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## CONCLUSIONS AND RECOMMENDATIONS\*

This report examines Belgium's progress since the previous OECD Environmental Performance Review in 1998 and the extent to which the country is meeting its domestic objectives and international commitments regarding the environment.\*\* The progress made by Belgium during the review period is seen in the report as resulting from the authorities' environmental and economic decisions and actions, as well as from the efforts of private enterprises, households and non-governmental organisations. Forty-seven recommendations are made that could contribute to further environmental progress in Belgium.

In a country as densely populated and economically developed as Belgium, pressures on the environment are strong. As much as one-fourth of the territory is built-up or covered with dense networks of roads, railways and navigation canals. Industry, heavy freight and passenger traffic, and intensive livestock production and crop cultivation also put pressure on the air, soil, water resources and nature. In this context, making development economically, environmentally and socially sustainable is a challenge. Because of Belgium's very open economy (exports reaching 83% of GDP and imports 81%), and its location, there are many physical and economic interdependencies among Belgium, its European partners and beyond. This explains the very proactive attitude of Belgium concerning international environmental issues.

In the period leading up to 1993, Belgium went through a series of institutional reforms which transformed it into a federal state made up of three regions and three linguistic communities. Since then, environmental responsibilities have been clearly defined and the federal, regional, community and local authorities have done a great deal to accelerate efforts to reduce pollution, protect nature and biodiversity, and also promote sustainable development.

However, Belgium is still catching up on the environmental backlog from the past. The challenge now will be to: i) pursue efforts to implement environmental policies effectively and efficiently; ii) further integrate environmental concerns into economic and social decisions; and iii) meet the country's international environmental commitments.

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\* Conclusions and Recommendations reviewed and approved by the Working Party on Environmental Performance at its meeting on 25 September 2006.

\*\* The report also reviews Belgium's progress in the context of the OECD Environmental Strategy. The Objectives of the "OECD Environmental Strategy for the First Decade of the 21<sup>st</sup> Century" are covered in the following sections of these Conclusions and Recommendations: maintaining the integrity of ecosystems (Section 1), decoupling of environmental pressures from economic growth (Sections 2.1 and 2.2), and global environmental interdependence (Section 3).

## 1. Environmental Management

### *Strengthening the implementation of environmental policies*

After periods of uncertainty and of major environmental reforms associated with the process of federalisation of the country, Belgium's federal and regional authorities were able, during the review period, to build on: i) stable environmental institutions with a clear division of responsibilities and mechanisms for co-operation, ii) EU environmental legislation as well as the country's international commitments, and iii) co-operation and partnership with industry, trade unions and environmental NGOs. Total expenditure on pollution abatement and control grew significantly, reaching about 1.7% of GDP. Nature protection also progressed, with the extension of protected areas in the context of the Natura 2000 network, despite the very high densities of population, activities and infrastructure of the country. Well established regional environmental administrations now all have planning cycles, indicators of progress and policy review mechanisms, and all have implemented advanced environmental policies. Federal authorities have exercised their responsibilities (e.g. ecotaxes, product standards, trade matters, international matters, radiation protection and protection of the marine environment). Better environmental management was achieved through a mix of policy instruments, including economic instruments, information campaigns, agreements (between the regions, provinces and municipalities), regulations (which were codified or streamlined) and voluntary actions (taken by industry). Inspection authorities improved their effectiveness and efficiency. Progress with single permitting and the use of environmental impact assessment was noteworthy. All these efforts have contributed to partly repay the country's outstanding environmental debt.

However, a number of indicators show that the results are not sufficient. Energy use, material use and pollutant emission intensities (i.e. per unit of GDP) remain relatively high. Indicators of densities of environmental pressures (i.e. per km<sup>2</sup>) are also very high. Addressing this will require Belgium to strengthen and/or extend its environmental efforts and to make them more cost-effective by increasing the use of economic instruments (e.g. taxes, charges, emission trading mechanisms) and economic analysis (e.g. cost-benefit analysis), notably for air, water and waste management. Belgium has still not fully implemented all EU environmental directives. The mix of policies covering waste management could often be more efficient. Voluntary approaches could often be more ambitious. Land-use legislation, planning and policy, which formally address environmental concerns, need to do so more widely in practice, to better control urban sprawl and the loss of green spaces.

#### Recommendations:

- increase the use of economic instruments (e.g. taxes, charges, trading mechanisms) and economic analysis (e.g. cost-benefit analysis);
- strengthen the review by regional authorities of municipal land-use plans to increase their effectiveness in addressing environmental objectives; strengthen co-operation among regions in land-use planning and environmental impact assessment;
- strengthen environmental inspectories; increase their effectiveness and efficiency, where appropriate;
- review the experience with partnerships between government and non-governmental organisations (e.g. industry, trade unions, environmental NGOs) to see how such partnerships can be made more ambitious, cost-effective and transparent and how they can be associated with other instruments.

## *Air*

Overall, Belgium made good progress over the review period in reducing air emissions. The adoption of best available technology significantly reduced emissions from the industrial sector. SO<sub>2</sub> emissions were further decoupled from economic growth. Nearly all air management objectives for hazardous substances were met (e.g. targets met for 20 of 22 substances regulated by the North Sea Conference, including dioxins) and further targets have been set. Ammonia (NH<sub>3</sub>) emissions have been falling since 2000 as a result of livestock limitations and application of low emission standards for manure treatment. Concerning electricity production, emission reduction targets set under a voluntary approach were all met (SO<sub>2</sub> reduced by 92% and NO<sub>x</sub> by 66% between 1980 and 2003), and a further target was agreed. The National Emission Ceiling (NEC) target for VOCs from transport was met thanks to fuel regulations and a switch to diesel vehicles. The last ten years also saw significant improvement in establishing air monitoring networks. Both federal and regional authorities have recognised the importance of improving the availability of public transportation, and several new projects are envisaged (e.g. the Diabolo project to establish a direct rail link between the Brussels airport and several large towns).

However, further efforts are needed to reduce the emissions of certain substances and to capture related economic health benefits (e.g. reduced health expenditure and higher labour productivity). Reducing PM emissions (e.g. from the transport and industrial sectors) should be given higher priority with particular attention to PM<sub>2.5</sub> and health effects. In spite of good progress in reducing NO<sub>x</sub> from stationary industrial sources, the NEC target will not likely be met. The ground level ozone air quality standard was exceeded a dozen times during the summer of 2003, and no improvement has been observed. NEC targets for SO<sub>2</sub> and NO<sub>x</sub> transport emissions are not likely to be met in 2010 without additional measures. Overall, Belgium has found it harder to implement measures to reduce air emissions from household (residential and mobile emissions) sources than from industrial stationary sources. Federal and regional transport policies are not well co-ordinated and air pollution from road transport is increasing. Measures are also needed to reduce emissions from ships. Though highly subsidised, public transportation is losing ground compared with private vehicles. Attention should be given to developing an appropriate policy mix (e.g. including economic instruments such as higher diesel fuel taxes and road pricing). The energy intensity of Belgium is relatively high and should be reduced. In particular, energy efficiency in the building sector should be improved.

### Recommendations:

- strengthen measures to reduce PM emissions, especially from the transport sector (e.g. fuel quality control, stricter car inspection for diesel vehicles);
- boost efforts to reduce ozone episodes; reduce emissions of NO<sub>x</sub>, VOCs, PAHs and trichlorobenzene; consider additional measures to reduce household emissions (e.g. PAHs, NMVOCs);
- better control air pollution from ocean and inland navigation (e.g. fuel quality standard);
- evaluate and implement policy mixes (including use of economic instruments) to improve the efficiency of air quality management;
- adopt a national transport plan and ensure that the various (e.g. federal and regional) transport plans are consistent, mutually supportive and well implemented;
- develop transportation pricing and taxation (e.g. excise tax on fuel, road pricing) to help internalise the environmental damage costs;
- improve energy efficiency in all sectors, with special attention to the building sector.

## *Water*

Thanks to the concerted effort of the three Belgian regions, the share of the population connected to a waste water treatment plant grew from 26 to 46% over the last decade. As a result, the concentration of pollutants in many surface waters dropped, and aquatic life became more abundant. The clean-up of contaminated sediments in Flemish water courses proceeded according to plan. Further reforms in the financing of water infrastructure led to a more consistent application of the polluter-pays principle. Overall, Belgium's pricing policy reflects that water is an economic commodity with a social dimension. Industrial discharges to water continued to decline. The reduction targets set by the International Conference on the Protection of the North Sea were achieved for 25 out of 37 substances. The federal government adopted new laws to protect the marine environment. Flanders adopted a decree on integrated water policy and Wallonia codified its water laws. Implementation of the EU Water Framework Directive was actively pursued by all relevant federal, regional and local administrations, including in the international basins of the Scheldt and Meuse rivers. Belgian administrations reviewed and updated their approach to reducing flood hazard.

Yet despite these efforts, Belgium still faces major water pollution challenges. First, the very intensive agriculture found in parts of Belgium (with indicators of livestock density and use of pesticides and nitrogenous fertilisers among the highest in the OECD) continues to have a very deleterious impact on the country's water resources. A large and increasing proportion of groundwater aquifers have high levels of nitrates and pesticides. Although progress was made over the review period in implementing the EU Nitrates Directive, Belgium's current policies for reducing nutrient loads are unlikely to be sufficient to meet the directive's targets. Second, water quality in many streams and rivers, notably in the more densely settled parts of the country, is still far below what will be required by 2015 under the EU Water Framework Directive. The share of bathing waters that satisfy EU standards is not as high as in many other EU countries. The concentrations of nutrients, polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs), lindane and organotin compounds in coastal waters are of some concern. Third, despite its efforts, Belgium has not met the deadlines of the EU Urban Waste Water Treatment Directive. Public and private expenditure on waste water management, at 0.50% of GDP, remains low in view of the effort needed to eliminate the infrastructure backlog. A considerable investment in sewerage systems will be needed in the years to come. Delays have been due partly to the difficulty of building new infrastructure in densely settled areas, but also to a lack of co-ordination in planning treatment stations and sewerage networks. Moreover, the current share of combined systems in the country's sewerage networks, which allows the undesirable entry of storm water into sewers, compromises the investment in treatment stations. Progress toward full cost recovery of waste water expenditure has been slow and is not likely to be achieved soon.

### Recommendations:

- review and revise manure management and fertiliser use policies in order to further reduce nutrient loading of ground and surface waters;
- bolster current efforts to reduce pesticide contamination of water sources (e.g. by increasing the rate of the existing pesticide tax);
- maintain the recent acceleration of construction of waste water infrastructure, including upgrading existing sewerage networks; ensure that financing arrangements do not slow progress; improve synchronisation in the construction of regional waste water treatment and municipal sewerage infrastructure;
- firmly implement measures to achieve full cost recovery of sewerage and waste water activities through "polluter pays" charging systems, with due regard to social concerns;
- speed up the provision of sewage treatment for all dwellings outside zones served by public systems;
- formulate measures to identify and remove remaining and new sources of hazardous substances.

### *Nature and biodiversity*

During the review period, Belgium stepped up very significantly its efforts to protect nature and biodiversity. A comprehensive assessment of biodiversity and inventory of species was completed. Protected areas were expanded and now cover 11.6% of the country. Wallonia designated new nature parks and other protected areas, the Brussels-Capital Region set up a “green and blue network”, and Flanders established a legal framework for development of the Flemish Ecological Network, of which about 70% has been designated. Nearly 13% of the national territory was designated as part of Natura 2000, providing new opportunities to combat fragmentation of habitats, expand protected areas and further involve stakeholders (farmers, forest owners) in nature conservation. Co-operation agreements led to establishment of “chartered reserves” and nature conservation on military domains. Implementation of sustainable forest management was actively pursued, and forest certification increased. Belgium contributed to international co-operation concerning migratory species (e.g. designating more Ramsar sites) and trade in endangered species (e.g. stepping up controls and penalties for CITES violations).

However, economic activities in the context of Belgium’s very high densities of population (341 inhabitants/km<sup>2</sup>) and roads (488 km/100 km<sup>2</sup>) exert high pressures on species and habitats, and the loss of biodiversity is increasing. If Belgium is to halt biodiversity loss on its territory by 2010 (an EU target adopted in 2001), much needs to be done to further protect species and habitats, expand marine protection, continue with sustainable forestry and better integrate nature concerns into agriculture and land use. The management of protected areas generally needs to be improved and their protection objectives made more explicit (e.g. nature parks in Wallonia). Efforts to combat fragmentation should be continued. Financial resources for biodiversity need to be significantly increased and economic instruments more widely used. The biodiversity objectives of the federal plan for sustainable development need to be followed up by federal biodiversity action plans, and regional comprehensive packages of actions focusing on sustainable agriculture, sustainable forestry and habitat protection should be further developed and implemented.

#### Recommendations:

- complete the National Biodiversity Strategy (as required under the UN Convention on Biological Diversity) with close co-operation between regional, federal and local authorities and stakeholders; include quantitative targets, as appropriate;
- strengthen the management of protected areas (e.g. new nature parks, agreements with landowners and/or land users) and the connectivity between protected areas in the context of Natura 2000, including through enhanced regional co-operation; extend biodiversity corridors by improving the ecological water quality of rivers, as required by the EU Water Framework Directive;
- enhance nature conservation on farmland; set targets and periodically evaluate achievements;
- promote common forest management among private forest owners, so as to create economies of scale and foster environmentally-friendly land use, thereby enabling sustainable forest management;
- enhance public and private financing of nature and biodiversity conservation (e.g. hunting plans and fees to control large game populations, local nature tax on building permits);
- further implement international agreements to protect nature and biodiversity (e.g. CITES, CBD).

## 2. Towards Sustainable Development

### *Integration of environmental concerns into economic decisions*

Belgium made progress over the review period in decoupling environmental pressures from economic growth for some conventional pollutants (e.g. SO<sub>x</sub> and NO<sub>x</sub> emissions) and for water abstractions. Growth in household waste for final disposal was also decoupled from economic growth due to high rates of recycling. Sustainable development institutions were developed at the federal level (Sustainable Development Law, establishment of a governmental committee and of a council for sustainable development, creation of a Secretary of State position for sustainable development). Two federal plans were adopted along the three pillars of sustainable development, together with evaluation and consultation procedures. Principles of sustainable development were also embodied in the regional environmental plans. The regional governments made some progress in integrating environmental concerns into agriculture (by augmenting support for agri-environmental measures). Climate change policy is moving ahead with the regional climate change plans and national burden-sharing agreement, and through a range of domestic measures, participation in the EU emission trading scheme and the Kyoto Protocol flexibility mechanisms.

However, there is still a need to decouple road freight transport from economic growth, as the increase in road freight transport is of high concern. Energy intensity (total primary energy supply per unit of GDP) is still considerably higher than in neighbouring countries. Integration of environmental concerns into energy policy is lagging. Energy prices should internalise environmental external costs. Pressures on water and soil resources (from water abstractions, nitrate and pesticides) are among the highest in the OECD. The targets to expand organic agriculture have not been met. A number of tax concessions lead to perverse effects on the environment. No action has started on a green tax reform as recommended in the last OECD environmental performance review. The effectiveness and economic efficiency of the country's subsidy schemes for rewarding environmental behaviour may need to be reviewed. Quantitative targets are needed and cost-benefit analysis should be used more systematically for setting priorities.

#### Recommendations:

- establish a green tax commission and review, and if necessary revise, the relevant taxes and other economic instruments to improve their effectiveness and economic efficiency; review systematically the environmental effectiveness and economic efficiency of the country's financial assistance schemes;
- further implement the federal plan for sustainable development (2004-08); develop and implement a national strategy for sustainable development, in line with UN commitments;
- set quantitative targets for the environment in relevant planning (e.g. economic and sectoral); make further use of economic analysis for setting environmental and sustainable development priorities;
- further integrate environmental concerns into sectoral policies (e.g. energy, transport, agriculture) through strategic environmental assessment and development of market-based mechanisms; further implement policy and measures to improve energy efficiency;
- strengthen institutional co-operation between departments and between federal and regional governments, in particular as regards the environment-energy interface;
- conduct a comprehensive review of climate mitigation measures beyond the EU emission trading scheme.

### *Integration of environmental and social decisions*

Innovative pricing and financing instruments now help ensure access for all to essential environmental services such as water services. Water pricing differentiates between (low-priced) essential uses and (high-priced) luxury uses. Belgium can be considered to be fully implementing the right to water in its internal legislation. People in need will not be disconnected and the price of water will be affordable to poor households. Wallonia will introduce a tax on billed public water supply to finance development assistance in the water sector. Concerning environmental information, environmental data collection and publication improved substantially at regional and federal levels, leading to high quality environmental reporting, to more evidence-based and outcome-oriented environmental governance, and to performance-oriented planning. Concerning environmental awareness and related action, much has been done at federal, regional, community and local levels, including: communication campaigns, financial transfers to local authorities, voluntary regional-municipal covenants, and support for innovative waste prevention and eco-consumption projects. The voluntary regional-municipal covenants are particularly innovative. Several partnerships with private enterprises, trade unions, local authorities and environmental NGOs have succeeded in improving environmental management. Environmental work by NGOs has often received government financial support. Directly or indirectly, the environmental sector contributes to employment in Belgium, and related jobs increased by about 10% over the review period.

However, access to environmental information is hindered by being so widely dispersed among a multiplicity of sources in the federal, regional and provincial administrations. Citizens also need to be better informed about their rights concerning access to information and to courts in environmental matters. Public consultation could be improved by allowing more time to take comments into account. Environmental education could be further improved, especially at higher education levels (e.g. university level), to increase eco-consumption. Energy efficiency and use of public transportation could be increased. Available information on the impact of environmental policy on employment in Belgium is not sufficient to support a better integration of environmental and employment policies.

#### Recommendations:

- continue to improve access for all to environmental information, and improve the comparability of information among regions;
- increase citizens' access to justice in environmental matters;
- implement the user-pays principle for environmental services (water, waste) while continuing to give access to these services to the poor; consider extending fiscal incentives for energy-saving building insulation;
- continue to develop environmental education, particularly at higher education levels;
- continue to develop partnerships with NGOs and further involve local volunteers in managing protected areas, including in densely populated areas;
- further analyse the impacts of environmental policy on employment in Belgium.

### *Health and environment*

Belgium has vigorously taken up the challenge posed by the growing concerns about health and environment (e.g. growing numbers of respiratory diseases, asthma, allergies, cancers and obesity). The federal government, regions and communities closely collaborate on environmental health issues and have signed a co-operation agreement with the force of law. At all levels, the governments give importance to science-based assessments, providing information to the population, the precautionary principle, planning

and action. During the review period they adopted the National Environment and Health Action Plan (NEHAP), which will soon include measures on children's environmental health (CEHAP), and established a permanent management structure to carry out joint research and monitoring. The federal government now includes environmental health in its responsibilities for product standards. Brussels-Capital is implementing a noise abatement plan and participates in an international project on air pollution and health. Flanders included environmental health outcomes in its most recent environmental policy plan and has since 2002 been implementing an environmental health action plan; it has also initiated an extensive, ongoing human biomonitoring survey. Wallonia is developing a regional environmental health action plan with a series of indicators and plans to adopt a regional noise abatement plan, as well as a nutrition and health plan. All three regions have established services to provide diagnostic assistance in cases where the indoor environment is suspected of causing health problems. Good work is also being done in public awareness-raising and education about health and environmental issues, including the health benefits of access to nature.

Still, Belgium has yet to marshal all the elements needed to set priorities in this field efficiently. Environmental risk factors are implicated in the main causes of mortality (e.g. cardiovascular diseases, cancer, respiratory diseases). The economic aspects of the environment-health interface, essential to identifying the cost of diseases and the benefits of action, is still largely absent in the research and monitoring now taking place, although public health expenditure represents 9.6% of GDP and is growing. In particular, work is needed on fine and very fine particles in ambient air. The number of annual ozone episodes will need to be brought down substantially if Belgium is to stay within the 25-day maximum set for 2010 by the EU Ozone Directive. Progress is also needed in reducing noise, including that from road transport, railways and airports. Regarding water quality, nitrates in groundwater are a widespread problem as many aquifers show a nitrate content close to the limit of 50 mg per litre. High pesticide concentrations in some aquifers also pose problems for the drinking water supply. Pesticide use per unit of agricultural area remains the highest in OECD-Europe.

Recommendations:

- further develop and firmly implement the NEHAP and CEHAP; specify appropriate environmental health outcomes and incorporate these in the plans of all governments;
- build on the current co-operation among federal, regional and community entities to address environmental health issues; in particular, strengthen research on and monitoring of the link between exposure to environmental conditions and human health, including multi-factorial effects;
- analyse the costs and benefits of environmental health policies;
- ensure that data collection efforts focus on policy-relevant information and establish mechanisms to transfer policy-relevant research to policy makers; consider extending the Flemish biomonitoring programme to cover the whole country;
- continue to strengthen the possibility for the public to make balanced decisions on health and environment, e.g. through education, product labelling and information campaigns;
- place greater emphasis on public access to green urban areas in land-use planning policies.

### **3. International Co-operation**

In recent years, Belgium has improved its record in ratifying international agreements and in transposing EU Directives, and has reduced delays in ratification processes as a result of enhanced co-ordination between federal and regional authorities on international issues. Concerning marine issues, Belgium initiated “sea-use planning” and the creation of marine parks in its newly designated exclusive

economic zone, following ratification of the Law of the Sea in 1999. Aerial surveillance of illegal discharges at sea was extended (Bonn Protocol); the control of ships calling at Belgian ports was improved to comply with the Paris Memorandum of Understanding on port state control; and efforts were made to strengthen oil spill preparedness, response and control. Concerning trade, with a very open economy, Belgium actively promotes multilateral approaches to trade/environment issues, implementation of specific multilateral environmental agreements, and an EU policy to import tropical timber from certified forests. Over the review period, CO<sub>2</sub> emission intensity decreased and Belgium prepared for timely implementation of the new EU emission trading scheme, including by creating a national greenhouse gas registry. A comprehensive national climate plan is being prepared building on a national burden-sharing agreement. Belgium's official development assistance increased from 0.35% of gross national income in 1998 to 0.53% in 2005.

However, integration of climate change objectives in energy policy could be strengthened: the impacts of energy pricing and of the energy mix on mitigation should be further assessed, a CO<sub>2</sub> tax is no longer envisaged, and there is a tendency to rely on buying credits on external markets to comply with Kyoto commitments. CO<sub>2</sub> emission intensity is still high by European standards and efficiency gains could be obtained by enhancing co-ordination of regional climate plans. Nitrogen loads in water bodies remain very high, and Belgium still has difficulty complying with the EU Nitrates Directive and North Sea commitments to reduce land-based sources of pollution. The share of official development assistance devoted to the environment (e.g. water) is low, and efforts should be made to ensure that bilateral and development co-operation by the regions does not erode the national focus on selected countries and sectors. Monitoring and inspection efforts concerning illegal trade (ozone-depleting substances, hazardous waste, endangered species) should be stepped up.

Recommendations:

- adopt and implement the comprehensive National Climate Plan, taking account of the National Allocation Plan, reviewing reliance on buying credits on external markets and other flexibility mechanisms, and maximising synergies between federal, regional and sectoral policies and measures;
- integrate objectives related to climate change in energy and transport policies (e.g. energy efficiency, energy pricing and taxation, transport pricing and taxation);
- enhance protection of marine ecosystems, e.g. through creation of new marine nature reserves; continue efforts to reduce pollutant releases into the North Sea, by increasing urban waste water treatment and reducing agricultural run-off;
- strengthen efforts to prevent illegal trade of ozone-depleting substances and hazardous waste;
- increase the environmental component of official development assistance (e.g. water);
- proceed with pending ratifications, including through better co-ordination among Parliaments.