

# European Commission

## DG Environment

Eco-industry, its size, employment,  
perspectives and barriers to growth in  
an enlarged EU

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## Executive Summary

This study was undertaken by Ernst & Young and RDC-Environnement on behalf of the European Commission between April 2005 and August 2006, with the objective of providing the Commission with a better understanding of the driving forces of the eco-industry development and of potential measures to support this development. The approach was based on analysis of data provided by Eurostat on environmental expenditure, collecting relevant information on eco-industries on the basis of interviews with representatives of industry and administrations and carrying out a selected number of case studies.

### What is the size of the EU eco-industry?

As defined by the OECD and Eurostat, eco-industries are “activities which produce goods and services to measure, prevent, limit, minimize or correct environmental damage to water, air and soil, as well as problems related to waste, noise and eco-systems. This includes technologies, products and services that reduce environmental risk and minimize pollution and resources”. The sectors fall into two general categories, pollution management and resource management.

Data on eco-industries in the European Union (EU) remain incomplete for most sectors. The items presented below are based on the best available information at the time of the study as well as on estimates when necessary.

#### **Turnover**

The estimated total **turnover** of eco-industries in the EU-25 is **€227 billion**, of which €214,000 million corresponds to the EU-15 area. In constant prices, the turnover of the eco-industries grew around 7% between 1999 and 2004 (for the EU-15 area).

The total turnover in 2004 can be split into:

- € 144.9 billion for pollution management activities (64% of the total) and
- € 81.8 billion for resource management activities (36% of the total).

The goods and services provided by eco-industries represent approximately 2.2% of GDP in the EU-25 area. The largest national markets for eco-industries are France and Germany which taken together account for 49% of total turnover in 2004. The three following countries (UK, Italy and the Netherlands) represent together another 24% of the EU-25 total expenditures. The 10 new member states represent only 5.7% of total turnover, of which half for Poland alone.

The major eco-industry sectors in terms of turnover by far are water supply, waste water treatment and solid waste management (waste management and waste water treatment each represent approximately one third of the pollution management turnover).

#### **Employment**

The total direct and indirect employment due to eco-industries represent approximately 3.4 million full-time job equivalents, of which 2.3 million jobs are from pollution management activities. Resource management activities represent approximately 1 million full-time job equivalents. The majority (77%) of the jobs in the pollution management activities are in the waste water treatment and solid waste management sectors.

## **Trade**

Eco-industry exports for the EU-25 are estimated at €13 billion and imports are €11.1 billion. 57% of trade is within the EU-25. The three major markets (Germany, France, and the UK) are all net exporters of eco-industry goods and services. These three countries are responsible for 55% of eco-industry trade.

### **What is the structure of eco-industry sectors?**

Eco-industries include a wide range of companies, from small firms specialized in one market segment to large multi-utility groups. These companies are in most cases either subsidiaries of larger corporations (especially in the waste management, water supply, waste water treatment and air pollution control sectors) or specialized small and medium sized companies, especially for legislation-driven markets which are usually more recent than the larger commodity-centred markets. European companies are leaders on several eco-industry markets, including waste management, water and waste water treatment, production of energy from renewable sources.

A number of acquisitions by large groups specialized in energy, utilities management, construction or electronics contribute to a growing concentration of the sectors covered by the study. Recent trends include increasing merger strategies aimed at extending geographical coverage, increasing the range of activities, and at attaining critical size in order to bear higher research and development costs or to penetrate broader markets.

### **What are the main drivers and trends of eco-industry markets?**

Growth rates of most eco-industry markets have been strong over the recent years, although a distinction should be made between:

- Traditional markets driven by the demand for essential commodities (such as water supply) or services (waste collection, for example), which are increasingly mature,
- Recent markets which are essentially based on investment needs generated by new environmental policy and legislation (referred to as “legislation-driven” markets). Some of these markets show high growth potential (for example, renewable energy and eco-construction).

The market outlook is favourable in most cases, as emerging markets in the new member states should strongly support the demand for environmental goods and services, due to the implementation of the *acquis communautaire*, sometimes with the financial support of EU funds.

Key market drivers identified in the course of this study are:

- Compliance with policy objectives and other legal requirements at EU and national levels (for example, water quality targets, production targets for the production of energy from renewable sources, and so on);
- Technology development and emergence of new market segments or solutions (for example, remediation of historical industrial sites in city centres, monitoring of new pollutants or media and the outsourcing of monitoring processes);

- Market incentives are in some cases necessary to enable environmental technologies to compete with traditional industries. Fair pricing is a key issue as internalization of environmental externalities and costs considerably improves the competitiveness of most eco-industry sectors (renewable energy, for example).
- Public funding resources are often required to facilitate access to finance eco-industry investment projects and innovation capacity;
- Growing awareness from consumers on the availability and benefits of new environmental technologies and products.

## How can eco-industry activities be developed in the future?

### *Supporting the growth of eco-industry markets*

- **Reinforcing environmental requirements and their implementation** : the existing policy framework in the EU has proven crucial for the development of eco-industry sectors. It remains a key instrument to sustain growth in these sectors, by setting more ambitious targets and/or requirements, as well as by broadening the scope of existing legislation. The preparation and adoption of new legislation also helps keep European industries in a leading position on new emerging issues. In addition, further efforts should be made to ensure the implementation of the existing legislation.
- **Establishing harmonized standards for environmental goods and services** will contribute to promote the quality of outputs delivered by eco-industry and develop awareness of potential purchasers. **Promoting the integration of environmental performance in construction standards** can also have a strong impact in developing the demand for environmentally efficient technologies.
- **Supporting price transparency and the internalization of environmental costs in market prices.** The development of several eco-industry sectors would benefit from encouraging the fair pricing of goods and technologies, taking into account external costs of activities, in order to provide the market with better elements to judge on the integrated performance of each solution. In addition to ensuring fair pricing systems, the establishment of **market incentives** can significantly support the demand for environmental goods and services. The most effective market incentives (for example, tax credits, trading schemes, etc.) will probably need to be identified by market or sector in the context of further work.
- **Providing targeted information on eco-industries to customers.** Further efforts to develop awareness of consumers (households, industries, local authorities) on the availability of technologies and services offered by eco-industries, as well as on their costs and potential benefits, would be required to stimulate the demand. Several existing instruments such as eco-labels have proven effective to raise awareness and build consumer trust in the quality of the goods and services delivered.
- **Developing financial mechanisms to ensure the implementation of eco-industry projects, mainly in the new member states.** Although new member states are considered to be critical markets for the future growth of eco-industries, lack of investment capacity in some countries may slow down the expected market development. Financial mechanisms aimed at supporting the development of the demand for eco-industry goods and services should be maintained and reinforced, and if possible, focused on investments in pollution and resource management activities.

### ***Improving the competitiveness of eco-industries***

- **Strengthening the performance of eco-industry companies and helping SMEs adapt to emerging market needs.** For some market segments, the existing eco-industries do not have the capacity to respond to emerging market needs. Possible support in these aspects could include pursuing the collection of information on the size and growth potential of eco-industry markets, developing specialized “market intelligence” services for SMEs (by sector) and supporting capacity-building initiatives for SMEs (training, creation of specialized networks) aimed at improving their market-entry capacities, and in particular at sharing experience and building partnerships on specific projects (developing new products, penetrating new markets, etc.).
- **Expanding efforts to help eco-industries access export markets.** As several large eco-industry markets are approaching maturity in the EU-15 area, the strongest growth opportunities for most sectors are considered to be in new member states or in fast growing emerging economies. For this reason, EU and member state initiatives to support eco-industries in understanding and accessing export markets should be pursued and expanded. In addition, EU and member state development aid can significantly support the growth of demand for environmental goods and services by increasing focus on waste and water management, renewable energy and energy efficiency and by developing technology transfers.
- **Supporting the development of financial solutions adapted to eco-industry needs.** For several eco-industry sectors, the cost and availability of finance is a crucial barrier for their business development. The specific needs of some projects, for example in the renewable energy sector, sometimes include long pay-back periods and high risk or uncertainties on the market potential which make it difficult to obtain adequate financing at limited costs. Possible solutions in this field could include supporting the development of adapted financial mechanisms such as grant facilities (and soft loan mechanisms, which can play a significant role in improving the profitability of the project and to make it more attractive for other investors; developing awareness of financial institutions on the specificities of eco-industries and developing mechanisms to finance innovative environmental products, processes and services, such as dedicated investment funds.
- **Improving the development and access to markets of innovative environmental technologies.** Innovation capacity is crucial for the competitiveness of eco-industries, as it enables them to continuously adapt to new market demands. Most of the difficulty today lies in enabling new technologies to access markets, and calls for efforts on the following aspects:
  - Improving the commercial application of environmental technologies, for example by encouraging collaboration between developers, manufacturers and end-users;
  - Providing more **information on new technologies** available to end-users and establishing market incentives to stimulate the use of these new products and services (for example, tax credits, access to finance with improved conditions, etc.).
  - Investing in research and development is difficult for a number of companies because they lack critical size. Encouraging the **pooling of research efforts** could contribute to developing the innovation capacity of eco-industries.