editions of the report¹⁷, we should add the concession of a major loan from the European Investment Bank, since October 2007. Eco Fondo distributed 30 million euros of this loan among different projects for the reduction of atmospheric and water pollution. This framework loan is providing support for municipalities, public and private companies as well as individual homes, focusing on energy efficiency, renewable energies and water or wastewater.

WASTE MANAGEMENT

One of the major environment problems of the country is the lack of capacity to manage waste in disposal facilities. The government has not yet defined measures for domestic waste treatment. At the local level, the possibility of implementing various technologies such as waste incineration, plasma treatment, composting with energy recovery and the production of solid fuels, is being studied.

¹⁷ "State of the Art of Sustainable Production in the Mediterranean". *MAP Technical Reports Series No. 165*, UNEP/MAP/CP/RAC, Athens, 2006.

The industrial sector is obliged to register the production of hazardous waste and manage it. Other industrial waste is disposed of in landfills. Thus, much of the work on environmental restoration and installation of waste treatment plants has been carried out on a small scale, in most cases by local government authorities.

The following programme is of particular interest:

- **Operational programme for the management of electrical and electronic equipment for the period 2006-2008 (Ministry of the Environment)**

The programme's main objective is to establish the environmentally efficient management of electrical and electronic equipment, including an efficient system of selective collection, storage and proper treatment before processing. The programme also calls for efficient processing, including renewable energy and recycling, and the uses of waste after final disposal. The programme was approved by the Government in February 2006.

3. SUSTAINABLE CONSUMPTION

Up to now, in Slovenia there has been no global policy related to sustainable consumption. Only very recently have the authorities started to plan for the possibility of incorporating sustainability criteria in public procurement.

In this regard, we should note that sustainability considerations in private consumption are being reinforced on a large scale through the example of the public sector, due to its influence on demand and via changes in product availability as a result of the pressure exercised on production by government purchasing power.

Various organisations in civil society have worked on the promotion of sustainable consumption in recent years, and launched initiatives intended to point in the right direction.

At the end of this chapter, the most representative ones are presented, together with the announcement of the Slovenian government Green Public Purchasing Action Plan for the period 2009-2011. Some of these organisations contribute to the dissemination and implementation of the aforementioned plan.

At the moment, these initiatives are on a very small scale, but they are an indispensable driving force for the change towards more sustainable consumption trends, especially if we take into consideration the fact that much of the country's main environmental problems are related to domestic consumption.

ENERGY EFFICIENCY

In 2004 in Slovenia, 302 toe (tonnes of oil equivalent) of primary energy per unit of GDP, expressed in constant 2,000 euros, have been consumed. The intensity of primary energy consumption for the period 1995-1999 declined significantly, while in the following years, the downward trend has slowed. The reduction is the result of greater energy efficiency, changes in the type of fuel and changes in the structure of added value (a higher proportion of services which are less energy intensive than manufacturing activity). The intensity of final energy consumption has decreased since 1997. This decrease, according to the Statistical Institute of Slovenia, was particularly intense during the second half of 2008 and the early months of 2009, leading to a decline in final energy consumption of 4% compared to the previous year.

The cessation of coal mining is scheduled for 2009. Lignite is used only in the thermal power plant of Botany. Slovenia imports all the liquid fuels and natural gas it consumes. The consumption of primary energy in 2003 was 6,731,000 toe. The largest part consisted of liquid fuels (35%), followed by coal, nuclear energy, and natural gas. The share of renewable energy sources (RES) was 10%, of which fuels (wood/biomass, by far the most important) represented 64% and hydropower 36%. In the period 1990-2003, primary energy consumption increased by 17% due mainly to an increase in the consumption of liquid fuels. The consumption of natural gas and nuclear energy also increased in this

period. The final consumption of energy stood at 4,817,000 toe in 2003, an increase of 22% compared to 1990.

The largest user of final energy is the consumption sector (households and services), followed by transport and industry. In 2004, 37% of electrical energy was produced at coal-fired power plants, 36% in the Krakow nuclear power plant, and 27% in hydro-electric plants. 5% of the electrical energy produced is exported.

Cargo transport by road, which had been declining since the country's independence until 1996, has begun to increase. In 2003, it was 29% higher than in 1990. Due to its location at the crossroads of major European traffic routes, Slovenia is exposed to intense transit traffic, in addition to internal traffic. Almost one third of all GHG emissions from heavy vehicles in Slovenia are produced by the transit traffic.

After the improvement of socio-political conditions and the extension of the EU towards the east and the Balkans, new increases in transit traffic will be taking place in the Balkans; hence, redirecting transit cargo towards the railway network is a priority.

With the amendment of the Energy Act in 2004, Slovenia fully incorporated the new directives on the regulation of internal markets in the EU (2003/54/EC and 2003/55/EC) in the country's legal system, which means that from 1 July 2004, the market was opened to all customers, except for domestic customers. However, the State still exercises some control over energy prices. This price control (for liquid fuels and heating) is gradually decreasing.

Excise taxes on fuels are an important source of income, approximately 4.3% of revenues. In 2004-2005, the special taxes on engines which run on 95 octane petrol or on diesel oil rose faster than international oil prices. It was after the adhesion of Slovenia to the MTC II, and later to the euro, that the government reversed this trend, as a way to contain inflation.

WASTE MANAGEMENT

Since 2006 several measures have dealt with biodegradable waste, in order to meet the requirements of the operational programme for waste disposal.

These include collection facilities for waste management in several municipalities of Slovenia. This way, most municipalities apply separate waste collection at source and have created adequate infrastructures. These projects were financed mainly through environmental taxes and municipal budgets.

Apart from the local facilities, regional waste management facilities have been built in Bukovzlak Savinjsko for the region, in Puconci Pomurje, in Dolenjsko, in Korosko, and in Zasavje. All these centres are financed from funds charged to environmental taxes and dues, to EU funds, and to local government and State budgets. In addition to this, the installation of a regional centre for waste management for the region of Gorenjska Kraska Obalno and for the region of Primorsko is being promoted through institutional cooperation.

Several decrees that implement EU directives on waste management have been approved. With the aim of reducing biodegradable waste and ensuring its proper treatment, a decree on waste disposal was passed. Also, a decree on the management of packaging and packaging waste, which sets the rules for production and transport, as well as the subsequent use of packaging and packaging waste, has been passed. Another tool is a decree on the management of electronic and electric appliances waste. It regulates the framework for the management of such appliances. This legislation imposes the principle that the manufacturer or seller must ensure that products and their waste are treated throughout their life cycle after their use in such a way that they do not harm the environment.

Moreover, regulatory instruments for the management of waste from phytosanitary products and residues of drugs for domestic use, as well as veterinary medicines, have been approved.

In 2006, the used tyre management system was modified in order to include an environmental tax on pollution caused by their wear. According to this modification, the owners of used tyres do not have to pay for recycling or disposal at the end of the life cycle of the tyre; instead, an environmental tax that is charged at the moment of purchasing a new tyre has been created.

The so-called "exact system" for motor vehicles was introduced in December 2005. According to this system, the last owner of a vehicle can dispose of his/her car at special collection points for free, while the treatment of the old vehicle is paid for through an environmental tax on sales of new vehicles.

In 2006, for the first time, funds (626,000 euros) were allocated for environmental restoration of soils contaminated by lead in the Mezica Upper Valley. This policy is essential, and the phasing out of old landfills is a basic goal of management according to the plans of the National Environmental Action Plan. These projects include the completion of the rehabilitation of discharged asphalt in Pesnica, Studenci and Bohova, the regulation of discharges of hazardous waste in Metava, and the adaptation of closed domestic waste landfills in 2008 to the regional plans for waste management.

WATER MANAGEMENT

Several large water treatment plants began operating in 2006, including those of Bled, Saleska Dolina, Radovljica and Slovenj Gradec, as well as several smaller treatment plants.

These large water treatment plants have a nominal capacity of 2.2 million m³. They are expected to treat both domestic wastewater from small villages and wastewater from several larger industrial facilities. Regarding domestic wastewater, municipalities have the capacity (and the obligation) to properly manage its treatment

In recent years, the Environmental Protection Agency has started the development of an integrated monitoring system of water conditions in Slovenia, launched in line with the requirements of the water Framework of the EU. The project emphasises the monitoring of the ecological status of surface waters and the monitoring of the quantity and chemical condition of groundwater. It also establishes a system for the monitoring, forecasting and early warning of floods, according to the guide for flood assessment and control. The investment amounts to 25 million euros. The project must be completed in the period of 2007-2013.

In 2004 and 2005, according to a new methodology, a report about the quality of underground water in Slovenia was drafted. The assessment of the status of water masses was carried out in accordance with the requirements of the Water Framework Directive. The report also includes data on the quality of tap water, which gives a more complete assessment of the status of groundwater. The system also identifies areas subject to flooding in order to reduce the risk of flooding, which may threaten the population, the environment, economic activities, and the cultural heritage.

Various land use and landscape planning instruments have been drafted. They include significant investments in the construction of hydraulic infrastructure to increase security against floods:

- Regulating the Dravinja Stream between Stogovci and Koritno; Decree of July 2008. Construction will start in 2009.
- Guaranteeing flood safety in the SW of Ljubljana; Decree of December 2007. Construction will start in 2009.
- Guaranteeing flood safety in the Lower Savinjska Valley; Decree of July 2008. Construction will start in 2010.
- Regulating the Savinja River to ensure the safety of urban areas between Locica ob Savinji and Lemus. Decree of July 2008. Construction may start in 2010.

Finally, it is worth mentioning the Programme for Water Supply (Ministry of the Environment). This operational programme is one of the key documents for achieving the goals related to drinking water supply included in the National Environmental Action Plan. The plan involves a series of improvements, including the modernisation of water supply systems to reduce leakages and improve

the management and construction of branch aqueducts in areas in which this solution is economically rational. The operational programme was approved by the government in August 2006.

NATURAL RESOURCES

In this field, it is worth mentioning the Coastal Area Management Programme (CAMP), part of the Mediterranean Action Plan programme led by PAP/RAC¹⁸. One part of the programme focuses on the sustainable management of Slovenia's coastal area and incorporates environmental protection within development planning. The programme has been developed in accordance with the changes expected in the territory up to 2015.

The starting point of the programme, initiated in 2001, was the identification of major environmental problems in coastal areas. The most significant are related to the incomplete drainage and treatment of sewage infrastructure, solid waste management, management of protected areas at a local level, management of freshwater resources, planning of land use and development control, maritime transport, pollution of coastal waters, and the lack of adequate databases and information systems.

The Regional Development Agency for South Primorska acts as a local CAMP management unit. This body covers eight municipalities, three of them on the coast. The area of these municipalities corresponds to the catchment area of the Adriatic in Slovenia, providing an ideal framework for the integrated organisation of the coastal zones and river basins.

Two types of projects within the CAMP framework have been implemented: individual, which refer to specific activity, and horizontal, whose function consists of connecting activities in an integrated process. Individual projects are:

- Design of the territorial development of South Primorska.
- Detailed design of the agreements on the coastal strip.
- Management of protected zones.
- Regional strategy for the sustainable development of tourism.
- Regional programme for the environment and the protection of water resources.
- Maps of sensitive points on the Slovenian coast.

The horizontal projects are:

- System of analysis and sustainability prospects.
- Regional territorial information system.
- Public participation programme, training, and promotion.

Basically, CAMP's objective lies in land use and landscape planning. The main project which falls within the scope of this programme is the preparation of a territorial development programme for the south of Primorska. It is structured as a strategic document on land planning, which will have an effect on the characteristics of future land development in the region. Special attention is being given to regional planning for an agreement about the coastal strip, the management of protected areas and protection of water resources. Various methodologies and tools for the planning of the territory are being implemented in the framework of the project. The methods include the strategic evaluation of environmental impact, planning scenarios, and an assessment of the capacity of the environment of the coastal strip to support tourism development, with emphasis on public participation and promoting the project among the public.

The main result of CAMP has been the identification of a regional development project for 2007-2013, presented during summer 2007.

¹⁸ Priority Actions Programme / Regional Activity Centre (<http://www.pap-thecoastcentre.org/>).

PROMOTERS AND PROJECTS

Environmental education takes place at all levels, from infant education to secondary education. In higher education, environmental issues are included in courses that are related to this area. Interdisciplinary approaches have also become part of the school syllabus (health and ecology, management, and ecology).

The level of awareness and information provided to the public is increasing as a result of numerous publications and events dealing with issues such as climate change, lifestyle changes, the use of renewable energy sources and potential reductions in energy consumption

During the past few years, environmental consulting services (trade fairs, workshops, seminars, conferences, presentations, web pages) have also been developed. Various non-governmental organisations are also very active in this field. However, more activity is needed in this area, particularly to achieve a more active role and a more comprehensive approach by the government in this field.

A programme called "Slovenia reduces CO₂ emissions" was developed by the Ministry of the Environment in collaboration with the British Embassy and the British Council and executed during the period 2006-2007. The initiative presented the proven facts on climate change and good practice in prevention, mitigation, and adaptation. At the same time, it promoted the launching of the largest possible number of small actions to reduce CO₂ emissions.

The activities are particularly directed at those sectors that have more power to act and reverse the current rising trend in emissions, especially among decision makers.

SUSTAINABLE PUBLIC PROCUREMENT

Government purchases account for approximately 10% of GDP. For the time being, there is no specific legislation on green public procurement, but since December 2006, this has been possible. The implementation of Directive 2004/18/EC of the European Parliament and of the Council of 31 March 2004 on the coordination of procedures for the award of public works contracts, public supply contracts and public service contracts and Directive 2004/17/EC of the European Parliament and of the Council of 31 March 2004 coordinating the procurement procedures of entities operating in the water, energy, transport and postal services sectors provides the framework for the inclusion of sustainability criteria in public procurement.

In December 2006, the Public Procurement Act came into force and was fully harmonised with EU legislation. For the first time, energy and environmental criteria are explicitly presented, not as an obligation but as a possibility in the recommended procedures for awarding contracts. The legislation introduces terms such as "environmental protection" and "environmental characteristics", among others. These criteria can be included in tender documents and taken into account when assessing the most economically viable bid.

The application of these criteria will depend largely on the training of decision makers. At the present time, the Government Office for Development and European Affairs is designing an action plan for green public procurement, which will undoubtedly help to explore the potential of public procurement legislation. The plan should be implemented in 2009, since it was designed for the period 2009-2011.

Prior to government involvement in sustainable purchases, civil society organisations had been working in this field, from the establishment of the first fair trade shop in the Slovenian capital in 2004 to the implementation of specific measures on small demonstration projects.

Due to the scale of its activities, it is worth mentioning the office of the Slovenian Regional Environmental Centre for Central and Eastern Europe (REC). At the present time, it has a project pending for sustainable purchasing in Slovenia.

In February 2009, thanks to the Slovenian Foundation for Sustainable Development, Umanotera, a seminar on the opportunities for green public procurement with international participation was held, in which the presentation of the Italian experience by an expert from Altromercato Consortium was highlighted. In this conference, the Action Plan for Green Public Procurement was announced, and the Slovenian experience on purchases of organic food from organic farming in school canteens was presented.

4. CORPORATE SOCIAL RESPONSIBILITY (CSR)

The first conference aimed at Slovenian companies on CSR in Slovenia took place in Ljubljana in 2004; it was organised by the Chamber of Commerce and Industry of Slovenia and the European Commission.

Since then, several Slovenian companies have established formal CSR policies and publish reports on a regular basis on sustainability or social responsibility, some of them for several years. The clearest examples of alignment with the contemporary trend in CSR are found in manufactures mainly geared to export (e.g. household electric appliances, BSH, and Gorenje Group), in service companies perceived by the population as having a high environmental impact and subjected to strict regulations (Petrol, Slovenia's energy company) or in holding companies in which a CSR policy plays the additional role of bringing coherence to the corporate culture of a group (Istrabenz). Nevertheless, the internationalisation of the company's activities or its being listed on a stock exchange are key factors when it comes to devising policies and management systems.

However, despite the obvious efforts of some of these companies to organise and measure their impacts, no Slovenian company has seen fit to register its CSR corporate information in the database of the Global Reporting Initiative, the world reference for the elaboration of sustainability reports.

Since 2007, the other global reference on CSR, the UN Global Compact, has included a Slovenian chapter. The business school IEDC-Bled presented the initiative during the summer of 2007, which relies on the initial adherence of 16 companies: Adria Mobil, Elekronček, Esotech, Gorenje, HERMES SoftLab, IEDC-Bled School of Management, MIP, Petrol, Perutnina Ptuj, Riko, Sava Group, Salonit Anhovo, Trimo Trebnje, Vibacom, and Wine Cellar "Goriška Brda".

The Global Compact Network in Slovenia carries out regular activities and uses the business school as an operational headquarters. The main objective of the network is "to help Slovenian companies to realise the strategic opportunities offered by sustainable and socially responsible practices, increasing therefore the overall competitiveness of the Slovenian economy." In early 2009, forty companies and other organisations signed the Global Compact's ten principles in Slovenia. About half of these companies are SMEs and several are NGOs (mainly research centres).


On the other hand, over the past five years studies of CSR in the country have also been carried out in the academic world and consulting agencies, which contribute to the promotion and knowledge of CSR among companies and institutions in the country, have emerged. Other activities, such as the Slovenian Association of Public Relations' approach to CSR and CSR awards from the business press fall within this framework.

At regional level, we must highlight a project carried out in 2006 by the Chamber of Commerce and Industry of Maribor, with funding from the European Commission, for the promotion of CSR and the exchange of good practices with SMEs in the region.

In conclusion, we can say that the emergence of outreach activities related to CSR and major international initiatives in this field have been visible in Slovenia especially since the country's incorporation into the EU in 2004. Despite this relative delay, five years later, there is clearly a core of knowledge and activities concerning CSR policies in institutions like business schools, chambers of commerce and a small number of enterprises. The challenge of disseminating these practices throughout the country's business network may be tackled in the near future, especially if the local authorities take over and develop their own good practices in public procurement and the publication of information on sustainability.

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 SPAIN	POPULATION: 46,060,000
	AREA: 504,782 km ²

1. INTRODUCTION

The Spanish economy underwent sustained growth from 1994 to 2008, until a recession began in the third quarter of 2008. The mixed economy market of Spain supports a GDP per capita approaching that of the larger economies of Western Europe. The current government has made progress in implementing key structural reforms. The economy has been badly hit, especially during José Luis Rodríguez Zapatero's second term as President, which began in April 2008, because of the bursting of the housing bubble and the construction boom that drove much of the economic growth between 2001 and 2007.

The global financial crisis has exacerbated the economic crisis in Spain. GDP growth in 2008 was 1.3%, well below the 3% growth enjoyed by the country between 1997 and 2007. The Spanish banking system is considered a solid one, thanks in part to conservative supervision, and has not required large-scale intervention by the government, as has happened in other European countries during 2008. After considerable success in reducing unemployment from the mid-90s to 2007, when it stood at 8%, Spain has experienced a significant rise in unemployment in recent months, finishing 2008 with an unemployment rate of over 13%.

Economic data			
GDP	\$ 1.683 trillion (2008 est.)	GDP growth rate	1.3% (2008 est.)
GDP per capita	\$ 36,500 (2008 est.)	GDP by sector	Agriculture: 3.6% Industry: 28.9% Services: 67.5% (2008 est.)
Labour force by sector	Agriculture: 4% industry: 26.4% Services: 69.5% (2008 est.)	Unemployment rate	13.9% (2008 est.)
National debt	37.5% of GDP (2008)	Inflation rate	1.4% (2008 est.)
Exports	\$ 292.8 billion (2008 est.)	Trading partners - exports	France 18.8%, Germany 10.8%, Portugal 8.6%, Italy 8.5%, UK 7.6%, USA 4.2% (2007)
Imports	\$ 444.9 billion (2008 est.)	Trading partners - imports	Germany 15.7%, France 12.7%, Italy 8.4%, China 5.8%, UK 4.8%, Netherlands 4.6% (2007)
Main industries	Textiles, food and beverages, metals and manufactures, chemicals, shipbuilding, automobiles, machinery, tourism, clay and refractory products, footwear, pharmaceuticals, medical equipment	Electricity production	294.3 billion kWh (2008 est.)

Electricity consumption	276.1 billion kWh (2008 est.)	Electricity exports	14.52 billion kWh (2007 est.)
Electricity imports	8.773 billion kWh (2007 est.)	Oil production	29,000 bbl/day (2007 est.)
Oil imports	1.777 million bbl/day (2005)	Oil consumption	1.611 million bbl/day (2007 est.)
Natural gas production	13 million m ³	Natural gas consumption	34.43 billion m ³ (2007 est.)

Source: www.cia.gov, *The World Factbook*.

2. CLEANER PRODUCTION

2.1. Industry and the Environment

Strong economic growth has meant that Spain is approaching the European average in per capita income level, but has also meant increased pressure on the environment.

It has been observed that air quality in cities has worsened and that waste generation has increased, in correlation with the economic growth of recent years.

There are two sectors, transport and tourism, which exert strong pressure on pollution and the conservation of natural resources. Another peculiarity of the tourism industry its strong geographical and seasonal concentration in coastal areas during the summer, has caused an over-sizing of infrastructure and the consequent alteration of the territory.



Greenhouse gas emissions have increased due to strong growth in demand for electricity, which has been partly met by coal-fired power plants. On the other hand, power from renewable sources has made an increasing contribution, contributing over 20% during the past year, and one third of total generation at certain times. Among renewables, wind power has grown most in recent years, substantially ahead of solar PV for the past two years.

Corporate R&D in the area of energy and climate change has been characterised by low private participation and limited innovation concerning energy efficiency.

POINTS FOR SPECIAL ATTENTION

According to information from the Ministry of the Environment and Rural and Marine Affairs, the main issues affecting industrial activity in Spain are in line with those in other European countries: climate change, energy efficiency and waste prevention.

The incidence of the major problems of air pollution and spills is closely related to geography and activity sector, industrial hubs being a major focus. However, there are no significant additions to those identified in previous editions of the report. The coastal area of Huelva and Cadiz (Algeciras Bay), the Cinca River (Aragon), the final stretch of the Ebro River, part of the coast of Catalonia, and the Basque Country account for the major problems of industrial effluent. Regarding soil, 41.4% of soil pollution is due to industrial production, 15.2% to spillages and treatment of urban waste and 14.1% to oil spills.

In terms of industrial emissions, in Spain over six thousand manufacturing facilities are registered in the PRTR, of which 90% are under the IPPC Directive. According to the PRTR-Spain report, the approximate percentages according to activity are as follows:

- Pig farms and food processors about 50%.
- Mineral industry (cement, bricks, ceramics, etc.) about 12.30%.
- Production and processing of metals (633), 10.71%.
- Chemical industry, 8%.
- Waste management, 7 to 8%
- Energy industries, less than 3%.
- Manufacture of paper and cardboard, less than 2%.

ATMOSPHERIC EMISSIONS - ENERGY

Regarding air emissions, one should note two objectives included in the Spanish Sustainable Development Strategy: to improve air quality in urban areas, and to reduce GHG emissions through renewable energy generation by increasing its weight in the energy mix.

Energy activities account for approximately 80% of GHG emissions in Spain. GHG emissions from energy sources grew by 63% between the base year and 2005; but in 2006, provisional figures show a reduction in emissions of 4.1% for the first time in many years. This reduction was partly due to the impact of environmental policies introduced in order to reduce consumption, but also to favourable weather conditions, the resulting increase in hydropower production and the sharp rise in international oil and gas prices.

In the industrial sector, cogeneration, one of the most effective ways to increase the efficiency of production processes, accounted for a declining proportion of the energy mix during the period 2004-2006 because of the rising price of gas, which eroded the profitability of these facilities.

The Spanish government supports the EU commitment to cut emissions by 20% by 2020. It should also address the goal of limiting emissions growth to 15% in the period of the Kyoto Protocol for the base year.

In any case, in 2007, GHG emissions were 52% above the 1990 base year set in the Kyoto Protocol. A study published by the CCOO trade union in November 2008 notes that only 120 industrial facilities emitted 36% of greenhouse gases in Spain in 2007. Among them, the coal-fired power stations accounted for 15.7%. Industries related to construction, such as cement, lime and bricks, are also responsible for a significant percentage of emissions. These increases have occurred in a period when electricity generated by renewable energy has increased at an average annual rate of 4%.

The flexible mechanisms created by the Kyoto Protocol through the establishment of emissions trading were embodied in Spain in the National Allocation Plan (NAP) 2005-2007, which is the linchpin for the implementation of these mechanisms. The plan is consolidated in the NAP 2008-2012 and determines the total amount to be shared, and the rules for distribution by sectors and facilities. The emissions trading system made it possible to temporarily reduce emissions within the sectors subject to it.

The new NAP 2008-2012 reduces the allocation of allowances to companies to 152,659 million tonnes/year compared to 182,175 million tons/year for 2005-2007. The first plan's allocation of efforts to reduce emissions across sectors subject and not subject to Directive 2003/87/EC is maintained. In connection with the electricity generation sector, it draws on the emission factor of the best technology available for each technology generation, corrected by an adjustment factor. This approach leads to an allocation of an annual average of 54.053 million tonnes of allowances, which is significantly lower than that allocated to projected emissions for the period 2005-2007 (85.4 million tonnes/year) and even lower than the actual emissions of the sector in the base year.

The Plan 2008-2012 was presented for public consultation during the summer of 2006 and received 113 comments, 65 of which came from owners of facilities, 25 from industrial associations, 7 from other associations (NGOs, consumer associations, residents), 13 from public administration bodies and 3 from individuals.

Environmental organisations have argued that allowances in the first phase (2005-2007) and in the first compliance period of the Kyoto Protocol (2008-2012) should not be cumulative.

It should be noted that a new act on air quality and atmospheric protection was passed in 2007, replacing a 1972 act. This act considers atmospheric CO₂ as a pollutant, for the first time in Spanish legislation, which implies a system for strict control and monitoring.

2.2. Promotion of Cleaner Production

The main novelty with respect to previous editions of the report is that all R&D and innovation in environment and sustainability can be managed from a new focal point, the Ministry of the Environment, Rural and Marine Affairs, created in April 2008 after the last elections.

Also, within the mandate of this ministry, the new Pollutant Release and Transfer Register (PRTR-Spain) was established in 2008. This replaces the previous register, EPER-Spain, complying with Regulation 166/2006/EC, which was transposed into domestic law by Royal Decree 508/2007 of 20 April, regulating the provision of information on emissions for the E-PRTR and Integrated Environmental Authorisations. EPER-Spain had been, up to then and since 2002, the provider of information on emissions of air and water polluting substances generated by industrial plants included in the scope of Act 16/2002, which implemented the IPPC.

The IPPC Directive was reflected in Spanish legislation by Act 16/2002 and regulation was developed by Royal Decree 509/2007 and Royal Decree 508/2007. By law, all facilities that emit pollution into the air or discharge waste into water or soil must be entered in a register established for this purpose and have an Integrated Environmental Authorisation (IEA), which sets emission limit values for each activity. The determination of these emission limit values (ELV) is left to the autonomous communities, depending on the characteristics of the local environment and the technical improvements available to the sector.

The implementation of the Framework Directive had a deadline of 30 October 2007, but Spain set a new limit of April 2008. In any case, both dates having passed, delays in both the submission of information and the granting of permits in the form of IEA have accumulated in recent years. Possible reasons include insufficient human and technical resources on the part of government and the poor quality of technical documents presented in IEA applications.

ATMOSPHERIC EMISSIONS

There has been legislative progress on air quality over the past three years, which directly affects industry.

In November 2007, Act 34/2007 on air quality and protection of the atmosphere was passed. This Act aims to increase the level of protection for people and the environment from air pollution. It addresses the management of air quality and atmospheric protection in the light of the principles of precaution and preventive action, rectification of pollution at source and application of the principle "the one who pollutes is the one who pays". This act has introduced a series of checks and requirements for emissions to the atmosphere:

- With the participation of the autonomous communities, the government may set emission limit values for atmospheric pollutants and potentially contaminating activities.
- Specific obligations for the manufacture, import, intra-community acquisition, transmission, distribution, placement on the market and use and management during their life cycle may be established for those products that may generate air pollution.
- Public administrations will ensure within the scope of their jurisdiction that the necessary measures and good practices are implemented in those activities and facilities in order to prevent or reduce air pollution. In this sense, they will apply, when possible, the best techniques available and they will also try to use cleaner fuels.

Similarly, the Spanish Strategy on Air Quality, approved in February 2007, establishes the lines of work needed to meet EU quality objectives and to comply with the obligations of Spain for 2010; particularly in relation to the national emission ceilings and the Geneva Protocols on Long-Range Transboundary Air Pollution.

ENERGY EFFICIENCY

There have been legislative developments in this section for the past three years, which directly affect industry.

The Renewable Energy Development Plan (PFER) 2000-2010, which set targets to ensure that by 2010 the share of renewables in total primary energy demand would be at least 12%, still remains in force.

Royal Decree 463/2004, which set the remuneration for renewable energy used in electricity production, to boost the penetration of those technologies with the greatest potential for development, was revised in 2007.

These legal developments are part of the medium-term action set out in the Spanish strategy for sustainable development, which may be summarised as follows:

- To continue to aid those who need renewable technologies for their development.
- To reinforce small photovoltaic systems integrated into buildings, through improved conditions for network access and simpler administrative procedures for obtaining grants and requests for connection permits.
- To extend the use of water through the rehabilitation of closed mini power stations, the improvement of existing stations and the installation of turbines at dams that do not have them.
- To invest in renewable energy and cogeneration, strengthening them via a framework for greater financial security.

WASTE MANAGEMENT

The Spanish National Integrated Waste Plan 2006-2018 (PNIR), approved in February 2009, has important implications for industry. In fact, during the two years prior to its adoption, there was a multi-

sector dialogue which included the proposals for good practices identified by some sector business organisations, such as ASPAPEL (the business organisation that represents the Spanish paper industry).

One of the main objectives of the Spanish PNIR is to generalise the principle of producer responsibility in the generation and management of all waste, which means that the obligation to finance the collection and management of waste corresponds to those who put the product to be treated as waste on the market for the first time. The PNIR aims to ensure proper environmental management, applying the principle of producer responsibility and identifying quantitative targets for recovery and recycling. The features and objectives of this plan are discussed more extensively in the chapter on sustainable consumption.

Besides PNIR, Royal Decree 9/2005 on contaminated land should also be noted, although it was never mentioned in the previous edition of this report, along with Royal Decree 208/2005, on electrical and electronic equipment and their waste management, Royal Decree 679/2006, which regulates the management of used industrial oils, and Royal Decree 1619/2005 on the management of used tyres. In this sense, it is also noteworthy that, according to the PNIR, in just three years the percentage of used tyres recycled rose from 14% in 2004 to nearly 43% in 2007, increasing from a total of 42,500 tonnes to 146,259 tonnes.

Finally, there is also the approval in June 2006 of the Radioactive Waste Plan VI. This plan includes key milestones for radioactive waste management, as well as the activities to be tackled in the coming years. Among these, there is the implementation of a centralised temporary storage facility for spent fuel and high-level waste generated in Spain and the total dismantling of nuclear plants that have ended their useful life.

SPILLS AND DUMPING

The former Ministry of the Environment, working jointly with the autonomous communities, has developed the National Plan for Water Quality: Cleansing and Purifying 2007-2015. (Now the Ministry of the Environment and Rural and Marine Affairs will be responsible for its management.) This plan tries to respond both to the objectives which were not achieved by the previous plan and to the new requirements raised by the Water Framework Directive and the Ministry's AGUA Programme (actions for the management and use of water).

Among the objectives of the plan, there is the need to protect biodiversity, the public hydraulic domain and the maritime land domain, in order to ensure the quality and the good condition of surface water, groundwater, and transitional and coastal water masses.

Royal Decree 907/2007 modifies Framework Directive 2000/60/EC, which regulates Water Planning and aims to ensure good overall conditions for water and adequate protection for public water and wastewater. This regulation includes measures to control occasional dumping and other activities that impact on state of water, and sets out actions and measures to reduce and prevent pollution. It specifically stipulates, among other provisions, the requirement for authorisation for discharging wastewater from occasional spills and measures to prevent or control the input of pollutants from diffuse sources.

Furthermore, in 2004 Spain ratified the Stockholm Convention, whose main objective is to limit pollution by Persistent Organic Pollutants (POPs). Following the commitment, Spain developed a National Implementation Plan for the Stockholm Convention and Regulation 850/2004/EC on persistent organic compounds, which was finally adopted in February 2007.

This plan includes strategic lines of action which are crucial for industry:

- Determination of the trade, use and stocks of POPs.
- Replacement programme for POPs.
- Management and disposal of waste containing POPs.

- Monitoring programme for POPs.
- Limitation of unintended releases, with the best available techniques and the best environmental practices.

VOLUNTARY AGREEMENTS

With regard to voluntary agreements with industry, in addition to those referred to in previous editions, others are listed below.

The Progress Commitment is a voluntary initiative by the Spanish chemical industry to improve environmental protection and health. According to their data, the pollution load of all dumping was reduced by 84% between 1993 and 2005. For phosphorous and heavy metals, it declined 99%, and for nitrogen 82%.

Note also the Agreement for Environmental Protection and the Control of Emissions from the Chloralkali Sector. In 2006, the Spanish Association of Manufacturers of Chlorine (ANE) and the companies belonging to it renewed the original 1999 agreement with the Ministry of the Environment and five autonomous communities for the period 2006-2011. The agreement commits the chlorine industry to undertake measures in order to continue reducing mercury emissions.

The pharmaceutical fine chemicals sub-sector, represented by AFAQUIM, has a cooperation agreement with the Catalan Ministry of the Environment to reduce emissions. The effort focuses on reducing emissions of organically loaded substances and suspended particles.

There is also a comprehensive long-distance agreement which is strategically aimed at refocusing the tourism industry in Spain, led initially by the Ministry of Industry, Energy and Tourism. As mentioned at the beginning, the tourism industry is geographically concentrated in coastal areas, and seasonally in the summer period. This dual concentration causes high pressure on the territory, so that energy infrastructure and transport are oversized with respect to territory and natural resources, especially, though not exclusively, water resources.

To address issues like these, in 2007 the Spanish Tourism Plan for 2020 was adopted. This is an initiative led by the Spanish Council for Tourism (Ministry of Industry, Tourism and Trade), based on teamwork between the three levels of government, the private sector and civil society, with the aim of ensuring sustainability in current products and destinations and new tourism developments. In the working groups all public and private agencies related to the sector are present, as well as the Federation of Travel Agencies, and the Confederation of Hotels and Tourist Accommodation.

As stated in the plan, the first objective is to revalue the Spanish tourism system in terms of sustainability, strengthening its quality, effectiveness and efficiency taking the environmental load capacity into consideration. In order to do so, it mainly faces the challenge of improving profitability by modifying the economic and social impact of tourism through geographic and seasonal expansion, as well as by developing sustainable business models in the use of environmental resources and their contribution to social integration (371,000 immigrant employees equivalent to 17.9% of all those in Spain).

3. SUSTAINABLE CONSUMPTION

Sustainable consumption in Spain has been developing for some time, especially as a result of the work of civil society organisations that have helped to shape and give voice to a still small but growing segment of the market.

However, the inclusion of sustainability criteria (environmental, social and ethical) by the mainstream consumer organisations has been more recent, the Federation of Consumers in Action (FACUA) playing a leading role in the adoption of this approach. In the public sector and in enterprises, the incorporation of these practices has been further delayed, coming in the wake of widespread social responsibility initiatives.

In relation to this matter, there have been several legislative developments relating to efficient management and sustainable energy as well as natural resources. There are also some concerning the role of public administrations as buyers and contractors, a market which in Spain accounts for 16% of GDP. Finally, there seems to be a trend towards the "exemplary state" that inspires public procurement policies in other EU countries.

2007 also saw the approval of the Spanish Strategy for Sustainable Development, which includes various targets in relation to sustainable consumption and production, identifying specific measures to achieve the model identified in the strategy:

- To increase savings and efficient use of resources in all sectors.
- To prevent pollution, reduce waste generation and encourage reuse and recycling of everything which has already been produced.
- To improve air quality, especially in urban areas.
- To optimise the public's transport needs both in energy and environmental terms, as well as the flow of goods.
- To revalue the tourism system in terms of sustainability.
- To reduce GHG emissions by promoting renewable energy, improving energy efficiency in transport and buildings and integrating climate change adaptation in the planning of economic sectors.
- To ensure environmental sustainability and quality of water resources, ensuring supply to the population as well as the productive and sustainable use of water.
- To stop the loss of biodiversity and natural heritage through the preservation, restoration and proper management of natural resources, compatible with environmentally sustainable production.
- To promote sustainable and balanced land use and urban development, boosting, in particular, development in rural areas.

Finally, we must emphasise the publication by the Sustainability Excellence Club, a business organisation, in conjunction with Nielsen and the Ministry of Employment, of an extensive market study entitled *Consumo responsable y desarrollo sostenible - ¿qué opinan los españoles?* [Responsible consumption and sustainable development, what do Spanish people think?]. This study, published in 2008, is the first in Spain concerning this field, and it deals with the issue on a company to company and company to end user basis.

ENERGY EFFICIENCY

Energy consumption in Spain increased by 72% between 1990 and 2005; this growth involved all sectors of the economy, particularly the construction and transport sectors. The increased role of the construction industry has meant that, after a long period of stability, industrial energy consumption started to increase from 2004. In particular, the non-metallic minerals sector (cement, glass and ceramics) accounted for more than 21% of total industrial energy consumption, but only 5% of gross value added (GVA).

In the service sector, energy consumption saw average annual growth of 2% between 1990 and 2005. On the other hand, inter-annual residential energy consumption has increased by 5.2% per household, because of improved appliances. In the public sector, lighting and water purification account for most consumption.

Transport consumes 38% of total domestic energy, 15% for passengers' cars. The growth in demand for mobility has increased energy consumption in the sector, despite efficiency improvements made to engines. With regard to freight, 85% is carried by road. About 70% of journeys by road are relatively short, less than 150 km. Rail transport is barely 4%, compared to 8% on average in the EU. The main mode of passenger transport is the private vehicle. Recent urban development, which is gradually

adopting a pattern of population that is scattered on the periphery of metropolitan areas, has led to a greater use of private transport. Assuming that the economic and social system in Spain continues to develop in the same way and that the use of transport becomes ever more intensive, this is a priority sector in which to undertake action to improve efficiency.

Measures related to energy are aimed at reducing primary energy consumption through the application of new technologies, and encouraging savings. Currently under way is a large block of measures under the Strategy for Energy Saving and Efficiency in Spain 2004-2012 (E4). The E4 was developed by the Institute for the Diversification and Saving of Energy (IDAE).

Based on the E4, the Ministry of Industry, Tourism and Commerce launched a new Action Plan 2005-2007 and approved a new Action Plan 2008-2012, both aimed at implementing the actions to be taken in each sector, detailing objectives, deadlines and responsibilities.

The Action Plan 2008-2012 is required for compliance with the National Allocation Plan 2008-2012 for GHG emission allowances and contains more ambitious targets than the previous plan. Thus, it is expected that the average annual growth rate of primary energy consumption will be 1.07%, representing substantial energy savings compared to the figure initially proposed for the same period (growth in excess of 3%). Meeting the objectives of the two plans would achieve energy savings of nearly 100 million toe (tonnes of oil equivalent) and would avoid the emission of 270.6 MtCO₂e.

WASTE MANAGEMENT

In February 2009, the National Integrated Waste Plan (PNIR) 2008-2015 was approved. The plan states that waste policy should be based on applying the following principles:

- To promote good management of all waste, reduce its generation and promote best practices for management.
- To prioritise management options for prevention, reuse, recycling, energy recovery and finally disposal.
- To ensure the commitment of all agents concerned, from government (including autonomous regions and municipalities) to economic and social actors, including consumers and users, so that they take their share of responsibility as far as waste is concerned.
- To provide adequate infrastructure in order to ensure that waste is managed correctly and, if possible, close to the place in which it was generated.

The PNIR applies to household waste and types defined as inert waste with specific legislation (end-of-life vehicles, used tyres, batteries, electrical and electronic waste, construction and demolition waste, sewage sludge, etc.), contaminated soil, and some agricultural waste and non-hazardous industrial waste subject to specific legislation.

The plan also includes a reduction strategy for biodegradable waste dumps, whose priority is a reduction in the amount of biodegradable waste dumped, with special emphasis on reducing emissions of greenhouse gases.

The PNIR is the main initiative for promoting prevention, reuse and recycling of waste by introducing incentives for the use of such materials. Thus, it requires, for example, their use in certain civil works and prioritises the procurement of certain items made from recycled materials by public administrations.

One of the main objectives of PNIR is to generalise the principle of producer responsibility for all types of waste, which means that the obligation to finance the collection and management of waste corresponds to those who first launched it on to the market.

NATURAL RESOURCES

Among the natural resources with potential problems of over-fishing and depletion in Spain we can mention water resources, biodiversity, particularly in woodland areas and, finally, the land.

Urban growth creates significant external pressure. In this sense, construction produces the largest ecological footprint through energy consumption, and it is a major consumer of land, materials, water and energy, as well as a great generator of GHG emissions and large amounts of waste.

One of the objectives of the Spanish Sustainable Development Strategy is to "ensure environmental sustainability and quality of water resources, ensuring supply to population and a sustainable productive use within the framework of the Spanish Water Framework Directive (DMA)".

Domestic consumption, the heavy pressure of tourism on demand during seasonal periods, demographic pressures and growth in the number of second homes lead to a situation which is aggravated by a pattern of consumption which is not always efficient due to low public awareness and a low average price of water.

In this context, the National Plan for Water Quality: Cleansing and Purifying 2007-2015 has been approved by the central government in collaboration with the autonomous communities.

The plan defines objectives in relation to the efficient management of urban water supplies and proposes measures that focus on improving the hydraulic performance of systems, twin water distribution networks, limiting the planting of plant species which need large quantities of water and encouraging the use of recycled water, especially for sport, leisure or recreational purposes. A strategic line of sustainable water use is to promote the use of regenerated water (in agriculture, in irrigation of parks and gardens, golf courses, maintenance of environmental flows, etc.).

Regarding the price of water, there had previously been few incentives for rational and sustainable use of this resource. The new pricing policy proposes the recovery of the cost of investing in water and promotes the principle of "the one who pollutes is the one who pays".

In order to secure supplies, the new Act 8/2007 regarding land requires new urban developments to have reports drawn up by the hydrographical confederations on the availability of resources to meet new demand and the protection of the public water domain.

A plan of "zero tolerance towards spills" has also been defined, which pursues the strategic goal that no effluent from municipalities with equivalent populations of over 2,000 reaches a river or the sea without having been treated. In order to further this objective, an action plan was implemented during the latter half of 2005 and the first quarter of 2006, which consisted of providing the hydrographic confederations with human, material and technical resources in order to accelerate the orderly review of dumping authorisations, by assigning priorities according to the dangerousness and volume of the spill.

3.1. Sustainable Public Contracts

Concerning the role of government agencies as major final consumers, there are initiatives in order to promote green public procurement, recycling and reuse of materials. Sustainable purchasing decisions include not only buying the product or service required for a specific use, but also taking into account other aspects of the method and conditions of production, the materials with which they have been made, the working conditions of the workers and the direct and indirect consequences that production or provision may have both short- and long-term.

A remarkable first step in this direction in Spain occurred in August 2005 when the Ministry of Development approved the administrative terms and conditions applicable to contracting work. The novelty was the inclusion of clauses aiming at achieving three social policy objectives: stability in employment, gender equality and the employment of disabled people. These objectives were based on Directive 2004/18/EC on the coordination of procedures for the award of public works contracts, public supply contracts and public service contracts.

The adoption of those terms and conditions was the culmination of a process begun by a working group created within the ministry, in which all investors in ministry directorates, dependent public bodies (ADIF, RENFE, LVEF, AENA, SEITT), as well as the Spanish State Legal Service, the General State Auditors and the General Technical Secretary, were invited to participate.

In the case of the ministry, a system of terms has been established which must be obeyed by the company which has been awarded the contract, and that company must also oblige all its subcontractors to fulfil them. In these clauses the contractor is committed to certain levels of permanent employment, including female and disabled workers, in the work execution contract. In order to establish minimum thresholds for compliance, we analysed the employment figures of the construction industry to assess current social conditions and propose realistic thresholds, which could be achieved immediately.

Act 30/2007 on public sector contracts has led to the transposition of Directive 2004/18/EC into Spanish legislation. The legislation provides, among others, rules for the establishment of technical specifications, indicating that these technical specifications may be defined "in terms of performance or functional requirements, incorporating the latter, when the object of the contract is or may be detrimental to the environment, according to environmental characteristics." Therefore, technical specifications that require certain criteria for energy efficiency, environmental labels, or products or specific production processes which ensure respect for the environment may be incorporated. The main conclusion of this act (and the industry has understood it in this way) is that in equal conditions, the company's social or environmental practices will tip the balance in favour of a particular contractor for public works.

In January 2008, the Green Plan for Awarding Public Contracts was approved by means of Order 116/2008. This plan aims to gradually implement environmentally friendly practices in public contracts awarded by the Spanish Government, its public agencies and the agencies that administer social security. Earlier, in May 2006, the Council of Ministers had created the Interministerial Commission for the Integration of Environmental Criteria in Public Contracts. The Commission had the task of developing a plan which established the connection between public contracts and the implementation of practices that respect the environment; a goal that is reflected in the plan. It sets goals for eight groups of products and services: construction and maintenance, transport, energy, office equipment, paper and publishing, furniture, cleaning, and the organisation of events.

At regional level, there have also been important initiatives taken by the different public administrations. One example is the Government of Aragon, which has developed a series of specifications, mainly implemented by the Ministry of Internal Affairs in order to minimise the negative effects on the environment of activities carried out by the Government. The specifications take into account criteria of sustainability, both regarding service contracts and materials purchases. Furthermore, the measure includes a catalogue of products and suppliers for green purchases in Aragon.

Finally, certain local government bodies have subscribed to the "Procura + Initiative", a campaign to promote the introduction of sustainability criteria in the contracts awarded by public institutions across Europe. In particular, the city councils of Barcelona and Badalona, Barcelona Provincial Council and also the Waste Agency of Catalonia have joined the campaign.

4. CORPORATE SOCIAL RESPONSIBILITY (CSR)

Corporate social responsibility, as a paradigm for strategy and business practice, has been the subject of analysis and debate over this decade in much of the world. However, international standardisation has not been obtained yet, there has only been acceptance of a set of globally accepted principles. Spanish companies as such came relatively late to this debate compared with other developed countries; but the forums, involving institutions and enterprises, as well as clubs intended to exchange good practices, very soon acquired sufficient critical mass, reaching higher numbers than usual in the EU.

Since the late 90's, when various forums and the Spanish media began to speak about CSR, civil society and other organisations and business associations have been active in promoting this type of

initiative. The pioneers were, in 1999, IESE Business School and the Environment Foundation (Fundación Entorno), including the development of the Code of Sustainable Corporate Governance, which was designed by numerous firms and NGOs.

After a period of some confusion and media noise about the development of CSR in Spain, which fed the mistrust and scepticism of some people, we can observe now that some of the main driving forces of this aspect of sustainability are evident and becoming consolidated. The SRI (socially responsible investment) market, albeit timidly, has begun to advance after a decade of stagnation. Major international initiatives on CSR are strongly supported by Spanish companies, their commitment being reflected in better reporting on their CSR policies and the results achieved.

Public administrations are also beginning to play a role after a legislature in which the matter was approached to a very limited extent. Both unions and environmental organisations have begun to resort to such corporate policies as a tool for negotiation and to demand accountability in the social and environmental fields. We hope that further developments concerning this trend will be similar to those in other EU countries.

4.1. Promoters and Projects

The following are some of the outstanding initiatives in Spain today.

GOVERNMENT INITIATIVES

At the end of 2008, the State Board for CSR was established by the government. Its purpose is to provide a forum for multilateral discussion on social responsibility to propose, as an advisory body, initiatives that the government can promote. The council has a quadripartite and gender-balanced composition, and each group consists of 14 members. The first group represents business organisations, the second trade unions, the third social organisations and academic experts and the fourth includes representatives of public administrations.

However, the State Board for CSR is not a spontaneous initiative. Since 2005 there have been various initiatives to enhance the implementation of corporate social responsibility. Lines of work have followed the EU example, by establishing different ways of interacting with society so that organisations, businesses and the state itself incorporate CSR criteria in their management. These channels of interaction have been established through the creation of a sub-parliamentary commission, a forum of experts on CSR within the Ministry of Labour during the previous legislature, and a Bureau of Social Dialogue, which have been the forerunners of the State Council for CSR.

Previously, in 2003, two drafts were presented at the Congress of Deputies concerning the incorporation of CSR criteria in the investment policies of mutual funds and pension funds which were in line with similar measures provided for in other European countries such as the UK, France or Holland. Those proposals were unsuccessful, and no similar measures have gone ahead during the government's second term of office; for example, regulations on the publication of sustainability reports in line with French regulations have not been adopted.

The main role of government has been to assemble and catalyse knowledge and share existing initiatives, in most cases being led by the most innovative companies and civil society. So far, apart from information, education and negotiating table measures, more specific measures by the government have come via the Public Contracts Act and the possibility of including clauses concerning sustainable public contracting.

In the Subcommittee on CSR created in the Congress of Deputies in 2005, over forty experts and representatives of business and civil-society organisations contributed their expertise, experiences and proposals. As a result of the work of that subcommittee, a White Paper on CSR in Spain was issued, which included numerous public policy guidelines and proposals concerning CSR which can influence the new State Board for CSR.

At regional level, the role played by governments has been similar to that of the national government, although there are two initiatives that should be noted, both from 2004. On the one hand the Biscay Provincial Council established a network called Xertatu in order to promote CSR among SMEs in its territory, including training days and maintaining a permanent secretariat to support the network. The same year, the Government of Aragon included a number of benefits and subsidies for the establishment of formal policies and tools of communication on CSR in companies in Aragon as part of its industrial policy.

Finally, we should also mention the interest that this matter has aroused in several public agencies in the autonomous communities, which, for some time, had been working on supporting the entrepreneurial environment or driving forward an agenda of sustainability in the region. This is the case, for example, with the Environmental Management Public Company IHOBE in the Basque Country or the Environmental Resource Centre of Navarre (CRAN).

THE SPANISH NETWORK FOR A WORLD AGREEMENT: GLOBAL COMPACT

The Spanish network for a world agreement is the agency through which the Global Compact operates in Spain. The Global Compact has been present in Spain since 2002, the network being formally established in 2004. During these years the Global Compact agreement has managed to attract over 676 signatories. In addition, the Spanish network is working with the UN Global Compact in Spain in order to promote various global initiatives related to the 10 Millennium Development Goals. They include the protection of the environment, sustainable water use, principles of responsible education and the principles of socially responsible investment.

Among the activities undertaken by the Spanish network in recent months, we would highlight the publication of the *Guía de la Gestión Responsable de la Cadena de Suministro* [Guide to Responsible Management of the Supply Chain], drafted with the participation of several partners in the network. The main objective of this publication is to help companies to manage their supply chains in a more responsible way in order to generate sustainable profits and eliminate risks in all business areas and activities. The guide provides a system of assessment of those risks based on the characteristics of the company and its suppliers. These risks will be greater depending on the country in which it operates, the total volume of goods or services provided, and the specific type of supply. Thanks to this guide, institutions will be able to design corrective mechanisms and improve relationships with suppliers, promoting long term business relationships that increase confidence between the parties.

THE SUSTAINABILITY EXCELLENCE CLUB

The Sustainability Excellence Club was presented at the beginning of this decade as "a business association comprised of a group of large companies that opt for sustained growth from the economic, social and environmental point of view". Their aim was to become a forum for dialogue with interest groups, a platform for benchmarking in sustainable development and good practice transmitters for Spanish companies.

Among its objectives, the Sustainability Excellence Club aims to organise social responsibility events, share experiences in corporate responsibility, create partnerships with foundations and business schools, draw up publications relating to sustainable development and corporate responsibility, create awards and public recognition for significant efforts made in promoting sustainable development, provide training on corporate responsibility and develop projects with companies and public institutions.

Among their recent activities, we should note the publication at the beginning of 2009 of the *Catálogo de buenas prácticas en Responsabilidad Corporativa* [Catalogue of Best Practices in Corporate Responsibility]. This catalogue includes several examples of the practical application of best practices in different areas of CSR, social action, responsible competitiveness and innovation in products and services, dialogue with interest groups, talent management and development, corporate governance and anticorruption policies, equal opportunities, preservation and environmental improvement and corporate volunteering.

The catalogue has not been devoted exclusively to corporate members of the club, and also includes good practices in SMEs. These include the company Javierre, S.L., an SME in the construction sector which is, so far, the only Spanish signatory of the PACI, the World Economic Forum's anticorruption partnership, which sets out greater obligations and commitments in this respect for the companies participating.

Corporate Reputation Forum

The Corporate Reputation Forum (Spanish FRC) was established in 2002 by four major Spanish companies. It was later expanded, but remains a relatively small "club". As its name suggests, this association has prioritised reputation rather than CSR. The interest of the FRC in reputation stems from its belief in the impact that it has as a generator of value for its member groups and their stakeholders. However, this forum has sponsored its own studies on CSR since its inception and is formed by the few companies that have had formalised CSR policies since the beginning of the decade.

The Forum is composed of Agbar, BBVA, Repsol, Telefonica, Abertis, Ferrovial, Gas Natural, Iberdrola, RENFE, Iberia and Metro Madrid. The FRC's activities, rather than being directed towards specific aspects and procedures, are generally directed towards the strategic management of CSR and its implications for reputation risk. As reflected in its objectives, the FRC seeks:

- To share research and to disseminate knowledge about corporate reputation: in order to be the gold standard in corporate reputation in Spain.
- To analyse different methodologies of reputation management and facilitate their eventual implementation in the companies which are part of it.
- To study the influence of and interplay between the main variables that influence corporate reputation: ethics, good governance, social responsibility and quality.
- To evaluate methods for the identification and valuation of intangibles.
- To establish itself as a major investment negotiator assessing investment criteria.

On the importance of the latter objective concerning investor relations, we will present the importance of socially responsible investment (SRI) as a driving force for CSR among large Spanish companies later in this chapter. With the establishment of this objective, the FRC seeks to strengthen and speed up the response of associated companies to the growing demand for social and environmental information from financial markets.

FORÉTICA CSR MARKETPLACE

Forética is an association of companies and CSR professionals, whose mission is to foster a culture of ethical management and social responsibility in organisations, providing knowledge and tools to develop a sustainable business model.

In this sense, Forética developed its Enterprise SSG Standard 21 early in 2000, with the participation of numerous professional and interest groups. This is a management system that enables CSR to be certified on a voluntary basis.

One of the highlights of Forética has been its CSR Marketplace. This is an annual forum for the exchange and presentation of leading initiatives in the field of ethical and socially responsible management nationwide. The initiative falls within the framework of CSR Europe Network, which Forética represents in Spain.

CSR OBSERVATORY

The Centre for Corporate Social Responsibility is a social group created in 2004 by several organisations which were already working independently in this field in order to promote and study social responsibility. It is currently composed of 15 organisations, including Caritas, the Spanish

Confederation of Consumers and Users (CECU), CCOO, the Spanish Red Cross, Economists Without Borders and Greenpeace.

Since its inception, the Observatory has published its annual report *La RSC en las memorias del IBEX 35* [CSR in the annual reports of the IBEX 35], which includes an analysis of information that companies in the IBEX 35 delivered at the Annual General Meeting, also incorporating data from other sources. These reports evaluate aspects related to management, corporate governance and the social and environmental impacts of operations by the IBEX 35 companies. The last edition was presented in January 2009 and it highlights important differences between the information provided to shareholders and potential investors, and that which is addressed to other interest groups. There are strong imbalances between the economic, social and environmental information.

This latest edition has concentrated mainly on economic indicators with a strong social impact, especially those related to taxation, wages and the presence of companies in tax havens. According to the report, only one company in the IBEX 35 of those operating in more than two countries, reports on the payment of taxes and public subsidies received on an unbundled basis. Only two companies report salary costs by country separately. Similarly, transparency in the use of tax havens is very limited. In this sense, we cannot know the real impact of their activities because only information on activities and operations during the year is provided.

In the environmental field, we must stress the fact that only 11 firms report how they manage CSR in the supply chain in relation to environmental issues. Also, only seven companies (20% benchmark) report adequately on the significant environmental impacts of their main products and services.

4.2. Socially Responsible Investment

A growing number of investors have begun to include social criteria in their investment decisions in recent years. The standard way to access the information required by these criteria is to use the products of CSR analysis agencies. These agencies collect and sort the information related to social and environmental issues published by listed companies in the financial markets.. The information is supplemented with information from other sources (prosecutors, NGOs in third countries, etc.).

Today several of these agencies are fully established in Spain, including the Foundation for Ecology and Development which, since 1999, has been exercising its role as provider of analysis for the British agency EIRIS, one of the largest in the world.

The first mutual funds that included CSR criteria appeared in Spain in 1999, known by the name of "ethical funds" or "green funds". They involved various civil society organisations and they were managed by conventional financial institutions. Regarding their characteristics, criteria used, assets under management and the profitability of these financial products, the business school ESADE has published an annual report on the status of SRI in Spain since 2001.

During the past two years, there have been two clear milestones in the evolution of CSR in the financial markets in Spain, both occurring in the spring of 2008: namely, the launch of the FTSE4GOOD IBEX sustainability index on the London Stock Exchange and the incorporation of SRI criteria in occupational pension funds in the two largest banks of the country.

FTSE4GOOD IBEX INDEX

Products like the sustainability index have been a turning point in the development of socially responsible investment in major financial markets worldwide.

In April 2008 the new FTSE4GOOD IBEX index was launched in the London Stock Exchange; this is first sustainability index that functions as such in the Spanish market. This index is composed of companies quoted on the IBEX 35 and the FTSE Spain All Cap Index that meet the criteria for inclusion in the FTSE4GOOD IBEX.

The FTSE4GOOD IBEX was born thanks to an agreement between the FTSE Group and all the Spanish stock exchanges. The index is an adaptation of the Spanish financial market FTSE4GOOD index family, which had been operating for several years in the London Stock Exchange. In order for a company to be included in these indices, it must meet a series of social and environmental criteria which are more stringent than the laws which are currently in force.

As expected, the high profile of the new index gave more visibility to this type of investment in Spain, with the subsequent creation of funds and other products using this index as a reference. Similarly, the interest of Spanish listed companies to be included in such an index has become a very important incentive for improving business practices.

The FTSE4GOOD criteria are developed from a multi-sector consultation process with different agents, including NGOs, government agencies, consultants, academics, the investment community and the business sector, and approved by a committee of independent experts. The Ecology and Development Foundation conducts the analysis of compliance with the criteria for inclusion in the index following the methodology of EIRIS (Ethical Investment Research Service). The decision on which companies meet the criteria for inclusion in the index and should be part of the FTSE indices is taken by the Expert Committee and is based on the analysis and application of the FTSE Group's own criteria. So far, 27 companies have been selected from a total of 82, comprising high and low capitalisation companies.

OCCUPATIONAL PENSION FUNDS

In some European countries, governments have encouraged the inclusion of CSR criteria in the management of investment funds and, more specifically, in the management of occupational pension funds. These incentives have helped to increase and consolidate SRI, one of the most important driving forces for CSR in the continent.

This has not occurred in Spain. However, in February 2008, BBVA, a major local financial institution, announced that it would manage the pension funds of its employees according to CSR criteria, which helped to increase SRI in Spain. This measure was adopted by the supervisory committee of the BBVA Employment Fund, which includes representatives the trade unions CCOO, UGT, CGT, and the Confederation of Managers and Professionals, and it was promoted by the CSR area of the bank and the managing company Gestión de Previsión y Pensiones (GPP). GPP was also the first Spanish management company to subscribe to the Principles of Responsible Investment (PRI) proposed by the UN. These principles aim to incorporate social, environmental, and good governance criteria in investment analysis and decision-making processes.

The BBVA Employment Fund is one of the largest employment plans in Spain, with assets of 2,100 million euros and more than 41,000 participants. A few weeks later, an equivalent fund belonging to another of the country's largest banks, SCH, took a similar step.


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ANNEX II: SUMMARY OF COUNTRIES ANALYSED. THE BALKANS

Analysis of the situation in the MAP countries: the Balkans.

 ALBANIA ¹⁹	POPULATION: 3,619,778
	AREA: 28,748 km ²

1. Introduction

Albania, a potential candidate for EU membership, has an economy which continues to grow, although the country is still one of the poorest in Europe, dominated by a large informal economy and an inadequate energy and transport infrastructure. Macroeconomic growth has averaged around 5% over the last few years and inflation is low and stable. The government has taken measures to curb violent crime, and recently adopted a fiscal reform package aimed at reducing the large grey economy and attracting foreign investment. The economy is bolstered by annual remittances from abroad representing about 15% of GDP, mostly from Albanians residing in Greece and Italy; this helps offset the towering trade deficit. The agricultural sector, which accounts for over half of employment but only about one-fifth of GDP, is limited primarily to small family operations and subsistence farming because of lack of modern equipment, unclear property rights, and the prevalence of small, inefficient plots of land. Energy shortages, caused by heavy reliance on hydropower and antiquated and inadequate infrastructure, contribute to Albania's poor business environment and lack of success in attracting new foreign investment.

The completion of a new coal-fired power plant near Vlore has helped diversify generation capacity, and plans to upgrade transmission lines between Albania and Montenegro and Kosovo will help relieve the energy shortages. Moreover, with help from EU funds, the government is taking steps to improve the poor national road and rail network, a long-standing barrier to sustained economic growth. In recent years, most of the nationalised industrial plants, inherited from the socialist era, and with obsolete technologies that caused negative impacts on the environment, have been closed down.

¹⁹ The information given in this section has not been confirmed by the CP/RAC National Focal Point for Albania.

Economic data			
GDP real growth rate	6% (2008 est.)	GDP per capita	\$6,400 (2008 est.)
GDP by sector (2008 est.)	Agriculture: 20.6% industry: 19.9% services: 59.5%	Labour force by sector (2006 est.)	Agriculture: 58% industry: 15% services: 27 %
Unemployment rate (2008 est.)	12.5% official rate (may exceed 30% due to subsistence agriculture)	Household income	Lowest 10%: 3.4% Highest 10%: 24.4% (2004)
National debt (2008)	51.2% of GDP	Inflation rate	4% (2008 est.)
Commodities exports	Textiles and footwear, asphalt, metals, crude oil, vegetables, fruit, tobacco	Trading partners - exports (2007)	Italy 72%, Greece 8.8%, China 2.7%
Commodities imports	Machinery and equipment, textiles, chemicals and preparations	Trading partners - imports (2007)	Italy 27.6%, Greece 14.8%, Turkey 7.4%, China 6.8% Germany 5.6%, Switzerland 5%, Russia 4.2%
Industry - Energy			
Main industries	Food, textiles and footwear, timber, oil, cement, chemical, mining, heavy metals, hydroelectric		
Electricity production	2.89 billion kWh (2007 est.)	Electricity consumption	3.61 billion kWh (2007 est.)
Electricity exports	0 kWh (2007 est.)	Electricity imports	2.8 billion kWh (2007)
Oil production	6,425 bbl/day (2007)	Oil consumption	30,900 bbl/day (2006)
Natural gas production	30 million m ³ (2006)	Natural gas consumption	30 million m ³ (2006)

Source: www.cia.gov, *The World Factbook*.

2. Cleaner Production

2.1. Industry and the Environment

Albanian industry consists largely of SMEs in sectors like food, clothing, tanning, tourism and services. The number of companies in other sectors such as dairies, olive oil or meat production, has increased in recent years, however.

The chemical industry has developed significantly as well, by focusing on the production of paints, detergents and organic and inorganic chemicals. The construction sector has also experienced strong growth recently, thus increasing environmental risks and impacts.

The major pollution problems are concentrated on the coast due to the accumulated reserves of obsolete chemicals, untreated sewage and solid waste dumping, and the air pollution generated by transport in major cities. Untreated municipal wastewater, leachates from the extraction and processing of oil, beach erosion and illegal construction on the coast can be seen in places such as Vlorë, Porto Romano, Durrës Bay, Saranda Bay, Lake Kune-Vainio, the Drini delta, the Fieri District, Lake Karabasta, and the Divjaka beach.

Most of the pollution sources are located in the Durrës and Vlorë districts. Current industrial development is leading to different types of environmental impacts that combine at critical points identified in the previous edition of this report²⁰. These impacts represent serious threats to the environment.



Since 2005, about 500 tonnes of hazardous chemicals have been removed from the Porto Romano site, a former pesticide plant. Therefore this site is not a hot spot any more. A CFD (confined disposal facility) is being constructed for the disposal of all hazardous waste and materials from the former plant.

However, there are still several critical areas inherited from the industries of the past which are classified as critical points requiring rehabilitation. The main ones are: the former chemical and metallurgical plant in Laç city; the metallurgical complex in Elbasan; the ferro-chromium plant in Bradashesh near Elbasan; the battery factory near Berat; the Albafilm company facilities in Tirana; the former plastic processing plant (PVC, polyethylene, etc.) in Lushnje.

In some of these areas human populations have settled and are currently exposed to serious health hazards, especially children and the elderly.

²⁰ "State of the Art of Sustainable Production in the Mediterranean". *MAP Technical Reports Series No. 165*, UNEP/MAP/CP/RAC, Athens, 2006.

ATMOSPHERIC EMISSIONS

Although some improvements have been achieved due to technological innovations in recent years, CO₂, CO, SO₂ and NO_x emissions are still high, exceeding healthy limits. In addition to the critical sites mentioned above, other plants in the construction industry and the extraction and refining of crude oil are causing similar pollution problems, including emissions of H₂S.

Air quality standards are not met in most urban centres. The level of particles and emissions from vehicles exceeds the standards established by national and European legislation. Air pollution is the cause of the increase in the number of cardiovascular and respiratory diseases.

WASTE MANAGEMENT

Albania lacks a specific policy for industrial and hazardous waste and needs a policy for the handling and the use of chemical agents. The legal framework, however, exists in Law No. 9108, which aims to facilitate the management of chemicals and derivatives to protect human health and the environment.

A law on solid waste management was adopted in 2003 and other laws derived from this are being developed. As regards the management of hazardous waste, there is a project to create the appropriate disposal infrastructures (an environmental impact study to select the location is being carried out).

Some sites of special concern in relation to the generation and disposal of waste are:

- Land contaminated by mercury in Lora, due to the waste generated by the old and already dismantled PVC plant.
- The landfill site at Sharra in Tirana, due to the toxic emissions that it gives off and the pollution of surrounding waters.
- The generation of hazardous waste and contaminated soil in the Patos-Marinza oil field and the Ballsh refinery (there are two projects funded by EU and UNEP/UNDP to overcome these situations).

Another problem in relation to waste stems from industrial dumping sites where slag from heavy metals is deposited and may pollute surface waters. Some of these landfills are situated near the enrichment plants of Pogradec, Rubik, Lac and Elbasan.

As in the case of hazardous wastes, there are other projects underway which have different objectives for improving waste management, mostly funded by the EU.

The previous edition of this report²¹ emphasised the importance and urgency of solving the problem of extraction activities and oil refining, which discharge large quantities of sewage with insufficient or no treatment at all in the Gjanica river. There is no data to indicate that this problem has been resolved. On the other hand, many firms in the sectors of tanning, food and detergent production discharge their sewage into rivers without previous treatment or with an inadequate decantation process. In the area of Tirana, this practice pollutes the River Ishem.

The tourism sector is another important source of pollution due to uncontrolled waste discharge and disposal, without previous treatment, and often in protected environments.

²¹ "State of the Art of Sustainable Production in the Mediterranean". *MAP Technical Reports Series No. 165*, UNEP/MAP/CP/RAC, Athens, 2006.

NOISE POLLUTION

Noise is identified as a public health problem. The Public Health Institute is carrying out studies in big cities in collaboration with the Ministry of the Environment. During recent years, some insulation measures have been taken in institutions and residential buildings.

Even so, noise is a common problem, from transport, construction activities, industry and some recreational activities such as clubs. So far, there are no standards to determine permissible levels of noise in the street or in houses.

2.2. Promotion of Cleaner Production

NATIONAL STRATEGY FOR DEVELOPMENT AND INTEGRATION

The main objectives of the recently approved National Strategy for Development and Integration (NSDI) 2007-2013 consist of the integration of Albania into the EU and NATO, through the consolidation of the democratic process and the reinforcement of the legislative framework. Regarding the environment, the main priorities are:

- The adoption of EU legal standards.
- Enforcement of environmental legislation within the country through the strengthening of regional environment agencies and inspectorates, improvements in the permit system, etc.
- Investment in environmental protection with a view to achieving European Community standards within the next 20 years in areas such as: wastewater treatment; the collection, recycling and disposal of solid waste; rehabilitation of contaminated land and sources of pollution; the technological improvement of industries. To that end, the government will establish the Environment Fund to ensure initial financing for environmental investment projects.

The environmental improvements proposed in the NSDI include:

- Regarding air quality: the use of EC standard fuels in all road vehicles and effective compulsory emissions testing for all road vehicles according to EC standards by the end of 2008.
- Reduction of emissions for all major industrial installations by 2009; introduction of IPPC permit system in 2009.
- Introduction of construction industry code of practice in 2008 and environmental management requirements for all public works contracts in 2010.
- Waste management: ensuring safe disposal of 75% of hazardous waste production by 2009, and disposing of 50% of non-hazardous solid waste in engineered landfills by 2010.
- Wastewater treatment: ensuring an urban sewage connection rate of 75% in 2010 and 85% in 2014, and appropriate treatment for at least 25% of all collected wastewater in 2010 and 50% in 2014.
- Surface water: reducing emissions from non-urban sources, including industrial and agricultural processing units, through implementation of improved permits, increased inspection and stronger enforcement of legal requirements.

In the NSDI no reference is made to sustainable consumption and production or cleaner production. Strategic priorities and policies for consumer protection are included, but bear little relation to environmental issues.

The Albanian government has approved the National Plan for Harmonisation with the EU, covering the period until 2014, which is a new opportunity to incorporate environmental protection measures in cleaner production and eco-efficiency.

Furthermore, throughout this decade, the government has developed different improvement strategies in areas such as management of coasts, water, energy, marine pollution, etc., hoping to lay the foundations for subsequent action plans.

INTEGRATED POLLUTION CONTROL

It is planned that, during 2009, the government will adopt the model defined by the IPPC Directive for the control of pollution which involves requirements to obtain integral permits. The transposition of the complete directive is expected in late 2010, through a new law developed under the CARDS project "Implementation of the national environmental plan for adaptation of legislation". That law will also transpose the requirements of the European Pollutant Release and Transfer Register (E-PRTR) (Regulation EC/166/2006), and the relevant requirements of the IPPC Questionnaire (Decision 2006/194/EC).

It is worth noting that the May 2008 amendments to the existing Law on Environmental Protection have already introduced the concept of integral permits, as well as an article on IPPCs, but the changes are still to be effectively implemented. The authorities grant environmental authorisations for activities, subject to an environmental impact study, wherein clauses conditioned to various critical factors (emissions, water, soil, etc.) are envisaged. Nevertheless, despite such efforts, industrial activities permits have not been completely integrated yet.

The Environmental Inspectorate, as the body responsible for compliance with and enforcement of the clauses governing environmental authorisations, has drawn up an inventory of medium and large enterprises, excluding mining activities.

Current legislation provides a 5-year period for plants to develop efficient systems for pollution treatment so they can comply with EU standards. For new facilities, enforcement of those standards is a mandatory requirement for obtaining the activity permit.

From an economic point of view, incentives such as exemption from payment of the environmental authorisation (about €600) have been favoured for those companies that have incorporated environmental protection measures. Other instruments worth mentioning are low interest loans and direct aid. On the other hand, taxes and fines related to environmental activity have been strengthened.

The implementation of other measures, such as mechanisms for public participation during the elaboration and implementation of environmental monitoring programmes (e.g. Ministerial Decision No. 994, of 02/07/2008) or the transposition of the EU regulations on the control of major-accident hazards involving dangerous substances, is planned in the near future.

Since 2005, pesticide use is subject to various requirements, ranging from the ban on certain pesticides to the need to obtain special permits to import and/or use others.

In order to ensure compliance with the regulations for environmental protection, since 2005 the system of environmental inspectorates has been reinforced, as well as the involvement of other ministries.

Despite this, the main problem related to environmental legislation is still its ineffective implementation, as well as the lack of an overall regulatory framework.

There is no significant use of other instruments or voluntary tools for the promotion of cleaner production, such as seals, ecolabels or awards, etc.

PROMOTERS AND PROJECTS

Steps have been undertaken to establish a National Cleaner Production Centre in Albania with the support of UNIDO and other international cooperation agencies and the centre should be operational in the near future. In that respect, a UNIDO mission visited the country recently to assess the project. The centre will aim to promote and coordinate activities related to cleaner production in Albania.

In general, better coordination among the parties concerned (government bodies, NGOs, companies, etc.) is needed to enhance the promotion of cleaner production, as well as to start introducing a more sustainable approach to consumption and production, through the integration of consumption issues.

The following projects can be highlighted:

- Management and cleaning programme for integrated coastal zones, supported by the World Bank, thanks to whom the progress mentioned above in the old hot spot of Porto Romano was achieved.
- The UNDP project, which, since 2004, has sought to implement a national plan for the elimination of POPs. That will enable Albania to ratify the Stockholm Convention.
- The Ministry of the Environment, in collaboration with UNIDO, is promoting a project to stop the production of substances that damage the ozone layer.

In recent years several seminars and meetings focusing on various aspects of cleaner production (impacts, legislation, technology, etc.), have been organised by different public and private organisations. Among the latter the office in Albania of the Regional Environmental Centre for Central and Eastern Europe (REC) stands out.

3. SUSTAINABLE CONSUMPTION

Over the past 15 years Albania has gone through various periods of crisis that have determined, in large measure, the current situation regarding citizens' and organisations' relationship with the environment. The old centralised economic model has generated a lifestyle and habits where, in many cases, citizens were not directly responsible for or aware of the costs and impacts of their consumption. Thus, services such as electricity, water or refuse collection were provided by the state without any involvement of the public.

The subsequent change to a free-market model, with the consequent privatisation of some services and the advent of a new, more consumerist lifestyle, led to the appearance of a number of underlying imbalances. The financial crisis of the late 90's exacerbated those imbalances, leading to serious problems of supply, health, pollution, etc.

In this context, a series of unsustainable consumption patterns have been generated in Albania, and they are reflected in the pattern of energy consumption, in waste management, and the management of natural resources.

There is no specific public policy relating to sustainable consumption or green public procurement (in fact there is no mention of it in the National Strategy for Development and Integration).

With regard to consumers, there is an emerging desire to protect the environment and solve the pressing problems of waste management. However, the habit of wasting energy or water, which was inherited from the past, is still common.

ENERGY EFFICIENCY

The energy sector in Albania is characterised by the strong presence of hydropower and reliance on it. However, the infrastructures are, in many cases, obsolete, causing a notable loss of efficiency and sometimes leading to outages or network instability (it is estimated that we can lose up to 30% of the energy produced).

There is only one electricity operator, the KESH Company, which, despite a brief period of unsuccessful privatisation attempts, has always been managed by the State. For this reason, the government, through its Ministries of Economy, Trade and Energy and the National Agency of Energy, decided some years ago, to modernise the infrastructure as well as to incorporate new renewable energy sources.

Another player in this field is the Energy Efficiency Centre (EEC), an initiative that came from the cooperation between the State and the European Commission under the *Synergy* Programme and which is now a totally independent organisation.

In recent years efforts have been made to homogenise, energise and regulate the energy market, which has led to the launch of various initiatives and the creation of institutions to track various projects.

One of the advantages available to the energy sector in Albania is its great potential for savings in consumption, as well as for the production of energy from renewable sources. The savings potential stems from the precariousness of the existing facilities and the high level of current losses. The investments planned by the government, sometimes with the support of supranational institutions and other countries in the region, could eventually lead to estimated savings of more than 20% by 2015. These measures do not only comprise modernising the obsolete infrastructure but also implementing other initiatives, such as improving technology in industry and agriculture, reducing transport consumption, increasing mechanisation, etc.

Of course, this reduction in energy consumption will also lead to a reduction in the volume of emissions of greenhouse gases.

Regarding the production of energy from renewable sources, the main possibilities of the country are:

- **Hydropower**

It is estimated that Albania only operates 35% of its potential due fundamentally to inefficient facilities, inefficient management, the dispersion of workers and poor coordination. On the other hand, there are projects to open new, modern and much more productive plants.

- **Biomass**

With an agricultural and livestock sector so thoroughly implanted throughout the country and rich forest areas, biofuel potential is evident, although it is difficult to estimate due to the lack of recent data regarding forest inventories and agricultural waste.

- **Geothermal energy**

There are lots of wells and hot water springs along the coast, the use of which is being assessed, while other areas of the country are still being explored.

- **Solar energy**

Due to its Mediterranean climate, Albania offers great potential for photovoltaic solar energy. There are a few facilities fundamentally focusing on thermal solar energy generation but their number is small and their impact is very low.

- **Wind power**

Very few facilities exist but appropriate places for this kind of technology have been identified.

The government has emphasised the development of renewable energies as a priority in its national energy strategy, through the implementation of various initiatives and projects aimed at building new hydroelectric plants, solar and wind plants, etc.

On the other hand, international agreements have been signed, such as the study and promotion of clean development mechanisms (CDM), jointly with the Italian government, covering various areas of sustainable consumption and aimed at reducing emissions of greenhouse gases.

WASTE MANAGEMENT

Over the last 15 years, waste management has become a serious problem, mainly due to a substantial increase in urban population and the consequent waste generation. Although the volume

of waste generated per capita was traditionally estimated at 0.7 kg/day, today it probably reaches 1kg/day.

The most widespread disposal system is landfills, many of which are illegal or uncontrolled and they almost always lack treatment systems and adequate infrastructures. And, while there are waste collection services in cities, either public or private, in rural areas they are limited, making waste disposal in those areas even more unreliable and unregulated.

There is a lack of regulation regarding waste reuse/recycling and responsible consumption. The administration's efforts are currently aimed at improving collection and disposal systems and dealing with special priority hazardous waste, including hospitals. Nowadays, this waste does not receive adequate management and is incinerated in only a few cases, being treated normally as inert waste. In this regard, there exist some pilot projects which may serve as the basis for future action.

NATURAL RESOURCES

Albania is a mountainous and coastal territory, with abundant natural resources like water and wood. Poor or non-existent management of these resources, however, has generated unsustainable situations such as the disappearance of forests, pollution of aquifers, and land impoverishment. Tree felling, for example, is not efficiently controlled by the central state or local administrations, leading to illegal tree felling and excessive exploitation. In rural areas it is common to use wood for heating or cooking, which can accelerate already serious deforestation.

With regard to water, uncontrolled elimination has consequences in river and aquifer pollution, with the consequent impact on flora and fauna. There is no awareness of the consumption of resources, a situation worsened by the lack of reliable measurements and other issues.

Today, there is still not enough awareness of this issue, despite efforts, especially by NGOs, to raise awareness among the public.

4. CORPORATE SOCIAL RESPONSIBILITY (CSR)

The concept of CSR is relatively new in Albania, and in many cases is confused with sponsorship activities or social work. Some international institutions are making efforts to introduce basic aspects of CSR. Economic and business development is at an early stage and it would be interesting to link that development to sustainable and ethical practices.

As in the case of environmental problems, the economic and social areas are far from being in an optimal situation. The years of transition and the financial crisis have had a strong impact on the economy, leading to high levels of corruption, insecurity and a lack of job stability, with a pronounced lack of rigour in the application of legislation. At a regional level, the Albanian legislative framework is one of the most complete and advanced in terms of CSR, but it is one of the furthest behind in the application of the concept.

Concerning social and labour issues, the country has ratified Convention 182 of the International Labour Organisation (ILO) on child labour, an extended practice in the country, especially in rural areas. Although the regulatory framework exists, child labour is still a problem in Albania. As for working conditions, legislation provides some examples of protection in relation to motherhood, social security and occupational health but, unfortunately, it is applied on a very limited basis and more legal coverage is needed for working conditions in the country. Although the situation has improved over recent years, there is still a high rate of human trafficking (mostly women and children), the country often serving as a gateway to the European Union. Although the government has taken measures, the defence of human rights is still insufficient.

In 2003, the Albanian Institute for Development Research and Alternatives (IDRA) conducted a pioneering project called "Introduction to Business Ethics in Albanian Universities". The result

indicated that the perception of the majority of students was that companies did not apply any ethical principles and that knowledge of CSR was very limited.

One of the biggest obstacles to the implementation of CSR in the economic field is undoubtedly the high levels of corruption. Albania is ranked 105 among 179 countries in the world in terms of transparency. Unlike neighbouring countries, the law does not oblige public institutions to report on their financial management. Obviously, this makes it much more difficult to demand that private companies be transparent in their management.

The Global Compact of the United Nations, the initiative Establishing Corporate Social Responsibility in South-eastern Europe (ECSRSE) and the IFC²² Southeast Europe International Standards and Technical Regulations Programme, are some of the international initiatives being implemented in Albania to promote CSR.

Other initiatives at local level are often pursued by NGOs with support from development organisations. An example would be a 2007 project to recognise and reward the Albanian company with the best social responsibility practices, which involved more than 70 companies.

Since 2002, the Albanian *Monitor Magazine* has published articles about CSR and its implementation, with a clear educational slant, introducing concepts such as certifications or quality. Another input factor for CSR is the multinational companies operating in the country, which bring the commitment and management models incorporated in other more developed countries in terms of CSR.


As an example, the French multinational Vodafone, which operates in Albania, has created a local foundation dedicated to identifying community needs, to financing improvements in quality of life, technological innovation, education, health and environmental matters. Due to its area of business, the foundation prioritises environmental impacts through the installation of solar panels, recycling paper, mobiles, etc. Other companies known for being pioneers with regard to CSR practices include the Raiffeisen Bank, Pespa Alumil, Bankers Petroleum, Floryhen and the National Commercial Bank.

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 BOSNIA AND HERZEGOVINA	POPULATION: 4,590,310
	AREA: 51,129 km ²

1. INTRODUCTION²³

Bosnia and Herzegovina (B&H) became a full member of the Central European Free Trade Agreement in September 2007. Economic activity has remained strong in recent years despite the slow implementation of reforms. As a result of earlier reforms, higher metal prices, and generally favourable external conditions, GDP growth increased by around 6% in 2006 and even accelerated to 6.8 percent in 2007. Inflation has remained restrained, despite the introduction of VAT in January 2006, and the currency board is functioning well. The growth of B&H's exports in recent years has been remarkable, surpassing that of all other countries in the Balkan region. Together with economic growth, education and health show ongoing improvement. Thus, in aggregate human development terms, B&H is progressing well. On average, it ranks among those countries in the world with the highest human development status. Poverty has decreased in recent years but it still remains a concern. In this respect, there was a drop in the poverty rate to 14% from 18% in 2004, but another 20% of the population is at risk of falling into poverty in the event of a fall in income. Likewise, social exclusion is still a pressing problem with a series of social fractures, and a general increase in inequalities of income, education and health. Over 50% of the population may be socially excluded in some way.

Economic data			
GDP (2008 est.)	\$30,490 million ²⁴ (without informal economy)	GDP by sector (2006 est.)	Agriculture: 10.2% Industry: 23.9% Services: 66%
GDP growth rate	5.6% (2008 est.)	GDP per capita	\$6,600 (2008 est.)
Labour force	1.2 million (2007)	Unemployment rate	29% (2007 est.)
Household income (2001)	Lowest 10%: 3.9% Highest 10%: 21.4%	National debt (2008 est.)	40% of GDP
Inflation rate	8% (2008 est.)	Gini Index	56.2 (2007)
Agricultural products	Wheat, corn, fruit, vegetables, livestock	Main industries	Steel, coal, iron ore, lead, zinc, manganese, bauxite, vehicle assembly, oil refining, electrical appliances

²³ Sources: European Bank for Reconstruction and Development, UNDP, World Bank Group, *The World Factbook* (see the references at the end of this chapter).

²⁴ B&H has a large informal sector that may account for as much as 50% of official GDP.

Electricity production (2006 est.)	12.84 billion kWh	Electricity consumption (2006 est.)	8.50 billion kWh
Electricity exports (2006 est.)	5.123 billion kWh	Electricity imports (2006 est.)	3.015 billion kWh
Oil production:	0 bbl/day (2007 est.)	Oil consumption	27,590 bbl/day (2006 est.)
Natural gas production	0 m ³ (2007 est.)	Natural gas consumption	400 Million m ³ (2006 est.)
Exports	\$ 5.092 billion (2008 est.)	Imports	\$ 11.940 billion (2008 est.)
Commodities exports	Metals, clothing, wood products	Commodities imports	Machinery and equipment, chemicals, fuels, foodstuffs.
Trading partners - exports (2007)	Croatia 21%, Slovenia 16.5%, Italy 16%, Germany 13.3%, Austria 9.6%, Hungary 5.7%	Trading partners - imports (2006)	Croatia 24.7%, Slovenia 13.3%, Germany 13.1%, Italy 10.4%, Austria 7%, Turkey 6.5%, Hungary 5.4%

Source: www.cia.gov, *The World Factbook*.

2. CLEANER PRODUCTION

2.1. Industry and the Environment

In recent years, different strategies aimed at developing the industrial structure in key sectors in B&H have been implemented (wood and food processing, textiles, leather and footwear, metal products, tourism, energy, ITS, etc.). However, the main problems posed by industry continue to be atmospheric pollution and waste management, especially hazardous waste.

ATMOSPHERIC EMISSIONS

According to the State of the Environment Report prepared for the Federal Environmental Protection Strategy (2008-2018), the main causes of excessive air pollution in the Federation of Bosnia and Herzegovina (hereafter FB&H) are the following:

- Industrial pollution (large energy and metallurgy facilities), high industrial energy consumption, and poor maintenance of plants.
- Large heat losses in the residential sector.
- Inadequate structure of fireplaces in households (small-capacity stoves and boilers have mainly been made according to West European licenses that did not allow for efficient, low pollution combustion of local coal).
- Transport and traffic.
- Uncontrolled burning and incineration of waste.

The Zenica steel company, previously considered to be a critical site because of its atmospheric emissions, is currently undergoing a technological restructuring process, although it is not yet known what its future emission level will be.

The paper and cement production industries are also major sources of air pollution due to the huge quantities of chemical agents (hydrocarbons, sulphuric components, etc.) and solid particles emitted in their production processes.

WASTE MANAGEMENT

In FB&H, 270 kg of waste per capita is produced annually. Due to the lack of waste separation, municipal waste also contains industrial, medical and other types of waste. Only 40% of total collected waste is disposed of at municipal landfill sites. There are 54 of these sites. 36% of the total waste generated is not managed at all by utility companies. The situation is even more serious in those urban areas where waste collection services are not provided, since it is reasonable to expect a large number of illegal, unsupervised landfill sites.



Fortunately, significant progress has been made in the implementation of regional landfills. Good examples are Zenica Regional Landfill, whose construction has been finalised, and Banja Luka Regional Landfill, where the reconstruction of the old waste dump into a modern sanitary landfill is well under way. In Bijeljina, the location for the landfill has been determined, and its construction has started. Work is scheduled to be finalised by the end of 2009. For other regions, the locations of the landfills have not been established yet.

The industrial sector in FB&H generates approximately 2 million tonnes of waste per year, of which at least 0.5% is hazardous waste. Only about 10% of this waste is adequately managed, while the other 90% is inadequately disposed of at unprotected locations on or off the industrial site, burnt on open sites or even discharged directly into watercourses.

The industries and facilities generating the largest amounts of industrial waste are: coal-fired power plants (Kakanj, Tuzla), mines, metallurgy, metal processing, and leather.

It is estimated that at least 170 ha of unprotected soil in the area of FB&H is covered with inadequately treated industrial waste, especially slag and ashes from large boilers.

Reliable data on quantities and categories of waste produced by industrial plants are generally not available. It is expected that more information will be available after all the existing industrial installations submit applications for the approval of compliance plans, i.e. environmental authorisation applications, in accordance with the Law on Environmental Protection.

With regard to medical waste, there have been no major changes. Total production of medical waste in FB&H amounts to 2.2 kg/capita/year. Approximately 50% of this waste is hazardous medical waste. Total production of waste from veterinary institutions is 20 t/year. Waste from health and veterinary institutions is mainly collected without separation at source, and it is most often mixed with municipal waste. 18% of waste from health institutions and 12% of waste from veterinary institutions in FB&H is disposed of at sanitary landfills, while 0.5% of waste is encapsulated and/or exported for safe disposal while the rest of this waste is inadequately disposed of, mainly together with municipal waste. Only 2 medical and 2 veterinary institutions in FB&H have equipment for the safe destruction of medical waste. No regulations have been enacted regarding the management of waste from health institutions, while only 1 canton has guidelines for medical waste management, and they are still not fully applied. According to the Law on Waste, the following regulations should be enacted in cooperation with the Ministry of Health:

- Regulation on Waste Management Activities and Tasks Relating to Clinical Waste.
- Regulation on Waste Management Activities and Tasks Relating to Human Medicines.
- Regulation of Requirements of Public Health for Different Waste Management Activities and Operations.

However, those regulations have not been enacted yet.

NATURAL RESOURCES

Although there is no scarcity of drinking water in Bosnia and Herzegovina, both the infrastructure and the purification systems are deficient, largely due to the devastation caused by the war. On the other hand, industrial and urban pollution, excessive use of pesticides, intensive exploitation of forests, poor maintenance of infrastructures and inadequate treatment result in such levels of water pollution that, in many cases, the quality of the water does not allow it to be used as drinking water.

Land use shows inadequate planning and unsound management of the available resources. In many cases, the loss of agricultural land has been due to uncontrolled construction of urban or industrial areas, intensive mineral-mining exploitation, or extensive erosion caused by deforestation. Other areas have lost their agricultural potential as a result of high acid-level contamination, or because of the multitude of anti-personnel mines buried in the fields during the war.

Wood from the forests has been used, and is still used, as a source of energy and for construction work, with high rates of tree felling resulting in rapid deforestation.

2.2. Promotion of Cleaner Production

POLICY AND REGULATORY FRAMEWORK

In recent years, decisions have been taken about the adoption of measures aimed at the promotion of cleaner production. The Law on Environmental Protection and the National Environmental Action Plan are signs of the willingness of official institutions to support cleaner production, as well as the efficient use of water, resources and energy. That trend is also reinforced by commitments taken on under international conventions and involvement in international programmes, especially those related to preventing climate change.

Nevertheless, government steps to address an integrated approach to sustainable consumption and production are still missing. In that sense, the existing economic instruments are insufficient for large-scale implementation of these concepts and environmental considerations are still not included in financial analyses. The price of the consumption of resources such as water and energy is still not calculated on the basis of real costs. Furthermore, there is no coordinated action between research and educational and environmental policies to support sustainable production.

However, the recently adopted Strategy for Environmental Protection (October 2008) has recognised these problems and has adopted a set of specific multi-sector activities to support sustainable consumption and production. Unfortunately the strategy does not recognise the environmental challenges associated with existing foreign trade policy and changes in consumption patterns.

The Strategy contemplates a number of measures, from the study of environmental impact in different parts of the country to the implementation of initiatives covering various areas of concern (e.g. reduction and control of waste, energy efficiency, rational use of natural resources, etc.). The next few years will be of prime importance in determining whether the course initiated by the government will be followed in practice or will simply remain a declaration of good intentions.

With regard to the regulatory framework, there has not been much progress since the last report in 2006²⁵. Many of the laws and regulations that should have been enacted, have not been enacted yet. Likewise, existing laws have not been harmonised with EU regulations and standards. That harmonisation is very necessary and must be done as soon as possible, both through the updating of existing laws and the adoption of new ones.

On the other hand, many companies have not yet taken steps to obtain environmental authorisations, which means that there is still a long way to go in the promotion and strict application of measures directed at controlling and preventing pollution from industrial activities.

Economic instruments in B&H are still insufficiently developed, and they do not encourage the application of “polluter pays” and “user pays” principles. Likewise, the existing instruments do not promote the reduction of pollution or the application of the principles of pollution prevention or recycling and reuse. In that sense, environmental taxes or financial mechanisms to encourage companies to introduce SCP are still lacking in the country.

PROMOTORS AND PROJECTS

The Centre for Environmentally Sustainable Development (CESD) is the most important player promoting SCP in Bosnia and Herzegovina.

The *raison d'être* of the Centre is to contribute to sustainable development through campaigns to raise public awareness, develop human resources, and be involved in environmental education.

Among its most prominent activities are the promotion of cleaner production among industrial companies and decision-makers, the development of projects associated with the IPPC Directive, and educational programmes for workers, NGOs and the media.

Campaigns demonstrating methods of cleaner production, and a project on sustainable management in the protected area of Vrelo Bosne, are among the projects that have been carried out recently, with support from the EU.

Together with CESD, the office of the Regional Environmental Centre for Central and Eastern Europe (REC) in Bosnia and Herzegovina and CENER 21 are important new agents. The REC's office has carried out projects designed to promote dialogue among the different stakeholders involved in environmental matters (e.g. government, scientific-research organisations, business, NGOs, the media). The Business and Environment Programme is an important initiative by that organisation to help companies from Central and Eastern Europe to improve their environmental management.

The Centre for Energy, Environment and Resources, CENER 21, is an independent NGO founded by mechanical engineering experts in 2005, with a clear focus on the areas of energy, resources and environmental protection. Among its objectives are the establishment of a legislative framework for the energy sector, the creation of a strategy for its development, an increase in the efficiency of sectors

²⁵ “State of the Art of Sustainable Production in the Mediterranean”. *MAP Technical Reports Series No. 165*, UNEP/MAP/CP/RAC, Athens, 2006.

like energy, industry, water consumption, transport, and the application of renewable energies, and other initiatives within this framework.

The positive increase in the number of agents promoting SCP has not been accompanied yet by appropriate coordinated action among them

The main projects that have been carried out recently by the above-mentioned organisations and by other relevant agents to promote SCP are the following:

Cleaner Production in the Food Industry:

This project has been implemented by the CESD to inform and encourage representatives of the food industry to implement pollution prevention measures through cleaner production, BAT-IPPC concepts and environmental management systems (e.g. ISO 14000). The project was implemented with financial support from the UNDP/GEF Danube Regional Project, through the REC grant programme. The target groups of the project were the Chambers of Commerce of Banja Luka, Doboje and Bijeljina regions, representatives of food industries and NGOs of these three regions.

The main activities of the project included the organisation of three one-day training sessions (one for each region) and the preparation of a brochure describing the main environmental impacts from the food industry and the more relevant BAT and cleaner production techniques, including case studies. The brochure was used as a work paper during the training activities and was distributed to chambers of commerce.

Capacity Building in Integrated Pollution Prevention and Control in Bosnia and Herzegovina (IPPC-B&H):

This project was implemented by the Hydro-Engineering Institute (Sarajevo) from 2006 to 2008 and aimed to strengthen the implementation of the integrated environmental authorisation (IEP, the Bosnian equivalent of the IPPC) by increasing the capacities of all relevant stakeholders regarding the requirements and proceedings of the IEP developing tailor-made BAT for the industrial sectors concerned.

The project comprised a series of complementary tasks designed to contribute to the achievement of the project's objectives, namely:

- Comparison of environmental authorisation practices in B&H and EU, to assess the differences in concept and implementation between environmental authorisations in B&H and the IPPC framework of the EU.
- Support for the development and establishment of the Polluters Register.
- Assessment of the environmental and technological standards of the food and beverage (F&B) sector, comprising a series of audits for the mapping of production and environmental technologies in the F&B sector and its subsectors.
- Strengthening key national stakeholders' knowledge of IEP and BAT use, via the organisation and delivery of training activities in selected regions.
- Development of BATs (Article 71 of the Law on Environmental Protection) for the F&B sector, including the launching and support of a participatory process for the development of BATs for the F&B sector and its subsectors, based on EU BATs but adapted to conditions in B&H.
- Demonstration of BAT use within the IEP process: training on the new IEP framework via case studies on the issue of integrated environmental permits.
- Dissemination, comprising a series of communication activities that form part of an integrated campaign.

The project was supported by a partnership of private firms including HEIS and Exergia (a Greek environmental consultancy), in close collaboration with the ministries of Environment of both B&H entities and the EC LIFE-Third Countries programme 2005.

Financial Engineering for Energy Efficiency Projects in Bosnia and Herzegovina: Combined Capacity Building and Project Development Programme:

This project was implemented by CENER 21, during 2007-2008. The main objective was to build capacities and skills enabling companies and organisations in B&H to develop, arrange financing for, implement and maintain energy efficiency projects and hence contribute to sustainable development. The outcomes of the programme were business plans for specific projects on energy efficiency.

Energy Auditing of Buildings in Bosnia and Herzegovina: Capacity Building, Methods and Tools:

This Project was also implemented by CENER 21, between June and December 2008. The aim of the project was to increase awareness among various stakeholders on the potential for energy efficiency in the building sector in B&H, and to increase the capacities and skills of local experts in the development, financing and implementation of energy efficiency projects. The objective was also to provide technical support to administrative authorities to harmonise national energy efficiency laws, regulations and standards with EU standards, and to strengthen University education in the field.

The project includes five main components:

- Adapting the ENSI (Energy Saving International Energieeffektivisering) methods and tools on energy auditing of buildings to B&H.
- Training of trainers in applying the ENSI methods.
- Further training of local specialists and education of university students.
- Raising awareness via information/dissemination seminars.
- Guidance to the authorities regarding EU harmonisation of laws, regulations and norms (related to energy efficiency in the building sector).

Development and Improvement of Competitiveness of Small and Medium-Sized Companies in the Field of Increasing Energy Efficiency:

This project was implemented by the Regional Education and Information Centre for Sustainable Development in South-East Europe (REIC), during the period 2007-2008.

The general objectives of the project are to:

- Give support to the small and medium-sized business sector by increasing the quality, quantity and availability of business infrastructure.
- Contribute to regional development by increasing the competitiveness of small and medium-sized companies.
- Contribute to the development of environmental policy and its integration into other sector policies.

The project's beneficiaries are:

- Design companies.
- Construction companies.
- Construction material producers.
- Other activities related to the construction industry.

3. SUSTAINABLE CONSUMPTION

The main challenges related to resources consumption in B&H refer to low energy efficiency, high water losses, excessive exploitation of natural resources and excessive generation of waste. The

abovementioned recent Strategy for Environmental Protection is expected to address those challenges since it strongly supports sustainable consumption and production.

Concerning energy consumption, the use of coal as a major energy source for heating involves a whole range of problems due to its low calorific power and its incompatibility with EU standards. The emission of greenhouse gases into the atmosphere from burning coal is far higher than that which could be achieved by using cleaner energy sources.

Moreover, the country is an intensive consumer of energy, if we take into consideration its energy consumption in relation to GDP, or income per capita. The lack of cogeneration monitoring and rationalisation systems adds to other factors that are common to many Balkan countries (e.g. habits acquired during communist rule, shortage of meters, unrealistic prices, etc.). The new law on electric power aims to tackle those challenges. Likewise, as mentioned above, there are agents in the country actively promoting energy efficiency.

Together with energy use and waste generation and management (whose main challenges were referred to above), water consumption is also a critical issue to be tackled to achieve sustainable development in B&H. Although it is not a scarce resource in the country, almost half of the population does not have access to safe water due to the inefficiency of the infrastructures and systems for water purification and supply. Likewise, the precariousness of the existing infrastructure, together with the absence of regulations and standardised consumption for the whole country, leads to insufficient water supply on some occasions during the summer. On the other hand, leachate infiltrations from uncontrolled landfill sites sometimes cause pollution of rivers and aquifers, some of which have excellent mineral properties that could be exploited. In addition to that, problems associated with unsustainable water consumption also arise from soil erosion and deforestation, floods, or policies supporting low prices which discourage the necessary investment in infrastructures.

Other challenges related to the use of natural resources refer to the use of potentially fertile lands as illegal and uncontrolled rubbish landfill sites, the acidification of land because of pollution, and landslides caused by erosion.

As far as the tools to integrate sustainable consumption in government purchasing policy are concerned, it must be noted that no initiatives on green public procurement have been reported. B&H is still in the stage of ensuring the proper implementation of the public procurement system across the country. In this respect, the contracting authorities lack administrative capacity and have limited knowledge of public procurement legislation. All the foregoing have negative effects on the proper implementation and enforcement of the law. Likewise, public awareness and accountability for public expenditure need to be further consolidated. In short, B&H's preparations to consolidate the field of public procurement have started, but further efforts are necessary. And these developments are a prerequisite for the further implementation of a GPP policy.

Last but not least, the concept of sustainable consumption understood as a lifestyle pattern is little known or developed in B&H. That is partly due to the fact that consumption levels are relatively low compared to surrounding countries. In this sense, the last war resulted in a fall of income per capita, which is still far below that of its neighbours.

4. CORPORATE SOCIAL RESPONSIBILITY (CSR)

The application of corporate social responsibility in B&H is a very recent phenomenon in this country, and the number of projects carried out is still small.

UNIDO and the Global Compact have been the main institutional agents carrying out the first CSR-related initiatives in the country. In 2004, UNIDO conducted a study reporting the low level of the country's awareness of CSR, especially among the business community. Other international organisations that have been working in B&H to support the country's post-war recovery have also helped to start disseminating social responsibility practices, through their work in the protection of human rights, minority rights, and the protection of the environment. For example, the International Rescue Committee (IRC) and the Civil Society Promotion Centre (CSPC) launched, in 2004 and in

2005 respectively, initiatives designed to spread the idea of CSR among enterprises and other interested groups, through talks, conferences, roundtables, etc.

The role of the public administration is still very limited, though there have been some signs of interest. For example, the Ministry of Foreign Trade and Economic Relations has appointed a person to represent the government in CSR matters as far as studies or initiatives presented by third parties are concerned.

Out of the initiatives currently launched by international institutions, it is worth mentioning UNIDO's initiative for the development of CSR in Central and Eastern Europe, whose main objective is to raise awareness of the CSR concept and the opportunities it provides, as well as to create a network of institutional associations, public and private, that promote CSR practices and provide special support to SMEs. On the other hand, the Global Compact has established a permanent office in B&H, which conducts awareness-raising and monitoring activities, compiles information on good practices, provides technical assistance to enterprises, and publishes guide-books and support documents, among other initiatives.

Some NGOs are starting to address CSR, from different angles and with different priorities. The most representative example is the Mozaik Foundation, which focuses on the promotion of CSR among top company executives and which organises an annual award for the businesses which have demonstrated the highest level of social responsibility.


The Faculty of Economy at Sarajevo University has incorporated CSR in its plan of studies, in line with the courses offered in the areas of the Environment and Industrial Ecology.

As far as the private sector is concerned, the main companies supporting CSR are the multinationals and some big national companies, which have incorporated the principles and practices of CSR into their activities. As a local example, Bosnalijek, a major drug company in B&H, launched a satisfaction survey in March 2008 among its workers, to invite them to contribute, with their proposals, to improving the company's preventive and corrective measures. The company also encourages education among its workers, and invests in specialised training courses. Bosnalijek has also launched a grants programme, from which more than 70 students benefited during 2007-2008.

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 CROATIA	POPULATION: 4,550,273
	AREA: 56,540 km ²

1. INTRODUCTION²⁶

The Republic of Croatia has been a candidate country for EU membership since June 2004. Since the country opened EU accession negotiations, it has continuously met the political criteria. In this sense, the Accession Partnership priorities have been largely addressed, Croatia's preparations for meeting EU requirements have continued to progress well and there is a good degree of alignment with EU rules in most sectors. In most areas there has been good progress, principally in terms of legislative alignment but also regarding administrative capacity building. However, further work is still needed, in particular regarding further reinforcement of the administrative structures and capacity necessary for proper implementation of the Community *acquis*. Regarding the economic criteria, Croatia is a functioning market economy. It should be able to cope with competitive pressures and market forces within the EU, taking into account that it will further implement its comprehensive reform programme with determination in order to reduce structural weaknesses.

Economic data			
GDP	\$73 billion (2008 est.)	GDP by sector (2008 est.)	Agriculture: 7% Industry: 31.6% Services: 61.4%
GDP growth rate	4.8% (2008 est.)	GDP per capita	\$16,900 (2008 est.)
Labour force	1.78 million (2008)	Labour force by sector (2008)	Agriculture: 5% Industry: 31.3% Services: 63.6%
Unemployment rate	14.8% (2008 est.)	Gini Index	29 (2008)
Household income (2003 est.)	Lowest 10%: 3.4% Highest 10%: 24.5%	External debt	\$53.3 billion (31 Dec. 2008 est.)
National debt	48.9% of GDP (2008)	Inflation rate	6.3% (2008 est.)
Agricultural products	Wheat, corn, sugar beets, sunflower seed, barley, alfalfa, clover, olives, citrus, grapes, soybeans, potatoes, livestock, dairy products		
Main industries	Chemicals and plastics, machine tools, fabricated metal, electronics, iron products, aluminium, paper, wood products, construction materials, textiles, petroleum and petroleum refining, food and beverages, tourism		

²⁶ Sources: European Commission Enlargement, *The World Factbook*, World Bank Group (see the references at the end of this chapter).

Electricity production	12.25 billion kWh (2007)	Electricity consumption	18.61 billion kWh (2007)
Electricity exports	1.451 billion kWh (2007)	Electricity imports	7.511 billion kWh (2007)
Oil production	17,580 bbl/day (2007 est.)	Oil consumption	101,200 bbl/day (2007 est.)
Oil exports	43.750 bbl/day (2007)	Oil imports	122,100 bbl/day (2007)
Natural gas production	2.892 billion m ³ (2007)	Natural gas consumption	3.30 billion m ³ (2007)
Natural gas exports	751.7 million m ³ (2007)	Natural gas imports	1.055 billion m ³ (2007)
Exports	\$12.36 billion (2008)	Imports	\$25.84 billion (2008)
Commodities exports	Transport equipment, machinery, textiles, chemicals, foodstuffs, fuels	Commodities imports	Machinery, transport and electrical equipment, chemicals, fuels and lubricants, foodstuffs
Trading partners - exports (2007)	Italy 19.3%, Bosnia and Herzegovina 13.9%, Germany 10.2%, Slovenia 8.4%, Austria 6.2%	Trading partners - imports (2007)	Italy 16.1%, Germany 14.4%, Russia 10.1%, China 6.2%, Slovenia 6%, Austria 5.3%

Source: www.cia.gov, *The World Factbook*

2. CLEANER PRODUCTION

2.1. Industry and the Environment

As a candidate for EU accession, Croatia is in the process of aligning its environmental legislation with the EU *acquis*. The areas of greatest concern for industry are greenhouse gas emissions, inclusion in the European Union Emissions Trading System (EU ETS), the strict implementation of the model defined by the IPPC Directive, and other legislative measures, which are seen as an obstacle because they are expensive and difficult to implement, and also because those industries with high energy consumption have problems competing.

As far as air quality is concerned, Croatia's urban and industrially developed areas in Zagreb, Sisak, Kutina, Rijeka, Osijek and Split are classified as category I, with sulphur dioxide, carbon monoxide and benzene emissions. The oil industry in Sisak and Rijeka, as well as the petrochemical plants in Kutina could cause excessive air pollution by specific substances such as H₂S, NH₃, SO₂ and PM.



In order to prepare the current waste management strategy, high-risk areas were identified, i.e. those areas that pose any risk for environmental or human health as a result of inappropriate waste management over long periods of time.

Nine priority action areas were identified: Botovo (discharge of oil), TE Plomin I (slag deposit), the former Coke plant in Bakar, Sovjak area, the spoil dump in Kaštela Bay, the Mravinačka kava area (asbestos), Lemić Brdo, close to Karlovac, and the aluminium industry in Obrovac. The Environmental Protection and Energy Efficiency Fund (EPEEF) provided 162 million HRK for its recovery from 2005 to 2008. Some of the recovery operations have already started, while others are going to begin soon.

Even though they are not as critical as the aforementioned locations, the Borovo factory in Vukovar, the oil discharges of the TVIK plant, tar accumulation on Salbunara beach on the island of Biševo and the electrode factory in Šibenik are also important for the EPEEF.

ATMOSPHERIC EMISSIONS - CLIMATE CHANGE

The Croatian Government adopted the National Plan for the Protection and Improvement of Air Quality in Croatia 2008-2011 in May 2008, as well as the Action Plan for the UNFCCC (UN Framework Convention on Climate Change). The country has just submitted a greenhouse gases emissions inventory for 2008 and 2009 to the UNFCCC Secretariat.

The survey of representative companies carried out in order to develop an action plan has shown that it is necessary to define a commitment for reduction and to implement regulations for sustainable development and environmental protection, as long as the rules of the game are fair and equal on an international level. In any case, the government's efforts are clearly aimed at achieving the maximum level of emissions defined by the Kyoto Protocol and adopted by the EU.

A significant reduction in greenhouse gas emissions has been achieved in the energy and transport sectors, basically thanks to the use of renewable energies, specific fees and taxes on emissions, as well as special taxes on motor vehicles.

The Environmental Protection Operational Programme 2007-2009 (EPOP) is an important instrument in the preparation for joining the EU. It considers three key environmental areas to be improved: air quality, water management and waste discharge and management.

Regarding industrial atmospheric pollution, several measures were implemented some years ago, and they have been considered in former editions of the report. Nowadays, the main atmospheric pollution source is electricity production for industrial use (five coal-fired power stations and three refineries) and transport.

Among other successful projects, it is worth mentioning the installation of the first high-efficiency desulphuration plant in the vicinity of the Plomin II coal-fired power station, and the Phare 2006 project

for the development of a hazardous waste management system, which includes the identification and management of critical sites in Croatia.

Moreover, we should point out that the owners and users of big combustion plants or gas turbines have been forced to submit a specific programme for reducing atmospheric emissions of pollutants to the Ministry of Environmental Protection, Physical Planning and Construction before the end of 2007, in order to adjust emissions to the applicable legislation. Other plans for reductions in the same sector are currently being designed.

ENERGY EFFICIENCY

Energy efficiency is one of the big challenges of the government, and even though some industrial sectors are reluctant, it has the support of civil society. There are several financial and technological aids in order to achieve advances in this field, as well as educational, publicity and awareness programmes.

The development of renewable energy sources is another of the priorities of the government, taking into account the current and future need to import energy, as well as the relative potential of the country to develop alternative sources, such as wind, photovoltaic and biomass energy.

2.2. Promotion of Cleaner Production

As previously mentioned, Croatia is negotiating its access to the EU, and therefore many public institutions are designing and drawing up different strategic documents. In this sense, the National Strategy for Sustainable Development, which is currently in the implementation process, includes consumption and sustainable production among its 8 key factors.

The Water Management Strategy was approved in 2008, and the publication of the Energy Strategy, which will be valid until 2020, is expected soon. These documents focus on the efficient use of resources.

Another important strategy adopted in 2005 is the Waste Management Strategy, which considers issues such as cleaner production and eco-labelling. It includes an action plan for 2007 through to 2015.

Voluntary instruments include the existing national ecolabel, the possibility of getting a certificate according to EMAS or ISO 14001, and, since June 2008, new legislation for eco-labelling for services. It is envisaged that hotels and similar establishments could apply for this labelling, whose criteria will be developed by consulting the main interest groups. The results will be published during 2009.

In the industrial field, in addition to the legislation approved in recent years, the 162 ILO Convention regarding asbestos has been applied, including efforts to renovate the Salonit factory.

Among many laws, amendments and decrees related to environmental protection, waste reduction, air pollution, etc., that were approved since the previous edition of this report, the Environmental Protection Act of 2007 is probably the most important. It sets out a general framework for all industrial environmental procedures, such as energy efficiency, environmental management systems, rational use of resources, etc., as well as the procedures to obtain permits and other legal conditions.

Other laws, such as the new Water Act, are still being designed, although it is expected that this Act will involve the same protection systems as the laws on energy and emissions, in order to create a single protection, control and prevention policy for industrial pollution. On the other hand, we cannot forget the requirements of the EMAS, which are already implemented in the country.

In short, during recent years, many different rules regarding aspects of cleaner production have been enforced (atmosphere, waste, water, energy, health, etc.): not only legal tools, but also strategies, acts, bylaws, etc. This process has always been an objective connected to the transposition of

European Union legislation to national law and this has determined work in the area to date and will continue to do so.

Among the main obstacles or problems regarding the correct application of legislation we find the lack of human and financial resources for correct implementation of the measures, especially when substantial initial investment is needed. In this regard, further involvement and specific training of the private sector and civil society organisations will bring about a higher degree of awareness of cleaner production, so that obtaining resources and applying them will be easier.

In response to this situation, Croatia implemented a national plan focusing on the creation of the necessary administrative tools and human resources for the institutions in charge of establishing dialogue with the representatives of civil society, to foster their participation in the planning process.

Regarding the industrial sector, the adjustment process of current infrastructures and systems to new standards will be a key factor. This is taken into account during the planning of present projects.

ECONOMIC INSTRUMENTS

In connection with integrated pollution control, internal mechanisms have been provided in relation to the IPPC Directive, once again, to meet EU standards.

Regarding incentives and the economic instruments, the Environmental Protection and Energy Efficiency Fund (EPEEF) promotes sustainable consumption and production through credits and compensation for the terms of previously approved bank loans.

Similarly, the Croatian Bank for Reconstruction and Development (CBRD) adds some “special loans” to the guarantees and direct compensations mentioned. The Programme for Financing Environmental Protection, Energy Efficiency and Renewable Energy Resources, which aims to improve waste management, cleaner production, biodiversity, energy efficiency, etc., is an example of these “special loans”.

This institution has other programmes for energy efficiency and renewable energy sources. Public, national, regional and local institutions, as well as companies and self-employed workers, have access to these programmes, when they comply with the legislation in force.

PROMOTERS AND PROJECTS

The most important promoters are the following:

- Ministry of Environmental Protection, Physical Planning and Construction, mainly because of its work on planning, legislation and representation.
- Croatian National Cleaner Production Centre (described in detail in former editions of this report). It is the main agent involved in the promotion of cleaner production, with activities in both energy efficiency and the minimising of waste. This centre is responsible for the implementation of most of the specific projects co-financed by ministries and other national and international funds. It has also started a project together with the UNIDO for the establishment of a regional centre for corporate social responsibility.
- The Croatian Environment Agency formerly played an exclusively informative role, but now it has wider responsibility thanks to the Environmental Protection Act, which has promoted some aspects related to EMAS. The Agency works in coordination with the Croatian Accreditation Agency, which is responsible for auditing.
- Besides providing financing opportunities, the EPEEF has designed a three-way system with credit entities and companies, which assumes the payment of market interest to credit entities if they invest in environmental protection or energy efficiency projects. In this way, not only projects but also promoters are created.

- The Croatian Managers and Entrepreneurs Association has organised several workshops and round tables dealing with issues related to sustainable consumption and production, waste management, economy and climate change, the IPPC Directive, supply chains and sustainable consumption, etc. in cooperation with ministries and other Croatian institutions with the objective of raising the awareness of the corporate sector.

There are some other organisations that arrange activities related to cleaner production and sustainable growth, such as the Croatian Business Committee for Sustainable Development (CBCSD) and the Regional Environmental Centre for Central and Eastern Europe (REC), which is present in several countries of the region.

3. SUSTAINABLE CONSUMPTION

Sustainable consumption, as well as sustainable production, has been identified by the Croatian Government as one of the eight key challenges for the future. Numerous different measures are being considered in organic agriculture and livestock farming, corporate social responsibility (CSR) promotion and green purchase incentives, effective waste management, incentives for sustainable tourism, and financial measures to reduce the consumption of resources.

During the Sixth Ministerial Conference "Environment for Europe", celebrated in Belgrade in 2007, Croatia promoted the document *Towards sustainable consumption and production in the Southeast of Europe*, showing its willingness to make improvements in this field, as well as working for the understanding and cooperation of the countries of south-eastern Europe and Central Asia.

The national strategies show that the government considers atmospheric pollution, water management, waste discharge, and waste management the four main areas to be improved. They will be discussed from the viewpoint of sustainable consumption.

Besides those problems stemming from an inefficient waste management network that does not cover the whole country, and non-sustainable consumption habits inherited from a former model, one of the main causes of pollution is tourism and its fast growth in recent years. Croatian tourism has mainly developed on the coast and islands (95%). Maritime pollution is generated from goods transport, harbour and tourism activities, as well as from repair work and shipyards.

Since the big industrial plants causing pollution are not located on the coast or have stopped production in recent years, the main cause of atmospheric pollution in this area comes from transport and traffic. Atmospheric pollution from solid waste and discharges is especially important during the summer as a direct consequence of tourist activity, mainly in small towns that do not have the necessary infrastructure. The solution to this problem has been foreseen with the construction of several local waste management centres that should be operative in the year 2018.

ATMOSPHERIC EMISSIONS

Although advances have been made within the industrial sector thanks to the ratification of different international protocols, and the application of legislation restricting the emissions of some industrial plants and factories, the application of these initiatives to the whole population, and customer information, are still at an early stage.

At present, an integrated system to monitor and analyse air quality has not been completely developed. A state network for air quality will not be established until the end of 2010. Nevertheless, some progress has been made; different institutions are coordinated to exchange data related to measuring pollution. Over and above the modernisation of those technologies that are more aggressive with the climate, public investment is necessary to promote the development and spread of new technologies, such as those for energy efficiency.

The Air Protection Act has been modified in line with EU legislation, while the National Plan for Protection and Improvement of Air Quality 2008-2011 has been adopted. The aim of this plan is to

define and prepare objectives and measures for each sector, specifying priorities, timelines and the agencies involved, in order to protect and permanently improve air quality throughout Croatia.

The plan gives priority to those projects that reduce pollution that is harmful for human health and call for short-term development, committed financing and available human and administrative resources. Initiatives whose effects extend to other fields, such as water or land protection, are also a priority.

According to legislation, if an area registers high atmospheric pollution levels, the corresponding authority—municipal or regional—is forced to establish an action plan to reduce pollution gradually until it is below the highest permissible levels. If pollution is generated by the population, the municipality will take charge of preparing and financing the action plan. If a single or main polluting agent is identified, it will be responsible for paying for and managing the plan.

Regarding the use of renewable energy, hydro energy is the dominant source, followed by wood waste (biomass), geothermal energy, and more recently solar and wind power.

WASTE MANAGEMENT

The Waste Management Strategy from 2005 was the basis for the Waste Management Plan 2007-2015. Innovations regarding construction waste, waste categories in landfill sites and the conditions and management of sludge when used in agriculture were introduced. The measures introduced by new regulations and guidelines (always seeking convergence with the EU) include reducing the proportion of tyres that can be used to generate energy from 50% to 30% of the total collected and economic advantages and penalties according to the amount of waste produced. Also, under these measures many of the landfills in the country, especially illegal landfills have been closed or reconstructed.

It is estimated that at the end of the plan, in 2025, the local waste disposal service will cover the whole population, the amount of recycled or treated waste will be significantly higher, and the disposal of untreated waste will be reduced. Even though it has not been specifically recognised, the impact of waste management on climate change is an indirect strategy objective, as the comprehensive management concept contributes to reducing methane emissions from landfill sites.

Generally, most work is being done in the legislative field, leaving civil society organisations to play a promotional and educational role when it comes to waste generation and its environmental impact.

WATER MANAGEMENT- DISCHARGES

The National Water Management Strategy was adopted in 2008. Several programmes related to water management are already running or under development in order to monitor water consumption (general and drinking water).

The main objectives of this strategy are:

- The supply of sufficient quantities of drinking water of good quality for the population.
- The supply of the necessary quantities of water of adequate quality for various economic purposes.
- The protection of people and property against floods and other adverse effects of water.
- Achieving and preserving the good state of water in order to protect aquatic and water-dependent ecosystems.

The problem for the business sector lies in the fact that local governments, public companies and public utility companies can independently define and charge the rates that companies pay for water management. For example, in Zagreb the price of water has been modified 16 times in the last three years.

For the time being, companies pay according to the volume of water supplied, without taking into account the quality of the service or the amount of purified water used, and consequently a change in the tariff system to reflect these aspects is required.

Regarding sewage water and discharges, the National Strategy proposes the following objectives:

- Construction of treatment plants in areas that already have sewage systems.
- Enlargement of the sewage system and treatment facilities in areas that already have a developed water supply.
- Repairing the existing sewage system in order to prevent drinking water pollution because of permeability.
- Increasing the efficiency and reliability of the drinking water supply system and sewage system, introducing the “polluter pays” principle.

NATURAL RESOURCES

Some progress has been made to protect nature. The Animal Protection Act and the development of the Registry of Protected Natural Values are the main legislative advances that have led to 6% of the country now being considered as protected. Nevertheless, the objectives set by Natura 2000 network have not been reached yet, and administrative capacity in this field is still very limited, especially on the local level.

3.1. Promoters and Projects

Following its Environmental Protection Act, the Ministry of Environmental Protection, Physical Planning and Construction has incorporated new considerations of and references to eco-labelling. The interest shown by the hotel sector has been reflected in the expansion of the service sector, especially tourist services. The basic requirements for the implementation of the European Union eco-labelling system, as well as new criteria and product groups that are better suited to new technologies and sustainable development, have also been considered.

Another of the initiatives in this field is the quality label, which includes other environmental aspects related to energy management, eco-schools, eco-tourism, etc.

During 2009 the Ministry of Agriculture, Fisheries and Rural Development is expected to start preparing the development of the National Action Plan for Ecological Agriculture. The Act, which already deals with this field, adjusts Croatian legislation to EU standards, which not only affects trading, but also labelling, certification and inspection.

On the public level, the Environmental Protection and Energy Efficiency Fund (EPEEF) has shown that it can be a strong promoter of financing initiatives related to sustainable consumption, such as loans, subsidies, contributions, etc. The EPEEF provides non-refundable funds to companies and individuals that are willing to accept energy inspections in their facilities.

Until now, the EPEEF has co-financed 119 projects related to energy efficiency. These projects aspire on one hand to establish the current situation of Croatian infrastructures and the energy supply and, on the other hand, to identify possibilities for improvements in efficiency that will guarantee sustainable growth.

This institution also organises educational and promotional activities through its publication *Eko revija*, with articles, leaflets, etc. about the efficient use of energy, natural resources and wildlife.

The Ministry of Economy, Labour and Entrepreneurship, together with the UNDP, also launched a 4-year project in 2005, with the fundamental aim of promoting the application of efficient technologies and processes in Croatia. The project was addressed to the service sector and households, and its main objective was to reduce energy consumption and greenhouse emissions. This project, co-

financed by the Global Environmental Facility and other Croatian financial institutions, affects 40% of the consumption of the country.

Two pilot activities to improve energy efficiency started in Sisak in 2006: "House in order" and "Systematic energy management in cities and counties".

There are different associations among civil society with different environmental, development, social, consumer protection, etc., interests. All of them organise awareness and educational activities, which are often directly or indirectly connected to the promotion of more sustainable consumption.

It is important to emphasise a project developed in Zagreb in 2005, which hosted the Workshop for Sustainable Consumption and Production and Education for Sustainable Development, organised by the Ministry of Environmental Protection, Physical Planning and Construction in collaboration with the Croatian National Cleaner Production Centre and the UNEP. Representatives from almost all the countries in the region, the United Kingdom, Ukraine and UNEP took part, with the purpose of underlining the importance of sustainable consumption and production, and education for the future of Europe and the world, and to promote dialogue among governments, civil society, companies and the educational sector within the south-eastern region of Europe. In May 2009, the Ministry of Environmental Protection, Physical Planning and Construction organised the first of a number of workshops on drafting action plans for the implementation of the Strategy for Sustainable Development of the Republic of Croatia.

3.2. Sustainable Public Procurement

Government agencies are aware that public procurement has to stimulate sustainable development measures. The Public Procurement Act was adopted in October 2007 (in force since January 2008). The new Croatian legislation is harmonised with the EU *acquis* in the field of public procurement. The Strategy for the Development of the Public Procurement System in the Republic of Croatia and the Action Plan for the implementation of this strategy was adopted by the Croatian Government in June 2008. Also, the government has adopted a programme for training and technical education for the needs of the public procurement system whose implementation on all levels is under the jurisdiction of the Directorate for Public Procurement of the Ministry of Economy, Labour and Entrepreneurship.

In conclusion, the project to incorporate sustainable criteria in procurement is being implemented, but further work will be necessary.

4. CORPORATE SOCIAL RESPONSIBILITY (CSR)

From June 2004, when Croatia achieved official EU candidate status, initiatives to spread the concept of corporate social responsibility (CSR) started to develop, especially among the business sector.

The local office of the United Nations Global Compact was opened in 2007, the culmination of dissemination by the UNDP as a collaborating partner and promoter of different local entities. Since then, the office of the United Nations Global Compact, along with other local agents involved in the promotion and expansion of CSR practices, has become a flagship institution.

The first CSR National Conference (2005 Agenda) was held in December 2004, and attracted the attention and participation of academics, representatives of institutions, companies and entrepreneurial associations, international organisations, and civil society. Since then, numerous CSR projects and initiatives have followed, especially informative and educational initiatives promoted by different social agents, such as entrepreneurial associations, NGOs or international organisations.

In the last few years many companies have been publishing sustainability reports and social responsibility reports, in which they report their achievements in environmental protection and social issues. The methodology for the implementation of CSR improvements at company level is based on the triple bottom line approach, which combines the application of tools in three main areas: productivity, the social domain and the environmental domain.

It is relatively frequent to find good practices among Croatian companies when it comes to environmental protection (especially among industries), human resources, customer satisfaction and relationships with the community. Regarding the importance that companies give to the environment, customers and the community, it would appear that Croatian companies value their image, visibility and reputation. Regarding human resources, the lack of a specialised labour force provides a practical reason for, the continuous training and recycling of professional staff.

CSR practices related to corporative government, risk management, strategic planning, supply chain management, and socially responsible investment need to be further developed.

PROMOTORS AND PROJECTS

Even though CSR is mentioned in the framework of the National Strategy for Development 2006-2013, there are currently no specific strategies for social responsibility (even though there are some legal precedents regarding privatisation, environmental protection and even donations).

If we consider the degree to which companies incorporate CSR, we find that big companies with foreign shareholders, companies related to the public sector and those oriented to foreign markets are the companies that show the strongest motivation and commitment to monitor and spread social responsibility practices.

In conclusion, CSR is present to a relative extent in the Croatian industrial context. There is potential and some willingness to increase its role in future years. Those policies and initiatives aimed at bringing about accession to the European Union may provide a stimulus for the industrial network and favour a change of attitude concerning less well developed aspects.

The following agents and initiatives should be mentioned:

- The Ministry of Economy, Labour and Entrepreneurship has worked with local and international organisations, especially the UNDP, on the development of various projects, such as “Corporate Social Responsibility and Quality Workplace Project in Croatia” (2004 - 2007) and “Removing Barriers to Energy Efficiency” (2005 – 2010).
- The work done by other institutions linked to CSR and dependent on the Ministry of Economy, Labour and Entrepreneurship, such as the Customer Protection Department, the Croatian Standards Institute (in charge of ISO 9000 and ISO 14001 Standards) or the Office for Social Partnership.
- The Ministry of Environmental Protection, Physical Planning and Construction, the Environmental Protection and Energy Efficiency Fund (*EPEEF*) and the Croatian Bank for Reconstruction and Development.
- We should not forget the role of some international organisations in promoting and disseminating CSR. The United Nations Development Programme (UNDP) is fundamental because of its continuous presence since 2004. Through a number of programmes, it has supported and contributed to the construction of a favourable environment for CSR, sponsoring associations of companies that contribute to improvements in standards, sustainable development and investment in less developed areas of the country. Other initiatives are seminars and conferences for experts in different areas, the promotion of sustainable tourism in Gacka River, and the creation of a Global Compact local office.
- The work of the Global Compact in encouraging the commitment of companies and other organisations to its 10 principles has become an example for the country and it may be the organisation that leads CSR promotion in the country.
- Within the business area, there are several organisations that, to a certain extent, work to promote CSR. We may highlight the Croatian Business Council for Sustainable Development (HR BCSD), which comprises a significant number of companies in the country and locally represents the World Business Council for Sustainable Development (WBCSD).
- The Croatian Chamber of Economy (CCE) is deeply involved in CSR matters, due to the interest shown by the companies that belong to this chamber. Working jointly with the HR


BCSD it has promoted the Croatian Entrepreneurial Index for CSR and Sustainable Development. This project includes a specific methodology supported by the British organisation “Companies in Community”, and aims to complement and support the winners of the most prestigious business awards in Croatia, the *Zlatna kuna* (Golden Marten).

- Other business organisations that are linked to CSR are the Croatian Employers’ Association and the Croatian Managers’ and Entrepreneurs’ Association, whose activities are intended to inform other institutions and favour dialogue with them.
- The Croatian National Cleaner Production Centre, which was previously mentioned, has been offering subsidised advice on CSR since 2004 with various projects (Development of Corporate Social Responsibility (CSR) in Croatia; Corporate Social Responsibility by the Implementation of Cleaner Production; Corporate Social Responsibility through the Implementation of Cleaner Production in Selected Companies in the Processing Industry (Labud Ltd., Badel Ltd., Kutrilin Ltd.); and Development of a CSR Regional Network for SMEs 2008 - 2010). Other organisations working in this area are the Management Consultants’ Association and the Croatian Quality Society.
- There are also some NGOs that promote SCR as a complementary part of their main objectives, especially the defence and protection of the environment. The work of *Zelena akcija* (Green Action) or *Eko-Kvarner* should not be forgotten. Civil society organisations that focus on favouring cooperation between sectors, reporting non compliance by other agents, and on avoiding bad practices are less numerous and their activities are less systematic.

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 MONTENEGRO ²⁷	POPULATION: 678,177
	AREA: 13.812 km ²

1. INTRODUCTION

After the dissolution of the union between Montenegro and Serbia in 2006, the country became a member of several international financial institutions, such as the European Bank for Reconstruction and Development.

In January 2007, Montenegro joined the World Bank and the International Monetary Fund, and it is presently seeking to become a member of the World Trade Organisation. A stabilisation and association agreement has been signed with the European Union, as a prior step to a possible full membership, which has already been applied for.

Unemployment and disparity in regional development are the key problems at the political and economic levels. Montenegro has privatised its major aluminium producers, the predominant industry, as well as most of its financial sector, and has started to attract foreign investment in the tourism industry.

Economic data			
GDP (2008 est.)	\$7.16 billion	GDP (real growth rate)	7.5% (2008 est.)
Income per capita	\$10,600 (2008 est.)	Labour force	259,100 (2004)
Labour force by sector (2004 est.)	agriculture: 2% industry: 30% services: 68%	GDP by sector (2004 est.)	Agriculture: N/A Industry: N/A Services: N/A
Unemployment rate	14.7% (2007 est.)	National debt	38% of GDP (2006)
Inflation rate	3.4% (2007)	External debt (2006)	\$ 650 million
Agricultural products	Grain, tobacco, potatoes, citrus fruits, olives, grapes, fish and sheep	Main industries	Steel, aluminium, farm-product processing, tourism, consumer goods
Electricity production	2.86 billion kWh (2005 est.)	Electricity consumption	18.6 million kWh (2005)
Electricity exports	0 kWh (2005)	Electricity imports	0 kWh (2005)
Oil production	0 bbl/day (2007 est.)	Oil consumption	450 bbl/day (2004)
Oil exports	314 bbl/day (2005)	Oil imports	6,093 bbl/day (2005)
Exports (2003)	\$ 171.3 million	Imports (2003)	\$ 601.7 million

Source: www.cia.gov, *The World Factbook*.

²⁷ The information given in this section has not been confirmed by the CP/RAC National Focal Point for Montenegro.

2. CLEANER PRODUCTION

2.1. Industry and the Environment

Industry in Montenegro consists mostly of a small group of large companies dedicated to the production of steel, iron, beer, paper, detergents, etc., among which the largest is the aluminium industry, represented by the KAP Company in Podgorica. This company is responsible for most exports from Montenegro, and together with the Niksic steel plant consumes almost 50% of the total electricity production in the country.

In addition to these large industries, there are a great number of SMEs near the urban centres, which have experienced rapid growth in recent years, in response to the government strategy to support small modern private companies, to enhance the country's export dynamics.



The main environmental problems of Montenegro's industry arise from obsolete and inefficient technologies and equipment, in addition to a sector dominated by a handful of firms with a large specific weight in the economy, highly dependent on intensive energy consumption.

Government priorities, as reflected in its National Strategy for Sustainable Development, consist in the effective implementation of the EU IPPC Directive, as well as the reinforcement of economic instruments based on the "polluter pays" principle. The country is also considering measures aimed at encouraging cleaner technologies, energy efficiency in industry, and the rational use of natural resources.

Since the previous publication of this report²⁸, no major changes have taken place in the main hot spots and sensitive areas. The government has initiated several projects aimed at solving the serious pollution and accumulated waste problems, but they are still at the development stage.

The coal-fired power plant in Pljevlja is still one of the major pollution sources in the country, together with the KAP company and the Mojkovac mines. The south of the country, around Lake Skadar, is also under great environmental pressure due to industry and urban waste in areas such as Bar, Ulcinj or Podgorica (KAP headquarters).

²⁸ "State of the Art of Sustainable Production in the Mediterranean". *MAP Technical Reports Series No. 165*, UNEP/MAP/CP/RAC, Athens, 2006.

Among the different initiatives undertaken, the rehabilitation and cleaning of the lead and zinc mines in Mojkovac may be emphasised, as well as the construction of a waste treatment plant.

A project has been launched for the restoration, cleaning and development of the Lake Skadar area, in coordination with the Albanian government, aimed at solving the current pollution problems and the intensive use of natural resources in the area through the creation of a protected ecosystem.

Some of the measures undertaken are implemented through the privatisation of public companies, one condition being the establishment of systems for environmental management, energy efficiency or waste treatment, among others.

In the services sector most of the problems stem from tourist development through uncontrolled urbanisation, disposal of waste in uncontrolled landfill sites and dumping into the sea, the destruction of natural resources, etc. The problems are especially serious in the Kotor area, which has witnessed huge tourist growth in the last few years.

AIR EMISSIONS - ENERGY

In Montenegro, the main air polluters (large industries) operate without efficient filtering or reduced emission systems, nor do they measure such emissions. Although most urban areas in the country are below the recommended maximum levels for air pollution concentration, there are certain areas, such as Podgorica, Niksic and Pljevlja, where those limits are substantially exceeded with gases such as fluorite or SO₂.

The technology used in most of Montenegro's industry is characterised by high emission levels and waste production. One of the obstacles to mitigating this situation is the lack of appropriate legislation and emission measurements.

Among the initiatives considered by the government, a reduction in the use of fossil fuels and their levels of sulphur, the introduction and efficient implementation of the IPPC Directive, and a continuation of credit lines to improve energy efficiency are of particular interest.

However, the creation of the necessary conditions to carry out projects for clean development systems, falling within the Kyoto Protocol, is the top priority.

WASTE MANAGEMENT

Montenegro's situation, regarding waste generation and treatment, is far from satisfactory. As mentioned above, the country's industry is highly polluting, despite which there are no adequate mechanisms for prevention and reduction, separation at source, recycling, or applying subsequent treatments, especially in the case of hazardous waste.

In addition to the critical points mentioned above, there are many other areas where the waste collection system is inexistent. This situation has led many firms to dispose of waste in common landfill sites, and even to store it in their own warehouses, creating serious safety and health problems.

Although the government is treating this issue exhaustively, in its strategy for sustainable development the initial projects are aimed at the most critical points, leaving global restructuring of the problem for the future.

Industrial and domestic sewage is dumped in natural spaces practically without any treatment. Furthermore, the industrial sewage discharged into the public sewage system does not receive any prior treatment either, thus polluting the entire system.

As top priorities in this sense, the government plans to build and repair the sewer system, to improve the pumping stations, and to build treatment plants for industry. The aim is to discharge most of the industrial waste into the public sewer system after adequate treatment.

NATURAL RESOURCES

The major industrial water consumers are the aluminium and steel plants, together with the thermal power plant in Pljevlja, with 75% of total industrial consumption. More than half of this water comes from underground sources. Agricultural consumption, however, scarcely represents 10% of the total.

As for soil quality, some industrial activities such as extraction and mining, as well as metal processing or building bricks and tiles, pollute and destroy the soil, causing permanent deterioration.

The government's priorities focus on protecting resources, starting with a closer follow-up of industrial activities, the requirement of certificates (such as the FSC for wood) and the search for alternatives for cleaner production, and less intensive use of resources.

TOURISM

This economic activity deserves a specific chapter, since it constitutes a great contradiction for the country. On the one hand, its rapid growth in recent years is welcomed and encouraged by the government, which sees in it a source of foreign income beneficial for the country as a whole but, on the other hand, this growth is having negative impacts on the environment.

We can point to both terrestrial and sea pollution (unofficial and uncontrolled dumping, waste dumping in the sea, sea transport pollution, etc.) and uncontrolled housing developments, which destroy natural resources, the landscape, the coastline, etc., and generate imbalance in the ecosystems and biodiversity of coastal areas.

In this connection, they plan the introduction of a National Strategy for the Integrated Management of Coastal Areas, as well as taking steps to reduce coastal and sea pollution.

2.2. Promotion of Cleaner Production

NATIONAL STRATEGIES

Since Montenegro voted by referendum for its separation from Serbia in 2006, its institutions have made a great effort to legislate and plan strategies for the development of the country which, among other purposes, favour its incorporation in the European Union.

Their proposals and ministerial decisions have been profoundly influenced by EU directives, whose standards are adopted as medium- and long-term objectives.

Concerning cleaner production, the concept appears repeatedly in the National Strategy for Sustainable Development, approved in 2007, based on the principles and recommendations of the Rio Declaration and Agenda 21, as well as the Johannesburg Plan. Furthermore, this strategy has been harmonised with the MSSD (Mediterranean Strategy for Sustainable Development), and its fundamental principle is "economic development ensuring that sustainability requirements are achieved by means of integrating economic and environmental policies, and diminishing the effects of growth on the environment."

In this sense, a wide range of measures are being proposed, such as internalising environmental costs (e.g. applying the "polluter pays" principle), the establishment of environmental management systems, a stricter application of the law, the implementation of a law for the study of environmental impact, and a law covering the IPPC Directive.

Activities aimed at establishing a Programme for Cleaner Production in Montenegro will continue, including the creation of the National Cleaner Production Centre, approved a few years ago but not yet launched.

Other measures planned are the adoption of the National Strategy for the Integrated Management of Coastal Areas, to launch a national plan to eliminate substances harmful to the ozone layer, including CFCs, and the reinforcement of the Environment Protection Agency.

PROMOTERS AND PROJECTS

Several types of projects are planned with the cooperation of international agents, such as the Lake Skadar project, mentioned previously, and the plan for the creation of an air quality monitoring system in Montenegro with Italian support. At the local level, small companies rely on government support, through its reinforcement policy and assistance included in its SME Development Strategy in Montenegro, which favours cleaner production measures such as energy efficiency, waste management, and the rationalisation of the consumption of natural resources.

However, there is hardly any presence of civil society in the field of cleaner production, apart from some modest projects aimed at raising awareness and encouraging the responsible management of resources and waste. It is worth highlighting the work of the Montenegrin Employers' Federation (EMF), which works actively to achieve the above aims with feasibility studies, and by contacting other international networks and actors.

3. SUSTAINABLE CONSUMPTION

The concept of sustainable consumption does not appear specifically in national strategies, such as the 2007 strategy for sustainable development. However, it does appear implicitly in many other actions and measures envisaged by the government, especially in the chapters dealing with energy, waste management, and the rational use of natural resources.

As for responsible purchasing, either by government bodies or private companies, it appears that no policy has been approved for that purpose, although in some cases social or environmental aspects are considered in public contracts.

In civil society, few organisations consider sustainable consumption as a priority, although they may include responsible consumption practices in their environmental campaigns. The headquarters of the Regional Environmental Centre for Central and Eastern Europe (REC) in Montenegro may be singled out for its awareness-raising and training work among the public and other civil society organisations.

ENERGY EFFICIENCY

The country's limited energy efficiency becomes obvious when comparing the energy intensity ratio of 0.13 kgoe/€ in the EU, with the 0.432 kgoe/€ in Montenegro, i.e. three times more. The following factors are among the main reasons for this lack of efficiency: obsolete equipment and installations, the lack of appropriate technology, and the antiquated and unrealistic pricing system.

As in other Balkan countries, the inhabitants have hardly any experience in the responsible management of resources, owing to various conditioning factors such as their former centralisation, the absence of measurement, and the lack of knowledge or awareness regarding the protection of the environment and the fight against climate change.

The government is especially worried about the energy problem, because a third of its consumption depends on imports from other countries, and the future does not seem very promising in that sense.

The main objectives of their National Strategy and Energy Policy include the rationalisation of energy consumption, the aim being to achieve a 10% reduction in consumption by 2010, compared to 2005, a reduction in dependence on foreign countries by developing renewable energy sources, and guaranteeing supplies to the whole country, especially to less privileged areas.

To this end, there is a plan to create an independent central agency or institution, responsible for monitoring and implementing production and energy efficiency measures from renewable sources, as

well as a series of economic tools and awareness-raising campaigns to encourage rational use by the public, the refurbishment of power systems in buildings, and the use of renewable energy sources.

Regarding the latter, efforts are being channelled towards hydroelectric plants, as well as wind-power, for which adequate sites are already being sought and evaluated.

Finally, the government will promote a system to monitor and audit energy consumption, based on the EUROSTAT system.

WASTE MANAGEMENT

In spite of several laws passed since 2004 relating to waste management and urban dumping, these still represent a major problem for the country. On the one hand, the lack of strict compliance with current legislation—due in many cases to lack of funds—and on the other, the growth of urban centres and tourist areas, are the main reasons for the problem remaining unsolved.

It is estimated that at least 50% of solid urban waste ends up in unofficial or uncontrolled landfill sites, without any previous selection or treatment. In coastal areas, a lot of the solid and liquid waste is dumped in the sea, also without any prior treatment.

The government has repeatedly included the problem of waste management in its policies and strategies, putting forward a series of measures which have already been initiated, or are planned for the next few years. Among others, they plan the rehabilitation and extension of sewer systems along the coast, draining the most critical points, supporting waste management companies, and building adequate municipal landfill sites.

Various policies emphasise the importance of segregating and separating solid waste, with a view to later recycling or reuse. To this end, a pilot project is going to be set in motion in the municipalities, with the support of the Ministry of Tourism and Environmental Protection, which will help to reduce waste and increase the recycling rate.

A recycling centre is currently being built in Podgorica, which is nearly completed and will soon be operational.

In this area, other joint projects, or schemes supported by international institutions such as UNIDO or the KFW Bank within the framework of German financial cooperation, may also be highlighted.

NATURAL RESOURCES

Starting with the most basic resource, fresh water, Montenegro's consumption rate is exceptionally high (almost double that of the EU). Although there is no shortage of water, the reason for its excessive consumption is generalised wastefulness, and the large number of leaks in the distribution grid.

The first problem is due to the bad habits acquired in the past, together with the unrealistic and old-fashioned low price policy, which, together with the lack of meters, encourage irresponsible consumption.

On the other hand, a secure permanent supply is not available in the whole country. Lack of supply and water shortages are common in rural areas and along the coast during summer.

As for other natural resources related to human consumption, certain problems have been detected regarding the protection of forests: excessive felling, a lack of respect for biodiversity in coastal areas, and a disregard for the degradation of the soil and the rivers.

As in previous cases, the government plans, within the framework of its national strategies, various saving and efficiency measures related to water consumption and to the protection of the environment,

including the building of adequate infrastructures, the implementation of control systems, and launching awareness campaigns aimed at the public.

4. CORPORATE SOCIAL RESPONSIBILITY (CSR)

The concept of CSR is very new in Montenegro, and the first studies on the subject have taken place in the last few years. As in other countries in the region, the studies showed that most companies and institutions associated CSR with donations, social work, etc., and had no real knowledge of the concept. In other cases, however, it was indeed related to practices such as transparency, or business ethics, but without including the protection of the environment, or the consideration of stakeholder groups in decision making.

As well as some seminars and round tables to introduce CSR in the country, the first major project (still operational) was developed in 2007 for the whole Balkan region, promoted by several international development organisations. This project, developed locally by the Directorate for the Development of Small and Medium-sized Enterprises, includes setting up a resources centre, writing regular publications, organising activities to introduce CSR, and creating an award for “socially responsible” firms.

The UN Global Compact works actively whether directly or indirectly, via other UN organisations, throughout the region. In the case of Montenegro, for instance, the UNDP office has organised studies, lectures and debates, encouraging a rapprochement between different interest groups.

In spite of lacking a specific clause dealing with corporate social responsibility, the strategies approved recently by the government include plans and measures imbued with the CSR spirit. Thus, for example, there are constant references to the need for firms to protect the environment, mentioning specifically the need for a more even income distribution in the country, highlighting transparency and respect for human rights, etc. Even the process of drawing up the National Sustainable Development Strategy includes clear nods in the direction of CSR, through the participatory process designed to include all the stakeholders in its design and definition.

From their different perspectives, the ministries of environment and finance incorporate measures with a clear bias towards CSR, such as the introduction of emissions and pollution measuring systems in production companies and the creation of the Anti-corruption Agency, respectively.

Up to now, however, there is no evidence of educational institutions having included CSR in their curriculum.

At a legislative level, many of the laws passed in recent years are linked to social responsibility principles in the areas of transparency and anti-corruption, the defence of human rights, working conditions, etc.

Among the civil society organisations we may single out the Centre for Development of NGOs (CRNVO), that some consider to be a leader in the introduction of CSR in Montenegro. It has developed several projects to promote CSR, as well as studies involving companies, the general public, the media, and civil society. We may highlight, for instance, the work done in 2005 by the NGO MOST, which created a coalition of more than 25 civil society organisations to protest against the construction of a hydroelectric plant in the river Drina, which they considered unsustainable and damaging from an environmental viewpoint.

On the companies' side, some that have stood out at a local level for their pioneering practice of CSR are the Commercial Bank of Montenegro (CKB), Montenegrin Telecom, the Prva Banka Crn Gore, and Pro Monte—the largest mobile phone operator.

An example of a CSR understanding by Montenegrin companies may be seen in the actions of the Pro Monte enterprise, which is forging an image of social responsibility with its sponsorship activities. Financing festivals and fairs, sponsoring sporting activities, and supporting centres against drug


addiction are among the initiatives they have fostered. These activities are closer to social welfare than to CSR, although in many cases they may be the first step towards more specific action.

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ANNEX III: SUMMARY OF COUNTRIES ANALYSED. MENA COUNTRIES

Analysis of the situation in the MAP countries: Countries of the Middle East and North Africa (MENA).

 EGYPT	POPULATION: 81,713,517
	AREA: 1,001,450 km ²

1. INTRODUCTION

Occupying the north-east of the African continent, Egypt is crossed by the fertile Nile valley, where most of the country's economic activity takes place. Recent Egyptian governments have carried out a steady opening up of the economy based on reforms to promote the entry of foreign investment and the growth of GDP. In 2005 the government reduced taxes, limited energy subsidies and privatised various companies. Since then GDP has grown by 7% annually.

Economic data			
GDP (2008 est.)	\$452.5 billion	GPD growth rate	7% (2008 est.)
GDP per capita	\$5,500 (2008 est.)	Labour force	24.72 million (2008 est.)
GDP by sector (2008 est.)	Agriculture: 13.4% Industry: 37.6% Services: 48.9%	Labour force by sector (2001 est.)	Agriculture: 32% Industry: 17% Services: 51%
Unemployment rate	8.7% (2008 est.)	National debt	84.7% of GDP (2008 est.)
Household income (2000)	Lowest 10%: 3.7% Highest 10%: 29.5%	Inflation rate	18% (2008 est.)
Agricultural products	Cotton, rice, cereals, wheat, beans, fruit, vegetables, sheep, goats, beef cattle		
Main industries	Textiles, food, tourism, chemical products and pharmaceuticals, hydrocarbons, construction, cement, metals, lighting		
Electricity production	109.1 billion kWh (2006)	Electricity consumption	96.2 billion kWh (2006)
Electricity exports	557 million kWh (2006 est.)	Electricity imports	208 million kWh (2006 est.)
Oil production	664,000 bbl/day (2007 est.)	Oil consumption	652,700 bbl/day (2006 est.)
Oil exports	204,700 bbl/day (2005 est.)	Oil imports	140,000 bbl/day (2005 est.)
Natural gas production	47.5 billion m ³ (2007 est.)	Natural gas consumption	31.8 billion m ³ (2007 est.)

Exports	\$33.36 billion (2008 est.)	Imports	\$56.43 billion (2008 est.)
Commodities exports	Oil and its derivatives, cotton, textiles, metals, chemical products		
Commodities imports	Machinery and equipment, food, chemical products, wood derivatives, fuels		
Trading partners - exports	US 9.7%, Italy 9.5%, Spain 7.6%, Syria 5.5%, Saudi Arabia 4.9%, UK 4.2% (2007)		
Trading partners - imports	US 11.7%, China 9.7%, Italy 6.4%, Germany 6.3%, Saudi Arabia 4.7%, Russia 4.3% (2007)		

Source: www.cia.gov, *The World Factbook*.

2. CLEANER PRODUCTION

2.1. Industry and the Environment

Industrial development has been a key element in Egypt over the last 50 years, as a result of growth in construction during this period. What is more, the government concedes an important role to industry in national development policy. However, the pressure to reach competitive levels in industry, without previous environmental planning, has led to a deterioration in natural resources, increased loss of raw materials, excessive consumption of certain resources and the pollution of water, the atmosphere and land. In certain areas, Egypt has suffered industrial pollution over a long period of time, with negative effects on society and the national economy.

Egyptian industry is fundamentally made up of companies in the mining sector (oil extraction, natural gas and diverse minerals) and manufacturers in sectors such as the food industry, textiles, metallurgy, construction or ceramics.

The type and volume of pollutants emitted by industry vary significantly from sector to sector depending on the type of activity, obsolescence of technologies, productivity, level of technology etc. The previous edition of this report²⁹ offered detailed information on Egyptian industry in relation to types of industry and their environmental impact. We shall therefore focus on those areas in which significant changes have occurred.

²⁹ "State of the Art of Sustainable Production in the Mediterranean". *MAP Technical Reports Series No. 165*, UNEP/MAP/CP/RAC, Athens, 2006.



Amongst the industries with the greatest environmental impact, whether due to emissions into the atmosphere or the pollution of water and land, the cement industry continues to be an important focus of emissions, especially in the form of dust and particles in suspension, affecting public health and the environment.

The large petrochemical, extraction and metallurgy industries create environmental risks due to the type of emissions and residues they create but, possibly, the impact of the numerous small and medium-sized companies is greater, especially in Greater Cairo, where it is estimated that around 25% of the population of the country lives.

The areas of greatest concern due to the degree of accumulated pollution, such as the Alexandria coast, the Mex and Abu-Qir bays and lake Mariout, as mentioned in previous reports, continue to be critical sites.

In the case of the Alexandria coast and Greater Cairo, specific projects have been approved to reduce pollution, based on the development of cleaner technologies and the introduction of systems of prevention and warning against pollution. The principal beneficiaries of these projects are small and medium-sized companies. These projects are at present awaiting finance for start-up.

ATMOSPHERIC EMISSIONS

It should be noted that, since 1999, during the autumn there have been severe cases of atmospheric pollution (black cloud) due to the combination of great quantities of pollutants and particles in suspension in the air of Greater Cairo, resulting from a meteorological phenomenon known as autumnal thermal inversion. These episodes clearly represent risks to health and the environment.

The Egyptian Environmental Affairs Agency (EEAA) set up a project to systematically monitor atmospheric emissions, through which it is hoped to apply corrective measures in this and other areas of the country. The data collected for the first years of monitoring began by showing alarming increases in the gases emitted, followed by a downward or stable trend from 2006, thanks to some corrective measures. Around the beginning of 2007, the number of violations of the established limits decreased, although they continue to be high.

Over the last few years and until 2008, the level of industrial atmospheric emissions has been relatively stable, after a first cycle of increase followed by another of decrease, although levels are

generally excessive. The levels of SO₂ or particles in suspension, for example, far exceed the established limits, while the levels of NO₂ and smoke have only complied with the limits in certain specific places. The most positive finding is the reduction in the levels of lead observed in Greater Cairo as a consequence of the relocation of nearly all the lead foundries outside residential areas and the cleaning up of the contaminated soil on five foundry sites.

The small and medium-sized companies which have most impact on pollution are those in the ceramics, furnaces, foundries, brick manufacturing, quarries, and face work sectors. The Ministry of State for Environmental Affairs (MSEA) is focussing on a solution to the problem through an emergency plan, in order to reduce emissions in these sectors in the short term, and a long-term plan centred on relocation and the development of these activities, with financial support to put it into practice.

In this context, and taking the case of the foundries as an example, steps have been taken to obtain funds to relocate these industries in other areas which comply with environmental legislation, such as the industrial zone of Safa, designated for this purpose (the present location is in residential blocks throughout the whole of the Greater Cairo region).

In the case of brick manufacturing, the measures adopted to help factories to comply with the existing legislation in relation to atmospheric pollution mean developing technological projects to change the source of energy, fundamentally fossil fuels, to natural gas. These developments contemplate the use of atomisation to minimise gas emissions.

On the other hand, the Ministry of State for Environmental Affairs has presented a plan to increase energy efficiency in the industry, defining measures and investing in the following areas:

- Lighting.
- Air conditioning and ventilation.
- Insulation of chimneys and burners.
- Trainers to supervise works.
- Improvement in the efficiency of incineration systems through cogeneration.

It should be noted that energy production is one of the motors of Egyptian industry. In recent decades, it has developed enormously, with growth rates in electricity generation above 7% annually. In recent years, the use of fossil fuels has been reduced in favour of natural gas.

WASTE MANAGEMENT

Another of the industrial practices with an impact on the environment is the dumping of contaminated waste in rivers and other sources of water, most of which flow into the Nile. The MSEA is developing palliative activities to offset this, with measures which go from the closure or interruption of activity of some industries to imposing sanctions and fines and the construction of waste management infrastructures.

In other cases, finance and technological support are being sought to assist the companies in reducing the generation of waste.

Throughout recent years, monitoring, control and measures to reduce industrial waste have been carried out in the following zones:

- In the Nile, the dumping of waste in 91 plants has been stopped through the application of existing legislative tools or the blocking of drains.
- In the Lake Manzala zone, similar measures have been taken to impede the dumping of industrial waste.
- In the Lake Borollos zone, measures have been taken to deal with industrial, agricultural and sanitary waste.
- In the area of Lake Mariout.

2.2. Promotion of Cleaner Production

REGULATORY INSTRUMENTS

At national strategy level, the details of standards that were approved prior to the previous edition of this report³⁰ are reflected in that document. The principal strategic lines in relation to the environment and cleaner production are reflected in the National Strategy for Cleaner Production (2004) and in the National Action Plan for the Environment (2002).

The first strategy mentioned was completed with a plan for cleaner production, which included measures in areas such as the protection of the ozone layer, management of toxic waste, the establishment of mechanisms for cleaner production and energy efficiency.

Work in this area was completed with the National Municipal Strategy for Solid Waste and various programmes aimed at public companies, small and medium-sized companies, and the new industrial cities.

New since 2005 is the formulation of the National Strategy for Sustainable Development (NSSD), approved in 2008. The strategy for sustainable development identifies eleven priority areas, according to the decision of the interest groups involved, taking into account economic, social, institutional and environmental aspects. The document appears to include the concept of sustainable consumption and production (SCP) amongst the priority areas, with respect to industrial development, solid waste management, urban development, transport and energy efficiency.

In relation to environmental law and regulations, the updating of Law No. 4 of 1994 is of note, with the incorporation of changes to the system for obtaining environmental licences covering waste and emissions. The permits, which for new installations require an evaluation of environmental impact, can include among their prerequisites the adoption of measures relative to cleaner production or energy efficiency, especially in the area of cleaner technologies.

In the case of international agreements, since the ratification of the Kyoto Protocol on 12 January 2005, no new instruments have been signed.

In conclusion it is worth pointing out that, in spite of the legislative and regulatory work, the strict application of environmental legislation in the production sector is the greatest challenge at present.

As in other countries in the region, this circumstance derives from two main factors, lack of awareness and specific training on the one hand, and on the other, the insufficient availability of human and financial resources for effective following up and monitoring of polluting industrial activities. In this sense, the monitoring programme set up in 2005 mentioned earlier, represents a step forward in both the correct application of the standards and the capacity to identify needs and errors in formulation.

ECONOMIC-VOLUNTARY INSTRUMENTS

In relation to the financial tools used to encourage cleaner production, soft loans, environmental funds and subsidies to promote or reward good practices are used. On the other hand, as a dissuasive measure and to sanction non-compliance, fines, sanctions and even the revoking of permits for the activity are used.

As an example, small and medium-sized businesses have access to soft loans through the Federation of Egyptian Industries (FEI), conceded by the Environmental Conformity Office for Sustainable Development, for the development of projects for cleaner production and energy efficiency.

³⁰ "State of the Art of Sustainable Production in the Mediterranean". *MAP Technical Reports Series No. 165*, UNEP/MAP/CP/RAC, Athens, 2006.

The Egyptian Pollution Abatement Project (EPAP I & EPAP II) and the Private Public Sector Industry Project (PPSI) are the main projects for pollution prevention in large, small and medium-sized businesses.

EPAP II's main goals are to help Egyptian industry to comply with environmental regulations, as well as improving its overall environmental performance. EPAP II is a project financed jointly by the World Bank (WB), the European Investment Bank (EIB), the Japan Bank for International Cooperation (JBIC), and the French Development Agency, in addition to grants from the European Commission (EC), the Facility for Euro-Mediterranean Investment and Partnership (FEMIP), the Government of Finland, and the Government of Egypt.

EPAP II's objectives are:

- To provide a soft financing package to support industrial pollution abatement projects in industrial establishments in both public and private sectors.
- To develop sustainable financial/technical and institutional mechanisms for pollution abatement and decrease the pollution loads in selected hot-spots in order to improve local environmental conditions.
- To introduce suitable environmental management approaches, improve the quality of inspection, develop the technical capacity of environmental institutions and participating banks, improve public information and awareness, and promote activity relating to industrial environmental affairs in Egypt, particularly in the Greater Cairo and Alexandria areas.

The Private-Public Sector Industry Project (PPSI) is another project managed by the Egyptian Environmental Affairs Agency (EEAA) and financed jointly by German Financial Cooperation and Egypt. Its main goals are to assist Egyptian industry (large, small and medium-sized businesses) in complying with environmental laws and regulations and in improving its environmental performance overall.

PPSI's objectives are:

- To provide grants to support industrial pollution abatement projects in industrial establishments in public and private sectors, small and medium enterprises, and specific business services.
- To develop sustainable financial/technical and institutional mechanisms for pollution abatement and to decrease pollution loads in selected hot-spots in Egypt particularly in the Delta and Upper Egypt governorates in order to improve local environmental conditions.
- To introduce suitable environmental management approaches, improve the quality of inspection, develop the technical capacity of environmental institutions, raise awareness and promote activity relating to industrial environmental affairs in Egypt, particularly in the Delta and Upper Egypt governorates.

Insofar as voluntary instruments are concerned, in the last few years a significant number of Egyptian companies have adopted eco-labelling criteria. In the textile sector, for example, the label "Oeko Tex 100%" is becoming popular in relation to the cotton and other fibres used by the textile industry. Other producers are emphasising their use of organic agriculture or focusing on energy efficiency. However, such voluntary standards are only used significantly by companies that have commercial relations with other countries.

Similarly, the number of companies with environmental management systems or certification such as ISO 14001 or OAS 8000 is increasing.

Various civil institutions and organisations organise awards to companies with notable environmental activities. The Environmental Conformity Office for Sustainable Development, for example, holds an annual ceremony with awards presented to those companies that have successfully applied cleaner production and energy efficiency alternatives.

Moreover, notable studies are published in industry and environmental magazines.

PROMOTERS AND PROJECTS

With respect to the promoters of cleaner production, the agents are basically the same as detailed in the previous edition.

- The Egyptian Environmental Affairs Agency (EEAA), especially through its Industrial Unit and the Ministry of State for Environmental Affairs (MSEA).
- The Environmental Conformity Office for Sustainable Development (ECO-SD), of the Federation of Egyptian Industries (FEI).
- The Egyptian National Cleaner Production Centre (ENCPC) which presently provides technical assistance to industry in areas such as energy efficiency, cleaner production, the evaluation of chemical risks, the evaluation of waste, etc. has also taken on a leading role in the promotion and application of certification and standards, such as the ISO and HACCP, and provides assistance in the field of corporate social responsibility.
- The Centre for the Environment and Development for the Arab Region and Europe (CEDARE), especially through the Association of Companies for Environmental Conservation, with its assistance and training.

The majority of the projects included in the previous edition³¹ have continued throughout the years covered by this study. For example, the Egypt Pollution Abatement Project–Second Phase 2007-2012 (EPAP II) continues to function. The project began in 2007 after the design and finance stage undertaken in 2005. The objectives proposed are:

- To reduce industrial pollution and prevent further severe episodes of pollution.
- Development of sustainable mechanisms to undertake projects for the reduction of pollution, increase the degree of compliance with existing legislation and help Egyptian industry to adapt to export requirements.
- Promotion of projects for cleaner production.

Another project promoted by the Egyptian Environmental Affairs Agency, although to date there is no evidence that the project has been implemented, is the Programme for the Integrated Management of the Environmental Installation for the Area of Lake Mariout (an area noted in the chapter on critical sites).

Along the same lines, the projects mentioned in the previous edition referring to the evacuation and elimination of solid waste in the Greater Cairo area are still being carried out. Another project related to agricultural waste is the reuse of the straw from rice cultivation (a waste material which can be a problem on occasions due to its abundance and the dust produced in the air) to produce energy through the bio-methane process.

Other projects exist in distinct fields indirectly related to industry, as in the case of toxic waste, where the greatest efforts are being made to achieve effective compliance with existing legislation.

3. SUSTAINABLE CONSUMPTION

The concept of sustainable consumption is relatively well-known in Egypt, above all among the main interest groups such as NGOs, academic institutions and many of the agents involved in cleaner production and, to a lesser extent, those involved in environmental protection. In fact, for some years now it has been present in the discourse of some leading civil organisations, such as the aforementioned CEDARE or the Environmental Office for Arab Youth (AOYE).

³¹ "State of the Art of Sustainable Production in the Mediterranean". *MAP Technical Reports Series No. 165*, UNEP/MAP/CP/RAC, Athens, 2006.

However, the concept is not really present in practice or in applicable legislation, although, as mentioned in the previous chapter, in the National Strategy for Sustainable Development a certain importance is given to the SCP focus in some of the eleven priorities detected.

Within the framework of the African 10-Year Programme for Sustainable Consumption and Production, Cairo has been selected as an example of an African megacity for the promotion of sustainable consumption and production. Through the co-operation of the different parties involved, the EEAA, the Government of Cairo and the ENCPC, the Committee for Decisions has been created. Its objective is to prepare the documentation for the SCP programme in Cairo in coordination with UNEP. The ENCPC, a participant in the African Round Table on SCP, will host the next reunion in 2009. The main challenges to be faced in this sense are:

- Barriers to information due to lack of awareness and lack of information.
- The legislative aspects, with emphasis on weak policies and legislation, specific strategies and the lack of co-operation between interest groups.

Among the opportunities and needs that are to be dealt with the following are of note:

- To generate awareness of the subject.
- To involve interest groups.
- To support new and established initiatives.
- To integrate within the local context.
- To generate specific policies and legislation.
- To create suitable market conditions.

With reference to transport, road transport is the most frequently used and accounts for the greatest volume of passengers and merchandise. The expansion of road transport in recent years has led to a substantial increase in the number of vehicles. Furthermore, the average age of the vehicles is quite high, so we have to add to the number of vehicles their low energy efficiency and their high levels of consumption and emissions into the atmosphere.

ATMOSPHERIC EMISSIONS

The studies carried out within the framework of the Project for the Improvement of Air in Greater Cairo show that pollution by particles in suspension in Greater Cairo, under normal conditions, is generated by the burning of solid and agricultural waste, industry and transport. In the last case, the numerous serious traffic jams in various areas are an important source of atmospheric pollution.

In most cases, landfill sites do not have measures of control, and frequently the rubbish they contain is burnt, as in the case of El-Wafaa Wal-Amal, in Cairo. Recent studies, however, show that the greatest source of pollution by particles in suspension comes from the burning of agricultural waste, such as the straw resulting from the cultivation of rice.

In relation to transport, the MSEA is continuing with its project to associate the type of vehicle licence issued with the levels of emissions registered. To this end, the owners of vehicles are required to undergo a test for emissions. Towards the end of 2006, more than 70% of all Egyptian vehicles were subject to this programme.

In this field, programmes have been developed to promote the change of energy sources in public transport from fossil fuels to natural gas. Between 2006 and 2007, 50 gas-powered buses were incorporated into the Cairo network, with the objective of incorporating 25 more each year. A similar programme is being contemplated to replace taxis over 35 years old by vehicles which consume natural gas.

There are other projects focusing on the reduction of emissions which contemplate the prohibition of certain motors and technologies, or the relocation of industrial workshops outside the city. However, a

significant number of projects in this field are in the area of control and prevention based on monitoring emissions both in industry and in cities, and the establishment of indicators and action protocols.

ENERGY EFFICIENCY - RENEWABLE ENERGIES

The improvement in the energy efficiency of industry, transport, the electricity sector and buildings is still a challenge at local level. It is understood that many benefits could be obtained from the application of efficiency in production and consumption, including the reduction of demand, improved air quality and the reduction of greenhouse gases. In the words of the MSEA, "providing these areas with efficient technologies would decisively support the efforts to develop models of sustainable consumption and production".

The energy intensity coefficient in Egypt is quite high (0.53), compared with Europe and neighbouring North African countries. This is due to various motives, particularly the quantity of energy consumed and wasted as a consequence of the heavy subsidies and low price of fuel, and a lack of awareness of the need for better energy efficiency.

Apart from the measures set forth to improve the use of energy by industry, the State has proposed other lines of action in relation to the reduction of losses, the modernisation and implementation of centres for energy distribution, and the promotion of cogeneration systems. These measures are complemented by others specifically oriented towards the transport or construction sectors.

At the end of 2006, the Supreme Court of Energy was created. This, together with the National Strategy for Sustainable Development, plays an important role, promoting both energy efficiency and renewable energies.

The National Agency for Renewable Energies is charged with promoting the use of these energies. The potential for renewable energies in Egypt is very high, it being estimated that the potential for the area of the Gulf of Suez could be equivalent to the installed capacity in the country in 2004. The present network of wind turbines meets 1% of the demand for energy (with projects to augment this figure to 3% in 2010). This is complemented by an increasing presence of combined cycle solar energy plants. Along the same lines, the 200,000 domestic solar systems for heating water are noteworthy.

In the case of the development of energy from wind turbines, Egypt is situated at the head of the MENA region. Interest in the subject started in the 70s, and various types of agreement were signed to explore the options for development, giving rise to a certain lead compared with the rest of the region. The studies carried out in relation to the potential of the wind as a source of energy led to the *Wind Atlas for Egypt*, which, together with the co-operation and support of European countries with strong development in this field, has brought about extensive commercial development of this resource.

Among the projects of interest in these areas the efficiency labelling of domestic electrical appliances stands out. This allows consumers to compare the energy efficiency of domestic appliances when buying them, and three standards have been developed to date, for refrigerators, for air conditioning systems and for washing machines.

Another success has been the raising of funds to establish a laboratory to check energy efficiency, vital to complement activities such as eco-labelling, the establishment of standards and the improvement of energy efficiency.

MANAGEMENT OF WATER - NATURAL RESOURCES

The Nile is and has always been Egypt's main artery. This is why the administration and public authorities have concentrated their efforts on protecting it from direct pollution and improving the quality of its waters. The basin of the Nile has suffered direct and indirect pollution from the industries and towns along its course. The lack of treatment systems and the passage of the watercourse through towns have led to the dumping of waste in the river. Agricultural use has also caused a series of pollution problems. In turn, the agricultural sector has suffered in that the use of this contaminated

resource is fundamental for irrigation. The pollution of water in Egypt is a complex problem, due to the variety and accumulation of pollutants and the need for heavy investment to eliminate them.

The large number of official public entities and regulators involved in the management of water could be one of the factors that limit progress and the effectiveness of the measures taken. For this reason measures for co-ordination of the authorities are being studied by the Ministry of State for Environmental Affairs

In so far as measures to improve the quality of the water are concerned, efforts are being made to protect and improve this through the implantation of 12 MSEA Programmes which include:

- Monitoring and development of databases for the Nile basin.
- The detection and termination of industrial and domestic dumping.
- The management of waste transported by ships.
- The treatment of agricultural waste.
- The implantation of systems of waste management.
- The implementation of programmes for prevention, information and emergencies.
- The development of measures for research and development.
- Increasing the extent of application of existing legislation.

The ministry has identified some main lines of action to improve the quality of the water, which are based on:

- Avoiding the discharge of untreated industrial waste, both direct and filtered, in the entire Nile basin.
- Avoiding the discharge of filtered domestic waste, using treated wastewater for reforestation.
- Improving the quality of agricultural wastewater before it is pumped into canals.
- Regulating the situation of fish traps.

Apart from this, projects are being developed to relieve the problem of scarcity of water and desertification, supplying desert communities deprived of water with non-traditional permanent sources.

Finally, it should be noted that increasing tourism is generating environmental pressures, both in the utilisation of resources and the generation of pollution and waste, and is a threat to biodiversity (one notable case is the coral reefs, threatened by the increasing tourist exploitation in the zones of Hurgada, Sharm El-Sheikh and the Gulf of Aqaba).

WASTE MANAGEMENT

The management of urban waste in Egypt needs an integrated focus to tackle the multiple components, aspects and systems present. The framework of management established in the country does not provide the population with an acceptable level of cleanliness, safety, health or environmental protection.

At urban level, the elevated accumulation of solid waste in residential blocks and their surroundings clearly shows the deficiencies of the collection system, which in turn stem from:

- The lack of experience and qualifications of the personnel in charge of management.
- The deficiencies in the administrative and institutional systems, and the lack of integration and co-ordination between the groups involved.
- The lack of landfill sites and modern management installations for the present amount of waste.

- The low level of awareness and bad practice in the management of urban waste.
- The low budget for the application and monitoring of existing legislation.

Amongst the activities underway to resolve the problems of waste management, the following are of note, resulting from cooperation between the MSEA and other public and private organisations:

- The elimination of critical points of waste accumulation, especially in Greater Cairo.
- Improvements in the efficiency of the operations of collection and transfer of waste, with the incorporation of technological equipment and anti-burning controls.
- Improvements in the management of agricultural waste, working jointly with the Arab Organisation for Industrialisation (AOI), with the construction of treatment and transformation plants to generate compost, recycle waste and produce energy.

The general management of waste, both inert and dangerous, is one of the principle environmental and health problems in the country. The lack of appropriate infrastructures, the open-air burning of all types of waste, and the lack of separation of hazardous waste from other types of waste in relation to their possible recycling are practices that are widespread and habitual in Egypt. The efforts of government, other organisations and NGOs have clearly increased in recent years, but large scale investment in infrastructures and awareness campaigns that involve the public and industry are still needed, especially at the source of the problem, the massive generation of waste.

3.1. Sustainable Public Purchasing

In 2007, the report by the organisation Global Integrity described the regulation of public purchasing in Egypt as “very strong”. Public purchasing is covered and regulated by Law No. 89/1998 describing tenders and offers. The legislation covers conflicts of interests and has a mechanism to monitor the assets, income and expenses of the officials in public purchasing. In accordance with the law, large purchases require competitive tenders, rejected bidders have the right to challenge the decision in the courts, and companies involved in corruption are excluded from future tenders. The purchasing website of the government has recently been set up (May 2008, basically in Arabic) and gives companies online access to a register of suppliers and information on current tenders.

The aforementioned law does not include provisions related to environmental and social criteria in the tender selection process. Some consideration is given to the preference for Egyptian suppliers, but this is not expanded on.

4. CORPORATE SOCIAL RESPONSIBILITY (CSR)

The interest in corporate social responsibility (CSR) in Egypt began in 1990 through the initial processes of liberalisation of the economy, during which the public sector looked for alliances with the private sector and civil society, to ensure the viability of the process and deal with providing basic services for the public through public-private alliances, although this term was not used.

In spite of the efforts of some agents, the vision of CSR since then has not expanded beyond the external philanthropy of a company, often moved to act through its own will, rather than a demand by Egyptian society.

The government has done some work on the promotion of CSR both on an internal level in the public administration (for example, in the Unit for Transparency of the Ministry of Investment to combat corruption) and on an international level (Egypt was the first African and Arab country to sign an OECD declaration regarding international investment and multinational enterprises), but there is still a long way to go.

The difficulties identified in giving a real boost to CSR in the present situation are:

- The limited capacity of the state to check compliance with legislation. This makes CSR, which should be supported at government level, difficult to propose to the majority of companies when they have still not met their legal obligations.
- The lack of demand from civil society for sustainable behaviour by companies, beyond the view of CSR as mere philanthropy.
- The level of corruption. Egypt is one of the countries with the highest indicators of corruption in the MENA zone, which implies great difficulty in implementing aspects of CSR such as transparency and reporting accounts.

With respect to the levers for change that should be supported, the following have been identified:

- The interest of the state in counting on public-private initiatives that can help services to reach disadvantaged communities. This issue needs to be handled with care given the debate on the replacement of the public sector by private initiatives.
- Much work is put into attracting foreign investment that could serve as a lever to introduce CSR criteria from investors, linked to how far Egypt-based multinational companies and companies with Egyptian suppliers can extend the use of CSR criteria.
- Cairo (including Giza) and Alexandria have the greatest concentration of urban population as well as the principal business or industrial centres in the country, which could favour concentrated action for greater awareness and dissemination of CSR, or action by sector.
- The tourist sector could be seriously affected by climate change, which would allow a point of entry for action to promote awareness of sustainability (environmental, economic and social) as a more extensive vision of CSR.

Although the concept of CSR implies voluntary compliance with legal standards, in the case in hand it would be of great interest to reinforce the work of the state in promoting awareness of compliance with legislation as a first step in achieving the social responsibility of business. A second step implies moving on from the view of CSR as merely philanthropic to a strategic view of CSR linked to sustainable business and social development. It is necessary to take advantage of the pull of multinational companies to transfer CSR to the local supply chain and to channel support for social organisations to reinforce a change of view and increase demand for companies to comply. Finally, it is necessary to introduce CSR in universities and business schools. Although the University of Cairo has shown interest in programmes such as the Global Compact, there are no adequate courses and it has not been incorporated into plans of study.

4.1. Promoters and Projects

The following initiatives may be highlighted:

- In 2007, a report was published, sponsored by Vodafone and Mansour Group (one of the few companies that mention CSR in its web page) called *Business Solutions for Human Development*, which details the Egyptian business and governmental contributions to the Millennium Development Goals.
- Association of Enterprises for Environmental Conservation (AEEC) is a member of the World Business Council for Sustainable Development (WBCSD). It was founded in 1996 by the Centre for Environment and Development for the Arab Region and Europe (CEDARE) and brings together companies sympathetic to sustainable development, which could provide a way to introduce CSR.
- The New Industrial Cities Programme. Linked to the issue of the concentration of population and businesses, this programme has been in operation for 20 years and seeks to concentrate business growth in specific areas, avoiding its dispersal in urban areas and promoting the more efficient management of resources. Although it does not integrate the CSR vision, it could be an important complementary tool.

- Egyptian Centre for Economic Studies (ECES) is an NGO that describes itself as an independent think tank. It undertook a brief study of CSR in Egypt but this was mainly a compilation of experiences in other countries rather than in Egypt. It works with the Global Compact.
- The Egypt Education Initiative (EEI) is a public private alliance that deals with improving the level of education in Egypt through the use of information and communication technologies. The Ministry of Communications and Information Technology, The Ministry of Education and eight members of the World Economic Forum (Cisco, HP, IBM, Intel, Microsoft, Oracle, CA y Siemens) liaise with the EEI.
- In its portal the Ministry of Investment offers companies the opportunity to support the objective of universal education. They contribute to the costs of construction and maintenance of 2,200 schools, while the government covers the cost of salaries and the running costs of the schools.
- The John D. Gerhart Center for Philanthropy and Civic Engagement, American University, Cairo. Despite its clearly American slant, it is one of the few academic institutions aiming to promote the social action of companies. It works with the American Chamber of Commerce in Egypt and is involved in UNDP and Global Compact programmes.


At regional level two initiatives exist that may at least have an influence:

- National Investment Reform Agendas (NIRA). This includes specific measures to reinforce investment in environmental matters and mentions the role of CSR in this aspect. It is supported by the OECD.
- The Institute for Corporate Governance (HAWKAMA) was established in 2006 in Dubai to support advances in corporate governance in the MENA region.

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 ISRAEL ³²	POPULATION: 7,112,359
	AREA: 22,145 km ²

1. INTRODUCTION

Israel is characterised by a technologically advanced market economy, with a significant state presence. It depends on imports of crude oil, grain, raw materials and military equipment. In spite of its limited natural resources, Israel has intensively developed its agricultural and industrial sectors throughout the last 20 years. Except for the large quantities of grain imported, the country is widely self-sufficient in agricultural products. Cut diamonds, high technology equipment and agricultural products (fruit and vegetables) are its main exports.

The GDP of Israel, after slight contractions at the beginning of the decade, has grown by around 5% per year since then. In 2008, however, growth was 4.2% (estimated) due to the global crisis. The fiscal policy of the government, together with structural reforms over the last few years, have favoured a strong influx of foreign investment, greater fiscal income and greater private consumption, placing the economy firmly on the path to growth.

Economic data			
GDP (2008 est.)	\$205.7 billion	GDP growth rate	4.2% (2008 est.)
GDP per capita	\$28,900 (2008 est.)	Labour force	2.95 million (2008 est.)
GDP by sector (2008 est.)	Agriculture: 2,7% Industry: 31,7% Services: 65,6%	Labour force by sector (2008 est.)	Agriculture: 2% Industry: 16% Services: 82%
Unemployment rate	6.1% (2008 est.)	National debt	75.7% of GDP (2008 est.)
Household income (2007)	Lowest 10%: 2.6% Highest 10%: 24.2%	Inflation rate	4.7% (2008 est.)
Agricultural products	Citrus fruit, vegetables, cotton, beef, poultry, dairy products		
Main industries	High technology projects (including aviation, communications, computer aided design systems, medical products, electronics, fibre optics), wood and paper products, potassium and phosphates, food, drinks, tobacco, caustic soda, cement, construction, metals, chemical products, plastics, diamond cutting, textiles, footwear		
Electricity production	48.7 billion kWh (2006)	Electricity consumption	44.74 billion kWh (2006)
Electricity exports	1.844 billion kWh (2006 est.)	Electricity imports	0 kWh (2007 est.)
Oil production	5,966 bbl/day (2007 est.)	Oil consumption	232,300 bbl/day (2006 est.)

³² The information given in this section has not been confirmed by the CP/RAC National Focal Point for Israel.

Oil exports	82,910 bbl/day (2005 est.)	Oil imports	334,300 bbl/day (2005 est.)
Natural gas production	2.35 billion m ³ (2006 est.)	Natural gas consumption	2.27 billion m ³ (2006 est.)
Exports	\$54.16 billion (2008 est.)	Imports	\$62.52 billion (2008 est.)
Commodities exports	Machinery and equipment, software, cut diamonds, agricultural products, chemical, textiles and clothing		
Commodities imports	Raw materials, military equipment, investment goods, uncut diamonds, fuels, cereals, consumer goods		
Trading partners - exports	US 35%, Belgium 7.5%, Hong Kong 5.8% (2007)		
Trading partners - imports	US 13.9%, Belgium 7.9%, Germany 6.2%, China 6.1%, Switzerland 5.1%, UK 4.7%, Italy 4.1% (2007)		

Source: www.cia.gov, *The World Factbook*.

2. CLEANER PRODUCTION

2.1. Industry and the Environment

Over the last two decades, Israel's economy has evolved from a model based on agriculture and limited technological production to one based on the high-technology industry. This type of industry, with growth of 70% since 1965, included more than 12,000 high-technology industrial plants in 2005.



The diamond industry, chemical production and the pharmaceutical industry are other important industrial sectors in the country, for their economic and environmental impact alike.

As highlighted in the previous edition of this report³³, the main areas of concern in Israel include the industrial park of Ramat-Hovav (in the Negev desert), one of the most polluted industrial areas in the country, and the Bay of Haifa, Israel's largest port with the highest concentration of industrial activities, including a heavy fuel power plant (to be converted to natural gas for energy production), Haifa refinery, petrochemical industries, Haifa Port, and the storage, loading and unloading of hazardous chemicals and fuels. In both areas, pilot projects for IPPC implementation were launched in 2006 and 2007, respectively. With three lines of action centred on atmospheric pollution, water pollution and land pollution, industrial facilities were required to submit a permit application and to perform BAT-GAP analysis according to the *BREF* and to implement best available techniques.

A third area of particular concern is the Ashdod industrial area, with a very high concentration of industrial activities, including a natural gas power plant, the Ashdod refinery, the Ashdod port, chemical factories and the storage, loading and unloading of hazardous chemicals and fuels.

Concerning the environmental impacts associated with the service sectors, the use of ethylene oxide for sterilisation in hospitals that was mentioned in the previous edition of this report continues to be an unresolved problem of environmental pollution in the healthcare sector. Nevertheless, hospitals are currently required to install mechanisms to prevent atmospheric emissions.

2.2. Promotion of Cleaner Production

LEGAL AND POLICY FRAMEWORK

General remarks

It is worth noting the enactment of a new Environmental Protection Law in July 2008. The Law states the following explicit aim: "to protect and preserve a proper quality of the environment and to improve it, to prevent damage to the environment or to public health and to negate the economic benefit in causing damage to the environment, inter alia, by means of penalties that take account of the value of the damage caused, the benefit derived or the profits reaped from implementing the offences dealing with the aforesaid damage."

During the last few years a certain evolution from the "polluter pays" principle to "pollution prevention is profitable" can be appreciated as the MEP is making efforts to promote this proactive approach to industry.

Nevertheless, the effective implementation of governmental regulations promoting sustainable industrial development still faces challenges, such as the shortage of human and financial resources needed for their application. In order to deal with this situation, the MEP has submitted requests to the Ministry of Finance for additional workers and funds.

Atmospheric pollution and greenhouse gas emissions

In recent years, the MEP has introduced a policy on air pollution based on the EU IPPC Directive, for large and/or complex industries (e.g. the chemical industry), and the German Emission Standards document TA-Luft 2002 for medium and small industries.

A new Clean Air Law was passed in 2008. The law, which will come into effect in January 2011, provides a comprehensive framework for the reduction and prevention of air pollution by setting responsibilities and obligations for the government, the local authorities and the industrial sector. The aim of the law is: "to improve air quality and prevent and reduce air pollution, inter alia, by establishing prohibitions and obligations according to the precautionary principle, in order to protect human life,

³³ State of the Art of Sustainable Production in the Mediterranean". *MAP Technical Reports Series* No. 165, UNEP/MAP/CP/RAC, Athens, 2006.

health and quality of life and to protect the environment including natural resources, ecosystems and biodiversity, for the public and for future generations, while considering their needs."

The comprehensive law establishes a wide range of measures including, among others:

- the establishment of emission limits,
- requirements for emission permits for major industrial polluters,
- publication of air quality data and forecasts,
- the appointment of the Ministry of Environmental Protection as authority in charge of pollution from vehicles,
- formulation of a national plan for the reduction and prevention of air pollution,
- air pollutant monitoring and sampling,
- responsibility of local authorities to reduce and prevent air pollution within their jurisdiction,
- increased enforcement and stricter penalties.

Concerning greenhouse gas emissions, one of the main sources in Israel is the high number of vehicles. The government has adopted a decision leading to the preparation of a National Action Plan for the Reduction of Pollution from the Transport Sector. The decision affects a number of ministries, which will have to adopt various measures. For example, a system of differential taxes for vehicles and fuels will be applied in 2009, based on the recommendations of the Interministerial Green Tax Committee.

Israel is currently examining its potential for reducing greenhouse gas emissions in the post-Kyoto period. The number of Clean Development Mechanism (CDM) projects has increased and 13 Israeli projects are registered in the UN.

Energy efficiency

A government proposal on energy efficiency was approved in September 2008. It aims to bring about 20% savings in anticipated electricity consumption by 2020. The programme relates to energy efficiency as a means of tackling climate change. The proposed measures include: energy savings in the household and in state buildings, the promotion of eco-design, the definition of higher energy efficiency standards for electrical appliances, information programmes on the wise use of electricity and the establishment of an energy efficiency fund.

Accordingly, the Ministry of Infrastructures and the Ministry of Environmental Protection are strongly promoting improvements in energy efficiency in industrial and commercial premises. Large industrial combustion units are required to carry out a survey for energy efficiency and reductions in energy loss.

With regard to the field of renewable energies, a government decision in 2008 called for the promotion of research, technology development and energetic production of renewable energies. The goals of the new plan, slated for implementation in 2008-2012, are to increase renewable energy generation and promote research and investment in the field.

Wastewater and water management

A new Israeli Water Authority was established in 2007 and centralises, under one single administration, most of the water management responsibilities that were previously divided among several government ministries. The Authority is responsible for the entire water chain, from pumping to sewage treatment to recovery. It is also responsible for setting tariffs and for restructuring water rates so as to reflect water supply costs, including scarcity. One of the key tools for managing demand is the differential extraction levy on water producers.

Due to the increasing scarcity of water nationwide, the Israeli Water Authority has introduced, during recent years, new limitations on irrigation as well as higher water prices for the agricultural and industrial sectors. Likewise, new proposals for regulations on improved effluent quality standards for irrigation and discharge into rivers have been formulated and are pending parliamentary approval in 2009.

Concerning industrial effluent, Israel is in the process of requiring the industrial wastewater treatment process to comply with the IPPC Directive and the BAT principles.

Waste management

Regarding the improvements observed in this chapter in recent years, in January 2007 the Israeli Parliament approved an amendment to the Maintenance of Cleanliness Law which requires a landfill operator to pay a levy for every tonne of waste which is deposited in a landfill site. The rate of the levy is determined according to the type of waste and the type of landfill and will be implemented incrementally over a period of five years until 2011. The levy relates to six different categories of waste: urban waste (municipal solid waste), dry waste, "residual" waste after sorting, sludge, stabilised industrial sludge and construction and demolition waste.

It is worth noting that significant progress has been achieved in the recycling of waste in construction and demolition.

Integrated control of pollution

As referred to in the previous edition of this report, the permit system for industrial facilities in Israel aims to adopt a similar approach to the EU IPPC Directive and several projects are being developed accordingly. In line with that objective, the government has recently decided to adopt the main principles of the Directive in the permit process for large industrial facilities, which includes the implementation of BAT, environmental standards and benchmarks, integrated permits, and public notification.

Meanwhile, an amendment has been made to the Business Licensing Law including improvements in transparency, environmental conditions for permits and uniformity throughout sectors.

ECONOMIC INSTRUMENTS

Economic instruments used in Israel to promote cleaner production include taxes, fees, deposit systems, environmental compensation and tax benefits, convenient loan schemes and direct investments. Fines, fees and taxes are used to penalise organisations which misuse or pollute natural resources and to impose the costs of use on the user while tax benefits and financial support mechanisms are used as incentives for the adoption of environmentally friendly measures and the promotion of cleaner production programmes.

In general, environmental taxes are quite balanced with incentives for environmental investment. For instance, landfill tax revenues are earmarked to support recycling facilities and landfill reduction programmes.

The granting of subsidies to promote environmental goals has started in recent years. Subsidies are used to provide incentives for the development of "clean" technology or to encourage polluters to change their behaviour. In certain cases, import duties are waived on equipment for monitoring and controlling pollution and for reducing waste. Over the past few years, Israel has begun to grant financial aid to companies for the promotion of environmental investment. Subsidies have been granted for investment in dairy farms, the establishment of effluent recovery plants, the transport of solid waste to regulated landfills, the promotion of waste recycling, and the reduction of hazardous waste.

The following measures established in recent years to promote investment in SCP can be highlighted:

- Environmental considerations and assessments have been incorporated in the decision-making process for the granting of financial aid to industrial plants under the Law on Encouragement of Capital Investment and the Law on Encouragement of Industrial Research and Development.
- Green Investment Funds dedicated to investments in green technology companies have been established.
- Differential taxes on vehicles and fuels will come into effect in 2009, based on the recommendations of an Interministerial Green Tax Committee. The Committee's first report, issued in 2007, made recommendations on differentiation in tax/duty tariffs on fuels and vehicles in relation to environmental performance (linking tax rates on vehicles and fuels to the pollution and environmental damage they cause). These recommendations were approved in a government decision in January 2007. A second report on further applications of green taxation on energy is in progress.
- Israel's recently enacted Clean Air Law enables the Ministry of Environmental Protection to charge a levy on the permits for existing emissions.
- The main financial incentives for renewable energy are the renewable premium introduced by the Israel Public Utilities Authority (Electricity) for the sale of renewable energy to the Israel Electric Corporation and the related feed-in tariff and licensing arrangements for solar thermal generation. The renewable premiums reflect the marginal costs of polluting emissions avoided when renewable generators replace fossil-fuel generators during each time-of-use period. As of July 2007, the Public Utility Authority is providing incentives for the self-production of electricity with photovoltaic technology. Incentives entitle owners of facilities that produce from 15 kilowatts (for residential systems) to 50 kW (for commercial installations) of electricity to a feed-in tariff for solar electricity sold to the electricity grid.
- In order to help promote energy efficiency, the Ministry of National Infrastructures has started to develop the concept of energy service companies (ESCOs), starting with commercial and industrial energy users. It has started the approval process for the ESCOs, developed performance contracting mechanisms and earmarked funds for micro-projects. The development of the ESCO mechanism has created significant energy savings in the large commercial and industrial sectors. At the same time, the Public Utilities Authority (Electricity) has started to impose time-of-use electricity rates on customers with annual energy consumption above 60,000 kWh. Time-of-use rates in Israel have contributed to load shifting to off-peak hours, thereby reducing the probability of power cuts.

VOLUNTARY INSTRUMENTS

In the year 2008, the Ministry of Environmental Protection extended the Green Label to several new products. That was done with the assistance of the Standards Institute of Israel. The objective for 2009 will be to analyse products and services chiefly procured by the government.

There are plans to expand the granting of green labels to services in addition to products. In this respect a preliminary pilot project has been initiated which will see the formulation of criteria for garages, malls and hospitals.

On the other hand, the government is planning to launch campaigns of public awareness in order to promote the purchase of sustainable products. It is also promoting cooperation with industry for the manufacture of these products.

Some environmental NGOs organise prizes for outstanding environmental activities, including efforts made by industry to tackle negative impacts and incorporate cleaner production systems.

Regarding voluntary certification, Regulation ISO 14001 is the most widely applied in the country with over 150 companies having the certification at present.

PROMOTERS AND PROJECTS

The topics related to CP and SCP are mainly dealt with by the Ministry of Environmental Protection (MEP), cooperating with other public institutions such as the Ministry of National Infrastructures (energy, water) and the Ministry of Industry, Trade and Labour as well as the Manufacturers' Association of Israel. All of them are involved in the operation of the Israeli Cleaner Production Centre (ICPC), whose activities focus on:

- Reduction of solid and hazardous waste at source and its recycling.
- Reduction of brine emissions from industrial processes.
- Reduction of hazardous waste at source.

Together with the public and private sector, some NGOs, such as the Heschel Centre for Environmental Learning and Leadership, are also strongly involved in promoting CP and SCP.

In order to enhance cooperation and coordinated action by the government, the business sector and civil society, a national committee, including representatives of all those agencies concerned has been established.

3. SUSTAINABLE CONSUMPTION

The concept of sustainable consumption is relatively new in Israel and it is being introduced through the integration of the SCP concept within the policy and strategic framework for sustainable development. Since 2007, SCP has been identified as a major issue in promoting sustainable development in Israel and in 2008 it was included in the long-term goals of the Ministry of the Environment. Accordingly, as mentioned above, a national committee, including representatives from the government, businesses and civil society, has been established with the aim of leading and coordinating action on SCP. Likewise, there is active cooperation with UNEP, UNDESA and the Marrakech Process to promote SCP at the global level. Specifically, the country has joined the Task Force on Sustainable Lifestyles as an active partner.

Several activities are being undertaken within the SCP framework:

1. Green building: a standard for design and construction following criteria of efficiency and economy of resources, at present on a voluntary basis, although the possibility of it being made compulsory is currently being studied.
2. Education for sustainable consumption (ESC): considered a key topic for integrating sustainable development in the formal education system. Accordingly, the *UNEP YouthXchange Guide* is expected to be translated and adapted to Israel, including local case studies.
3. Green public procurement (GPP): several initiatives are being developed by the government to promote GPP (referred to below).
4. Sustainable transportation: work is being done with employers to promote travel plans that reduce the environmental impacts of displacement.

In addition to the action taken by the government, civil society is also actively involved in the promotion of SCP. For example, the New Horizons initiative of the Heschel Centre aims to raise awareness of the importance and methods of sustainable energy production and consumption amongst government agencies, the media, civil society and the business sector in Israel.

Green public procurement

A recent initiative of the government in green procurement is helping to promote the use of recycled materials in all ministries and associated bodies. Through Governmental Administration for Procurement, environmental criteria have been adopted in the processes of public procurement of various products and services, such as recycled paper and the selective collection of office waste.

Another decision made by the government, in July 2008, gave instructions to the Ministry of Finance to formulate regulations that gave priority to green products and services. The objective is to favour the sustainable market and function as a catalyst for the manufacture of this type of product. These regulations are at present undergoing a process of revision and approval by parliament.

Along the same lines, a decision by the government in October 2008 required the Ministries of Environmental Protection and Finance to formulate mechanisms that allowed the incorporation of requirements regarding the use of alternative construction materials (recycled) in tenders for government contracts.

4. CORPORATE SOCIAL RESPONSIBILITY (CSR)

CSR in Israel has followed a similar evolution to other OECD countries in which there is diversified industry and a substantial business community, while the state is able to enforce legislation. Following a first philanthropic phase, conditioned by the special situation of the country, the government's efforts to reinforce security and with a markedly nationalistic character, CSR has developed in Israel with greater intensity over the last ten years.

The scarcity of resources and the intermittent periods of conflict have enormously increased governmental and social interest in the use and management of scarce resources such as water, which, combined with the presence of powerful companies, both national and multinational (mainly from the US), favours the understanding of the concept of sustainability.

Likewise, with more than 22,000 NGOs of all types, Israel's civil society has become a strong lobby for the effective integration of environmental and social standards in companies.

The main difficulty at present in relation to the expansion of the concept of CSR lies in the economic crisis, which represents an important challenge to the consolidation of social responsibility, given its impact on the Israeli economy. In some cases this has led to budget cuts in CSR by companies, especially in the case of banking entities. According to studies by the Ben Gurion University, the crisis could also affect more than 4,000 NGOs, which could close their doors, to the detriment of the structure of the country's civil society.

Another challenge highlighted by some experts is the continuous pressure on businesses to act in the short term, given the permanent situation of conflict, which does not encourage long-term planning, and this is a handicap for the strategic incorporation of CSR.

The presence of many American multinationals, where socially responsible investment carries a lot of weight, the MAALA Ranking and the KAYEMA CSR index (referred to below) are key factors in the adoption of indices of sustainability by large companies. On the other hand, as in other OECD countries there is still a long path to tread for the incorporation of CSR in SMEs.

The following are some of the main recent advances in Israel towards CSR in the financial and economic sectors, especially as far as the environmental component of CSR is concerned:

- Requirements for the disclosure of environmental information to the Israel Security Authority within the framework of the financial reports of companies trading on the stock exchange, in force since 2004.
- Incorporation of environmental considerations and assessments within the decision making process for the granting of financial aid to industrial plants under the Israeli Encouragement of Capital Investment Law and the Encouragement of Industrial Research and Development Law, in force since 2006.
- Guidelines will shortly be issued by the Israel Supervisor of Banks on setting policies and frameworks within banking institutions on environmental risk management.
- Guidelines will shortly be issued on the management of environmental risks in financial institutions, following up a directive issued in 2007 by the Capital Markets, Insurance and

Savings Division of the Ministry of Finance. The directive applies to pension funds and sets requirements for the establishment of management and supervisory mechanisms.

- Consideration of environmental indicators in setting benchmarks for government tenders and a review of ways of incorporating environmental risk management into infrastructure tenders.
- Incorporation of environmental risk management in the State Companies Authority.
- Updating in 2006 of the Maala Index for Social Responsibility (further explained below) which rates companies included in the Tel Aviv 100 Index according to four areas: human rights and the workplace, corporate ethics, community involvement, and the environment.
- Establishment of Green Investment Funds dedicated to investments in green technology companies (referred to above).

Likewise, the Sustainable Development Plan, adopted in May 2003, lays the foundations for political commitment so that the government can take the lead in progress on aspects such as CSR. Nevertheless, efforts so far have focused exclusively on the environmental component of CSR and there is a need to extend them to other CSR areas. In that respect, the future application of the ISO 26000 standard and the newly developed Israeli Standard 10000 could imply an opportunity to go more deeply into what CSR represents and its scope.

4.1. Promoters and Projects

Below, some of the main agents and initiatives related to CSR are highlighted:

- Maala-Business for Social Responsibility. Founded in 1998, Maala is a non-profit organisation, whose creation was inspired by the US-based Business for Social Responsibility (BSR) and a growing network of leading corporate citizenship organisations around the world. Maala serves as an advocate, consultant, educator and facilitator, encouraging corporations to identify opportunities for community involvement, promoting environmentally sound practices, social accountability and reporting. More than 110 companies in the country are members of the organisation, accounting for 23% of employment and 48% of GDP making it a leader in CSR in Israel. Some of its main activities are:
 - The Corporate Social Responsibility Index.
 - The Israeli CSR Management Guidelines.
 - The Corporate Social Responsibility Management Course.
 - The annual Business and Society Conference.

The updated Maala Index is an expression of progress in the area of corporate social responsibility in Israel. The new index enables investors to invest in a group of leading companies selected not only for their excellent financial performance but also according to their performance regarding environmental impact, their employees, the community and their ethical standards. It gives crucial information to investors, consumers, employees, suppliers, etc. The Index also enables those companies that participate and others to review their performance, providing a benchmark for their sector colleagues, and introduce management tools and processes that will enable them to perform better in the future.


- Global Compact. This UN initiative has recently been launched in Israel (July 2008). To date 7 companies have signed it.
- The Forum of Recycling Companies. This Forum brings together companies in Israel dealing with recycling and increases their impact and ability to promote correct waste management, with an emphasis on solid waste (construction, gas, tyres, etc). Established 4 years ago, it has helped the quantity of recycled waste to grow by 75% since 2005.

- Paths to Sustainability. This is a coalition of 22 environmental NGOs with the aim of promoting sustainable development and it also acts as a detector of non-sustainable practices by the government.
- Kayema Investment Research and Analysis. This is a firm of analysts that publishes the *Kayema Sustainability Index* (launched in January 2007), which analyses the 50 largest companies on the Tel Aviv Stock Exchange in accordance with standards of sustainability.
- Business Ethics Center of Jerusalem (BESR). Its mission is to promote high standards of economic integrity and honesty through awareness of Jewish ethical teachings.
- Global Reporting Initiative (GRI). Although so far only 7 companies in Israel have submitted reports to the GRI, the initiative could become a standard for sustainability reporting. That would depend to a large extent on support from the government and other entities such as Maala. Some consulting entities are beginning to see opportunities for business where reports are concerned.
- Standards Institute of Israel. This has been the official organisation for the standardisation and improvement of quality in Israel since the 70s. It has developed initiatives such as the “Green Label”, introduced in 1993 and based on the Israeli Master Standard SI 1738, which in turn was based on Directive 880/92/EC, intended to reduce the environmental impact of products. Attention to quality issues in Israeli companies could constitute an interesting starting point for CSR through the new ISO 26000 certification as well as through the newly developed Israeli Standard 10000.

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 LEBANON ³⁴	POPULATION: 3,971,941
	AREA: 10,400 km ²

1. INTRODUCTION

The Lebanese economy is service-oriented, with substantial growth rates in the banking and tourism sectors. Since the beginning of the present decade, the government has begun an austerity programme in an attempt to contain the increasing national debt through cuts in expenditure, more severe taxation, and working on legislation to privatise state enterprises. In spite of these measures and external aid, the public debt continued to grow, driven by the reforms needed and by the Israeli conflict in mid-2006. Since 2008 political stability has helped the recovery in levels of investment and tourism, as well as the tax reforms and the privatisation programme.

Economic data			
GDP (2008 est.)	\$44.05 billion	GDP growth rate	7% (2008 est.)
GDP per capita	\$11,100 (2008 est.)	Labour force	1.10 million (2008 est.)
GDP by sector (2008 est.)	Agriculture: 5.1% Industry: 19.1% Services: 75.8%	Labour force by sector	Agriculture: N/A Industry: N/A Services: N/A
Unemployment rate	9.2% (2007 est.)	National debt	163.5% of GDP (2008 est.)
Household income	Lowest 10%: N/A Highest 10%: N/A	Inflation rate	10% (2008 est.)
Agricultural products	Citrus, grapes, tomatoes, apples, vegetables, potatoes, olives, tobacco, sheep and goats		
Main industries	Banking, tourism, food processing, wine, jewellery, cement, textiles, mineral and chemical products, wood and furniture products, oil refining, metal manufacturing		
Electricity production	8.764 billion kWh (2006)	Electricity consumption	8.161 billion kWh (2006)
Electricity exports	0 million kWh (2007 est.)	Electricity imports	929 million kWh (2007)
Oil production	0 bbl/day (2007 est.)	Oil consumption	106,000 bbl/day (2006 est.)
Oil exports	0 bbl/day (2005 est.)	Oil imports	97,590 bbl/day (2005 est.)
Natural gas production	0 million m ³ (2007 est.)	Natural gas consumption	0 million m ³ (2007 est.)
Exports	\$3.5 billion (2008 est.)	Imports	\$16.1 billion (2008 est.)

³⁴ The information given in this section has not been confirmed by the CP/RAC National Focal Point for Lebanon.

Commodities exports	Jewellery, base metals, chemicals, miscellaneous consumer goods, fruit and vegetables, tobacco, construction minerals, electric power machinery and switchgear, textile fibres, paper.
Commodities imports	Petroleum products, cars, medicinal products, clothing, meat and live cattle, consumer goods, paper, textile fabrics, tobacco, electrical machinery and equipment, chemicals.
Trading partners - exports	Syria 25.2%, UAE 11.8%, Switzerland 8.2%, Saudi Arabia 5.6% (2007)
Trading partners - imports	Syria 12.1%, Italy 8.5%, France 8.3%, USA 7%, China 5.9%, Germany 5.3%, Saudi Arabia 4.8% (2007)

Source: www.cia.gov, *The World Factbook*.

2. CLEANER PRODUCTION

2.1. Industry and the Environment

Currently most of the liquid, solid and gaseous emissions from industrial activities are still discharged into the environment without any form of treatment. The Ministry of the Environment is working to introduce effective and enforceable pollution control regulations.

The majority of industries in Lebanon (approximately 82%) are located outside industrial areas and their water supplies come from their own wells. Lebanese industry is largely light manufacturing and 90% of companies have fewer than 10 employees. Only 47 factories employ more than 100 people, and 20 more than 250 people.

Industrial facilities situated outside the industrial areas generally lack specific waste collection and treatment services; industrial waste is usually disposed of as conventional urban waste and ends up in the local sewerage system. Both atmospheric pollution and noise pollution constitute a problem for the population since many of these businesses are located in residential areas.



Mechanical workshops, fruit fermentation chambers, carpenter's workshops, glass smelting and printing companies, and olive mills can be normally found in residential areas, as well as water purification and bottling factories.

There are three main areas of concern. The Chekka industrial area in the north of the country houses three of the four cement plants in Lebanon, as well as other chemical plants. The waste and pollution level of the area is very high, and this is one of the most critical sites in the country.

Although the Al Fayhaa federation of municipalities has started a system to monitor air quality, other resources are necessary to analyse the impact on a large scale. In this and other nearby areas excessive heavy metal concentration has been detected. The largest individual source of waste pollution in Lebanon is also situated in this region of the north of the country: the Lebanon Chemical Company, whose plant produces fertilisers, dumps enormous amounts of gypsum paste in the sea.

The industrial areas of Dora and Zouk, in Mount Lebanon, and Nahr Ibrahim Valley, are also critical areas in terms of pollution and emissions. The biggest thermal power stations of the country, responsible for emitting high levels of SO_x and NO_x, are situated in this area. As a result of their activities, the surrounding areas show high concentrations of sulphur and suspended particles. Moreover, as previously mentioned, in these industrial areas a high amount of non-treated effluents are dumped into the sea. The tanning and chemical plants represent an important pollution problem because of the use of detergents, paints and other chemicals, and the coal-fired power stations due to the dumping of heavy metals.

Finally, the territory between Sour and Saida, bordering on the industrial area of Ghazieh, where a number of tanning and chemical facilities and slaughterhouses are situated, and the industrial area of Bourj Chemalli, should also be mentioned because they discharge waste without any previous treatment.

WATER CONSUMPTION

There are no specific data regarding industrial water consumption, mainly due to the fact that besides the water supplied by the public system, many industries use their own uncontrolled wells to obtain free water. In spite of the lack of information, it has been observed that the resources of these wells are gradually being reduced as a result of overexploitation. It is estimated that industry is responsible for approximately 10-15% of the water consumption of the whole country.

Considering the geographical and climate conditions of Lebanon, and the growth of industry, initiatives to rationalise water consumption are necessary. Within a few years, the country will have to face the scarcity of this resource.

ATMOSPHERIC EMISSIONS

Despite the relative progress made in monitoring atmospheric emissions from industry, little information is available on the contribution of different industrial sectors to air pollution.

However, the sectors with the highest polluting potential are the cement industry (gases, suspended particles and dust), the fertiliser industry (chemical and toxic agents), and asphalt mixing plants.

WASTE MANAGEMENT

Lebanon is estimated to generate slightly less than 200,000 tonnes of industrial waste annually, although there are no complete statistics and the estimate is based on voluntary questionnaires (among other sources). Hazardous waste, (pesticides and other chemicals, heavy metals, residual oils, resins, paints and PCB's), inert waste from construction and demolition, and organic waste from agriculture are included within this amount.

Industrial facilities in coastal areas have a strong impact on the Mediterranean Sea because of the direct discharge of industrial effluent, the elimination of inert and hazardous waste, and the accumulation of atmospheric pollutants in the sea. The northern part of the country, where the main cement and chemical factories are situated, is also an important source of pollution. The Beirut area is

less industrialised, and the main problem of its small urban industries is the lack of waste management facilities and direct dumping, mainly of used car oil, into the public sewage system.

The region known as Mount Lebanon is responsible for approximately 70% of industrial waste dumping in the country. Such waste comes from energy and dyeing plants, chemical plants (pesticides) and plastic factories. There are also spillages from sanitary facilities and slaughterhouses.

Even though only 2% of industrial waste is generated in the south of the country, the lack of waste treatment is obvious, and most of the discharges into the sea occur in this area.

Generally, industrial waste treatment is non-existent or unreliable in most sectors, while there is a lack of monitoring, effective audits, proper application of legislation and training in cleaner production.

2.2. Promotion of Cleaner Production

The Lebanese Government has done some work and invested resources in improving the environmental performance of businesses. In addition to the legislation in force, work is needed on the creation of mechanisms for supervision and regulation, such as a licence system, the setting of standards, and the systematic monitoring of environmental issues. Economic and voluntary instruments to promote the proactive application of cleaner production mechanisms are also receiving more attention.

Although the Ministry of the Environment has launched various projects to reduce industrial pollution and promote the efficient management of hazardous waste, the legislation in force does not include any explicit obligation regarding the adoption of cleaner production measures. Most of the official measures to ease the negative impact of industrial activity have been implemented through a series of action plans:

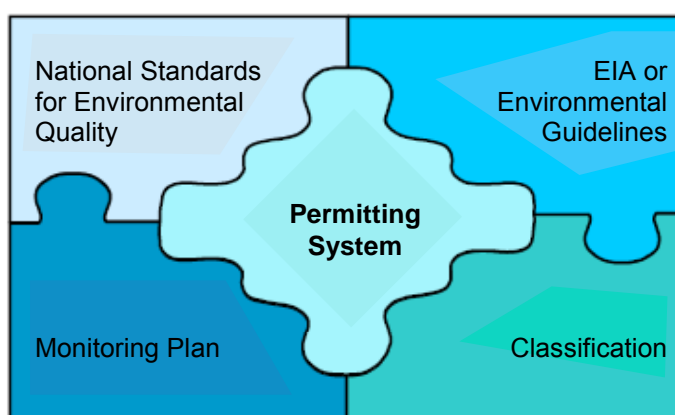
- National Plan for Waste Management. This is considered a priority in the four regions of the country. The construction of 13 waste treatment plants along the coast has been approved. The Committee for Reconstruction and Development (CRD) is in charge of the planning and implementation of these plants, some of which are already operating.
- National Plan for Solid Waste Management in Coastal Areas. Although there are waste management systems in Tripoli and Beirut, the capacity of landfill sites is insufficient for the growing volume of waste. On the other hand, there are no incentives to encourage recycling, which is then a problem for the recycling sector, which usually complains about unstable supplies and high manufacturing costs. Overall, this plan has improved the situation and convinced the government of the need to develop new legislation for solid waste which includes issues such as waste sorting, especially hazardous or toxic waste, and recycling.
- National Plan for Heavy Metal Management. There is no evidence of any project being carried out in this field, but the Ministry of the Environment and other related organisations, together with the Lebanese Cleaner Production Centre, are analysing different possibilities.
- National Plan for the control of Halocarbons and Persistent Organic Pollutants (POP's). Lebanon is developing a POP management plan with the financial support of UNEP and GEF. This plan has several stages, going from the establishment of the processes and the coordination team through to the presentation of the plan, which is intended to help the country to comply with the terms of the Stockholm Convention.
- The National Plan for Collection and Treatment of Used Oil. It is estimated that the country generates approximately 10,000 tonnes of used oil per year. The cement industry, working with garages and workshops can play a very important role in the collection and treatment of oil to be used as fuel, through the creation of a national network. It has been calculated that the costs of this network are lower than the potential profits from selling the oil to treatment plants.
- National Plan for the Management of Reductions in the Use of Ozone-depleting Substances. According to the Montreal Protocol, this plan is expected to conclude this year, its aim having been to eliminate the use of these substances, taking the levels of 2003 as a reference.

These strategies, together with the legislation in force, are being reviewed as part of the National Action Plan for the Environment, which is currently pending approval.

The existing model for granting and auditing environmental licences in industry is currently being reviewed within the framework of a project subsidised by EU's LIFE programme. Due to the magnitude of this task and taking other current issues into account, the Ministry of the Environment has decided to limit the scope of this project during its first years. In fact, the programme is seen by institutions as a management tool to contain the problem and to offer some guidelines for new facilities.

The strategy of the Ministry of the Environment to improve the environmental performance of some industrial plants includes a permit system for new facilities and a Compliance Action Plan for existing businesses. It involves the preparation of environmental impact assessment studies, the specification of environmental guidelines for specific facilities, the application of the new classification system for industrial facilities, and a revision of national standards for environmental quality and monitoring.

Permitting system for New Facilities



Source: SPASI project, MoE

ECONOMIC INSTRUMENTS

Two types of financial instrument are used. On the one hand, there are those of a punitive type, such as sanctions, fines, stopping the activity or even revoking the permits for the activity, all of them designed to discourage non-compliance with legislation.

On the other hand, there are incentives, intended to promote investments and improvements in the field of cleaner production and the protection of the environment. The most common are soft credits and direct financial aid from the government and from international institutions, as well as agencies or related institutions.

The Euro-Lebanese Centre for Industrial Modernisation (ELCIM) gives technical assistance to Lebanese industrialists for modernisation. Financial and technical support is available and the centre may carry out environmental studies or assessments.

Other centres in the country, such as the Lebanese National Cleaner Production Centre, can sometimes help businesses to obtain financial aid for certain projects.

VOLUNTARY INSTRUMENTS

The Ministry of the Environment has been studying the possibilities of a green certification system (eco-label) and a directory of compliant businesses, which will be available on the Ministry's home page, but these initiatives have not been carried out to date. Nevertheless, multinational and export enterprises take both possibilities into account.

The same applies to voluntary certification schemes, such as ISO 9001 and ISO 14001.

PROMOTERS AND PROJECTS

In addition to the Ministry of the Environment and other related ministries, such as the Ministry of Industry or the Ministry of Energy and Water, there are other relevant agencies and public institutions:

- The Committee for Reconstruction and Development (CRD) is a promotional organisation that reports directly to the Council of Ministers, and if necessary, its authority can prevail over the ministries. 85% of the external funds for reconstruction are managed by the CRD, and it therefore has considerable influence over the National Action Plans, especially regarding solid waste and wastewater.
- Regional governments play a key role, as they have the power to approve or veto any activity related to waste management in their jurisdiction. Municipalities and municipal federations, which answer to regional governments, have competences concerning waste management, basic supplies, some taxes, etc. They are also responsible for controlling and reporting irregularities and non-compliance with environmental laws.
- One of the leading organisations in civil society is the National Council for Scientific Research (NCSR), which normally uses its funds to support environmental and cleaner production projects by the University of Lebanon and its partner institutions. The role of this institution in monitoring and analysing water and air quality data is significant due to its scientific and technical nature.
- The Association of Lebanese Industrialists (ALIND) brings together more than 600 industrialists and seeks to promote balanced development in the country from an industrial perspective. The ALIND supports and takes part in initiatives aimed at promoting the sustainable development of the Lebanese industrial sector. Most industrial facilities are private, so ALIND has significant influence and can play a major role in the implementation of cleaner production.
- The Lebanese National Cleaner Production Centre (LNCPC) is without any doubt the most important institution in this area. Since its establishment in 2002, its activity and its presence in industry have gradually increased. Notable achievements include over 22 national experts trained and approximately US\$790,000 saved yearly by Lebanese industry in different sectors. The main objectives of LNCPC include training companies to design and manufacture products that meet demand from customers for more environmentally friendly products; facilitating the access of local products to international markets, thus encouraging economic growth; increasing constructive competition between businesses to improve the production process; supporting the implementation of environmental management systems (e.g. the ISO 14001 certificate); and reducing the adverse environmental impact of industrial production. In doing so, the LNCPC provides technical support to SMEs, experts, donors and NGOs, through practical and informative activities and projects, and supports public institutional awareness campaigns. The LNCPC's scope of action has progressively extended to the following fields related to SCP: life cycle Analysis (LCA), environmental impact assessment (EIA), environmental audits, energy efficiency, eco-labelling, eco-design, health and safety, as well as CSR and other ethical, social and labour-related issues. Since 2005 it has cooperated with 19 companies from the following sectors: agro-food canning, dairy processing, paper and cardboard production and recycling, and industrial plastic sub-sectors. These companies have agreed to be subjected to on-site CP assessments. In a later stage, the LNCPC will also tackle the textile and printing industries, where the introduction of CP processes is urgently needed.
- Other significant institutions include the Lebanese Association for Energy Saving & for Environment (ALMEE) the NGO Green Line and the Lebanese Solar Energy Society (LSES), which promote different areas dealing with SCP (e.g. energy efficiency and renewable energy).

3. SUSTAINABLE CONSUMPTION

The integrated approach to SCP is a relatively new concept in Lebanon, and it is not specified in any existing public or private institution programme, but some of the organisations promoting cleaner production have added consumption considerations and criteria to their activities. ALMEE works on energy efficiency as a means to achieve energy saving, while LNCPC focuses its efforts on achieving overall savings as a result of more rational consumption of resources.

Beirut hosted the first Arab Expert Meeting on Sustainable Growth in September 2005, organised by the United Nations through DESA and ESCWA.

As in other countries in the region, the major environmental problems related to consumption are atmospheric pollution, poor air quality, soil and water pollution, exhaustion of natural resources, and loss of biodiversity. In Lebanon the most worrying problems are atmospheric emissions, dumping and waste management. Apart from industry, as mentioned above, these are basically caused by transport, tourism, agriculture, lack of public awareness, and poor quality of some resources and infrastructures.

Transport generates most of the atmospheric emissions. There are continuous traffic jams in all the cities in the country, the number of vehicles is constantly increasing, and the monitoring systems show pollution levels that are higher than legal standards.

In this sense, the situation in Lebanon is similar to most of the surrounding countries. The transport fleet has substantially increased, and furthermore, the average age of vehicles is quite high, leading to low energy efficiency and high fuel consumption and emissions. The road network is insufficient for the large number of vehicles, causing traffic jams, while the increase in passenger and goods transport with polluting vehicles contributes to the problem.

The recent construction of expressways and bypasses has slightly alleviated the problem and the change to better quality unleaded petrol is also an improvement.

The National Plan for the Control of Vehicular Pollution has promoted the modification of some laws (such as Law No. 341) to reorganise the diesel sector and modernise the public transport fleet (currently in very poor condition) through tax exemptions on imported vehicles.

Domestic generators also contribute to atmospheric pollution. These generators work with fossil fuel to produce electricity and they are used to compensate for the frequent voltage drops in the electricity supply (far from being solved, this problem seems to be worsening).

ENERGY EFFICIENCY - RENEWABLE ENERGIES

Lebanon is almost completely dependent on imports of energy, especially fossil fuels. Although the Government has made big investments in the sector, demand still exceeds supply, and there are many restriction and cuts. Losses from the grid are estimated at 56% (1997 data), 15% for technological reasons and the remaining 41% as the result of theft. In 2001 ALMEE reported losses of up to 44%, due to illegal connections and technical losses. Although these percentages have been reduced, the problem persists, and some industrial facilities are importing electricity from Syria.

Energy efficiency and renewable energy sources are thus key factors in the development of the country. The Ministry of Energy and Water, the Ministry of the Environment and associations such as ALMEE are the main agents promoting them, through the support of organisations for international and bilateral cooperation such as UNDP, UNEP and the French Development Agency (AFD). Relevant projects include the UNDP Project "Country energy efficiency and renewable energy demonstration project for the recovery of Lebanon" (CEDRO II) and a pilot project supported by the AFD on the improvement of energy efficiency in new constructions

Renewable energies do not have a significant presence in the country yet. Traditionally, hydroelectric power has been the only renewable energy, but due to the increase in demand, it only represents a small percentage (5% to 10%) of the total amount of energy produced in the country. The use of solar energy and photovoltaic panels to produce electricity is almost inexistent, but many residential buildings heat water using solar energy. In recent years, solar thermal collectors have become more popular in the country, because of the amount of energy they are able to absorb.

Generally, even though there are many different potential renewable energy sources, such as wind power or biomass, the projects are still in their initial phase of study, and financial support and specific rules for subsidised prices for manufacturing are required.

WATER QUALITY

Wastewater management in Lebanon is underdeveloped, and it is only partially effective in Beirut. In many areas of the country, domestic and industrial wastewater is discharged directly into streams or the sea. In Al Abdeh, Tripoli, Enfeh, Chekka and Selaata, in the north, and Zouk, Dora and the Nahr Ibrahim Valley, further to the South, the problem is even more urgent. The situation in Beirut is slightly better because various collectors bring the wastewater to treatment plants situated in the Mount Lebanon district. There is another wastewater treatment plant in Saida, which is used by the urban and industrial area of Ghazieh. Other similar projects are currently being planned, and new infrastructures are therefore necessary on the coast to minimise domestic and industrial wastewater discharges into the sea. These have become even more serious because of the growth of tourism.

Inadequate wastewater management affects freshwater quality and quantity, as well as its sanitary characteristics. The CRD and other institutions have projects in this field to guarantee drinking water in some areas, to repair the water supply system, etc. However, the situation calls for more drastic measures to deal with discharges and air and soil pollution.

WASTE MANAGEMENT

Waste management has significantly improved in the last few years, especially in municipal collection systems. Thanks to these efforts, private companies have established collection systems. Nevertheless, waste disposal is still a major problem, because most of the time urban waste is left in open-air sites without any control measures or treatment systems. Some landfill sites have been lined to prevent pollution through filtration, or have been partially renovated, but in general, they are insufficient and unsustainable because of the almost total lack of recycling.

Thanks to an emergency plan from the CRD, a system for the management of urban waste was implemented in Beirut at the end of the 1990's. Collection, treatment, dumping and street cleaning were included in this plan. Nevertheless, after some years the small amount of waste recycled shows the inefficiency of the plan. According to local studies, only 5% of the waste collected is recycled, 15% is used for compost, and the rest, approximately 80%, is left in landfill sites.

Regarding this problem, the possibility of modifying the legislation in force is being studied as well as projects for improvement. In Sour, a recycling and composting plant is being built to replace the existing landfill site. Along the same lines, the former Normandy landfill site, closed in 1995, is being converted into an area for public and residential use.

3.1. Green public procurement

Legislation on public purchasing is very outdated and does not include many of the minimum rules to guarantee fair and transparent processes. The government is working on a project to update the existing rules.

There is no evidence of any regulations regarding the inclusion of environmental and social criteria in public purchasing policy.

4. CORPORATE SOCIAL RESPONSIBILITY (CSR)

Before the civil war in Lebanon, CSR was limited to social activities or community development. However, during the war period many companies wanted to act more responsibly in response to the existing management difficulties. Communities and employees could benefit from measures such as the supply of power from plants, additional funds, or new job opportunities after a factory had been closed. After the elections in 1998 these philanthropic measures were extended and allowed progress to be made in CSR. Since then, social responsibility practices have continued to spread in spite of the serious political situation.

Nevertheless, CSR has a limited presence in society. Although some corporations have developed advanced programmes in this field, the great majority of companies are hardly aware of the concept.

Research by the Lebanese Transparency Association (LTA) showed that SMEs represent 98% of the private sector in the country. These businesses have few economic, technical and institutional resources to invest in CSR or to implant systems of good governance.

It is, therefore, the big corporations that take the lead in promoting CSR. Their main CSR practices are concerned with their employees, customers, the community and the environment.

The most common initiatives are donations, support for development projects, construction of infrastructures, grants, health insurance, training courses for employees, and finance for environmental projects. On many occasions these programmes are carried out jointly with other companies, social institutions and NGOs.

Nevertheless, these practices, which are characteristic of the initial stages of CSR, are not very systematic and are very dependent on the character, values or willingness of employers. CSR strategies and approaches that consider good governance and transparency are not very common. On the other hand, these practices are not publicised, and an opportunity for improving the company's corporate image and reputation is lost.

Up to now, the government has not been involved in the development of CSR rules or projects. In this sense, companies see awareness campaigns, the possibility of tax exemptions, and the creation and sponsorship of CSR networks as priorities for government support.

Other organisations in civil society, such as LTA, are more involved in CSR but they do not have the means to carry out large-scale activities. Publicity, education and awareness raising through seminars, publications, courses, etc. are the main tools for promoting CSR.


Lebanon is currently going through an integration process into the global economy by signing an Association Agreement with the EU, joining the World Trade Organisation (WTO) and participating in the Greater Arab Free Trade Area (GAFTA). Some issues related to good governance and transparency, as well as working conditions, safety and environment do not make the process easier, and they make economic growth even more difficult. Measures of this kind, accompanied by economic and political reforms, are necessary to eliminate the barriers and obstacles to exports and foreign investment. The promotion of CSR should be an integral part of this reform process.

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 MOROCCO ³⁵	POPULATION: 34,343,219
	AREA: 446,550 km ²

1. INTRODUCTION

Growth of Morocco's GDP reached 5.3% in 2008. However, this growth was variable and unpredictable due to its dependence on the results of the agricultural sector. By way of illustration, the major drop in agricultural production that occurred in 2007 caused a reduction in growth and required wheat to be imported from international markets. The Moroccan authorities have worked to open the country's economy to international investors. Morocco's proximity to the European continent has allowed its economy to benefit from the relocation of European companies. Since early 2000, Morocco has developed an attractive fiscal policy in terms of offshoring, to the point where in 2008, the OECD ranked Morocco third in the number of jobs created by sector, behind Estonia and China.

Economic data			
GDP (2008 est.)	\$137.4 billion	GDP growth rate	5.3% (2008 est.)
GDP per capita	\$4,000 (2008 est.)	Labour force	11.5 million (2008 est.)
GDP by sector (2008 est.)	Agriculture: 14.7% Industry: 38.9% Services: 46.5%	Labour force by sector (2008 est.)	Agriculture: 44.6% Industry: 19.8% Services: 35.5%
Unemployment rate	2.1% (2008 est.)	National debt	60.2% of GDP (2008 est.)
Household income (1999)	Lowest 10%: 2.6% Highest 10%: 30.9%	Rate of inflation	4.6% (2008 est.)
Agricultural products	Barley, wheat, citrus fruit, wine, vegetables, olives and livestock		
Main industries	Phosphate rock processing, food, leather, textiles, construction and tourism		
Electricity production	21.88 billion kWh (2006)	Electricity consumption	19.58 billion kWh (2006)
Electricity exports	0 million kWh (2007)	Electricity imports	1.998 billion kWh (2006)
Oil production	3,746 bbl/day (2005 est.)	Oil consumption	179,700 bbl/day (2005 est.)
Oil exports	24,360 bbl/day (2005 est.)	Oil imports	192,500 bbl/day (2005 est.)
Natural gas production	60 million m ³ (2006 est.)	Natural gas consumption	560 million m ³ (2008 est.)
Exports	\$16.14 billion (2008 est.)	Imports	\$34.44 billion (2008 est.)

³⁵ The information given in this section has not been confirmed by the CP/RAC National Focal Point for Morocco.

Commodities exports	Clothing and fabrics, electrical components, inorganic chemicals, transistors, raw minerals, fertilisers (including phosphates), petroleum derivatives, citrus fruit, other fruit, vegetables and fish
Commodities imports	Unrefined petroleum, textiles, telecommunications, wheat, gas and electricity, transistors and plastics
Trading partners - exports	Spain 21.2%, France 19%, Italy 4.9%, UK 4.6%, India 4.2% (2007)
Trading partners - imports	France 16.1%, Spain 13.6%, China 7.3%, Italy 6.7%, Saudi Arabia 6.4%, Germany 5.9%, U.S. 4.5%, Netherlands 4.1% (2007)

Source: www.cia.gov, *The World Factbook*.

2. CLEANER PRODUCTION

2.1. Industry and the Environment

As was already mentioned in a previous version of this report,³⁶ and due to rapid major industrialisation and urbanisation over the last 20 years, Morocco is facing difficulties in managing its natural resources (it is estimated that 92% of Moroccan territory is threatened by desertification) and dealing with environmental pollution.



More than 1,200 industrial processing facilities (25% of domestic industry) contribute to pollution of the environment. These industries are concentrated along the coastal axis of Casablanca, Aïn and Sebâa-Mohammedia. The city of Casablanca alone hosts nearly half of the country's industry. In addition, we should mention construction of the Tangier-Mediterranean port, begun in 2004 and located between the city of Tangier and the Spanish enclave of Ceuta, just a few kilometres from Spain, since it should constitute a major development factor. In 2012, this port complex should be able to handle 8 million containers, thus becoming the largest port in Africa in terms of the movement of goods.

³⁶ State of the Art of Sustainable Production in the Mediterranean". *MAP Technical Reports Series No. 165*, UNEP/MAP/CP/RAC, Athens, 2006.

One must also point out the challenges facing the country over the long term. The government hopes to increase the number of tourists (in 2007, Morocco received a total of 9.7 million tourists, 10% more than the previous year) and to enhance the competitiveness of the textile industry.

WATER MANAGEMENT

For Morocco, a country where the climate is largely semi-arid and water resources are limited, water management is a high priority in national policies on the environment and sustainable development.

Industry consumes more than 1 billion cubic metres of seawater (81% of total consumption), 153 million cubic metres of surface water (14%), drinking water (4%) and groundwater (1%). The total discharge of waste from the industrial sector is 964 million cubic metres, which represents 89% of the total volume of water used.

This waste stems mainly from water used in cooling systems, water used for washing raw materials and water used in processing. The chemical industry for processing phosphates constitutes the largest source of liquid waste (931 million cubic metres). The textile and leather industries generate relatively low amounts of wastewater (10 million cubic metres) but with a very high level of contamination (tanneries produce waste such as chrome and sulphur).

Waste from the agricultural and food industries is characterised by substantial percentages of organic matter. Mechanical, metallurgical and electrical industries discharge approximately 2 million cubic metres of water.

Most industrial waste affects the natural environment immediately surrounding production plants, and the sea is the main recipient.

WASTE MANAGEMENT

National industrial waste production is estimated at 974,070 tonnes per year, of which 12.3% (118,900 tonnes) is hazardous industrial waste. The distribution of this waste by region shows that the Greater Casablanca region produces nearly 42% of industrial waste and 47% of hazardous industrial waste.

The breakdown of waste production by business sector shows that agro-food and chemical plants produce 483,900 and 145,000 tonnes per year respectively, thus accounting for 63% and 20% of the total volume.

National hospital waste production is estimated at 11,910 tonnes. Approximately 38% of this amount is produced in the Greater Casablanca and Rabat-Salé-Zemmour Zaër regions. According to the Ministry of Industry and Trade, the volume of waste incinerated in the Casablanca region is estimated to be 1,000 tonnes. This volume is less than that required to process the waste generated and, consequently, a large proportion of it is disposed of in landfills.

According to the Moroccan National Environmental Observatory, 23% of industrial waste is re-used in manufacturing processes or is transferred for reuse or recycling. As for the processing of industrial waste, it should be noted that much of it is deposited in illegal landfills.

AIR POLLUTION

In terms of air pollution, greenhouse gas emissions are increasing at a rate of 2.7% compared with a 1.4% growth rate for the population. The energy production sector is responsible for 56% of total net emissions, followed by agriculture (25%), industrial processes (7%) and waste (5%).

Of the 210,000 tonnes of industrial sulphur dioxide emissions, more than 90% come from sulphuric acid production plants. This pollution is mainly concentrated in the cities of Safi and Jadida.

The energy sector is responsible for 8% of NO_x emissions and 16% of suspended particles emitted.

2.2. Promotion of Cleaner Production

Morocco has actively contributed to the process of sustainable development in the Mediterranean, especially as part of the activities of the Mediterranean Action Plan (MAP) centres and within the Mediterranean Sustainable Development Commission. In this context, a National Environmental Protection and Sustainable Development Plan (SNDD) and a National Environmental Action Plan (PANE) were adopted in 1995 and 2002, respectively.

REGULATORY MEASURES

Since the previous report was produced,³⁷ several laws intended to promote cleaner production have been enacted.

- Regarding waste management, Law 28-00 on waste management and disposal (published in the *Official Gazette* on 7 December 2006) has been enacted. Its main goal is to establish the basis for a policy of waste management through the attainment of a twofold objective:
 - Modernising management processes in this sector.
 - Reducing, as far as possible, the negative effects of waste on public health and the environment.

Under this law, specific measures for waste permits and inspection procedures should also be introduced.

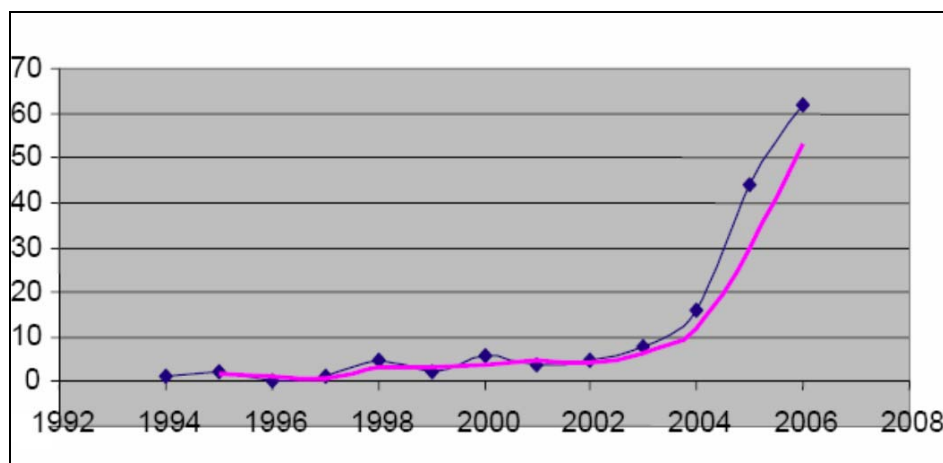
- An initial enforcement decree has also been passed to permit the classification of wastes and create a list of hazardous wastes (*Official Gazette* of 7 August 2008).
- In October 2008, following the enactment in 2003 of the law on environmental impact assessments (EIA), new enforcement decrees were passed: a decree creating regional EIA committees and a decree on public opinion polls.

Since Law 12/2003 was enacted, the number of EIA's has increased exponentially (see graph below). Of the total number of assessments conducted, 24% and 27%, respectively, have been performed in industrial facilities and oil-producing plants. These studies were followed by others related to sanitation projects and quarries.

The creation of regional committees should provide greater efficiency in the development of EIA's by the National Committee, so that the number of EIAs can be increased to 180 in 2009. However, due to a lack of manpower and to the limited capacity of the regional committees, there is a risk that this objective may not be met.

³⁷ "State of the Art of Sustainable Production in the Mediterranean". *MAP Technical Reports Series* No. 165, UNEP/MAP/CP/RAC, Athens, 2006.

Graph: Changes in the number of EIAs



Source: *Evaluation of the system for environmental impact assessments in Morocco - GTZ-PGPE.*

- On 24 January 2005, a new decree, No. 2-04-553, on spillages, discharges, wastes and direct or indirect deposits in surface or groundwater was enacted. In addition, various rulings have been issued setting the ceilings for industrial waste.

ECONOMIC MEASURES

Two basic economic measures should be highlighted:

- The Industrial Pollution Prevention Fund (FODEP). As was mentioned in the previous version of this report,³⁸ the FODEP is a financial tool used to motivate industrial and artisan businesses to invest in pollution prevention or reduced use of natural resources, and to take account of the environmental factor in their business activities.

The FODEP awards subsidies to national industry representing 20-40% of the investment costs required to implement pollution control projects. Granting of these subsidies is contingent on compliance with environmental regulations, among other aspects. To date, the FODEP has funded more than 90 different projects, at a cost of approximately 42 million euros.

- The National Environmental Protection Fund. This fund, mandated in Law No. 11-03, of 12 May 2003, on the protection and sustainable use of the environment, was created in 2007.

The fund is basically intended to finance noteworthy projects. This financing is provided by funds stemming from the public sector, the private sector and money generated by environmental sanctions.

PROMOTERS AND PROJECTS

The new government offices associated with cleaner production should also be mentioned. The Environment Department of the Ministry of Infrastructure, Water and the Environment is responsible for coordinating activities related to environmental management and sustainable development. Working with this department, there are other technical ministries and offices that also include divisions for promoting cleaner production and sustainable consumption. These are: the Ministry of Industry, Trade and New Technologies; the Ministry of the Economy and Finance; the Ministry of Energy, Mines, Water and the Environment; the Ministry of Agriculture and Maritime Fishing; the Ministry of Education, Universities, Managerial Training and Scientific Research; the Ministry of the

³⁸ "State of the Art of Sustainable Production in the Mediterranean". *MAP Technical Reports Series No. 165*, UNEP/MAP/CP/RAC, Athens, 2006.

Interior; the Ministry of Roads and Transportation; the Ministry of Public Health and the Ministry of Tourism and Crafts.

Certain specialised agencies, such as the National Environment Council and the High Commission for Water and Climate, affiliated with the abovementioned ministries, play a key role in promoting cleaner production and sustainable consumption.

The Moroccan Cleaner Production Centre (CMPP), a public-private joint project by the Moroccan General Business Association (CGEM) and the Ministry of Industry, Trade and the Economy, already mentioned in the previous version of this report, is the most influential body in terms of cleaner production.

Other noteworthy private entities are:

- The Moroccan General Business Association (see the section on RCSR).
- The Moroccan Centre for the Development of Renewable Energies (CDER).
- The Centre for Information on Sustainable Energy and the Environment (CIEDE).

In addition, we should mention the following projects:

- The German Technical Assistance programme on Environmental Management and Protection (GTZ-PGPE), designed to support Moroccan environmental policy. Its basic objective is to provide Morocco with a comprehensive legal and technical framework by 2012, the effective implementation of which will be based on measures and procedures meeting international requirements. The PGPE is currently working in the following areas:
 - Advising on environmental policy through the Ministry of Infrastructure, Water and the Environment.
 - Developing the National Centre for the Disposal of Special Waste (CNEDS).
 - Industrial environmental protection in Mohammedia.
 - Municipal environmental protection, giving priority to improving municipal waste management (Tangier/northern region).
- Mediterranean Technical Assistance Programme (MTAP/METAP). This programme is mainly focused on enhancing institutional and technical capacity, financing sector-based studies and integrated pollution management.
- Mediterranean Renewable Energy Programme (MEDREP). This programme, which involves cooperation with Italy, aims to develop a system for a sustainable and renewable energy market in the Mediterranean region. In Morocco, the MEDREP is supporting the following projects:
 - Developing funding mechanisms to promote solar water heating, as part of the Moroccan national programme for capturing solar energy (PROMASOL), working jointly with the Moroccan Centre for the Development of Renewable Energy Sources (CDER).
 - Promoting renewable energy sources by creating green certificates for businesses. The aim of this project is to promote renewable energy sources by developing a system of 'green certificate trading' between Morocco and Italy that would foster a favourable environment, in accordance with the law, allowing for regulation of the transfer of these certificates between the two countries.
 - Studies on integrating wind power generation into the national power grid. Recent studies have confirmed the existence of regions with substantial potential for developing wind power in Morocco. There are plans to install new wind farms to produce an additional 600 MW in 2010.
 - Renewable energy sources for water supplies. This project consists of using wind and solar power in water desalination plants and pumping stations, in order to supply water to rural areas, allowing for the possibility of using any excess power on the grid.

- Energy efficiency in public hospitals. The general goal is to promote the inclusion of energy efficiency in Moroccan public hospitals while reducing carbon emissions.
- A project on water use in Moroccan industry. This project is based on conducting water use audits in thirty Moroccan businesses in various sectors and in cities considered to be major water users. The project consists of developing detailed projects for processing industrial waste, as well as preparing technical files to solicit funding from the FODEP. This project is co-funded by the French Ministry of Finance and the Moroccan Ministry of Industry, Trade and New Technologies. Those responsible for implementing the project are the Moroccan Cleaner Production Centre (CMPP) and the French G2C Environnement company.

3. SUSTAINABLE CONSUMPTION

WATER MANAGEMENT

Surface water circulation is estimated to be approximately 18 billion cubic metres, while the exploitable potential of groundwater resources is estimated to be some 4 billion cubic metres annually.

Renewable water resources are estimated to be 29 billion cubic metres annually, meaning approximately 1,000 m³/capita/year. However, the resources that it would be technically and economically feasible to use do not exceed 17.5 billion cubic metres per year, meaning 580 m³/capita/year (2004 figures). According to official estimates, this will have fallen to 437 m³/capita/year by 2020.

In 2005, 13.4 billion cubic metres were recovered, including 10 billion from surface water sources and approximately 3.4 billion from groundwater sources. Of these resources, 90% were used in irrigation and 10% were divided between the industrial sector and drinking water supplies.

In terms of sanitation, indicators show that nearly all major and medium-sized cities have a community-wide sanitation network. According to the data, the overall rate of connection to sewage systems has gone from 70% in 2002 to 91% in 2005. Nevertheless, there are notable differences depending on the size of towns and even in major cities there are neighbourhoods that have no sewage system at all. In this matter, it would seem that the situation regarding the points singled out for special attention in the previous version of this report³⁹ has improved.

In 2001, following an international call for tenders, the urban administrations of Tangier and Tétouan outsourced the management of their water distribution, sanitation and electric power services to the Amendis company, a subsidiary of Veolia Environnement – Morocco. The contract covered the construction of wastewater treatment plants, the renovation and modernisation of structures, and increasing the rate of connection of the population to the drinking water and sewer systems.

In Tangier, 28 illegal discharge points were eliminated, networks in bad condition were renovated and the sewage system was expanded, more neighbourhoods being connected to it. However, the treatment plant, a key component of this project, originally due to open in 2006, and then in 2007, is still not operational.

In Tétouan, the plan is to finish, by 2012, the construction of more than 35 km of canals intended for domestic and industrial wastewater, as well as the construction of a treatment plant and the collection network for this waste.

In Nador and Al Hoceima, the National Drinking Water Agency (ONEP) is managing various projects to solve the problem of waste in urban areas, thus preventing direct discharges while reinforcing the development of tourism in the area.

³⁹ "State of the Art of Sustainable Production in the Mediterranean". *MAP Technical Reports Series No. 165*, UNEP/MAP/CP/RAC, Athens, 2006.

WASTE MANAGEMENT

National household waste production is estimated to be 6,500,000 tonnes per year. Of the total, 69% stems from the urban environment (4,500,000 tonnes), while rural waste constitutes 31% (approx. 2,000,000 tonnes).

The percentage of urban waste that is recycled is quite low and most ends up being dumped in illegal landfills. The following table shows data for the provinces along the Mediterranean coast:

	Province of Tangier	Province of Tétouan	Province of Al Hoceima	Province of Nador
Total production (t/yr)	167,189	142,000	37,200	47,450
% household waste	80%	> 80%	> 80%	> 80%
kg/capita/day	0.72	0.82	0.77	0.90
Management	Private in the city of Tangier	Public	Public	Private in the city of Nador
Collection rate	65 - 85%	75% in urban zones	-	-
Dumping controlled	No	No	No	No
Environmental problem with current discharges/dumping	Water pollution (leaching) and air pollution (toxicity of combustion gases)	Discharging near the ONEP's sources	Discharge along the coast	Discharge/dumping in flood zones

Source: National Action Plan - Mediterranean Action Plan.

REGULATORY MEASURES

Since the previous version of this report was produced, various legislative measures have been approved relating to sustainable consumption:

- Decree No. 1607-06, of 25 July 2006, establishing minimum and maximum values for household waste.
- Regarding the issue of air pollution, it is interesting to note that since January 2009, in compliance with current legislation, a new type of diesel oil has been marketed with a sulphur content of 50 ppm, instead of the current 350 ppm.

PROMOTORS AND PROJECTS

- National Initiative for Human Development. The largest programme in terms of sustainable consumption and cleaner production is the National Initiative for Human Development (INDH), launched by King Mohammed VI in May 2005. It is a development programme with a budget of around 10 billion dirhams (900 million euros) for the period 2006-2010, from the national government, from various economic institutions and from international cooperation. The purpose of this programme is to reduce poverty, social injustice and unemployment, as well as to improve living conditions in the poorest urban areas.

INDH funding

	Credits in millions of dirhams					
	2006	2007	2008	2009	2010	Total
- Government	1 000	1 100	1 200	1 300	1 400	6 000
- Institutions	300	350	400	450	500	2 000
- Cooperation	200	300	400	500	600	2 000
Total	1 500	1 750	2 000	2 250	2 500	10 000

- National Household Waste Programme. The World Bank is supporting this programme launched by the government to upgrade the urban waste sector in order to improve control and increase safety and sustainability, along with better economic, environmental and social performance. This support was formalised by the creation of a 2008-2012 Action Plan for the National Household Waste Programme (PNDM), drawn up by the Ministry of Water and the Environment and the Ministry of the Interior.

The goal of this action plan is to improve household waste management in terms of collection and processing in order to achieve a collection rate of 90% and create controlled landfill sites. It also aims to close and renovate all existing illegal landfill sites, and to organise and develop the sorting-recycling-reuse sector, which will make a waste recovery rate of 20% attainable.

The budget devoted to these purposes has gone from 600 million dirhams in 2003 to 1,500 million dirhams in 2008, with an overall cost amounting to some 37 billion dirhams.

- Water supplies and sanitation in urban areas. In 2005, the World Bank approved another loan of approximately 60 million dollars to finance the projects of the Consolidated Drinking Water Supply Programme for Rural Populations (PAGER). This programme was launched in 1998. Its purpose is to increase access to drinking water supplies in rural areas while promoting sustainable waste management and fostering cleaner practices.

4. CORPORATE SOCIAL RESPONSIBILITY (CSR)

In Morocco, the development of corporate social responsibility (CSR) as a management model is quite recent. However, since the International Conference on Socially Responsible Investment, entitled *Intégrales de l'investissement* (Investment Factors), which took place in December 2005 with more than 1,000 participants and which was inaugurated by Mohammed VI, a number of successes have been achieved. After initial studies of CSR in various corporations in Morocco, such as the Moroccan Bank for Foreign Trade (BMCE), Lydex (Swiss Group for Water and Electricity Supplies), the National Railway Agency (ONCF) and the National Fisheries Agency, in 2006, the Moroccan National Association of Businesses (CGEM) defined the criteria for attributing the CGEM label for social responsibility.

This label is based on meeting the following conditions:

- Respect for human rights.
- Continuous improvement of working conditions and workplace relationships.
- Environmental protection.
- Preventing corruption.
- Respect for competition.
- Enhancing transparency.
- Respect for the interests of customers and consumers.
- Promoting social responsibility on the part of suppliers and subcontractors.
- Developing community involvement.

The CGEM label is valid for three years for companies based in Morocco who are members of the Association, regardless of size, sector or business activity. Any company that wishes to obtain the label must undergo assessment of its management, conducted by one of the independent appraisal entities approved by the CGEM (Bureau Veritas, Optimum Conseil/BPI Group, Vigeo Group, Groupement Diorh/Fidaroc Grant Thornton & Eagle Engineering).

The purpose of this evaluation is to demonstrate that the management of the company seeking to obtain the label complies with the conditions stipulated in the Social Responsibility Charter. In practice, the company must provide tangible evidence showing that it has fulfilled its social obligations. In order to promote the CGEM label, the Customs and Duties Administration, the National Social Security Agency (CNSS), the Moroccan Agricultural Credit Bank, the Banques Populaires group, the Moroccan Bank for Commerce and Industry and the National Tax Agency have joined the association.

These entities grant certified companies a series of advantages and privileges such as setting preferential rates, simplifying procedures, more flexible monitoring, personalised management and a commitment to faster processing of applications.

The following companies have been awarded the CGEM label


Company	Line of business	Date awarded
ERAMEDIC	Import and distribution of medical equipment	29/10/2007
LAFARGE MAROC Cement works	Cement manufacturing	29/10/2007
LGMC Industries Corporate and Plant - Agadir	Production and export of canned fish	29/10/2007
STOKVIS NORD- AFRIQUE	Distribution of technical equipment: machinery for public works and construction, quarrying, agricultural machines, industrial HVAC equipment, cleaning and maintenance materials, ploughing equipment	29/10/2007
CHANTIERS ET ATELIERS DU MAROC	Dry-dock repairs	29/01/2008
FEED AND FOOD ADDITIVES	Manufacture of premix and additives for animal feed	29/01/2008
GFI MAROC	New technologies and services sector	29/01/2008
ILAÏCOM	Telephony and money transfers	29/01/2008
LoGimaG	Transport and logistics	29/01/2008
Jet Sakane	Real estate sales	5/12/2008
PACK SOUSS	Packaging and export of citrics	5/12/2008
TANGER FREE ZONE	Organisation, development, management and marketing of the Tangier duty-free zone	5/12/2008

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 SYRIA ⁴⁰	POPULATION: 19,747,586
	AREA: 185,180 km ²

1. INTRODUCTION

It is important to point out that the economy of the Syrian Arab Republic grew by around 2.4% in real terms in 2008, mainly thanks to the agricultural and oil sectors, which together generate almost half of the GDP of the country. Damascus has undertaken some modest economic reforms during the last few years, including the reduction of interest on loans, the opening of some private banks, the consolidation of exchange rates, increases in the prices of some subsidised goods (particularly, petrol and cement) and the establishment of the Damascus stock market index, due to start in 2009.

In addition to these measures, reforms are taking place in company ownership and the Central Bank has been allowed to issue bonds to subsidise the public debt. In spite of this, the economy is basically still controlled by the government.

The country is facing many challenges, especially the following: the decrease in the production of crude oil, the high unemployment and inflation rates, the budget deficit and the growing pressure on water supplies caused by intensive use in agriculture, rapid population growth, industrial expansion and the pollution of this scarce resource.

Economic data			
GDP (2008)	\$96.53 billion	GDP growth rate	2.4% (2008 est.)
GDP per capita	\$4,900 (2008 est.)	Labour force	5.55 million (2008 est.)
GDP by sector (2008 est.)	Agriculture: 22.5% Industry: 27.9% Services: 49.6%	Labour force by sector (2006 est.)	Agriculture: 19.2% Industry: 14.5% Services: 66.3%
Unemployment rate	9% (2008 est.)	National debt	41.2% of GDP (2008)
Household income	Lowest 10%: N/A Highest 10%: N/A	Inflation rate	14.9% (2008 est.)
Agricultural products		Wheat, barley, cotton, lentils, chickpeas, olives, beetroot, cattle and sheep, eggs, poultry farming, milk	
Main industries		Oil, textiles, food, drinks, phosphates, tobacco, minerals, cement, seed oil, vehicle assembly	
Electricity production	40.5 billion kWh (2007)	Electricity consumption	39.5 billion kWh (2007)
Electricity exports	991 million kWh (2007 est.)	Electricity imports	1.4 billion kWh (2007)
Oil production	381,600 bbl/day (2008 est.)	Oil consumption	229,000 bbl/day (2007 est.)

⁴⁰ The information given in this section has not been confirmed by the CP/RAC National Focal Point for Syria.

Oil exports	155,000 bbl/day (2008 est.)	Oil imports	160,000 bbl/day (2007 est.)
Natural gas production	6.5 billion m ³ (2008 est.)	Natural gas consumption	6.18 billion m ³ (2008 est.)
Natural gas exports	\$13.12 billion (2008 est.)	Natural gas imports	\$14.32 billion (2008 est.)
Commodities exports	Crude oil, minerals, oil products, fruit and vegetables, cotton fibre, textile, clothes, meat and cattle, wheat		
Commodities imports	Machines and transport equipment, electric machinery, foodstuffs, cattle, metal products, chemicals, plastics, thread and paper		
Trading partners - exports	Iraq 30%, Lebanon 10%, Germany 9.7%, Italy 8%, Egypt 5.5%, Saudi Arabia 5.2%, France 4.9% (2007)		
Trading partners - imports	Saudi Arabia 12%, China 8.7%, Egypt 6.2%, Italy 6%, UAE 5.9%, Ukraine 4.8%, Russia 4.8%, Germany 4.7%, Iran 4.3% (2007)		

Source: www.cia.gov, *The World Factbook*.

2. CLEANER PRODUCTION

2.1. Industry and the Environment

The main Syrian industries belong to the following sectors: oil, textiles, food and drink processing, tobacco and minerals (mainly phosphates). Thus, it can be observed that the industrial base is quite diversified, although the state has traditionally controlled most of the production in areas such as food, sugar production, textile production, chemicals, cement and other construction materials. Recently, thanks to new state policies to achieve greater efficiency and profitability in production, the private sector has begun to get involved in the industrial sector. The incentives offered by the state are leading to a marked improvement in the quality of existing products and the appearance of new products which were traditionally imported.

There are three predominant industrial areas, located in Damascus, Homs and Aleppo, in line with the State strategy to concentrate industry in controlled areas, where it is easier to apply measures related to efficiency, pollution prevention, infrastructures, etc.



The main negative environmental impacts of industry include the high level of atmospheric pollution, poor management and treatment of industrial waste and hazardous waste and, indirectly, soil degradation and the loss of biodiversity (especially on the coast).

As far as the hot spots and critical areas mentioned in the previous edition of this report⁴¹ are concerned, no evidence of significant improvement has been found, so the following should be considered as critical sites:

- Latakiah, due to pollution from solid waste both on the coast and in the sea, leading to a loss of biodiversity.
- Tartous, due to industrial pollution, both atmospheric and from solid and liquid waste (e.g. crude oil leaks and heavy minerals). In line with State policy, some of the cement plants in this area have incorporated filter systems, which have led to a significant improvement in pollution levels.
- Industrial areas near cities, with cement plants which do not have measures to prevent air pollution.

ATMOSPHERIC EMISSIONS

Industry is responsible for most atmospheric pollution due to fuel oil combustion and industrial production processes. The most polluting sectors are those involved in oil production and refining, cement and fertiliser production, power generation plants, asphalt blending factories and quarries (found in many places in the country, often around cities).

One of the factors which contribute to pollution in cities because of industrial activity is the proximity of highly polluting heavy industry to the biggest cities in the country. The opposite also occurs, i.e. some cities have grown recently to the point that they have reached industrial areas, so that residential areas are mixed with industrial sites. Another important aspect is the use of obsolete technology in many of these industries, for instance, boilers which work on fuel oil or diesel with high levels of sulphide, leading to SO₂ emissions.

Regarding industrial pollution on the coast, the plants which refine oil and generate power are the most aggressive towards the environment. Again, areas like Tartous-Bania and Latakiah stand out.

⁴¹ "State of the Art of Sustainable Production in the Mediterranean". *MAP Technical Reports Series No. 165*, UNEP/MAP/CP/RAC, Athens, 2006.

The Syrian ratification of the Kyoto Protocol in 2006 commits the country to taking measures to fight climate change, which necessarily means reducing atmospheric emissions, including the implementation of certain measures in the energy and industrial sectors.

WASTE MANAGEMENT

Hazardous waste produced by big industrial facilities is disposed of directly in landfill sites, generally without any kind of previous treatment. The rest is left in containers which are later collected by the town council and taken to landfill sites. In the case of small industrial sites, waste is usually left in containers designed for municipal waste.

In coastal areas, industrial waste is often mixed with municipal or domestic waste, and later dumped in the sea. In the case of the oil industry (present on the coast), toxic waste, leaks and accidental spillages of crude oil also have a serious impact on biodiversity in the sea and in coastal areas.

2.2. Promotion of Cleaner Production

Syria has ratified the major regional and international conventions, with the exception of the Emergency Protocol of the Barcelona Convention and the annexes of the Dumping Protocol and Land-Based Sources Protocol. However, insufficient regulation and failure to apply laws effectively hamper the fulfilment of international agreements.

As far as the legislation associated with the promotion of cleaner production is concerned, no major progress has been made since the previous edition of this report⁴², except for some decrees and laws which complement previous legislation and strategies. Environmental measures regarding sustainable consumption and production continue to be based on:

- The National Strategy for Sustainable Development (NSSD), created in 2002, which makes reference to the objectives of sustainability in transport, agriculture and renewable energies without explicitly mentioning cleaner production or sustainable consumption.
- The Strategy and National Environmental Action Plan for the Syrian Arab Republic (SNEAP) passed in 2003, which identifies the main environmental problems of the country and specifies medium- and long-term priorities and measures to be implemented.
- The Tenth Five-Year Plan 2006-2010, in which the objectives identified in the aforementioned documents are brought together and transformed into initiatives, projects and activities. This plan is basically an extension of the previous Five-Year Plan, since there were many innovations in the latter that are still in the process of being implemented or applied.

The main problem in implementing cleaner production, however, is still the lack of human and administrative resources to properly apply the legislation. Although some initiatives to measure emission levels, waste and standards of waste management have been undertaken, they continue to have little impact in Syrian industry.

In this connection, many instruments and tools set up by the Government for technological innovation, and projects to reduce environmental impacts, are based on soft loans and tax deductions. These measures have been largely promoted for the official industrial areas with the aim of encouraging most industries to move there.

INTEGRATED POLLUTION CONTROL

Although references to the implementation of regulations similar to the EU IPPC model have not been found, at the end of 2005 the Industrial Pollution Prevention and Control Centre was inaugurated. This

⁴² State of the Art of Sustainable Production in the Mediterranean". *MAP Technical Reports Series* No. 165, UNEP/MAP/CP/RAC, Athens, 2006.

project, which was supported by the United Nations Economic and Social Commission for Western Asia (UN-ESCWA), is led by a local NGO, the Syrian Environmental Association (SEA). It is basically aimed at raising awareness in industry of methods for preventing pollution and the rational use of resources, providing support and appropriate tools to implement these methods, and cooperation with government bodies in the drafting of the corresponding regulations.

Similarly, a project is being carried out by the Ministry of Irrigation and the UNDP which is intended to reduce the levels of industrial pollution in the Orontes River by introducing systems of environmental management according to international standards. Pilot projects have been designed to reduce the consumption of water with the recycling of treated waste and reduce levels of pollution from an oil refinery, a fertiliser plant and a sugar factory. With these projects, it is hoped that it will be possible to introduce environmental management systems which can later be certified according to the ISO-14001 standard.

The Ministry of Local Administration and Environment encourages the conduct of environmental impact studies for new facilities and environmental impact audits every two years in the case of existing facilities.

PROMOTERS AND PROJECTS

In the public sector, the Ministry of Local Administration and Environment and the General Commission for Environmental Affairs (GCEA) are the institutions which are most deeply involved in the promotion of cleaner production. However, the participation of other ministries such as the Ministry of Industry, the Ministry of Irrigation and the Ministry of Housing is growing. Likewise, some chambers of commerce are involved in different programmes, generally working jointly with organisations in other areas.

A new agent is the Syrian National Cleaner Production Centre (SNPCPC), the main goal of which is to encourage the sustainable development of industry. It was established in 2007 and its main functions consist in providing advice and technical support to SMEs, besides carrying out research and publicising solutions to industrial pollution and ways to reduce the problem.

At the civil society level, some NGOs focus strongly on defending the environment and promoting more sustainable practices, not only in industry but also in society, especially in the cities. The Syrian Environmental Association, the Syrian Environment Protection Society (SEPS) and the office of the Syrenviro Project (referred to in the previous edition of this report) are developing initiatives in areas such as renewable energies.

Some international organisations, such as the UN, the EU and certain agencies for international cooperation are involved in joint projects for environmental protection. As well as the institutions already mentioned in the previous editions of this report, they include:

- The EU, with examples like the LIFE initiative, has undertaken a joint project with the Fund for Integrated Rural Development of Syria to promote a Concerted Plan for Sustainable Local Development. Another example of EU cooperation is a project for integrated waste management for olive oil producers in Syria, Lebanon and Jordan.
- The Swiss Cooperation Agency, through a project on Environmental Management Tools for SMEs.
- The German Agency for Cooperation GTZ, through a project on Environmental Land Use Planning and Management

3. SUSTAINABLE CONSUMPTION

The concept of sustainable consumption is very new and in general it is little known and rarely put into practice. The intensive consumption of resources during the last few decades by industry, agriculture, tourism and the development of urban centres has led to a serious deterioration in the environment.

The main environmental challenges in Syria are the quality of water, waste management, the protection of biodiversity, soil erosion, and marine and coastal pollution. Moreover, atmospheric pollution in cities has become a major problem due to the increase in traffic. The emissions of certain substances often exceed the WHO air quality limits (especially in densely populated cities like Damascus or Aleppo).

ATMOSPHERIC EMISSIONS

The pollution of the atmosphere is caused by a combination of factors:

- Emissions from motor vehicles, especially if we take into account the age of vehicles and inefficient traffic management (there are numerous traffic jams).
- Emissions from industry (mentioned above).
- Emissions from central heating in the four winter months.
- The irregular location of city buildings, which do not allow for proper air circulation to disperse gases and particles in suspension.
- Illegal settlements.

Although there is not much monitoring of air quality (the country lacks programmes for systematic ongoing monitoring of air quality both in urban centres and in industrial areas), the results available indicate a general deterioration in air quality in most of the cities in the country. The high concentration of suspended particulate matter (SPM) and gases has negative consequences for human health, flora and the condition of buildings, particularly those of cultural and archaeological value.

ENERGY EFFICIENCY

Dependence on fossil fuels has been reduced in favour of natural gas, a process which has had a positive impact on greenhouse gas emissions. The country is committed not to produce substances which harm the ozone layer, under the terms of the Montreal Protocol, and a system to control substances which cause damage to the ozone layer has recently been adopted.

Although its use is currently symbolic, the use of renewable energy has huge potential, especially solar and wind power. The energy savings derived from more rational and efficient consumption could also be significant. The following table shows estimates of potential energy saving for the year 2020 in Syria, as a result of improvements in efficiency:

Activity	Ratio
Energy efficient buildings	2.5%
Efficient household appliances	2%
Better efficiency of the electric power network	2%
Electricity audits	2%
Total	16%

Source: *Priority Field of Action 2: Energy and Climate Change. Energy Efficiency and Renewable Energy. Syria - National Study, 2007, Plan Bleu.*

The sources of renewable energy which are used to some degree in Syria are hydroelectric power and biomass, although solar- and wind-power projects are currently being designed. The State's commitment is expressed in the form of regulations on labels and energy efficiency standards for household appliances and the Code for Thermal Insulation in Buildings.

With the support of financial instruments such as incentives and grants, Syria's goal is for 7.5% of all energy consumed to be from renewable sources by 2020.

WATER MANAGEMENT

Supplies of drinking water in Syria are limited. Nevertheless, water consumption has not decreased over the years, due to improvements in living standards, financial assistance for the construction of new houses, low prices for its use in industry, and its intensive use in agriculture.

Considering the available resources of the country in terms of drinking water and current consumption, some areas of Syria might have to face a water deficit before long, leading to a deterioration of the natural aquifers and an increase in the cost of finding and pumping water, while the quality of water would be lower and existing springs would be threatened.

The problems of water quality are largely due to the insufficient sewage system (in both rural and urban areas), industrial waste discharged illegally and the inappropriate use of pesticides and fertilisers. The use of polluted wastewater to irrigate crops can cause the spread of illnesses and many towns have been affected by this issue, especially because of uncontrolled domestic and industrial discharges. Aware of the problem, the government has launched a programme to build treatment plants for industrial and domestic waste in some urban areas. As a result, these areas have experienced an improvement in pollution levels, in both surface water and groundwater.

WASTE MANAGEMENT

Waste management is still an unresolved matter when it comes to prevention, collection, recovery, recycling, treatment and elimination under controlled conditions. Although there are collection and disposal services in some places, urban areas are growing quickly and the management of operations in the suburbs is particularly complex.

It is estimated that around 5,000 tonnes of urban waste needs to be managed daily. Between 90% and 100% of the waste from urban areas is collected, while the figure in rural areas is barely 60%. In many cases, industrial waste is mixed with municipal waste without any previous treatment.

Most of the waste collected is left in open landfill sites on the outskirts of cities without proper control measures. Although in some cases some control measures have been adopted (especially covering the waste with earth), the waste is often burnt in the open air. The negative impacts of these sites are the pollution of the soil, the aquifers and the atmosphere, and the threat to human health. Hospital waste is mixed with domestic waste in most of the country, except in Damascus, where a separate waste collection system has been established.

Syria's coastal area occupies a mere 2% of the country, but it is home to 11% of the population. The industrial and urban development of the coast has generated serious environmental problems. The main sources of pollution are untreated urban and industrial waste, leaks of crude oil from refineries and solid waste dumping.

As far as land use is concerned, desertification and erosion are serious problems which affect half the population. Their causes go from climatic factors to inefficient management of the soil and hydrological resources. Nature and biodiversity are endangered not only because of anthropogenic factors, but also because of natural causes, and the loss has been particularly severe in the steppe and the woods. Some protected areas have been created to offset these trends.

3.1. Promoters and Projects

The strategic aim of the National Environmental Action Plan is to "incorporate environmental aspects in national policies, plans and programmes, protect natural resources, biodiversity, the cultural heritage and public health and promote the use of clean and renewable energies in the framework of sustainable development".

Within that context, the State, through the national committees, has identified priorities after assessing and analysing the data available in the *Report on the State of the Environment in Syria*. The measures to be adopted are based on the following principles:

- The sustainable use of hydrological resources.
- The sustainable use of land resources.
- Improvements in the services and infrastructures of urban areas.
- The sustainable development of natural resources and cultural heritage.

In the last few years, several projects have been started which correspond to the areas mentioned above. In many cases, they involve the participation of international organisations like the German Agency for Cooperation and the Netherlands Cooperation Agency, the UNDP, the JICA (*Japan International Cooperation Agency*) and the Arab Fund for Economic and Social Development, among others.

3.2. Green Public Procurement

Public purchasing in Syria has been subject to legislation since 1974 (with subsequent contributions and amendments), which established specific regulations for public procurement and purchasing. No evidence has been found of that legislation containing clauses or provisions that incorporate social and environmental criteria when awarding contracts.

Likewise, no mention of the concept of green public procurement has been found in other official documents, national strategies, plans of action, etc.

4. CORPORATE SOCIAL RESPONSIBILITY (CSR)

CSR, as a new model of management and relationships between different stakeholders, is a new concept in Syria, which has come to be known only recently. Recent government policies that favour a certain degree of privatisation and the opening of markets offer a good opportunity to lay the foundations of CSR in these early years of business development in the country. The government is also starting to promote the participation of civil society and to identify those organisations which will be involved in the process of designing and developing CSR in the country.

Certain legislative reforms and government programmes still need to be implemented to deal with issues such as child labour, gender discrimination or transparency, this being a basic precondition for the further development of CSR in the country.

As in many other countries, the main promoters of CSR have been international organisations, especially the UNDP and the United Nations Global Compact. These institutions have incorporated CSR concepts in the agendas of some ministries in the last few years, as well as making contact with companies and NGOs.

Much work has focused on reinforcing the role of the NGOs, developing contact with companies and public bodies. Through the State Planning Commission of Syria and working with the UNDP, the government is carrying out a 4-year project focusing on reinforcing the role of civil society in CSR through the promotion of partnerships between NGOs and companies. The project also contributes to spreading the Global Compact as a CSR benchmark for both companies and local NGOs.

According to the general assessment carried out by the Global Compact on the threats and opportunities for CSR, the main challenges are the low income of a large part of the population, the inadequate implementation of labour legislation, the lack of instruments which favour financial transparency and limited environmental awareness. However, the current economic, political and legislative reforms are a good opportunity to include aspects of CSR. Likewise, the commitment of the public and private sectors, together with support from international organisations and the good


prospects of growth and commitment among civil society organisations, have generated good expectations for CSR.

Even so, CSR is taking its first steps in Syria led by big organisations, international agencies and certain ministries. The issue needs to be studied further and measures for raising awareness of CSR and extending it are still being considered, but the outlook for the future is quite positive thanks to the climate of progress and greater openness generated by the government's policies and the commitments made by the private sector.

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 TUNISIA	POPULATION: 10,383,577
	AREA: 165,000 km ²

1. INTRODUCTION

Tunisia has a highly diversified economy, with strong sectors including agriculture, mining, energy, tourism and manufacturing. Government control of the economy, while still substantial, has gradually diminished over the last decade with increasing privatisation, the simplification of the tax structure and the growing availability of credit instruments. Progressive social policies have also contributed to improving living conditions for the Tunisian people in comparison to other countries in the region. Except for a few years of drought and fall-offs in tourism, which considerably reduced growth (2002), recent years have been characterised by stable growth with figures close to 5%. Tunisia is more and more open to external trade, essentially with EU Member States. Some of the challenges the country must deal with include the wider process of privatisation, liberalising legislation on investments to favour the entry of foreign capital, improving the efficiency of government institutions and reducing the trade deficit.

Economic data			
GDP (2008 est.)	\$83.4 billion	GDP growth rate	4.7% (2008 est.)
GDP per capita	\$8,000 (2008 est.)	Labour force	3.67 million (2008 est.)
GDP by sector (2008 est.)	Agriculture: 10.8% Industry: 28.3% Services: 61%	Labour force by sector (1995 est.)	Agriculture: 55% Industry: 23% Services: 22%
Unemployment rate	14% (2008 est.)	National debt	53.1% (2008 est.)
Household income (2000)	Lowest 10%: 2.3% Highest 10%: 31.5%	Rate of inflation	5% (2008 est.)
Agricultural products	Olives, olive oil, grains, tomatoes, citrus fruit, sugar beets, dates, almonds, beef and dairy products		
Main industries	Petroleum, mining (especially phosphates and gold), tourism, textiles, shoes, drinks.		
Electricity production	12.65 billion kWh (2006)	Electricity consumption	10.75 billion kWh (2006)
Electricity exports	135 million kWh (2006)	Electricity imports	145 million kWh (2007 est.)
Oil production	86,210 bbl/day (2007 est.)	Oil consumption	91,110 bbl/day (2006 est.)
Oil exports	73,790 bbl/day (2005 est.)	Oil imports	89,130 bbl/day (2005 est.)
Natural gas production	2.55 billion m ³ (2006 est.)	Natural gas consumption	3.85 billion m ³ (2006 est.)
Exports	\$19.7 billion (2008 est.)	Imports	\$23 billion (2008 est.)

Commodities exports	Clothing, semi-finished products, textiles, agricultural products, phosphates and chemical products, mechanical goods, hydrocarbons and electrical equipment
Commodities imports	Textiles, machines and equipment, hydrocarbons and chemicals
Trading partners - exports	France, 31.3%; Italy 21%; Germany 8.5%; Spain 5.5%, Libya 5.5% (2007).
Trading partners - imports	France, 23.8%; Italy 21.9 %; Germany 9.7%; Spain 5%, Libya 4.4% (2007).

Source: www.cia.gov, *The World Factbook*.

2. CLEANER PRODUCTION

2.1. Industry and the Environment

Tunisian industrial activity is very diversified and has seen steady growth over the past 20 years. The major industrial sectors, both in terms of volume and their environmental impact, are food and agriculture, mining, phosphate processing, construction materials, energy production and the textile industry.

Among more moderate-sized industries that have an impact on the environment are tanneries, small mechanical and chemical industries, etc. In point of fact, these small industries may prove to be more difficult to control and thus, proportionally, greater polluters.

Industrial activity is developing mainly around the country's major cities, Tunis, Bizerte, Menzel Bourguiba, Sfax, Gabès, Gafsa and Kasserine, as well as along the coast, where approximately 80% of the population is concentrated. In general, 13% of industries are considered to be polluters.

All of the government programmes developed since 1992 (the eighth, ninth, tenth and eleventh) have focused on sustainable development, implementing policies on rebuilding and recovering the natural environment and on regions heavily damaged by industrial pollution. In the long term, government policy is based on keeping pollution within the limits set.

Thus, since the 8th Development Plan (1992-1996), the objectives pursued with regard to the industrial sector have been based on:

- Treating the pollution produced by industrial centres.
- Reconstruction and renewal of infrastructure in obsolete industrial zones.
- Studies to diagnose and assess the situation.
- The deployment of economic mechanisms and incentive measures to help industry reduce pollution.

In general, the industrial sector is undergoing a period of privatisation and increased competition that has led to measures for upgrading, reconstruction and modernisation. Environmental legislation is rigorously enforced and the country's main industrial areas are controlled.

Furthermore, growing trading relations with the EU and its standards and other directives are forcing Tunisian products to become more competitive and companies to include environmental aspects in their overall management.

It is especially important to emphasise that the government (seriously committed to sustainable development) has set up recycling initiatives in all major industrial sectors. Taking into consideration the critical points mentioned in the previous version of this report,⁴³ we can see local progress in the following parts of the country:

In Gabès, the government has decided to transfer waste derived from phosphate processing, which was formerly dumped in the sea, to a land-based location. The project has begun with studies and analysis of the technical requirements, and it is expected to be deployed within the next two years.

In Sfax, several pollution-reduction measures have been enacted. First, the NPK factory facilities, closed since the 1990s, have been demolished and the site recovered, with new treatment systems being installed in new plants. Second, a significant part of the coast has been cleaned up and a rock structure has been built to protect it. In addition, construction has begun on public parks in this region, some of them on former phosphate waste landfills.

In Bizerte, the third and final phase of the study on pollution of the lake's catchment area has been reached. Action plans have been proposed to reduce pollution and manage water consumption.



Since 2004, other studies have been conducted on the region to assess the various sources of pollution, as well as its causes and solutions.

Pollution in Kasserine is largely due to the activities of the paper industry, which uses substances such as chlorine, caustic soda, hydrochloric acid and sodium hypochloride. The main cause of pollution is the large quantities of residual mercury produced and dumped in the environment.

Thanks to funding from the Canadian International Development Agency (CDIA), the government has implemented a study of this situation, the first phase of which has just been completed, to assess the impact of current pollution levels, as well as the most viable solutions.

⁴³ State of the Art of Sustainable Production in the Mediterranean”. MAP Technical Reports Series No. 165, UNEP/MAP/CP/RAC, Athens, 2006.

The Gafsa Phosphates Company has produced a diagnosis of the situation in order to measure the impact of the sludge produced by phosphate enrichment processes. This assessment also suggests means for environmental management of the situation. The project examines the possibility of accumulating the waste in locations designed for this purpose, using appropriate methods and topography, which would enable the recovery of approximately 25% of wastewater.

The company is also proposing to make more intensive use of natural gas rather than fossil fuels, thus substantially reducing greenhouse gas emissions.

In general, the country's main industrial pollution problems have been identified and included in recovery and recycling programmes. In the last few years, as was observed in the previous version of this report, the situation has not grown worse in terms of an increased industrial activity or higher levels of pollution.

2.2. Promotion of Cleaner Production

REGULATORY MEASURES

In the past few years, a number of legal and regulatory measures have been added to those mentioned in previous reports. These include:

- The creation of the National Waste Management Agency, setting out its mission, administrative and financial structure and its means of operation.
- Establishing the conditions and methods for recovering and disposing of used rechargeable and regular batteries.
- Establishing the conditions and methods for managing sludge produced by wastewater treatment plants so that it can be used in agriculture.
- The creation of a hazardous waste processing plant and receiving, storage and transfer units.
- Establishing methods and pricing for the mandatory recovery of used rechargeable batteries from vehicles and a range of industrial uses.
- The Clean Water Act of 2007.
- The Clean Air Act of 2007.

Apart from the government's capacity to enforce current legislation, the industries' lack of information on the legislation governing them could be seen as an obstacle that may, at times, lead to infractions.

In this respect, a public-private alliance (APPE) has been set up to serve as a platform where problems with the environment, applicable legislation, etc. can be discussed and evaluated. In recent years, a database on environmental legislation has also been created, and training and information sessions have been held for the industries concerned.

We particularly wish to highlight a project entitled "ACAA2", implemented by the Ministry of Industry, Energy and Small Businesses, with assistance from the EU. One of its main objectives is to transpose European directives on products in Tunisia. This project is currently focusing on two sectors: the building materials industry, including ceramics and glass, and the mechanical and electrical parts sector. Two other sectors will be included in the second phase: food and agriculture, and leather goods and shoes.

In 2008, the Ministry of the Environment and Sustainable Development (MEDD) produced a study for an action plan to adapt Tunisian industry to European environmental standards and requirements. The regulatory measures forming part of this action plan include the revision of certain existing texts, the establishment of new regulations where they were lacking, and an initiative to consider opportunities for adopting new standards.

Tunisian standards undergoing review:

- NT106.02 - 1989 on the discharge of pollutants in the host environment.
- NT106.03 on the reuse of treated wastewater.
- NT106.20 on sludge.
- NT106.04 on ambient air.

The review is intended to add new parameters and reduce limit values.

New Tunisian standards:

- Clean-up of soil and groundwater resources.
- Law No. 2007-34, of 4 June 2007, on air quality.

There have been no changes to the system of obtaining environmental authorisations for industrial activities since the previous version of this report,⁴⁴ but it is important to note that conducting an environmental impact assessment is now a mandatory pre-condition for industrial operators. Only a few standards have been incorporated in the permits system, in the form of new, official, standardised terminologies for describing and classifying establishments as hazardous, unhealthy or nuisances.

ECONOMIC MEASURES

In terms of economic measures, there have been few major changes since the last report. In addition to flexible credits, subsidies and other financial incentives, a few taxes, such as the import tax, may conceivably not be applied, or may be reduced, in the case of imports of clean technologies. Targeted in particular at cleaner production projects, the Industrial Pollution Prevention Fund (FODEP) continues to provide financing to industry, although there have been some changes in terms of the recipients of the aid.

In addition to the FODEP, it is important to mention the fund for developing competitiveness (FODEC) and for priority technical investments (ITP). These deal with both tangible and intangible investments. Tangible investments include modernising production equipment through the acquisition of clean technologies, auxiliary equipment and control laboratories. Intangible investments concern products for certification, energy audits, quality technical assistance for the environment, laboratory equipment and materials, IT programs and patents and research and development.

VOLUNTARY MEASURES

Among the voluntary measures found in Tunisia relating to cleaner production, the number of certifications, such as ISO 14001, is steadily growing thanks, in large part, to the promotional work of the Tunis International Environmental Technologies Centre (CITET).

Likewise, the acquisition of various eco-labels is becoming more widespread, such as the European Ecolabel or the Green Key seal, directed toward the tourism industry, as well as the gradual adoption of environmental management systems.

The government's creation of the Tunisian Ecolabel is more significant. This measure, designed to encourage cleaner production, competition and competitiveness in international markets, is a first at both national and regional levels.

⁴⁴ *State of the Art of Sustainable Production in the Mediterranean. MAP Technical Reports Series No. 165, UNEP/MAPCP/RAC, Athens, 2006.*



In this same spirit, the programme for modernising industry, applicable from 2008, forms part of efforts to bring EU industrial standards to Tunisian businesses. It targets assistance to small businesses, increasing competitiveness, diversifying types of production, etc.

Lastly, we must highlight the initiative intended to recognise companies' good environmental performances with awards presented by the president of the Republic.

PROMOTORS AND PROJECTS

There has been no significant change since the previous report in terms of incorporating new players in the field of promoting cleaner production. The main government body involved, although not the only one, is the Ministry of the Environment and Sustainable Development, whose activities are supplemented by the National Environmental Protection Agency (ANPE) and the recently created National Waste Management Agency (ANGED).

The one body specifically devoted to cleaner production is the Tunis International Environmental Technologies Centre (CITET), which is equivalent to the National Cleaner Production Centres of other countries and was discussed in detail in previous versions of this report.⁴⁵ The number and variety of activities, as well as of projects developed by this institution, which covers all fields of cleaner production, can be viewed on its web site.

The Tunisian Industry, Trade and Crafts Union (UTICA), also discussed previously, provides support to companies, especially information on legislation, subsidies, the environment, development programmes, etc.

There are other key organisations that are developing activities in this field in both the public and private sectors.

The most significant cleaner production programmes and projects currently being rolled out include:

- The Network of Maghreb Enterprises for the Environment (REME), whose aim is to strengthen regional cooperation on the environment, especially in terms of technology, information exchange, updating regulations and the dissemination of good practices.
- The Transfer of Environmentally Sound Technology in the Southern Mediterranean (MED-TEST) project, financed by UNIDO in order to upgrade national capabilities in applying the UNIDO's integrated TEST approach and facilitate the transfer of clean technologies, thus improving environmental performance and productivity at high-priority industrial facilities.
- The project to strengthen the Tunisian National Cleaner Production Centre (UNIDO-SECO). The main objective of the project is to steadily improve Tunisian companies' economic competitiveness, reduce their ecological footprint and enhance their social development. In order to achieve this objective, the Tunisian National Cleaner Production Centre's capacities will be stepped up in terms of cleaner production (CP) tools and the UNIDO CP+ programme.

⁴⁵ "State of the Art of Sustainable Production in the Mediterranean". *MAP Technical Reports Series No. 165*, UNEP/MAP/CP/RAC, Athens, 2006.

- Projects to improve industrial zones. The programme of the Industrial Property Agency (AFI) for the 10th Development Plan (2002-2006) is responsible for improving 18 industrial sectors, including 7 described in the preceding plan, plans for future improvements to 11 other industrial zones and the construction of 27 industrial establishments.
- The programme to renovate industrial zones. This programme, comprising 58 industrial sectors, is focused on recovering the sites of public installations and improving the surrounding industrial environment. By promoting sustainable development for these establishments, this programme is intended to upgrade the industrial base.
- The PRONAGDES programme, targeting industrial waste management, follows the direction described in other reports.
- Strategic studies:
 - Of cleaner production.
 - Prospective analysis of programmes and measures for preventing pollution.
 - Analysis of air quality and air pollution in the country.
 - Systematic study of the packaging sector in Tunisia.
- Pilot and diagnostic studies:
 - Survey of GHG/POP.
 - Studies on industrial waste materials.
 - Study on the recovery of polluted sites in Tunisia.
 - Commercially valid reuse of organic waste.
 - Pilot projects for environmental improvements.
 - Creation of an air quality monitoring system.
 - Shared processing of industrial waste.

At the international level, there are a number of programmes and agreements pertaining to the field of cleaner production and environmental protection, such as the alliance with Morocco and Algeria to produce an emergency plan for dealing with accidental marine pollution, or the environment and energy programme (PEE Tunisie), financed by the EU and due to start in early 2009.

3. SUSTAINABLE CONSUMPTION

Sustainable consumption in Tunisia is mainly associated with cleaner production and other forms of environmental protection. Although the government and civil society institutions have actively taken part in international and regional events, the concept is still not fully adopted as part of government policies. Nevertheless, there are many initiatives and measures aimed at improving and rethinking the consumption patterns of both companies and the general public.

The creation of the Tunisian environmental label is a good example, handing decision-making power to consumers, whether they be institutional or individual, based on information about the product supplied by the label.

The most significant indicators of non-sustainable consumption in the country are, as in almost every other case, atmospheric emissions and air quality, energy efficiency, the use of water and other natural resources, and waste management.

AIR POLLUTION

In addition to that caused by industry, other causes of air pollution in Tunisia include transportation, increasing tourism and the excessive use of low-quality fossil fuels.

In order to monitor air quality, the National Environmental Protection Agency set up, in late 2006, ten stationary monitoring stations managed by a central control system. This national air quality monitoring system also has a mobile laboratory that has been used to study the presence of suspended particles in the air, and of NO_x, SO₂ and ozone (O₃), both in urban and rural areas.

The results obtained show that, during 2006, ozone levels higher than those permitted by regulations were recorded in Ben Arous, Nahli and in the south of Sfax. The upper limits established by the World Health Organisation (WHO) have also been exceeded in the towns of Radès, Mourouj and Sousse. In fact, the maximum permissible limits were exceeded for all substances except sulphur oxide. In the region of Sfax, sulphur dioxide exceeds WHO limits for averages over an hour, as well as exceeding what is allowed by Tunisian law for averages over 3 and 24 hour periods. Suspended particles exceed Tunisian and WHO standards in that same city, in Bab Saadoun and in Bizerte (both annual and daily averages).

Taking into account the key role of the transport sector in this environmental problem, a national plan to promote the use of clean fuels has been implemented. The first goal is to reduce the volume of emissions by reducing the lead content permitted from 0.50 g/l to 0.15 g/l (and sulphur levels in diesel from 1% to 0.3%). Secondly, a pilot project is under way to make increased use of natural gas as a fuel in order to reduce SO₂ pollution in cities. The Tunisian Electricity and Gas Company (STEG) has purchased 7 vehicles that use environmentally-friendly fuels and has converted 5 others to natural gas.

Other measures adopted encourage the use of public transport and the modernisation of public transport fleets.

In recent years, a number of studies have been conducted in this field and in the context of climate change, and various options aimed at reducing the country's energy consumption have been assessed. This type of consumption is the main source of greenhouse gases, followed by industry and transportation.

ENERGY EFFICIENCY

In 1994, for the first time, Tunisia recorded an energy deficit. Within a few years, it had returned to a positive balance but the country's energy balance is now once again negative due to increasing demand and stagnant supply.

Although Tunisia has no explicit commitments to reducing greenhouse gases, the last decade has been marked by an energy policy based on rational use and the development of alternative sources (especially natural gas), as well as development efforts focusing on low energy-intensity industries and a service-oriented economy that have led to economic growth without increasing the use of natural resources or the production of greenhouse gases.

In order to stimulate the economy and promote energy efficiency, the country has set up financial mechanisms through the National Fund for Energy Conservation which heavily subsidise investment in energy-efficient technologies and renewable energy systems. The price of natural gas will be subsidised in order to encourage its use in all sectors, which will also affect the price of electricity (given that electric power plants use natural gas as fuel).

In recent years, Tunisia has improved its regulatory framework for energy efficiency by consolidating its regulatory standards, clarifying the concept, establishing the responsibilities of the National Agency for Energy Conservation and providing additional financial assistance for initiatives in this field.

A number of projects on controlling energy use have been implemented in the last few years, including:

- The development of an action plan to finance rational energy use in Tunisia, a project funded by the UNDP in 2005-2008, whose objective is to contribute to the emergence of a market for efficient processes and technologies in high energy use sectors of the economy such as industry, transport, housing and agriculture.

- Boosting the capacities of the Task Forces (major energy-consuming industries and co-generation) in order to implement the plan for energy efficiency in Tunisia, a project funded by the UNPD (2005-2008). A survey of present conditions and an inventory of energy-saving actions taken in some of the sectors involved (brick making, ceramics and paper, mechanical and electrical industries, food and agriculture, chemicals, etc.) were carried out. Monitoring procedures are currently being deployed in order to help industries set up these energy efficiency measures in their respective fields.

There is very little use of renewable energy in the country and it represents just 0.6% of total energy production (2005). In principle, renewable energy sources comprise hydroelectric power, wind power and the use of solar thermal energy to heat water.

There is geographical and institutional potential for the development of these sources. The government is promoting the use of solar energy for hot water in residential and other buildings, with subsidies of up to 20% for equipment purchases.

The 11th Development Plan (2007-2011) seeks to achieve major energy savings by 2010, based on improving policies on rational energy use in all sectors, as well as on technologies such as co-generation, insulating buildings, energy certification for domestic appliances and more efficient lighting.

WATER MANAGEMENT

According to its own forecasts, Tunisia will be suffering an absolute shortage of water by around 2025. The consequences will obviously be dramatic for a country with a growing economy that needs ever greater water resources to meet demand, both for its population and for the country's most important economic sectors.

The 11th Development Plan (2007-2011) calls for major investments related to the environment and the country's water problems. There is a real desire to take a pro-active approach to problems likely to emerge in the future due to water shortages.

The National Water Utility and Distribution Company (SONEDE) reports to the Ministry of Agricultural and Water Resources and its mission includes:

- The production, treatment and transportation of water.
- The distribution of water: management and upkeep of the drinking water system and its facilities, and managing subscribers.
- Implementing studies, works and projections.

ONAS is a financially independent public industrial and commercial entity reporting to the Ministry of the Environment and Sustainable Development. It was set up as the main water quality protection agency in Tunisia. Its operations include studies and projects, operating and maintaining the water systems and maintenance work, as well as offering technical support. Its activities are largely funded from donations and loans from international institutions and the government.

Tunisian water resources and means of exploitation:

WATER RESOURCES		QUANTITY (in millions of m ³)			PERCENTAGE	MEANS OF EXPLOITATION	NUMBER OF PROJECTS
		Capacity	Exploitable	Exploited			
Surface water		2.70	2.50	2.20	88	Large dams, hillside dams and lakes	26 dams, 190 hillside dams and 716 hillside lakes
Groundwater	deep	1.41	1.41	1.43	180	Deep wells and natural springs	4,786 deep wells (311 artesian, 447 with pumps and 94 from natural springs)
	shallow	0.745	0.745	0.870	117	Shallow wells	137,709, including 128,399 equipped with pumps
Total		4.885	4.655	4.5	91		

Source: *Rapport national sur l'état de l'environnement, ministère de l'Environnement et du Développement Durable* [Report on the State of the Environment, Ministry of the Environment and Sustainable Development], 2006.

There are currently four desalination plants in operation (with a total production capacity of 64,500 m³/day). However, plans call for a major increase in the use of this method in the next few years. By means of a water desalination programme, the SONEDE and the Ministry of Agriculture and Water Resources expect to achieve a capacity of approximately 500,000 m³ by 2030.

As in other countries in the region, effluents are a major source of air, soil and water pollution. Around 75% of the urban population is connected to sewer systems, but this figure is only 25% for rural areas.

Given the country's habitual water shortages, the government is making efforts to promote wastewater treatment and reuse. Out of all controlled effluents, a large portion is treated for subsequent use in agriculture, on golf courses and for other similar purposes. This trend is growing, with ever greater investments planned and more systems for monitoring water quality within these projects.

The number of water treatment plants has gradually increased and should continue to do so, given government projects in this field included in the 11th Development Plan. There are around 100 treatment plants with more than 14,000 km of pipelines and 650 pumping stations. In addition, ceaseless efforts are being made in terms of producing energy from sludge methane extraction, with the private sector increasingly involved, and increasing volumes of treated wastewater are being reused in order to exploit this type of water to the maximum, representing an alternative source of water and one which will contribute to the country's long-term water security.

The government's next plan envisages completing projects that include the construction of wastewater treatment infrastructures, such as:

- Enhancing water storage and treatment capacities in Sahel and Sfax.
- Building two water treatment plants: Attar 2 in western Tunisia and Allef in southern Tunisia, to be financed, built and operated on a turnkey basis.

WASTE MANAGEMENT

The waste management system has improved noticeably. For example, more than 15 controlled landfills and transfer centres (and associated facilities) have been built in major cities as well as in key coastal and tourist regions. A certain number of management systems have also been set up for some special types of waste suitable for commercial resale and recycling (plastics, used oils, glass, organic waste).

The Ministry of the Environment and Sustainable Development has set up a system for coordinating, monitoring and refinancing the management of hazardous waste, making Tunisia the first country in North Africa to invest in an entire range of activities for the integrated management of hazardous waste.

The main innovation since the previous report is the creation of the National Waste Management Agency (ANGED), which has the following objectives:

- To participate in the development of national programmes.
- To oversee the implementation of projects included in national plans.
- To help support and coordinate regional and local structures.
- To provide technical support to industries.
- To manage public waste systems (packaging, plastics, used oils, batteries, etc.).
- To promote systems for the recovery, recycling and commercial reuse of waste.
- To manage the processes related to hazardous waste.
- To participate in international cooperation efforts to obtain financing for local projects.

The activities carried out include:

- The development of a national plan for integrated and sustainable waste management.
- The creation of controlled landfills and waste transfer centres.
- The establishment of a programme to close down and refit uncontrolled landfills.
- The creation and implementation of a system for treating hazardous waste.
- The development of studies and plans for new controlled landfills.
- Establishing and coordinating the management of installations for the recovery and commercial reuse of waste.

Some of these initiatives form part of the ECOLEF project, discussed previously.

3.1. Sustainable government procurement

In Tunisia, government procurement accounts for 18% of GDP and is thus a key source of leverage for sustainable development. At present, there is no indication that sustainability criteria have been included in the relevant legislation.

Like other countries, Tunisia seeks to give priority to local sources in its calls for tenders, giving local suppliers an advantage over foreign ones as long as their bids are no more than 10% higher.

There has, however, been progress recently on making sustainable development a criterion in government procurement procedures. According to Adel Hentati, Director-General of the Ministry of the Environment and Sustainable Development in Tunisia: "The process of reorienting public procurement to match sustainable development objectives will soon be implemented in Tunisia. We are going to assess opportunities for improvement in terms of the law on public procurement. Likewise, we will seek to ensure that the principles of transparency and non-exclusiveness are not affected. We will also strive to ensure that the suppliers and importers are present on the [local] market."

4. CORPORATE SOCIAL RESPONSIBILITY

In Tunisia, the notion of corporate social responsibility is still somewhat new and unfamiliar, despite its similarity to the principle of sustainable development, which is much more established in the country.

The only relevant, stable project we could document in the country is, in fact, the one supported by the United Nations Global Compact.

This international project was launched in Tunisia in mid-2005 and funded by the Italian Ministry of Foreign Affairs. The project's aims are to encourage companies to improve working conditions and to enhance the social aspect of globalisation and sustainable development.

The project is being implemented in partnership with many ministries related to the various areas of CSR, and at the corporate level with the UTICA business organisation and the UGTT labour union.

Since its launch, at least 38 Tunisian companies have adopted the principles of the Global Compact and various campaigns to distribute information and raise awareness have been undertaken, including a survey on how CSR is perceived by a representative sample of the country's organisations.

An analysis of this survey by the Global Compact highlighted a series of results concerning priority objectives, advantages and obstacles, needs and the correct functioning of CSR.

The priority objectives for CSR are as follows:

- Respect for the rights of workers (73%).
- Respect for consumers, their health and their safety (64%).
- Improving working conditions (64%).
- Respect for human rights (60%).
- Environmental protection (60%).

Advantages perceived after adherence to the Global Compact include the following:

- Improvement of the company's brand image for its customers (79%).
- Enhanced employee motivation (60%).
- Increases in market share (55%).
- Belonging to a network of socially responsible companies (50%).

The main obstacles to developing CSR are as follows:

- The cost of implementing measures (40%).
- A lack of conviction on the part of managers (40%).
- A lack of the necessary skills for developing CSR programmes (30%).

The areas in which companies will need external assistance in order to improve their level of CSR are as follows:

- Developing the company's internal communication capacities.
- Making employees aware of the principles of CSR.
- Setting up CSR performance indicators.

The survey also revealed examples of good practices within several companies in terms of health and workplace safety, in-service training, environmental protection and activities for social and cultural development.

In terms of Tunisia's legislative framework regarding three of the four CSR areas included in the Global Compact, the following conclusions were reached:

- The country has created a coherent institutional framework for promoting the development of attitudes respecting human rights, with organisations like the Commission on Human Rights, a general coordinator for human rights and units within ministries.

- A number of ministries and institutions are responsible for monitoring basic employee rights and for promoting decent human working conditions in the workplace. These organisations are working to ensure social integration and to combat exclusion.
- In terms of the work environment, Tunisia has initiated a general plan for sustainable development, based on advancing social principles and equality in a healthy and safe environment. The institutions responsible for implementing this plan (the Ministry of the Environment and Sustainable Development, through the ANPE and the CITET), and the main initiatives (Ecolabel, ISO 14001, etc.), have already been discussed in preceding sections.

The Tunisian government has also enacted laws and amendments that guarantee certain rights and prohibitions, as in the case of the Child Safety Code, which expressly prohibits child labour.


In terms of good governance and transparency, there is no significant data indicative of progress on CSR. The rare cases where we find measures related to this field are in multinational companies heavily influenced by requirements imposed by their stakeholders or by foreign markets.

Nevertheless, Tunisia is undeniably in a healthy period of development and growth, and many key players, including the public sector and most companies, are committed to the principle of sustainable development. Although it is probably too early for CSR to play a predominant role, the concepts embodied in sustainable development may provide opportunities for new initiatives.

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 TURKEY⁴⁶	POPULATION: 71,892,807
	AREA: 780,580 km ²

1. INTRODUCTION

Turkey began negotiations to be a full member of the European Union in 2005, after having been an associate member since 1963 and having reached a customs union agreement in 1995. Meanwhile, it has continued to forge close political and economic relations with the east, especially with countries of the Middle East, Central and East Asia. The dynamic Turkish economy is a complex mix of modern industry and commerce, together with a traditional agricultural sector which still occupies 35% of the labour force. In spite of the rapid growth of the private sector, the State still plays a major role in basic industry, banking, transport and communications. Economic reforms in the late nineties and the beginning of this decade brought notable growth, an average in recent years of 5% of GDP (somewhat lower in 2008). Inflation was also significantly reduced, although lately it has increased again: 8.5% in 2007. Although the economy still suffers from high external debt and a negative trade balance, it is expected that the economic and political reforms envisaged within the framework of the convergence with the EU will favour direct investments of foreign capital.

Economic data			
GDP	\$930.9 billion (2008 est.)	GDP growth	4.5% (2008 est.)
GDP per capita	\$12,900 (2008 est.)	Work force	23.21 million (2008 est.)
GDP by sector (2008 est.)	Agriculture: 8.5% Industry: 28.6% Services: 62.9 %	Labour force by sector (2005)	Agriculture: 29.5% Industry: 24.7% Services: 45.8 %
Unemployment rate	7.9% + 4% sub-employment (2008 est.)	Household income (2003)	Lowest 10%: 2% Highest 10%: 34.1%
Gini index	43.6 (2003)	National debt	37.1% of GDP (2008 est.)
Inflation rate	10.2% (2008 est.)	External debt	\$294.3 billion (2008)
Agricultural products	Tobacco, cotton, grain, olives, beet, walnuts, citrus fruit, cattle and vegetables		
Main industries	Textiles, food, automobiles, electronics, mines, steel, oil, construction, wood and paper		
Electricity production	181.6 billion kWh (2007 est.)	Electricity consumption	141.5 billion kWh (2006 est.)
Electricity exports	2.576 billion kWh (2007 est.)	Electricity imports	863 million kWh (2007 est.)
Oil production	42,800 bbl/day (2007 est.)	Oil consumption	676,600 bbl/day (2007 est.)
Oil exports	114,600 bbl/day (2005)	Oil imports	714,100 bbl/day (2005)

⁴⁶ The information given in this section has not been confirmed by the CP/RAC National Focal Point for Turkey.

Natural gas production	893 million m ³ (2007 est.)	Natural gas consumption	36,600 million m ³ (2007 est.)
Natural gas exports	31 million m ³ (2007 est.)	Natural gas imports	35,830 million m ³ (2007 est.)
Exports	\$141.8 billion (2008 est.)	Imports	\$204.8 billion (2008 est.)
Commodities exports	Clothing, food, textiles, transport and metal equipment	Commodities imports	Machinery, unfinished chemical, products, fuel and transport equipment
Trading partners - exports (2007)	Germany 11.2%, UK 8.1%, Italy 7%, France 5.6%, Russia 4.4%, Spain 4.3%	Trading partners - imports (2007)	Russia 13.8%, Germany 10.3%, China 7.8%, Italy 5.9%, USA 4.8% , France 4.6%
Industrial growth rate	4% (2008 est.)	Current account balance	-\$51.68 billion (2008 est.)

Source: www.cia.gov, *The World Factbook*.

2. CLEANER PRODUCTION

2.1. Industry and the Environment

The structural changes that are taking place in the country's economy are affecting the environment. For example, the rapid development of the energy sector in response to increasing demand will have a greater or lesser impact depending on whether the energy expansion in the country is focused on nuclear power, natural gas or coal, or on energy efficiency and renewable sources.

Industrial development has varied widely across the country's seven regions. One single region, Marmara, is home to almost half of Turkey's industrial plants, while most of the remaining plants are found along the coasts. The most significant environmental impact comes from the mining, textile, tanning and food industries, intensive cattle farming (major sources of pollution in the Mediterranean), as well as the energy sector, the metallurgy, cement and sugar industries, and the production of fertilisers (atmospheric pollutants).

Although various projects have been set up to determine and evaluate critical sites of pollution, there are no indications that the critical sites mentioned in the previous edition of this report⁴⁷ have seen any significant improvement. In general, more attention is paid to pollution from tourism and the agricultural and livestock sectors, and that from population centres and transport, due to the strong growth of construction and the increase in the number of vehicles.

⁴⁷ "State of the Art of Sustainable Production in the Mediterranean". *MAP Technical Reports Series No. 165*, UNEP/MAP/CP/RAC, Athens, 2006.



Industrial pollution continues to be a problem in the Izmir Bay, the Buyuk Menderes River, the Iskenderum Bay and Mersin, mainly in the form of dumping, often of effluents with heavy metals or toxic waste. As far as the tourist industry is concerned, Bodrum, in the south of the country, suffers from disproportionate urban development which generates different problems, such as huge quantities of solid waste and effluent, and atmospheric pollution.

The Middle East Technical University (METU) and the Dokuz Eylul University-Institute of Marine Sciences and Technology (IMST), under the coordination of the Turkish Scientific and Technological Research Institution (TUBITAK)-Marmara Research Center (MRC), will carry out a project from 2008 to 2011 to identify the country's critical sites and sensitive areas, and propose corresponding monitoring and treatment strategies.

With reference to greenhouse gas emissions, the situation in Turkey is somewhat peculiar. In spite of being listed in Annex I of the Kyoto Protocol, some specific conditions, officially recognised in 2001, differentiate this country from the others listed in Annex I, allowing it to enter and form part of the Framework Convention for Climate Change of the United Nations. Per capita greenhouse gas emissions in Turkey stand at between 4 and 5 tonnes of equivalent CO₂, well below the average for OECD and Annex I countries. Even though it has no specific commitment to reduce emissions, Turkey has taken important steps towards controlling emissions and combating climate change in recent years.

Specific legislation on energy efficiency and the development of renewable energies has been passed. Various projects have been carried out to optimise the use of Turkey's hydroelectric potential, to promote energy efficiency, to improve the quality of fuels, to scrap the most elderly and polluting vehicles and to increase the energy efficiency of the cement and metallurgic industries (the principal sources of industrial pollution in the country).

Industrial emissions and those of the energy generating industry are responsible for more than 40% of SO₂ pollution. Motor vehicles are still a major source of emissions of carbon monoxide, hydrocarbons and NO_x particles in suspension, especially in large cities. Around 60% of total electricity generation takes place in coal-fired plants, of which half use lignite and coal with a high sulphur content.

Energy is often used inefficiently by industry and the private sector (in domestic buildings). Studies indicate that with improved efficiency, industry could save between 2.7 and 4.8 million tonnes of oil equivalent (toe), with consequent improvements in air quality.

The keys to reducing air pollution include obtaining more information on emissions and air quality, reinforcing the relevant legislation and promoting more initiatives in the field of energy efficiency and renewable energies, as well as introducing cleaner fuels and technologies (above all in energy production).

Industrial waste, which represents less than 1% of the total waste produced in the country, contains highly toxic substances such as mercury, lead, chrome and zinc. The latest inventory of waste generated by manufacturing industry showed that the 4,030 factories under study dumped 1.145 billion m³, of which 760 million m³ (two thirds of the total), were dumped with no treatment whatsoever. Of the total of organised and active industrial districts, less than half have implemented any appropriate measures. In some cases industrial facilities are connected to the municipal sewerage system.

The same study shows that the quantity of toxic waste generated that year reached 1,196,000 tonnes. Of this quantity a mere 8% was recycled, 45% was ceded to third parties for re-use and the rest (47%) was informally dumped.

2.2. Promotion of Cleaner Production

REGULATORY INSTRUMENTS

According to the 60th Governmental Annual Programme (2008), “studies aimed at establishing the abilities and infrastructure required for the implementation of cleaner production strategies will be set up under the responsibility of the Ministry of the Environment and Forestry (MoEF)”.

With this objective in mind, the Directorate-General for Environmental Management of the MoEF has already carried out several actions. A wastewater action plan study in accordance with the National Development Plan has already been completed. The aforementioned action plan describes the present situation and identifies sustainable solutions that provide the basis for both environmental protection and industrial development. Currently, the Directorate-General is executing a similar study to develop a water quality management action plan” The study establishes a roadmap for preventing pollution and protecting water resources without hampering industrial development.

Since 2005, several regulations to improve waste management and to prevent and control water pollution have been approved. Some of them are listed below:

By-laws related to waste management:

- By-Law on the Control of Medical Wastes (22.07.2005 - 25883 O.G.)
- By-Law on the Control of Waste Oils (30.07.2008 – 26952 O.G.)
- By-Law on the Control of Hazardous Wastes (14.03.2005 - 25755 O.G.)
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- By-Law on Limiting the Usage of Some Harmful Substances in Electrical and Electronic Goods (30.05.2008-26891 O.G)
- By-Law on the Control of Polychlorinated Biphenyl and Polychlorinated Terphenyl (27.12.2007-26739 O.G)
- By-Law on the General Regulations for Waste Management (05.07.2008 – 26927 O.G)

By-Law on the control of pollution due to hazardous substances in the water and the surrounding environment (26.11.2005 - 26005 O.G.). It comprises technical and administrative principles for:

- Identifying, preventing and gradually reducing pollution caused by hazardous substances in the water and the surrounding environment.
- Identifying hazardous substances which cause pollution in surface water, estuaries and regional waters.
- Developing pollution reduction programmes.
- Preventing and monitoring pollution.
- Preparing an inventory of hazardous substances discharged into waters.
- Determining discharge standards and quality criteria.

According to this regulation, industries will have to comply with the following requirements:

- Decrease the discharges of particularly hazardous substances to zero level.
- Attain discharge permits if the wastewater they produce is liable to contain hazardous substances listed in the annex of the by-law.
- When applying for discharge permits, submit the documents necessary for authorisation as well as information on raw materials and chemicals used and their function in the process, along with a list of WWTPs and the capacity reports delivered to provincial directorates.
- Analyze whether the wastewater they produce contains any of the substances included in the annex of the by-law and submit their results to the provincial directorate.
- Set up pollution reduction programmes for the reduction, within an established timeframe, of any substances in the wastewater that exceed the discharge standards established based on environmental quality standards.
- Explore the application of cleaner production technologies as part of the pollution reduction programmes, prior to the revision of the WWTP.

With regard to climate change, the Government, through various organisations and in collaboration with the UNDP and the Turkish Industry and Business Association (TUSIAD), has undertaken a series of research projects and workshops, with the participation of public and private organisations. The aim is to prepare the Turkish National Plan for Climate Change. Along the same lines, it has announced its intention to ratify the Kyoto Protocol, although the announcements do not include specific policies or targets.

Other projects supported by the UNDP (coordinated by various ministries) include the preparation of voluntary initiatives to create carbon markets, projects for improving energy efficiency in industry, buildings and domestic electrical appliances and projects to improve access to drinking water.

In spite of the advances achieved through the Seventh Five-Year Plan (1997-2001), such as the National Environmental Action Plan (NEAP), the Eighth Plan (2001-2005) recognises that the failure to include environmental policy in previous economic and social plans was a major failing. The Eighth Plan aims to “guarantee economic and social development through the protection of public health, environmental and cultural balance and aesthetic and historical values”. It sets out certain guidelines indicating key measures for protecting the environment:

- Revising the priority areas of the NEAP with all stakeholders.
- Developing and implementing cleaner production strategies in line with the EU *acquis communautaire* and Turkey’s other international commitments.
- Integrating environmental policy into economic and social policy through the use of financial instruments to control, promote and coordinate, etc.
- Improving environmental management systems and the institutions directly or indirectly involved.
- Guaranteeing access to environmental and development data and information, improving infrastructures, indicators and monitoring and evaluation systems.
- Promoting the sustainable use of natural resources and minimising environmental risks.

INTEGRATED POLLUTION PREVENTION AND CONTROL

Although, for the moment, Turkey has not applied the model defined by the IPPC Directive, the Government is aware of its importance and is taking action to implement this system in its environmental management. Within this framework, the introduction of the concept of BAT (best available techniques) in industry has started to bear fruit and is being developed by this sector.

The permit system for controlling air pollution was revised in 2006 (the previous review took place in 1986), setting new emission limits. Furthermore, adjusting to the need to incorporate EU standards, a decree is being drafted for Large Combustion Plants (LCP) and is due for approval in 2009.

Permits are also issued within the framework of the decrees approved in recent years in relation to the generation and management of waste, hospital waste, toxic waste, used oils, etc.

The EU Integrated Environmental Approximation Strategy specifically mentions the need to use cleaner production technologies (in order to implement its sixth objective of preventing and reduce pollution due to dangerous substances in water). No other references have been found which indicate that direct efforts are being made in this area.

ECONOMIC INSTRUMENTS

As far as economic instruments to encourage cleaner production in Turkey are concerned, most measures are of a punitive character, in the form of specific taxes proportional to the impact of the activity and fines for non-compliance. Although it is possible to get support from some private or international organisations, no evidence has been found to date that the government provides any financial aid in the form of subsidies, loans, tax deductions, etc.

VOLUNTARY INSTRUMENTS

At the private or voluntary level, the chemical sector's initiative to promote cleaner production criteria, supported by the Chemical Manufacturers' Association, is still the most significant project in this area. It should also be pointed out that environmental certification, such as ISO 14001, is an incentive to implement voluntary measures.

PROMOTERS AND PROJECTS

Many universities and technological institutions are working on academic and specialised studies into protecting the environment, cleaner technologies, sustainable development, etc., such as the Middle East Technical University (METU), the Marmara Research Centre and Bogazici University, which hosts a Cleaner Production Centre.

Among civil society organisations, the work done by the Turkish branch of the Regional Environmental Centre for Central and Eastern Europe (REC) is particularly noteworthy. This NGO organises its work around training and coordinating other agents. Apart from training programmes on the environment, energy efficiency and sustainable development, it also organises workshops to train trainers, prepares publications on environmental topics and supports projects for other NGOs, scholarships and funds, etc.

There are other organisations dedicated to environmental issues and economic and business development, which are sometimes involved in cleaner production, albeit not systematically but as part of a different objective.

3. SUSTAINABLE CONSUMPTION

In Turkey, as in other Mediterranean countries, economic growth has accelerated the pace of urbanisation and building, consumption of natural resources and the amount of waste generated. At the same time, higher household incomes and increasing urbanisation have slightly reduced the consumption of natural resources in the rural world, albeit at the expense of ever-increasing urban pollution levels and exposure to them. Poverty, caused by unequal incomes within different regions and socioeconomic groups, has been linked in several studies to worsening environmental degradation and vulnerability to environmental threats.

Many major environmental problems are caused by urban agglomerations and lifestyles (air quality, access to drinking water, landfill sites and solid waste management), by poor management of resources such as water sources, soil, woods, biodiversity, marine and coastal resources, and the natural and cultural heritage, and by environmental threats produced by population pressures.

It is also important to note that coastlines are suffering the ravages of pollution due to the dumping of liquid and solid waste, both from households and industry, from sea transport, uncontrolled urbanisation and natural disasters such as earthquakes and floods, etc.

ATMOSPHERIC EMISSIONS

In addition to the growth of populations and urban settlements, poor urban planning and the use of low-quality fuels are the main causes of air pollution (apart from industry).

Pollution from heating systems in the winter is caused by the use of low efficiency fuels and inadequate combustion techniques, as well as a lack of regular maintenance. Gases generated by motor vehicles, with high levels of CO, NO, HC, and lead emissions, are also a significant problem, calling for measures to reduce atmospheric pollution.

ENERGY EFFICIENCY

Turkey has several renewable energy resources, mainly water and biomass energy. The latest data available, from 2004, shows that 12.3% of the total primary energy supply was produced by renewable energies. The electricity generated from renewable energies has increased by 31%, making them the second source of domestic energy after coal.

The use of hydropower, estimated to have been developed to only 35% of its potential, has been increasing by 5% a year since 1990. Although the country has significant geothermal resources, they are not widely exploited. It is only used in some residential and/or tourist buildings as well as greenhouses in some areas of production. The exploitation of solar and wind power is no more than token, despite there being strong development potential due to climate conditions in some regions of the country. Finally, biomass is one of the traditional energy sources used in Turkey, representing 23% of the primary energy produced in 2004. It is mainly used in heating and agriculture, wood being the most important raw material.

Environmental strategy focuses on renewable energies as significant factors for the near future. The development of these energies is closely linked to both public and private investment, as well as to the granting of loans, funds and subsidies to encourage the development of the necessary technologies.

WATER MANAGEMENT

Although Turkey has sufficient water resources, the demographic growth of recent years and the growth expectations for the near future may lead to supply and provision issues. In this regard, the country's environmental strategy prioritises improving the water supply system to prevent losses and leakages and implementing a price model that would encourage more efficient consumption patterns. Other challenges include excessive and/or illegal extraction from natural aquifers, water pollution due to pesticides and fertilisers, a lack of monitoring and policing resources, and an ineffective system of sanctions.

In recent years, there has been significant progress in the development of sewage and waste disposal systems, particularly in major cities, although the measures taken have not been sufficient due to the pace of urbanisation and industrialisation. Domestic dumping is regulated on the basis of the 1991 EU Directive on urban wastewater treatment (91/271/EEC).

WASTE MANAGEMENT

The most common method of waste disposal is dumping in landfill sites with no treatment measures. Recycling, composting and incinerating are not very common. The locations of landfill sites have also been shown to be part of the problem, as the potential pollution of the atmosphere, the soil and underground aquifers is not taken into account in the decision-making process.

Although regulations concerning hazardous waste and hospital waste have been approved, these are not being properly implemented and this type of waste is frequently disposed of together with urban or domestic waste.

With regard to the management of special waste, an institutional framework for the recycling and disposal of accumulators, batteries and mineral waste has been created, in accordance with the “producer pays” principle. Four associations have been authorised to carry out activities in these fields. Regulatory advances are still required, however, to comply with the requirements of EU directives on the disposal of vehicles, electrical and electronic devices at the end of their useful lives, and other waste classified as special or hazardous according to EU regulations. Cooperation and coordination between the government bodies concerned with supplying waste collection and other related services is urgently needed. Fortunately, the number of municipal waste collection projects has increased. Since privatisation, some waste collection services have started to be offered by private companies, which has been well received, as such services are seen to be better managed and regulated, with realistic costs.

NATURAL RESOURCES

Pollution generated by industry and cities, the construction of infrastructures, drought, illegal and irresponsible fishing and hunting, uncontrolled tree felling, stubble burning and pressure from tourist activities are the main causes of the current fragile state of Turkey’s abundant and valuable biodiversity.

Other environmental threats arising from the unsustainable use of resources are erosion and the loss of fertile soil, water salinity and the loss of biodiversity.

The pollution of the sea from residential and industrial areas is another important issue, as are accidental oil spillages near coastlines, and intensive tourist developments. Finally, agricultural practices together with the use of agrochemicals and resources consumption and forest felling are a further threat to animal and plant species.

SUSTAINABLE CONSUMPTION PRACTICES

The sustainable consumption concept is not well developed in Turkey, with the initiatives that come closest being based on an environmental perspective. Although the most recent steps taken by the government to combat climate change give some reason to hope that more responsible consumption practices will be adopted, at present, sustainable development is the closest concept referred to by public bodies, being briefly referenced as a key concept in the drafting of the National Environmental Strategy.

The government does, however, intend to raise public awareness of environmental issues, and to increase public participation in decision-making and programme design.

For the time being, harmonisation with EU legislation related to environmental certification and labelling has not yet occurred, and studies of the adoption of EMAS certification policies have not yet been conducted.

3.1. Promoters and Projects

Sustainable consumption is not a well- or widely developed concept in Turkish society or organisations, and does not appear to be an objective of any of the organisations studied. However, indirectly, within the environmental protection framework, some initiatives to raise awareness on sustainable consumption can be identified.

One of the main organisations in this area is the REC office in Turkey, whose principles include the sustainable consumption concept. In recent years, for example, the REC has started a scholarship programme for other NGOs aimed at developing projects within six specified target areas: waste

management, protecting the environment and ecosystems, sustainable agriculture, sustainable tourism, sustainable consumption and production patterns and developing renewable energy sources.

3.2. Sustainable Public Purchasing

The Turkish Law on Public Procurement was passed in 2002 and revised in 2003 and 2004 in the light of EU regulations. It deals with mechanisms for public tenders and purchasing with a series of criteria governing its application. It includes code of conduct requirements with certain basic rules for classifying suppliers and excluding them in the event of any irregularities. The legislation also covers the financial and professional status of suppliers and includes certain guarantees of confidentiality.

There is no reference to sustainability, but there are plans to include some environmental criteria in public purchasing processes, within the framework established by the European Union.

4. CORPORATE SOCIAL RESPONSIBILITY (CSR)

In Turkey, corporate social responsibility as a management model is still in the very early stages of being implemented. Apart from some measures to protect the environment and, to a lesser extent, some social measures, there are very few voluntary practices by businesses.

Although some agents have been promoting CSR since the beginning of the decade, they still have little impact on society, business and public administrations.

The UNDP has started a process of implementing CSR in Turkey, studying the potential for developing CSR in the country, and setting up a Global Compact national head office. Although many companies have become members of the initiative, studies have showed that most companies have little knowledge of CSR and many difficulties in implementing the principles of the Global Compact. Accordingly, the studies consider that raising awareness of the concept among Turkish companies and promoting the creation of a national CSR network are key to start spreading CSR in the Turkish business sector.

The companies whose CSR practices are most developed are those associated with the EU or other OECD countries, where they have made certain commitments to customers, stakeholders or shareholders.

The government has recently worked together with the UNDP on programmes to promote CSR, such as setting up partnerships between government and business representatives to achieve social responsibility objectives. Other policies include stakeholder participation in the design of national strategies and some more specific considerations directed at companies listed in the ISE 30 Index (Istanbul Stock Exchange). At the local level, there is an agreement between the municipality of Besiktas and the UNDP to promote CSR in companies, through an office supported by the municipality, for the next 10 years.

Nevertheless, although some companies involved are showing interest in CSR, most of the activities and initiatives in this area consist of publishing reports, guides, study cases, etc., conferences, workshops and training courses.

As regards private sector initiatives, the civil society development project launched by the private firm ARGE within the framework of a CSR strategy for Turkey is a special case. Taking advantage of its strategic position as a consultancy for public companies and government bodies, and based on the idea that a well structured civil society that participates in the country's decision-making enhances the country's social, legal and environmental mechanisms, the company has developed a complete and intensive training project for civil society organisations, encouraging alliances between the public sector, private companies and academic institutions. The concepts passed on to civil society organisations include good corporate governance and the idea of quality management, focusing on quality systems such as EFQM.

It is also worth noting the creation of the association for CSR in Turkey (CSR Turkey/ KSS Türkiye), an independent NGO made up of other social, business and academic organisations, which focuses its efforts on promoting CSR in the country.

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