

# 7

## HEALTH AND ENVIRONMENT\*

### Features

- Public health for all
- Indoor environmental exposure
- Cost-effectiveness of chemical regulations
- Access to green areas for physical exercise

\* The present chapter reviews progress in the last ten years, and particularly since the previous OECD Environmental Performance Review of 1996. It also reviews progress with respect to the health-related objectives under “social and environmental interface” of the 2001 OECD Environmental Strategy.

## Recommendations

The following recommendations are part of the overall conclusions and recommendations of the environmental performance review of Sweden:

- step up measures to meet *environmental and public health objectives*, with appropriate attention to cost-effectiveness and the precautionary principle;
- continue efforts to reduce health risks associated with *indoor air quality*;
- reduce *ambient air concentrations* of fine particles and tropospheric ozone, with due attention to cost-effectiveness;
- continue efforts to limit health risks associated with *exposure to chemicals* (e.g. chemicals in products, including construction materials) in the most cost-effective way possible;
- designate and protect more *green spaces in or near urban areas*, prioritising areas that can offer recreational services while protecting nature;
- develop *environmental health indicators* for monitoring progress towards national objectives and informing policy decisions; further improve *communication with the public* regarding health risks stemming from environmental exposure;
- take steps to more systematically incorporate national-level environmental health priorities into *local-level* planning and action.

## Conclusions

Sweden was one of the first OECD countries to publish a *national environment and health action plan*, and has since integrated its objectives into national policies related to environmental management and public health. Important *results* have been achieved, including reductions in pesticide use, releases of heavy metals to the environment and human intake of hazardous substances such as POPs and lead. Implementation of recent *regulations* on ventilation systems and radon concentrations in buildings has helped reduce health risks posed by indoor air quality, especially in new buildings. Although most objectives have been based purely on concern for public health and the *precautionary principle*, Sweden has used some *economic instruments*, such as a charge on NO<sub>x</sub> and a tax on pesticides, to increase the cost-effectiveness of its policy measures. Improvements in *registration and labelling* of chemical products are expected to translate into reduced health risks from chemical handling and use, albeit probably at high cost. Sweden gives high priority to supporting *scientific research* that explores the links between environmental exposure and health effects, and has contributed to international understanding of a range of environmental health issues, with a special focus on children's health. Also at the

international level, Sweden has shown leadership on chemical management issues and was instrumental in developing the OECD chemicals programme and the recent *Stockholm Convention on POPs*.

Despite this clear progress, Sweden could still take further measures to improve its performance with regard to environmental health, in particular concerning reducing exposure to air pollutants, chemicals and noise and increasing access to green spaces for city dwellers. Systematic attention should be given to *cost-effectiveness* when choosing instruments to achieve environmental health objectives. Limits concerning *exposure to noise* are frequently exceeded in some areas, and the most important source, traffic, is expected to continue to increase. There is a need to improve *communication* with and education of the public concerning perceived health risks, particularly in cases where research has not quantified the extent of real risk (e.g. concerning exposure to electromagnetic radiation). Statistics show that the percentage of *green areas* is declining in municipalities with more than 10 000 inhabitants (where some 84% of the population lives) despite a national objective of increasing urban populations' access to green areas in the interest of *promoting physical exercise and general well-being*. Combined with a more sedentary lifestyle, the decline in access to nature can be expected to contribute to growing public health problems, such as obesity and heart disease.



## 1. Institutional Framework

Environmental factors can affect human health both positively and negatively. Access to nature and green spaces is a priority in Swedish policy as being important to *promoting health and well-being*, in part by helping meet people's need for outdoor physical activity. Swedish policy also seeks to *limit health risks* posed by exposure to pollutants in the environment. Increasing incidence of a range of diseases and ailments has been linked to environmental factors. In particular, increased incidence of allergy and asthma has raised concern about indoor air quality, while rising incidence of testicular and breast cancer has led to concern about exposure to endocrine disruptors.

Overall, environmental health policy in Sweden is strongly guided by the *precautionary principle*. Policy objectives are based on the precautionary approach, with economic analysis of policy options being a secondary concern. *In practice*, this may lead to greater expenditure than might be justified by strict cost-benefit analysis. Another major aim of public health policy in Sweden is assuring equity (Box 7.1).

The overall *economic cost* associated with damage to public health caused by environmental exposure has not been estimated, but National Institute of Public

### Box 7.1 Equity in public health policy

#### *Extended life expectancy, but not for all*

According to the latest Public Health Report (2001), *life expectancy continues to increase* in Sweden: it rose by one year in the first half of the 1980s (the largest increase since the Second World War), and since then men's life expectancy has increased by an additional 3.3 years and women's by 1.9 years. As men's life expectancy has increased more quickly than women's, the difference between the two has diminished from 6.0 to 4.6 years. Part of the net increase is due to the halving of the infant mortality rate since 1983. Life expectancy in Sweden is *among the highest in the OECD*.

However, *improvements in life expectancy and overall health are unevenly shared*. The first Public Health Report (1987) noted that the members of Swedish society with the highest material welfare also enjoyed the best health. Although overall differences in material welfare have decreased over time, illness is still more prevalent among blue-collar workers than among white-collar workers, and the distribution of some other factors raises concern that class differences in health could increase. The fifth Public Health Report (2001) confirmed that social differences in health persist, especially among men. At age 35, male white-collar workers can expect to live two years longer than their blue-collar counterparts. Female white-collar workers have a life expectancy 0.7 years longer than their blue-collar counterparts, and the difference is widening.

#### *Defining an equity-oriented public health policy*

*Reducing public health inequalities* linked to socio-economic status, gender, ethnic background and geography was made a policy priority in 1997. The National Public Health Commission was appointed in 1997, and was asked to define overall public health objectives. It comprised representatives of all seven political parties as well as scientific experts and advisers from national authorities, universities, trade unions and NGOs. In 2000 its final report proposed 18 overarching objectives for national public health policy. Each is linked with specific targets framed in terms of *equitably reducing exposure to health risk factors*. By not linking targets to reduced morbidity or mortality, the commission sought to reduce the prominence of the health care sector in follow-up actions and instead make it easier for various sectors to identify how they could play a role in reducing health risk factors equitably and contributing to general welfare.

Health studies have estimated the annual economic costs of effects of selected pollutants, such as excess lung cancer caused by radon (EUR 15 million) and skin cancer caused by ultraviolet radiation (EUR 87 million). For most people, environmental exposure does not lead to early death but is a nuisance that reduces productivity and overall well-being (Table 7.1).

Table 7.1 Health effects of selected environmental factors in Sweden

Environmental factor	Effects <sup>a</sup>	Impact on public health <sup>b</sup>	Exposure trend <sup>c</sup> /comment
Air pollution	Respiratory tract and cardio-vascular disease	About 10% of population affected	Urban NO <sub>2</sub> levels declining; ozone and PM <sub>10</sub> stable, often exceeding recommended values
	Asthma	Over 1 000 excess hospitalisations per year	
	Lung cancer	200 excess cases of lung cancer per year	
Benzene and other PAHs	Lung cancer	100-200 excess lung cancer cases per year	Benzene levels decreasing; PAH levels stable; acceptable risk levels often exceeded
Radon	Lung cancer	400 excess lung cancer cases per year 350 000 Swedish homes have radon levels exceeding recommended limit	Government promoting improved ventilation in existing homes and higher standards for new construction
Environmental tobacco smoke	Lung cancer and heart disease	30-60 excess cases of lung cancer per year About 1 000 excess myocardial infarctions and heart disease cases	Decreasing due to declining smoking rate, anti-smoking regulations and improvements in indoor ventilation
Waterborne bacteria	Acute gastrointestinal illness	2-10 outbreaks per year affect up to 13 000 persons	Stable
Food-borne bacteria	Acute gastrointestinal illness	About 100 outbreaks per year affect 300 000-500 000 persons	Stable
Cadmium	Kidney damage	About 5 000-10 000 persons affected	Slightly increasing; main sources are diet and respiration of cigarette smoke
Nickel	Contact dermatitis	About 15% of women, 5% of men affected	Exposure increasing; regulation to limit this is expected
Dioxins and PCBs	Impaired immune system and/or reproductive health	Not known, but average intake exceeds proposed tolerable daily level	Declining slowly; high levels in fatty species of Baltic fish
Noise	Broken concentration, stress, high blood pressure	Over 10% of population disturbed by noise in the home at least once per week	Exposure increasing; major sources are road traffic, noise from fans and installations in buildings

a) Major health effects associated with chronic exposure, or acute exposure in the case of two bacterial factors.

b) Estimates based on National Environmental Health Survey and other studies.

c) Observed since 1996.

Source: Adapted from the Environmental Health Report 2001.

### 1.1 Policy objectives

Within its national policies on public health and environmental management, Sweden has formulated a range of *objectives specific to the environment-public health interface* (Table 7.2). In 1997, Sweden published a national environmental health action plan, as called for by the European office of the World Health Organization. The plan identified major environmental health risks, and proposed priorities for

Table 7.2 Selected national objectives related to environment and public health

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#### PUBLIC HEALTH OBJECTIVES<sup>a</sup>

##### Accessible Green Areas for Recreation

- Quiet and safe green areas within 5 – 10 minutes' walk of housing.
- Playgrounds at nurseries and schools that satisfy children's needs for play, movement, stimulation and relaxation.
- Good outdoor facilities near housing for the elderly and disabled.

##### Healthy Indoor and Outdoor Environments

- Reduced exposure to passive smoking.
- Well-ventilated indoor environments.
- High building standards, protecting from radon and providing adequate fresh air and non-toxic environment.

##### Safe Environments and Products

- Adequate safety at home, in traffic and in public places.
- Reduced use of products that are allergenic or hazardous to health.

#### ENVIRONMENTAL QUALITY OBJECTIVES<sup>b</sup>

##### A Good Urban Environment

- Urban areas must provide a good, healthy living environment and contribute to good regional and global environment.
- Natural and cultural assets must be protected.
- Buildings and amenities must be sited and designed in accordance with sound environmental principles.

##### A Non-Toxic Environment

- The environment must be free from human-made or extracted compounds and metals that represent a threat to human health.

##### A Protective Ozone Layer

- Human health must be protected against the harmful effects of UV radiation in the outdoor environment.

##### Clean Air

- Air quality should be maintained at levels that do not inflict damage on human or animal health, plants or cultural assets.

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a) Selected from the 11 set by the National Public Health Commission in 2000.

b) Selected from the 15 set by the parliament in 1999.

Source: National Public Health Commission; SEPA.

mitigating them. In 1999, several of these priorities were incorporated into some of Sweden's 15 *environmental quality objectives* (EQOs): "A Good Urban Environment", "A Non-Toxic Environment", "A Protective Ozone Layer" and "Clean Air" have direct links to health issues, while others have indirect links. Of the 11 *health objectives* formulated in 2000 by the National Public Health Commission, three ("accessible green areas for recreation", "healthy indoor and outdoor environments" and "safe environments and products") directly relate to the environment. The national sustainability strategy (2002) identifies protection of public health as a core strategic area and calls for greater integration of concerns related to health effects in sectoral policies.

While environmental health objectives have traditionally been based on whatever is deemed necessary to protect human health and promote general well-being, without the aid of cost-benefit analysis, in some cases efforts have been made to choose the most *cost-effective measures* to achieve the objectives. Furthermore, in strategic policy analysis, major new activities are subject to analysis of the expected costs and benefits to public health. In practice, estimating the costs of damage to public health from environmental exposure is generally difficult because the time lag between exposure and effect is often long, effects vary depending on the sensitivity of those exposed, and any given effect may have multiple causes. In addition, Sweden's commitment to the *precautionary principle* often necessitates a policy response even before risks have been fully quantified (Box 7.2).

Sweden also gives high priority to national and international *research programmes* focused on environmental risk assessment. Understanding environmental risks affecting children's health has been a particular focus of Swedish research. A *national study assessing children's environmental exposure* and related health conditions is under way. The study analyses the results of a survey that gathered information concerning such factors as the indoor and outdoor environment, health conditions and allergies, noise, odours and dietary habits. To be published in 2005, the study will be the first to make an overall assessment of how environmental exposure affects Swedish children's health.

## 1.2 Responsible institutions

At *national level*, three ministries share responsibility for policy formulation related to environmental health: Health and Social Affairs; Environment; and Agriculture, Food and Fisheries. Their work is accompanied by that of several national boards and agencies responsible for policy analysis and enforcement, such as the National Boards of Health and Welfare, of Agriculture, and of Housing, Building and Planning; the Chemicals Inspectorate; the Swedish Environmental Protection

### Box 7.2 Public health and electromagnetic radiation

The possible *health risks of long-term exposure to elevated levels of non-ionising electromagnetic radiation* have been debated widely in Sweden. The risks of ionising electromagnetic radiation (e.g. X-rays, radioisotopes) have been well documented for decades. At the end of the 1990s, concerns arose about non-ionising electromagnetic radiation with low frequencies (0-3MHz) emitted from sources including high-voltage power lines, transforming stations and some consumer electronic devices. Suspected human health effects include leukaemia and brain tumours. Research has not yet provided clear scientific evidence linking chronic exposure to electromagnetic radiation with specific health effects, although some studies have suggested that children living near high-voltage power lines have an elevated risk of developing leukaemia.

Research on non-ionising electromagnetic radiation with frequencies of 3MHz-300GHz, emitted by personal computers, radio and television transmitters, cellular phones and related infrastructure, radar stations and microwave ovens, has not indicated any health risks. Research into the effects of electromagnetic fields from mobile phone antennas is still in the early stage.

Sweden's "*Safe Radiation Environment*" EQO sets an interim target of identifying risks associated with electromagnetic fields, as far as possible, and designating necessary measures once potential risks have been identified. Additional actions include educating the public about the level of uncertainty regarding the health risks associated with exposure to electromagnetic fields and fostering the establishment of professional networks to exchange information and enhance expertise concerning such risks.

Despite the *high level of uncertainty* regarding the health risks associated with exposure to electromagnetic radiation, the general public has expressed great concern about possible adverse effects. Residents have put pressure on local authorities to take potential health risks into account when making spatial planning decisions. Concerning low-frequency radiation, authorities have applied the *precautionary principle* in spatial planning decisions. In areas where strong electromagnetic fields exist, high-density construction is avoided so as to minimise human exposure. As regards mobile phone antennas, no special measures have been taken, as studies have not confirmed health effects.

Agency (SEPA); and the National Institute of Public Health. The National Board of Health and Welfare bears overall responsibility for health issues related to the EQOs. No specific institution is charged with co-ordinating policy issues dealing with the environment-public health interface, nor is there an agreed set of environmental health indicators for monitoring progress towards national objectives in this area.



Each of Sweden's *municipalities* has a board responsible for translating national environmental health objectives into action. Their work is co-ordinated by county boards. Municipalities are also responsible for supervising implementation of the Environmental Code with regard to environment and health. As the degree of exposure to environmental factors is often related to local circumstances, local authorities are well placed to find and implement solutions. But, in practice, conflicts of interest sometimes arise, as municipal authorities also make planning and permitting decisions regarding development and industrial expansion. Some larger municipalities have sought to increase transparency through *local environment and health programmes*. Stockholm's programme, for example, includes environmental health-related targets; residents can follow progress on the targets via the Internet, and an annual report to the county board is made public. Smaller municipalities lacking Stockholm's resources may need to find alternative solutions.

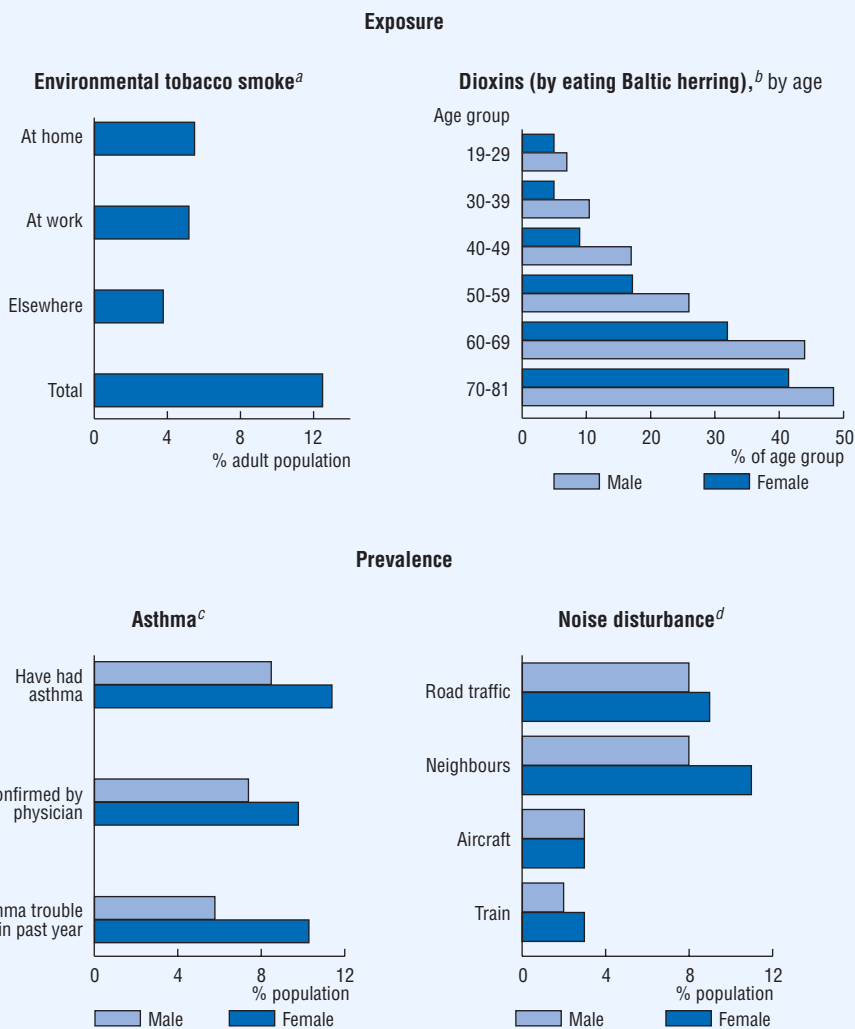
## 2. Air Pollution and Public Health

### 2.1 Outdoor air quality

In recent decades, *outdoor air quality has improved* through stringent emission controls on industrial and energy facilities, incinerators and transport, so harmful outdoor exposure to air pollution has declined. Nevertheless, one in ten respondents to the latest National Environmental Health Survey reported *respiratory health problems* due to chronic exposure to emissions from motor vehicle exhaust or wood burning. The Environmental Health Report 2001 estimates that urban air pollution is responsible for 200 excess cases of *lung cancer* per year. A study for the Institute of Public Health in 2003 linked high concentrations of ground-level ozone with some 2 800 hospital admissions per year for respiratory problems. A 2003 study by the Swedish National Road and Transport Research Institute reviewing health costs associated with air pollution from road transport estimated that chronic exposure to such pollution was responsible for *shortening average life length* by 65 days in Stockholm, or 168 000 years of life lost overall.

The "Clean Air" EQO includes interim targets for reducing specific air pollutants by 2010. Considerable progress has been made through a range of measures including NO<sub>x</sub> charges, fuel quality regulations, promotion of district heating and environmentally differentiated fairway dues for ships (Chapter 8). Since 1996, emissions of NO<sub>x</sub>, SO<sub>x</sub> and VOCs have been reduced considerably (Figure 8.2). SO<sub>x</sub> concentrations already meet environmental standards with regard to health effects. But reaching the target for particles will require additional measures by

Figure 7.1 Selected environmental health indicators



a) % of population aged 19 to 65 exposed daily to others' tobacco smoke.

b) Proportion of population, aged 19 to 81, eating Baltic herring at least once per month; the National Food Administration estimates the dioxin content of Baltic herring to be on average 5.1 pg WHO-TEQ/g fresh weight, whereas the maximum allowable level for EU states is 4 pg WHO-TEQ/g fresh weight.

c) % of population reporting that they have had asthma in their lifetime, that this has been confirmed by a physician's diagnosis or that they have suffered from asthma in the past year.

d) % of population reporting disturbance by noise at least once per week in their homes, by source.

Source: National Environmental Health Survey; National Food Administration.

local authorities aimed at road traffic and wood burning, the two largest sources of exposure to *fine particles* (PM<sub>10</sub>). SEPA expects the 2010 target for fine particles to be met at rooftop level but not at street level, the more important zone in terms of human exposure. The 2010 target for *ground-level ozone* will also be difficult to achieve, as international action is required to reduce emissions of precursor pollutants. Although the NO<sub>x</sub> charge imposed on large combustion plants since 1992 has helped reduce emissions from stationary sources, meeting the 2010 target for NO<sub>x</sub> will depend crucially on reducing emissions from mobile sources (e.g. through increased use of pollution control devices on road vehicles, ships and aeroplanes). Reductions of NO<sub>x</sub> emissions thus far are mainly attributed to reduced vehicle emissions due to technical developments, including the catalytic converter for passenger cars.

Local authorities operate *air management systems* that monitor local air quality. The information gathered helps identify the most important air pollution sources, but also helps alert the public when ambient levels might pose unacceptable health risks. Some municipal websites have begun posting data concerning ambient air pollution levels for specific locations, and giving relevant advice for sensitive groups (asthmatic or allergic individuals). Stockholm was a pioneer of such an information system.

## 2.2 Indoor air quality

*Indoor air* quality is of prime importance to public health because people in Sweden spend most of their time indoors (about 90% in winter), whether at home or in offices. About one million people are estimated to suffer some respiratory symptoms stemming from poor indoor air quality, and nearly 25% of the population reports having had asthma at some time (Figure 7.1). Almost 40% of *schoolchildren* have an allergy or other type of hypersensitivity; many experts hypothesize a link with indoor air quality (Box 7.3).

The main health risks in the indoor environment stem from *exposure to chemicals, radon, tobacco smoke, mould and dampness*. The Radon Commission estimates that indoor radon levels exceed 200 Bq/m<sup>3</sup> in 350 000 Swedish homes, necessitating special ventilation systems. Despite the declining rate of smoking, exposure to environmental tobacco smoke, or so-called second-hand smoke, remains a major health risk factor in the indoor environment, with 13% of the population exposed every day (Figure 7.1). Persons exposed to tobacco smoke are more sensitive to the effects of radon, and typically have higher than average body burdens of cadmium and nickel.

### Box 7.3 Incidence of environment- and lifestyle-related disease

The incidence of a number of illnesses that are aggravated by environmental and lifestyle factors has grown significantly in recent years. In particular, *asthma*, *allergies and other forms of hypersensitivity* have skyrocketed in the past decade, particularly among children and youth. Juvenile (type 1) *diabetes*, another disorder of the immune system, has also increased substantially since 1990, particularly among very young children. The causes have not been established, but the increasing incidence at younger ages suggests that environmental factors and/or lifestyle play a part.

*Smoking* remains the greatest health risk factor in Sweden, contributing to an estimated 80% of all lung cancer cases. Encouragingly, the rate of smoking has declined in all socio-economic groups and for both sexes since the early 1980s. Sweden has the EU's smallest proportion of daily smokers among men, although recent studies indicate that certain groups (e.g. young immigrant men) continue to smoke a lot. Among native-born Swedish men, older men smoke more than younger men. The proportion of women daily smokers started to decline much later than for men; as a result, lung cancer incidence in this group is still rising, and is expected to continue doing so for the next decade or two. Besides the direct health effects, smoking increases sensitivity to certain other air pollutants; for example, of the 400 lung cancer cases tied to exposure to radon annually, some 320 are thought to have been worsened by the fact that the patient smoked or was chronically exposed to tobacco smoke.

People who are *overweight* are more likely to suffer from *high blood pressure*, *heart disease and strokes*. Excess body weight is increasingly prevalent in Sweden, especially among children and young adults, probably as a result of more sedentary lifestyles and changes in eating habits. The proportion of overweight people has increased in all socio-economic groups since the early 1980s. Obesity (weighing more than 20% above the average for age, height and bone structure) is slightly more common among women than among men. Obesity increases the risk of cancer and other disorders in certain internal organs and has been associated with increased incidence of cardiovascular disease and adult onset (type 2) diabetes.

To improve indoor air quality, the government has set as an interim target the elimination of health risks in the built environment. This target focuses on ensuring that *ventilation systems* in homes, schools and pre-schools are functional and effective. Since the early 1990s the government has made subsidies available to homeowners in high radon concentration areas, covering up to 50% of radon reduction costs. Under the 1992 Act on Compulsory Ventilation Inspection, local authorities periodically carry out inspections to verify that systems satisfy building permit specifications. When violations are detected, building owners are held personally liable.

Under the Planning and Building Act and the Act on Technical Requirements for Construction Works, new buildings must be designed so as to meet *air, light and water quality standards* defined with reference to general health requirements. Construction standards in Sweden are very high, and have been continually adjusted upwards through *joint initiatives*. In 1998, for instance, construction companies, municipalities and the government signed a voluntary agreement aimed at developing a sustainable building and property sector. The agreement included priorities for improving the indoor environment. Another joint initiative, the Indoors 99 information campaign, was effective in encouraging measures to improve indoor air quality while raising awareness of scientific evidence linking indoor environmental factors to health effects. Evidence from two studies, on “Children, Allergies and the Environment” and “Dampness in Buildings and Health”, supported these efforts.

### 3. Noise

According to the National Environmental Health Survey, more than 10% of the population suffers from noise disturbance at home at least once a week, and 20% are regularly exposed to noise levels exceeding outdoor limits. The main source of noise is road traffic, and urban populations are the most affected. Up to 5% of those chronically exposed to high noise levels (especially those living on major thoroughfares) suffer from high blood pressure. In general, though, high noise levels simply reduce the overall sense of well-being and lower overall productivity by disturbing concentration and sleep. Studies have indicated that *children and youth* are more sensitive to high noise levels, which can lead to slower learning and to long-term hearing damage or tinnitus.

The “Good Built Environment” EQO has an *interim target concerning noise*: “by 2010 the number of people who are exposed to *traffic noise* in dwellings will have been reduced by 5% compared with 1998” (i.e. from 20% to 19% of the population). A similar target is set in Sweden’s sustainable transport programme. Although the 5% reduction target may not appear ambitious, the probability of meeting it is low, since road traffic is still strongly on the upswing. To reduce noise in existing dwellings, a 1996-2007 action programme focuses on sound insulation in the worst-affected housing areas. The programme has supported installation of sound-proof windows and facades and the construction of sound barriers for housing developments along heavily travelled roads. Information on the programme’s costs and benefits was unavailable for this review.

## 4. Chemicals and Health

### 4.1 National level

#### *Objective and policy measures*

The “*Non-Toxic Environment*” EQO aims to reduce levels of chemicals in the environment to natural levels. In absolute terms this will be very difficult, as many industrial chemicals are dispersed in the Swedish environment and the transboundary contribution is significant. Furthermore, production of chemicals has increased sharply worldwide over the last 50 years and is still rising. Sweden’s overall production has grown more than tenfold since 1950. The Swedish chemical industry is a net importer, however, and chemical products account for one-eighth of all imports in terms of value.

Sweden has achieved *impressive progress* towards meeting this EQO. In particular, health risks associated with several heavy metals (e.g. mercury, lead) have been greatly reduced (Chapter 8). Progress has also been made in reducing the presence of persistent organic pollutants (POPs) and pesticides in the food chain, though some concerns remain.

The Chemicals Inspectorate’s product register shows that Swedish companies make or import more than 64 000 chemical products annually. In 1999, Sweden set interim targets requiring action from the *chemical manufacturing and importing industry*. These are: 1) characterising the health and environmental toxicity of chemicals; 2) providing information concerning the health and environmental risks of products containing chemicals; 3) phasing out particularly hazardous substances; 4) continuously reducing environmental and health risks associated with chemicals; 5) establishing guideline values for environmental quality; and 6) remediating contaminated sites.

The targets require the *industry to provide extensive data* about hazards to human health and the environment posed by the substances it produces. European chemical manufacturers have expressed concern that the *costs of testing* required to satisfy the targets could be high. As a small market, which primarily relies on imported chemicals, Sweden has worked at EU and international levels to raise the issue of manufacturers’ responsibility for generating knowledge on all commercially available chemicals. In this context, Sweden considers the EU’s proposed chemicals strategy, REACH, to be a significant step towards its own interim targets.

*Health effects of exposure to chemicals* depend on the level of exposure, the individual’s sensitivity, the pathway and the dose. Possible effects include cancer, impaired reproductive capacity, birth defects, skin reactions and acute illness. In

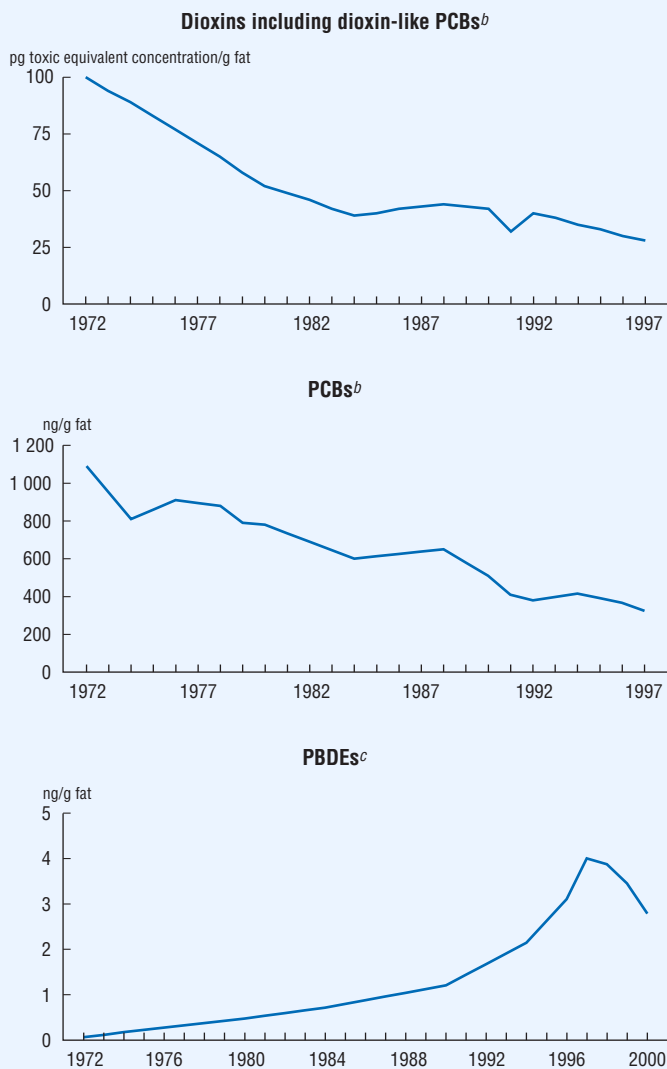
setting “maximum allowable levels” for chemicals in the environment, Sweden seeks to protect particularly sensitive groups, such as *children*, from adverse effects. The Chemicals Inspectorate sets regulations to protect against health risks stemming from direct exposure (via use or consumption) or indirect exposure (via chemicals existing in the environment), depending on the substances involved. The economic benefits of such policies are not systematically calculated.

### *Results achieved*

*Industry and agriculture* account for about 80% of the chemicals used in Sweden. Sweden has been a front-runner in reducing environmental and health risks from pesticides and antifouling products through application of the *precautionary principle*, the *substitution principle* and the *producer responsibility principle*. In 1986, Sweden adopted a programme to reduce the health and environmental risks associated with agricultural pesticide use. One of its goals was to halve pesticide use (by weight of active ingredient) within five years. This initial goal was achieved, and in 1990 the parliament adopted a bill requiring a further 50% reduction. This was also achieved, through a package of measures including a *pesticide tax* of about EUR 3 per kilogram of active ingredient to discourage overuse (Chapter 5). At the same time, research results on optimal use of herbicides and on integrated pest management were disseminated to farmers. All farm workers were required to undergo training to become *certified users* of pesticides.

Although *households* account for less than 20% of the chemicals used in Sweden, many of the public health risks related to chemicals stem from household use. The most common effects include poisoning through ingestion and irritation of skin or eyes due to contact. As the range of chemicals routinely used has expanded, the number of calls to the Swedish Poisons Information Centre has grown by some 30% since 1995, to more than 70 000 calls in 2003. Most concern health effects from chemicals, and about half concern children under age ten.

Ingestion of chemicals is a particular concern in babies, as it can disrupt the development of the brain and other organs. The *presence of POPs in breast milk* is a particular concern, as Sweden has the highest breastfeeding rate in the OECD. Sweden’s extensive time-series data show that average concentrations of *dioxins and PCBs* in breast milk have declined substantially since the 1970s, in line with regulatory control of these substances. From 1972 to 1997, however, the level in breast milk of polybrominated diphenyl ethers (PBDEs, compounds widely used as flame retardants that are structurally similar to PCBs) grew exponentially. In response, Sweden initiated a voluntary phase-out of penta-PBDE in 1997, followed by a ban from July 2003. Recent studies by the Karolinska Institute show that these

Figure 7.2 POPs<sup>a</sup> in mothers' milk, 1972-2000

- a) Persistent organic pollutants.  
 b) Polychlorinated biphenyls.  
 c) Polybrominated diphenyl ethers.

Source: Karolinska Institute.



measures have started to yield results in terms of reduced PBDE levels in breast milk (Figure 7.2).

## 4.2 International level

Sweden is an international leader in the field of chemical management, where its policies have long had a *strong international influence*. Recent examples include the *Stockholm Convention on POPs*, the current *OECD chemicals programme* and that of the EU. Sweden's position is partly due to public health concerns related to bioaccumulation of POPs, whose biological breakdown is slowed by the cold climate. A significant proportion of the POPs in the Swedish environment, especially in Arctic areas, comes from *transboundary pollution*. Hence, Sweden has pushed internationally for stricter regulation of chemicals and greater co-operation in their management (Chapter 8).

While Sweden supports *REACH*, the proposed EU legislation on chemicals, it would like specific mention of the precautionary principle and the substitution principal, as well as tighter requirements concerning risk assessments on lower-volume chemicals (less than 10 tonnes a year). The director of the Chemicals Inspectorate has said that REACH is a prerequisite if Sweden is to achieve its "Non-Toxic Environment" EQO. The chemical manufacturing and importing industry, while adopting a co-operative attitude, argues that ways must be found to reduce compliance costs, perhaps by focusing testing on the chemicals thought to be the most toxic.

Through *international collaboration and research*, Sweden seeks to encourage other countries to set ambitious targets for substances with adverse effects on health. Research into the risk of *endocrine disruption* posed by *pharmaceutical by-products* in the environment is a priority; possible links to the increasing incidence of breast and testicular cancer are being explored.

## 5. Access to Nature and Green Spaces

In the interest of *promoting general well-being*, Sweden's environmental health policy seeks to accentuate the health benefits that the environment can have. In particular, assuring access to nature and providing green areas suitable for recreation in urban areas is a policy priority. Public health statistics confirm trends towards less physical exercise and increasing obesity, which raise the risk of ill health and premature death. Other studies have shown that people who have green areas, such as

parks and forests, within a reachable distance from their homes report a higher sense of well-being and participate more frequently in outdoor activities.

*Free access to nature* is a deeply ingrained cultural tradition in Sweden, and landowners generally cannot refuse people the right to cross their land (Chapter 6). To a certain extent, the legal framework also guarantees individuals and private groups the right to camp and make recreational use of natural resources on private land. Preserving these rights is important. As urban expansion has continued, however, the *proportion of undeveloped green areas has declined* in most settlements of more than 10 000 inhabitants. Some 84% of the Swedish population now lives in urban areas.

Recent Swedish *policy objectives* emphasise the links between nature conservation, outdoor activities and public health, for instance in the 2002 policy on nature conservation (Chapter 4). Related *EQOs* and other targets include “A Good Urban Environment”, “healthy forests” and “safeguarding social and cultural assets of forestland”. Three related *public health targets* are “ensuring access to green spaces”, “healthy, safe environments and products” and “increased physical activity”. Efforts to assure access to green space, conserve a varied agricultural landscape and restore the biological and cultural assets of farmland are similarly related.

*SEPA's Outdoor Recreation Council* provides financial support to associations that contribute to the maintenance and use of green spaces. The government has also charged the country's three largest *urban regions* (Stockholm, Göteborg and Malmö) with devising a programme for protection and administration of urban green spaces for recreation and nature conservation. The *Stockholm region* has proposed that 71 new nature reserves be established. The first urban national park was created to guarantee protection of green areas and recreational possibilities close to Stockholm residents' homes. The park includes green areas, built areas and recreation areas; further development is prohibited through voluntary agreements. *Other urban regions* are trying to follow Stockholm's example but are likely to have only limited success unless voluntary agreements are accompanied by financial compensation for forgone development opportunities. County boards may also encounter difficulties in designating such areas, since municipalities are generally the owners of green areas and thus have the ultimate say about whether a park or nature area is to be protected or designated as a special recreation area.

## **REFERENCES**

- I.A Selected environmental data
- I.B Selected economic data
- I.C Selected social data
- II.A Selected multilateral agreements (worldwide)
- II.B Selected multilateral agreements (regional)
- III. Abbreviations
- IV. Physical context
- V. Selected environmental events (1996-2003)
- VI. Selected environmental Web sites

**I.A: SELECTED ENVIRONMENTAL DATA (1)**

	CAN	MEX	USA	JPN	KOR	AUS	NZL	AUT	BEL	CZE	DNK	FIN	
<b>LAND</b>													
Total area (1000 km <sup>2</sup> )		9971	1958	9629	378	99	7713	270	84	31	79	43	338
Major protected areas (% of total area)	2	9.9	9.2	24.9	17.2	7.1	9.9	29.6	36.4	3.4	15.9	37.2	9.1
Nitrogenous fertiliser use (t/km <sup>2</sup> of arable land)		3.7	5.0	6.1	11.3	19.5	1.9	65.6	8.5	17.6	9.3	8.7	6.7
Pesticide use (t/km <sup>2</sup> of arable land)		0.10	0.14	0.18	1.52	1.44	0.06	0.82	0.21	1.10	0.14	0.12	0.07
<b>FOREST</b>													
Forest area (% of land area)		45.3	33.4	32.6	66.8	65.2	19.4	29.5	47.6	22.2	34.1	10.5	75.5
Use of forest resources (harvest/growth)		0.4	0.2	0.6	0.3	0.1	0.6	0.6	0.7	0.9	0.7	0.6	0.8
Tropical wood imports (USD/cap.)	3	1.6	0.2	2.2	10.7	6.1	4.0	3.4	0.4	24.2	0.3	3.8	1.4
<b>THREATENED SPECIES</b>													
Mammals (% of species known)		32.6	33.2	10.5	24.0	17.0	23.2	15.2	26.2	31.6	33.3	22.0	11.9
Birds (% of species known)		13.1	16.9	7.2	12.9	14.1	12.1	25.3	26.0	27.5	55.9	13.2	13.3
Fish (% of species known)		7.5	5.7	2.4	24.0	1.3	0.7	0.8	41.7	54.3	29.2	15.8	11.8
<b>WATER</b>													
Water withdrawal (% of gross annual availability)		1.5	15.5	19.0	20.3	33.9	6.2	..	4.2	45.1	11.9	4.4	2.1
Public waste water treatment (% of population served)		72	25	71	64	70	..	80	86	38	70	89	81
Fish catches (% of world catches)		1.0	1.4	5.0	5.3	1.9	0.2	0.6	-	-	-	1.6	0.2
<b>AIR</b>													
Emissions of sulphur oxides (kg/cap.)		80.0	12.2	62.7	6.9	24.8	95.7	11.5	5.0	20.1	25.8	5.2	14.6
(kg/1000 USD GDP)	4	2.9	1.6	2.0	0.3	2.1	4.1	0.7	0.2	0.9	2.0	0.2	0.6
% change (1990-late 1990s)		-22	..	-20	-3	-29	-4	20	-55	-37	-86	-85	-71
Emissions of nitrogen oxides (kg/cap.)		89.7	12.0	84.4	13.1	23.4	135.1	53.1	22.6	35.7	38.6	38.9	45.6
(kg/1000 USD GDP)	4	3.3	1.6	2.7	0.5	2.0	5.7	3.1	0.9	1.5	2.9	1.5	1.9
% change (1990-late 1990s)		-6	18	5	-	17	17	18	-9	16	-47	-25	-21
Emissions of carbon dioxide (t/cap.)	5	16.5	3.7	19.9	9.3	9.4	18.0	8.7	8.4	11.8	12.0	9.6	11.5
(t./1000 USD GDP)	4	0.61	0.45	0.63	0.37	0.66	0.74	0.46	0.34	0.47	0.88	0.37	0.49
% change (1990-2001)		22	24	17	13	88	34	45	17	14	-18	4	12
<b>WASTE GENERATED</b>													
Industrial waste (kg/1000 USD GDP)	4, 6	..	50	..	40	60	110	30	80	60	70	20	150
Municipal waste (kg/cap.)	7	350	310	760	410	360	690	380	560	550	330	660	460
Nuclear waste (t./Mtoe of TPES)	8	5.0	0.3	0.9	1.9	3.2	-	-	-	2.3	0.9	-	2.1

.. not available. - nil or negligible. x data included under Belgium.

1) Data refer to the latest available year. They include provisional figures and Secretariat estimates.

Partial totals are underlined. Varying definitions can limit comparability across countries.

2) IUCN management categories I-VI and protected areas without IUCN category assignment; national classifications may differ.

3) Total imports of cork and wood from non-OECD tropical countries.

4) GDP at 1995 prices and purchasing power parities.

Source: OECD Environmental Data Compendium.

## OECD EPR / SECOND CYCLE

FRA	DEU	GRC	HUN	ISL	IRL	ITA	LUX	NLD	NOR	POL	PRT	SLO	ESP	SWE	CHE	TUR	UKD*	OECD*
549	357	132	93	103	70	301	3	42	324	313	92	49	506	<b>450</b>	41	779	245	35042
13.3	35.7	5.2	8.9	9.5	2.4	12.1	17.1	25.3	6.5	23.6	7.3	22.4	9.6	<b>8.0</b>	28.7	4.1	10.9	14.6
12.8	14.9	6.6	4.2	9.8	38.6	7.6	x	29.5	11.2	6.0	4.0	5.1	5.8	<b>7.1</b>	10.4	4.2	19.1	6.3
0.44	0.24	0.30	0.15	-	0.24	0.70	0.63	0.89	0.09	0.07	0.53	0.25	0.21	<b>0.06</b>	0.33	0.09	<i>0.52</i>	<i>0.20</i>
31.4	30.1	22.8	18.9	1.3	8.8	23.3	34.4	9.2	39.2	29.7	37.9	42.2	32.3	<b>73.5</b>	31.7	26.9	10.5	33.9
0.7	0.4	0.6	0.6	-	0.6	0.3	0.5	0.6	0.5	0.6	0.8	0.5	0.5	<b>0.7</b>	0.5	0.4	0.7	<u>0.5</u>
6.8	1.8	2.8	0.1	2.8	11.2	7.1	-	15.6	3.6	0.3	17.6	0.1	6.2	<b>2.2</b>	0.6	0.5	2.7	4.0
19.7	36.7	37.9	71.1	-	6.5	40.7	51.6	15.6	3.4	14.6	17.3	22.2	21.2	<b>22.4</b>	34.2	22.2	<i>21.9</i>	..
14.3	29.2	13.0	18.8	34.7	21.8	18.4	50.0	27.1	7.7	14.7	13.7	14.4	14.1	<b>19.1</b>	42.6	6.7	<i>6.4</i>	..
7.5	68.2	24.3	32.1	-	33.3	31.8	27.9	82.1	-	9.6	18.6	23.8	29.4	<b>16.4</b>	44.7	9.9	<i>11.1</i>	..
16.2	20.2	14.7	4.7	0.1	..	32.1	3.7	9.9	0.7	18.6	15.1	1.4	34.7	<b>1.5</b>	4.8	17.0	<i>20.8</i>	<i>11.4</i>
77	93	56	32	33	73	63	95	98	73	55	42	53	55	<b>86</b>	96	17	<i>95</i>	<u>64</u>
0.6	0.2	0.1	-	2.1	0.3	0.3	-	0.5	2.9	0.2	0.2	-	1.0	<b>0.4</b>	-	0.5	0.8	27.4
14.3	10.1	51.4	57.6	33.4	42.2	16.0	7.1	5.7	6.4	39.1	37.0	33.2	35.4	<b>6.8</b>	3.9	33.0	19.9	32.6
0.7	0.4	3.7	5.7	1.3	1.7	0.8	0.2	0.2	0.2	4.3	2.4	3.2	1.9	<b>0.3</b>	0.1	5.3	1.0	1.5
-34	-84	7	-41	14	-14	-46	-79	-55	-46	-53	4	-67	-35	<b>-43</b>	-35	..	-68	-34
28.3	19.9	36.3	21.6	91.7	32.2	25.8	38.8	26.6	53.7	21.7	36.5	24.1	34.5	<b>28.2</b>	14.8	14.1	26.9	41.0
1.3	0.9	2.6	2.1	3.5	1.4	1.2	0.9	1.1	2.0	2.4	2.4	2.3	1.9	<b>1.2</b>	0.6	2.3	1.3	1.9
-12	-40	17	-7	-2	3	-24	-27	-27	6	-35	17	-43	11	<b>-25</b>	-32	48	-42	-4
6.3	10.5	8.2	5.5	7.4	11.0	7.3	19.0	11.0	7.8	7.7	5.7	7.5	7.1	<b>5.4</b>	6.3	2.8	9.3	11.1
0.27	0.45	0.53	0.48	0.27	0.38	0.33	0.44	0.44	0.28	0.85	0.35	0.67	0.39	<b>0.22</b>	0.23	0.49	0.43	0.51
2	-11	27	-17	5	31	7	-19	13	24	-16	48	-28	35	-	6	38	-2	13
80	30	50	20	1	60	20	130	30	30	160	80	80	40	<b>100</b>	10	30	40	70
510	540	430	450	700	560	500	640	610	620	290	440	320	650	<b>450</b>	650	390	560	540
4.3	1.2	-	1.5	-	-	-	-	0.2	-	-	-	3.1	1.1	<b>4.4</b>	2.2	-	3.5	1.5

UKD: pesticides and threatened species: Great Britain; water withdrawal and public waste water treatment plants: England and Wales.

5) CO<sub>2</sub> from energy use only; international marine and aviation bunkers are excluded.

6) Waste from manufacturing industries.

7) CAN, NZL: household waste only.

8) Waste from spent fuel arising in nuclear power plants, in tonnes of heavy metal, per million tonnes of oil equivalent of total primary energy supply.

**I.B: SELECTED ECONOMIC DATA (1)**

	CAN	MEX	USA	JPN	KOR	AUS	NZL	AUT	BEL	CZE	DNK
<b>GROSS DOMESTIC PRODUCT</b>											
GDP, 2002 (billion USD at 1995 prices and PPPs)	845	808	9039	3159	675	475	73	199	256	140	139
% change (1990-2002)	38.8	41.3	40.7	16.3	99.2	49.3	40.9	29.0	25.6	6.4	29.7
per capita, 2002 (1000 USD/cap.)	27.8	8.0	32.1	24.9	15.1	25.0	19.5	24.7	25.1	14.0	26.3
Exports, 2002 (% of GDP)	41.2	27.2	9.7	11.1	40.0	20.6	34.0	52.1	81.5	65.2	44.2
<b>INDUSTRY</b> 2											
Value added in industry (% of GDP)	32	27	23	31	43	26	25	32	27	40	27
Industrial production: % change (1990-2002)	37.3	42.5	42.6	-7.7	152.4	30.3	24.4	46.6	14.1	-11.1	35.8
<b>AGRICULTURE</b>											
Value added in agriculture (% of GDP)	3	3	4	2	1	4	4	7	2	1	4
Agricultural production: % change (1990-2002)	9.7	34.7	18.5	-9.8	32.7	10.7	35.2	6.5	20.2	..	2.2
Livestock population, 2002 (million head of sheep eq.)	109	279	790	54	27	283	99	17	30	14	25
<b>ENERGY</b>											
Total supply, 2001 (Mtoe)	248	152	2281	521	195	116	18	31	59	41	20
% change (1990-2001)	18.7	22.8	18.4	19.3	110.4	32.1	30.5	22.7	21.2	-12.7	12.3
Energy intensity, 2001 (toe/1000 USD GDP)	0.29	0.19	0.25	0.16	0.29	0.24	0.25	0.15	0.23	0.30	0.14
% change (1990-2001)	-11.6	-12.3	-13.8	2.9	12.3	-8.4	-3.0	-3.9	-2.9	-16.3	-12.0
Structure of energy supply, 2001 (%)	4										
Solid fuels	12.3	5.1	23.9	19.2	22.1	47.9	7.0	12.2	13.2	49.9	21.2
Oil	35.5	60.8	39.6	49.2	51.9	28.7	34.3	42.8	41.7	19.9	44.0
Gas	28.6	22.4	22.7	12.4	9.6	17.6	29.1	22.6	22.6	19.0	23.3
Nuclear	8.0	1.5	9.2	16.0	15.0	-	-	-	20.7	9.1	-
Hydro, etc.	15.6	10.2	4.5	3.1	1.4	5.8	29.7	22.4	1.7	2.1	11.5
<b>ROAD TRANSPORT</b> 5											
Road traffic volumes per capita, 1999 (1000 veh.-km/cap.)	9.4	0.6	15.8	6.0	1.8	9.3	7.9	7.8	8.7	3.1	8.4
Road vehicle stock, 1999 (10 000 vehicles)	1784	1459	21533	7003	1116	1199	231	485	512	373	223
% change (1990-1999)	7.8	47.7	14.1	24.0	228.9	22.7	25.2	31.3	20.2	43.7	17.9
per capita (veh./100 inh.)	58	15	79	55	24	63	60	60	50	36	42

.. not available. - nil or negligible. x data included under Belgium.

- 1) Data may include provisional figures and Secretariat estimates. Partial totals are underlined.
- 2) Value added: includes mining and quarrying, manufacturing, gas, electricity and water and construction; production: excludes construction.

Source: OECD Environmental Data Compendium.

## OECD EPR / SECOND CYCLE

FIN	FRA	DEU	GRC	HUN	ISL	IRL	ITA	LUX	NLD	NOR	POL	PRT	SLO	ESP	SWE	CHE	TUR	UKD	OECD
123	1401	1922	165	117	8	110	1292	19	399	125	352	168	59	740	<b>216</b>	199	390	1295	24908
25.1	24.1	21.9	36.2	15.8	32.1	125.2	19.8	70.8	35.4	47.7	46.3	34.6	23.0	36.2	<b>25.0</b>	10.0	41.7	30.8	33.0
24.0	23.8	23.3	16.1	11.9	26.4	30.0	22.3	43.5	24.9	27.8	9.2	16.2	11.5	18.6	<b>24.7</b>	27.4	6.0	21.9	22.1
38.1	27.3	35.5	20.5	54.9	39.7	93.7	26.9	146.6	61.7	41.8	29.6	30.1	72.8	28.5	<b>43.3</b>	42.7	28.8	25.8	21.4
32	25	30	23	31	27	42	29	20	26	38	30	29	32	30	<b>28</b>	27	31	26	29
68.5	18.0	12.7	14.6	67.8	..	284.4	12.6	30.1	20.3	40.7	66.6	22.3	8.1	21.5	<b>36.2</b>	19.1	52.6	6.2	<u>24.0</u>
4	3	1	7	4	9	3	3	1	3	2	3	4	5	3	<b>2</b>	1	12	1	3
-9.9	5.4	-5.9	13.6	-22.6	9.5	4.1	5.3	x	-4.9	-14.3	-14.3	0.7	..	15.0	<b>-10.4</b>	-6.0	12.9	-7.9	..
8	162	123	20	13	1	54	72	x	43	9	58	19	7	99	<b>13</b>	12	112	114	2667
34	266	351	29	25	3	15	172	4	77	27	91	25	19	127	<b>51</b>	28	72	235	5333
15.9	16.9	-1.4	29.4	-11.0	54.8	41.7	12.7	7.4	16.1	23.8	-9.3	44.1	-12.6	39.7	<b>9.4</b>	11.6	36.7	10.8	18.1
0.27	0.19	0.18	0.17	0.22	0.44	0.14	0.13	0.20	0.19	0.21	0.26	0.15	0.31	0.17	<b>0.24</b>	0.14	0.19	0.18	0.21
-5.8	-4.7	-19.0	-1.3	-20.6	16.4	-33.3	-5.6	-36.8	-14.0	-15.3	-37.2	7.6	-25.9	4.6	<b>-10.8</b>	1.5	4.0	-13.7	-9.6
18.5	4.7	24.2	32.7	14.4	2.7	17.5	8.0	3.3	11.0	3.6	61.1	12.9	23.3	14.7	<b>5.4</b>	0.5	28.4	17.0	20.8
28.6	34.5	38.3	56.7	26.4	24.4	56.9	51.6	74.2	38.9	30.7	22.5	64.2	16.4	52.8	<b>27.3</b>	48.0	40.1	34.8	40.8
11.2	13.5	21.5	5.9	42.7	-	23.9	34.6	20.7	46.9	20.6	11.4	9.1	32.4	12.9	<b>1.5</b>	8.8	18.5	37.1	21.3
18.0	40.4	12.7	-	14.7	-	-	-	-	1.4	-	-	-	23.7	13.1	<b>36.5</b>	24.2	-	10.0	11.2
23.6	6.8	3.1	4.8	1.7	72.9	1.7	5.9	1.8	1.8	45.0	5.0	13.7	4.3	6.5	<b>29.2</b>	18.5	13.0	1.2	5.9
8.9	8.4	7.4	7.3	3.4	6.5	8.3	8.0	8.9	7.0	7.2	4.5	5.6	2.2	4.2	<b>8.4</b>	7.2	0.8	7.8	8.0
240	3309	4503	389	271	17	148	3545	31	675	225	1104	461	141	2048	<b>424</b>	376	548	2909	57281
7.6	16.3	20.7	54.1	12.7	27.3	55.8	15.9	40.2	17.7	16.0	72.6	109.5	..	41.8	<b>7.9</b>	13.9	132.1	15.4	<u>21.7</u>
47	56	55	37	26	62	39	61	71	43	51	29	45	26	52	<b>48</b>	53	8	49	51

3) Agriculture, forestry, hunting, fishery, etc.

4) Breakdown excludes electricity trade.

5) Refers to motor vehicles with four or more wheels, except for Italy, which include three-wheeled goods vehicles.

**I.C: SELECTED SOCIAL DATA (1)**

	CAN	MEX	USA	JPN	KOR	AUS	NZL	AUT	BEL	CZE	DNK
<b>POPULATION</b>											
Total population, 2002 (100 000 inh.)	311	1001	2855	1273	473	195	39	81	103	103	54
% change (1990-2002)	13.4	24.8	15.5	3.2	11.1	15.2	17.1	5.5	3.0	-1.6	4.5
Population density, 2002 (inh./km <sup>2</sup> )	3.2	51.8	30.0	337.3	480.0	2.5	14.6	97.1	335.8	129.3	124.7
Ageing index, 2001 (over 64/under 15)	67.1	17.0	58.4	125.1	36.3	61.0	52.4	92.5	94.5	84.4	79.3
<b>HEALTH</b>											
Women life expectancy at birth, 2001 (years)	82.0	77.1	79.5	84.9	79.2	82.4	80.8	81.7	80.8	78.5	79.0
Infant mortality, 2001 (deaths / 1 000 live births)	5.3	21.4	6.9	3.1	6.2	5.3	5.8	4.8	5.0	4.0	4.9
Expenditure, 2001 (% of GDP)	9.7	6.6	13.9	7.6	5.9	8.9	8.1	7.9	9.0	7.3	8.6
<b>INCOME AND POVERTY</b>											
GDP per capita, 2002 (1000 USD/cap.)	27.8	8.0	32.1	24.9	15.1	25.0	19.5	24.7	25.1	14.0	26.3
Poverty (% pop. < 50% median income)	10.3	21.9	17.0	8.1	..	9.3	..	7.4	7.8	..	5.0
Inequality (Gini levels)	2	28.5	52.6	34.4	26.0	..	30.5	25.6	26.1	27.2	..
Minimum to median wages, 2000	3	42.5	21.1	36.4	32.7	25.2	57.7	46.3	x	49.2	32.3
<b>EMPLOYMENT</b>											
Unemployment rate, 2002 (% of total labour force)	7.7	2.7	5.8	5.4	3.0	6.3	5.2	5.3	7.3	7.3	4.5
Labour force participation rate, 2002 (% 15-64 year-olds)	78.6	55.6	76.1	77.5	65.9	75.5	76.7	77.5	66.9	71.6	79.9
Employment in agriculture, 2001 (%)	4	2.9	17.6	2.4	4.9	10.3	4.9	9.1	5.7	2.2	4.8
<b>EDUCATION</b>											
Education, 2001 (% 25-64 year-olds)	5	81.9	21.6	87.7	83.1	68.0	58.9	75.7	77.0	59.5	86.2
Expenditure, 2000 (% of GDP)	6	6.4	5.5	7.0	4.6	7.1	6.0	5.8	5.7	5.5	4.6
<b>OFFICIAL DEVELOPMENT ASSISTANCE</b>											
ODA, 2002 (% of GNI)	7	0.28	..	0.13	0.23	..	0.26	0.22	0.26	0.43	..
ODA, 2002 (USD/cap.)	64	..	46	73	..	50	31	64	104	..	306

.. not available. - nil or negligible. x not applicable.

1) Data may include provisional figures and Secretariat estimates. Partial totals are underlined.

2) Ranging from 0 (equal) to 100 (inequal) income distribution; figures relate to total disposable income (including all incomes, taxes and benefits) for the entire population.

3) Minimum wage as a percentage of median earnings including overtime pay and bonuses.

Source: OECD.



## OECD EPR / SECOND CYCLE

FIN	FRA	DEU	GRC	HUN	ISL	IRL	ITA	LUX	NLD	NOR	POL	PRT	SLO	ESP	<b>SWE</b>	CHE	TUR	UKD	OECD
52	592	823	106	102	3	38	579	4	160	45	386	103	54	403	<b>89</b>	72	686	600	11386
4.3	4.9	3.9	5.6	-1.9	12.9	11.2	2.4	15.5	7.7	7.0	1.3	5.1	1.5	4.4	<b>4.3</b>	8.6	24.0	4.7	10.1
15.4	108.3	231.0	80.7	109.3	2.8	55.4	192.7	171.7	387.8	14.0	123.5	112.8	109.7	80.1	<b>19.8</b>	176.6	89.4	246.0	32.7
84.4	86.2	116.3	111.9	92.4	50.0	52.2	124.9	74.6	73.0	75.0	67.0	90.7	60.2	116.3	<b>100.1</b>	95.6	18.4	82.3	65.9
81.5	83.0	80.7	80.7	76.5	82.2	79.2	82.9	81.3	80.6	81.4	78.4	80.3	77.6	82.9	<b>82.1</b>	82.8	70.9	80.4	..
3.2	4.6	4.5	5.9	8.1	2.7	5.8	4.3	5.9	5.3	3.8	7.7	5.0	6.2	3.9	<b>3.7</b>	4.9	33.0	5.5	..
7.0	9.5	10.7	9.4	6.8	9.2	6.5	8.6	5.6	8.9	8.0	6.3	9.2	5.7	7.5	<b>8.7</b>	10.9	4.8	7.6	..
24.0	23.8	23.3	16.1	11.9	26.4	30.0	22.3	43.5	24.9	27.8	9.2	16.2	11.5	18.6	<b>24.7</b>	27.4	6.0	21.9	22.1
4.9	7.5	9.4	13.8	7.3	..	11.0	14.2	..	6.3	10.0	..	..	..	..	<b>6.4</b>	6.2	16.2	10.9	..
22.8	27.8	28.2	33.6	28.3	..	32.4	34.5	..	25.5	25.6	..	..	..	..	<b>23.0</b>	26.9	49.1	32.4	..
x	60.8	x	51.3	37.2	x	55.8	x	48.9	47.1	x	35.5	38.2	..	31.8	<b>x</b>	x	..	41.7	..
9.1	8.9	7.8	10.0	5.9	3.1	4.2	9.1	3.0	2.5	4.0	19.9	5.1	18.6	11.4	<b>4.0</b>	2.8	10.6	5.2	6.9
74.8	69.9	75.8	63.3	59.2	86.7	70.1	61.4	66.3	66.9	80.6	64.2	76.3	69.6	67.6	<b>76.4</b>	85.8	49.8	75.7	70.8
5.7	3.7	2.6	16.0	6.3	7.8	7.0	5.3	1.4	2.9	3.9	19.1	12.7	6.1	6.4	<b>2.3</b>	4.2	32.6	1.4	6.6
73.8	63.9	82.6	51.4	70.2	56.9	57.6	43.3	52.7	65.1	85.8	45.9	19.9	85.1	40.0	<b>80.6</b>	87.4	24.3	63.0	64.3
5.6	6.1	5.3	4.0	5.0	6.3	4.6	4.9	..	4.7	5.9	5.2	5.7	4.2	4.9	<b>6.5</b>	5.7	3.4	5.3	<u>5.5</u>
0.35	0.38	0.27	0.21	..	..	0.40	0.20	0.77	0.81	0.89	..	0.27	..	0.26	<b>0.83</b>	0.32	..	0.31	0.23
89	92	65	26	..	..	102	40	330	207	374	..	31	..	42	<b>223</b>	129	..	82	68

4) Civil employment in agriculture, forestry and fishing.

5) Upper secondary or higher education; OECD: average of rates.

6) Public and private expenditure on educational institutions; OECD: average of rates.

7) Official Development Assistance by Member countries of the OECD Development Assistance Committee.

## II.A: SELECTED MULTILATERAL AGREEMENTS (WORLDWIDE)

Y = in force S = signed R = ratified D = denounced

			CAN	MEX	USA	JPN
1946	Washington	Conv. - Regulation of whaling	Y	D	R	R
1956	Washington	Protocol	Y	R	R	R
1949	Geneva	Conv. - Road traffic	Y	R	R	R
1954	London	Conv. - Prevention of pollution of the sea by oil	Y	R	R	R
1971	London	Amendments to convention (protection of the Great Barrier Reef)			R	
1957	Brussels	Conv. - Limitation of the liability of owners of sea-going ships	Y	S		D
1979	Brussels	Protocol	Y			
1958	Geneva	Conv. - Fishing and conservation of the living resources of the high seas	Y	S	R	R
1960	Geneva	Conv. - Protection of workers against ionising radiations (ILO 115)	Y		R	R
1962	Brussels	Conv. - Liability of operators of nuclear ships				
1963	Vienna	Conv. - Civil liability for nuclear damage	Y		R	
1988	Vienna	Joint protocol relating to the application of the Vienna Convention and the Paris Convention	Y			
1997	Vienna	Protocol to amend the Vienna convention	Y			
1963	Moscow	Treaty - Banning nuclear weapon tests in the atmosphere, in outer space and under water	Y	R	R	R
1964	Copenhagen	Conv. - International council for the exploration of the sea	Y	R		R
1970	Copenhagen	Protocol	Y	R	R	R
1969	Brussels	Conv. - Intervention on the high seas in cases of oil pollution casualties (INTERVENTION)	Y	R	R	R
1973	London	Protocol (pollution by substances other than oil)	Y		R	R
1969	Brussels	Conv. - Civil liability for oil pollution damage (CLC)	Y	D	D	S
1976	London	Protocol	Y	R	R	R
1992	London	Protocol	Y	R	R	R
1970	Bern	Conv. - Transport of goods by rail (CIM)	Y			
1971	Brussels	Conv. - International fund for compensation for oil pollution damage (FUND)	Y	D	D	S
1976	London	Protocol	Y	R	R	R
1992	London	Protocol (replaces the 1971 Convention)	Y	R	R	R
2000	London	Amendment to protocol (limits of compensation)	Y	R	R	R
2003	London	Protocol (supplementary fund)				
1971	Brussels	Conv. - Civil liability in maritime carriage of nuclear material	Y			
1971	London, Moscow, Washington	Conv. - Prohib. emplacement of nuclear and mass destruct. weapons on sea-bed, ocean floor and subsoil	Y	R	R	R
1971	Ramsar	Conv. - Wetlands of international importance especially as waterfowl habitat	Y	R	R	R
1982	Paris	Protocol	Y	R	R	R
1987	Regina	Regina amendment	Y	R	R	R
1971	Geneva	Conv. - Protection against hazards of poisoning arising from benzene (ILO 136)	Y			
1972	London, Mexico, Moscow, Washington	Conv. - Prevention of marine pollution by dumping of wastes and other matter (LC)	Y	R	R	R
1996	London	Protocol to the Conv. - Prevention of marine poll. by dumping of wastes and other matter		R		S

OECD EPR / SECOND CYCLE

Y = in force S = signed R = ratified D = denounced

KOR	AUS	NZL	AUT	BEL	CZE	DNK	FIN	FRA	DEU	GRC	HUN	ISL	IRL	ITA	LUX	NLD	NOR	POL	PRT	SLO	ESP	SWE	CHE	TUR	UKD	EU
R	R	R	R			R	R	R	R			D	R	R		R	R					R	R	R		R
R	R	R				R		R	R			R	R	R		R	R					R	R	R		R
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	S	R	R
R	R	R	R	R		R	R	R	R	R		R	R	R		R	R					R	R	R		R
R	R					R	R	R	R	R				R		R							R	R		R
D			D		D	D	D	D			R		S	R	D	D	R	R				R	D	R		D
R			R			S		S						R			R	R				R	R			D
R	S		R		R	R	R				S	S			R							R	R	R		R
			R	R	R	R	R	R	R	R				R		R	R	R	R	R	R	R	R	R	R	R
			S				S					S			R											
				R							R										R	R	S			S
			S	R	R	R	S	S	S	S				R		R	R	R	S	R	S	R	S	S	S	S
			S							S				S					S							
R	R	R	R	R	R	R	R		R	R	R	R	R	R	R	R	R	R	R	R	S	R	R	R	R	R
			R		R	R	R	R			R	R				R	R	R	R			R	R			R
			R		R	R	R	R			R	R				R	R	R	R			R	R			R
S	R	R		R		R	R	R	R	S		R	R	R		R	R	R	R	R	R	R	R	R		R
	R	S		R		R	R	R	R			R	R			R	R	R	R			R	R	R		R
D	D	D		D		D	D	D	D	D		D	D	D	R	D	D	D	R			D	D	D		D
R	R		R		R	R	R	R	R		R	D	R	R	R	R	R	R	R	R			R	R	R	D
R	R	R		R		R	R	R	R	R		R	R	R		R	R	R	R			R	R	R		R
			R	R	R	R	R	R	R	R	R			R	R	R	R	R	R	R	R	R	R	R	R	R
D	D	D		D		D	D	D	D	D		D	D	D		D	D	D	R			D	D	D		D
	R		R		R	R	R	R	R		R	D	R		R	R	R	R	R			R	R			D
R	R	R		R		R	R	R	R	R		R	R	R		R	R	R	R			R	R	R		R
R	R	R		R		R	R	R	R	R		R	R	R		R	R	R	R			R	R			R
				R		R	R	R	R					R								R	R			R
R	R	R		R		R	R	R	R	R		R	R	R		R	R	R	R			R	R	R		R
	R	R		S		R	S	R	R		R	R			S	R						R	R	R		R

**II.A: SELECTED MULTILATERAL AGREEMENTS (WORLDWIDE) (cont.)**

Y = in force S = signed R = ratified D = denounced

		CAN MEX USA JPN					
1972	Geneva	Conv. - Protection of new varieties of plants (revised)	Y	R	R	R	R
1978	Geneva	Amendments	Y	R	R	R	R
1991	Geneva	Amendments	Y			R	R
1972	Geneva	Conv. - Safe container (CSC)	Y	R	R	R	R
1972	London, Moscow, Washington	Conv. - International liability for damage caused by space objects	Y	R	R	R	R
1972	Paris	Conv. - Protection of the world cultural and natural heritage	Y	R	R	R	R
1973	Washington	Conv. - International trade in endangered species of wild fauna and flora (CITES)	Y	R	R	R	R
1974	Geneva	Conv. - Prev. and control of occup. hazards caused by carcinog. subst. and agents (ILO 139)	Y				R
1976	London	Conv. - Limitation of liability for maritime claims (LLMC)	Y		R		R
1996	London	Amendment to convention	Y	S			
1977	Geneva	Conv. - Protection of workers against occupational hazards in the working environment due to air pollution, noise and vibration (ILO 148)	Y				
1978	London	Protocol - Prevention of pollution from ships (MARPOL PROT)	Y	R	R	R	R
1978	London	Annex III	Y			R	R
1978	London	Annex IV	Y				R
1978	London	Annex V	Y		R	R	R
1997	London	Annex VI	Y				
1979	Bonn	Conv. - Conservation of migratory species of wild animals	Y				
1991	London	Agreem. - Conservation of bats in Europe	Y				
1992	New York	Agreem. - Conservation of small cetaceans of the Baltic and the North Seas (ASCOBANS)	Y				
1996	Monaco	Agreem. - Conservation of cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area	Y				
1996	The Hague	Agreem. - Conservation of African-Eurasian migratory waterbirds	Y				
1982	Montego Bay	Conv. - Law of the sea	Y	R	R		R
1994	New York	Agreem. - relating to the implementation of part XI of the convention	Y	R		S	R
1995	New York	Agreem. - Implementation of the provisions of the convention relating to the conservation and management of straddling fish stocks and highly migratory fish stocks	Y	R		R	S
1983	Geneva	Agreem. - Tropical timber	Y	R		R	R
1994	New York	Revised agreem. - Tropical timber	Y	R		R	R
1985	Vienna	Conv. - Protection of the ozone layer	Y	R	R	R	R
1987	Montreal	Protocol (substances that deplete the ozone layer)	Y	R	R	R	R
1990	London	Amendment to protocol	Y	R	R	R	R
1992	Copenhagen	Amendment to protocol	Y	R	R	R	R
1997	Montreal	Amendment to protocol	Y	R		R	R
1999	Beijing	Amendment to protocol	Y	R		R	R

OECD EPR / SECOND CYCLE

Y = in force S = signed R = ratified D = denounced

KOR	AUS	NZL	AUT	BEL	CZE	DNK	FIN	FRA	DEU	GRC	HUN	ISL	IRL	ITA	LUX	NLD	NOR	POL	PRT	SLO	ESP	SWE	CHE	TUR	UKD	EU
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
R	R	R	R		R	R	R	R	R		R		R	R		R	R	R	R	R		R	R			R
R	R				R	R	R		R		R				R		R				R	R				R
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	S	S	R
R	R	R	R	R	R	R	R	R	R	R	R	S	R	R	R	R	S	R			R	R	R	R		R
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
					R	R	R	R	R		R	R	R	R		R		R	R	R		R	R			R
					R	R		R	R	R	R		R			R	R	R			R	R	R	R	R	R
					R		R	R	S	R					S	R						R		R		R
					R	R	R	R	R	R	R		R			R	R	R	R	R	R	R	R	R		R
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
R					R	R	R	R	R	R	R					R		R	R	R		R	R			R
R	R				R	R	R	R	R	R	R		R			R	R	R	R	R	R	R	R	R	R	R
					S	R	R	R	R	R	R		R		R	R	R	R	R	R	R	R	R	R		R
					R	R	R	R	R		R					R		R	R	R		R		R		R
								S	S					S		R	R			S	R					R
					S		R	R	R	R	S	R		S		R	R				R	R	R	R	R	R
R	R	R	R	R	R	R	S	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	S		R
R	R	R	R	R	R	R	S	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	S		R
S	R	R	R	R		R	R	R	R	R		R	R	R	R	R		R			R	R	R			R
R	R	R	R	R		R	R	R	R	R		R	R	R	R	R		R			R	R	R	R		R
R	R	R	R	R		R	R	R	R	R		R	R	R	R	R		R			R	R	R	R		R
R	R	R	R	R		R	R	R	R	R		R	R	R	R	R		R			R	R	R	R		R
R	R	R	R	R		R	R	R	R	R		R	R	R	R	R		R			R	R	R	R		R
R	R	R	R	R		R	R	R	R	R		R	R	R	R	R		R			R	R	R	R		R
R	R	R	R	R	S	R	R	R	R	R		R	R	R	R	R		R			R	R	R	R		R
R					R	R	R	R	R		R				R	R	R				R	R	R	R		R

**II.A: SELECTED MULTILATERAL AGREEMENTS (WORLDWIDE) (cont.)**

Y = in force S = signed R = ratified D = denounced

			CAN	MEX	USA	JPN
1986	Vienna	Conv. - Early notification of a nuclear accident	Y	R	R	R
1986	Vienna	Conv. - Assistance in the case of a nuclear accident or radiological emergency	Y	R	R	R
1989	Basel	Conv. - Control of transboundary movements of hazardous wastes and their disposal	Y	R	R	S
1995	Geneva	Amendment				
1999	Basel	Prot. - Liability and compensation for damage				
1989	London	Conv. - Salvage	Y	R	R	R
1990	Geneva	Conv. - Safety in the use of chemicals at work (ILO 170)	Y		R	
1990	London	Conv. - Oil pollution preparedness, response and co-operation (OPRC)	Y	R	R	R
2000	London	Protocol - Pollution incidents by hazardous and noxious substances (OPRC-HNS)				
1992	Rio de Janeiro	Conv. - Biological diversity	Y	R	R	S
2000	Montreal	Prot. - Biosafety (Cartagena)	Y	S	R	R
1992	New York	Conv. - Framework convention on climate change	Y	R	R	R
1997	Kyoto	Protocol		R	R	S
1993	Paris	Conv. - Prohibition of the development, production, stockpiling and use of chemical weapons and their destruction	Y	R	R	S
1993	Geneva	Conv. - Prevention of major industrial accidents (ILO 174)	Y			
1993		Agreem. - Promote compliance with international conservation and management measures by fishing vessels on the high seas	Y	R	R	R
1994	Vienna	Conv. - Nuclear safety	Y	R	R	R
1994	Paris	Conv. - Combat desertification in those countries experiencing serious drought and/or desertification, particularly in Africa	Y	R	R	R
1995	Rome	Code of conduct on responsible fishing				
1996	London	Conv. - Liability and compensation for damage in connection with the carriage of hazardous and noxious substances by sea (HNS)		S		
2000	London	Protocol - Pollution incidents by hazardous and noxious substances (OPRC-HNS)				
1997	Vienna	Conv. - Supplementary compensation for nuclear damage				S
1997	Vienna	Conv. - Joint convention on the safety of spent fuel management and on the safety of radioactive waste management	Y	R		R
1997	New York	Conv. - Law of the non-navigational uses of international watercourses				
1998	Rotterdam	Conv. - Prior informed consent procedure for hazardous chemicals and pesticides (PIC)	Y	R		S
2001	London	Conv. - Civil liability for bunker oil pollution damage				S
2001	London	Conv. - Control of harmful anti-fouling systems on ships				S
2001	Stockholm	Conv. - Persistent organic pollutants	Y	R	R	S

Source: IUCN; OECD.

OECD EPR / SECOND CYCLE

Y = in force S = signed R = ratified D = denounced

KOR	AUS	NZL	AUT	BEL	CZE	DNK	FIN	FRA	DEU	GRC	HUN	ISL	IRL	ITA	LUX	NLD	NOR	POL	PRT	SLO	ESP	SWE	CHE	TUR	UKD	EU
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
R	R	R	R	R	R	S	R	R	R	R	R	S	R	R	R	R	S	R	R	R	R	R	R	R	R	R
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
			R	R	R	R	R	R	R						R	R	R	R	R	R	R	R	R	R	R	R
					S	S	S			S				S								S	S		S	
	R	R				R	S	R	R	R		R	R	R		R	R	S			S	R	R		R	
R													R			R						R				
R	R	R				R	R	R	R	R		R	R	R		R	R				R	R	R		R	
					S	S	S	S	R						R		R					R				
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
S		S	R	S	R	R	S	R	S	S	R	S	R	S	R	R	R	R	S	R	R	R	R	R	R	R
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
R	S	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
S	R	R	R	R	R	R	R	R	R	R	R	S	R	R	S	R	R	R	R	R	S	R	R	R	S	S
					S										R							R				
R																	R					R				R
R	R		R	R	R	R	R	R	R	R	R	S	R	R	R	R	R	R	R	R	R	R	R	R	R	R
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
					S	S		S							S	S						S			S	
					S	S	S	S	R						R		R					R				
S				S											S											
R	R		R	R	R	R	R	R	R	R	R		R	S	R	R	R	R		R	R	R	R		R	
						R	S	R							S	R	R		S			R				
R	S	R	R	R	R	R	S	R	R	R	R			R	R	R	R		S		R	R	R	S	S	R
															S							R	S			
S						R	S								R							R				
S	S	S	R	S	R	R	R	R	R	S	S	R	S	S	R	R	R	S	S	R	S	R	R	S	S	S

**II.B: SELECTED MULTILATERAL AGREEMENTS (REGIONAL)**

Y = in force S = signed R = ratified D = denounced

		CAN MEX USA JPN			
1940	Washington	Conv. - Nature protection and wild life preservation in the Western Hemisphere	Y	R	R
1946	London	Conv. - Regulation of the meshes of fishing nets and the size limits of fish	Y		
1958	Dublin	Amendments	Y		
1960	London	Amendments	Y		
1961	Copenhagen	Amendments	Y		
1962	Hamburg	Amendments	Y		
1963	London	Amendments	Y		
1950	Paris	Conv. - Protection of birds	Y		
1957	Geneva	Agreem. - International carriage of dangerous goods by road (ADR)	Y		
1975	New York	Protocol	Y		
1958	Geneva	Agreem. - Adoption of uniform conditions of approval and reciprocal recognition of approval for Y motor vehicle equipments and parts	Y		
1959	Washington	Treaty - Antarctic	Y	R	R R
1991	Madrid	Protocol to the Antarctic treaty (environmental protection)	Y	S	R R
1960	Paris	Conv. - Third party liability in the field of nuclear energy	Y		
1963	Brussels	Supplementary convention	Y		
1964	Paris	Additional protocol to the convention	Y		
1964	Paris	Additional protocol to the supplementary convention	Y		
1982	Brussels	Protocol amending the convention	Y		
1982	Brussels	Protocol amending the supplementary convention	Y		
1988	Vienna	Joint protocol relating to the application of the Vienna Convention and the Paris Convention	Y		
1962	Stockholm	Agreem. - Protection of the salmon in the Baltic Sea	Y		
1972	Stockholm	Protocol	Y		
1964	London	Conv. - Fisheries	Y		
1967	London	Conv. - Conduct of fishing operations in the North Atlantic	Y	S	S
1968	Paris	Conv. - Protection of animals during international transport	Y		
1979	Strasbourg	Protocol	Y		
1969	London	Conv. - Protection of the archaeological heritage	Y		
1972	London	Conv. - Conservation of Antarctic seals	Y	R	R R
1973	Oslo	Agreem. - Conservation of polar bears	Y	R	R
1973	Gdansk	Conv. - Fishing and conservation of the living resources in the Baltic Sea and the Belts	Y		
1982	Warsaw	Amendments	Y		
1974	Stockholm	Conv. - Nordic environmental protection	Y		
1992	Paris	Conv. - Protection of North-East Atlantic marine env. (replace Oslo-1972 and Paris-1974)	Y		
1992	Helsinki	Conv. - Protection of the marine environment of the Baltic Sea area	Y		
1979	Bern	Conv. - Conservation of European wildlife and natural habitats	Y		
1979	Geneva	Conv. - Long-range transboundary air pollution	Y	R	R
1984	Geneva	Protocol (financing of EMEP)	Y	R	R
1985	Helsinki	Protocol (reduction of sulphur emissions or their transboundary fluxes by at least 30%)	Y	R	
1988	Sofia	Protocol (control of emissions of nitrogen oxides or their transboundary fluxes)	Y	R	R
1991	Geneva	Protocol (control of emissions of volatile organic compounds or their transboundary fluxes)	Y	S	S
1994	Oslo	Protocol (further reduction of sulphur emissions)	Y	R	
1998	Aarhus	Protocol (heavy metals)	Y	R	R
1998	Aarhus	Protocol (persistent organic pollutants)	Y	R	S
1999	Gothenburg	Protocol (abate acidification, eutrophication and ground-level ozone)		S	S





**II.B: SELECTED MULTILATERAL AGREEMENTS (REGIONAL) (cont.)**

Y = in force S = signed R = ratified D = denounced

		CAN	MEX	USA	JPN
1980	Madrid	Conv. - Transfrontier co-operation between territorial communities or authorities		Y	
1995	Strasbourg	Additional protocol		Y	
1998	Strasbourg	Second protocol		Y	
1980	Canberra	Conv. - Conservation of Antarctic marine living resources		Y R	R R
1982	Paris	Memorandum of understanding on port state control		Y R	
1982	Reykjavik	Conv. - Conservation of salmon in the North Atlantic Ocean		Y R	R
1983	Bonn	Agreem. - Co-operation in dealing with poll. of the North Sea by oil and other harmful subst.		Y	
1989	Bonn	Amendment		Y	
1989	Stockholm	Agreem. - Transboundary co-operation with a view to preventing or limiting harmful effects for human beings, property or the environment in the event of accidents		Y	
1991	Espoo	Conv. - Environmental impact assessment in a transboundary context		Y R	S
1992	Helsinki	Conv. - Transboundary effects of industrial accidents		Y S	S
1992	Helsinki	Conv. - Protection and use of transboundary water courses and international lakes		Y	
1999	London	Prot. - Water and health			
1992	La Valette	European Conv. - Protection of the archaeological heritage (revised)		Y	
1993	Copenhagen	Agreem. - Co-op. in the prevention of marine poll. from oil and other dangerous chemicals		Y	
1994	Lisbon	Treaty - Energy Charter		Y	S
1994	Lisbon	Protocol (energy efficiency and related environmental aspects)		Y	S
1998	Aarhus	Conv. - Access to env. information and public participation in env. decision-making		Y	
2003	Kiev	Prot. - Pollutant Release and Transfer Registers (PRTR)			
1998	Strasbourg	Conv. - Protection of the environment through criminal law			
2000	Florence	Conv. - European landscape convention			

Source: IUCN; OECD.

OECD EPR / SECOND CYCLE

Y = in force S = signed R = ratified D = denounced

KOR	AUS	NZL	AUT	BEL	CZE	DNK	FIN	FRA	DEU	GRC	HUN	ISL	IRL	ITA	LUX	NLD	NOR	POL	PRT	SLO	ESP	SWE	CHE	TUR	UKD	EU	
			R	R	R	R	R	R	R		R	S	R	R	R	R	R	R	R	R	R	R	R	R	R	R	
			S	S				R	R			S		S	R	R			S	R		R	R				
							S	R			S			R	R				S	R		R	S				
R	R	R		R			R	R	R	R				R	R	R	R					R	R		R	R	
			R		R	R	R	R	R		R	R	R		R	R	R	R				R	R		R		
					R	R					R					R						D			R		
			R		R		R	R							R	R						R			R	R	
			R		R		R	R							R	R						R			R	R	
					R	R										R						R					
			R	R	R	R	R	R	R	R	R	S	R	R	R	R	R	R	R	R	R	R	R	R	R	R	
			R	S	R	R	R	S	R	R	R	R		R	R	S	R	S	S	S		R	R	R	S	R	
			R	R	R	R	R	R	R	R	R			R	R	R	R	R	R	R	R	R	R	R	R	S	R
			S	R	S	S	S	S	S	S	R	S		S	R	S	S	S	S	S	S	R	S	S	S	S	
			S	R	S	R	R	S	S	R		R	S	S	S	S	R	R	R	R	R	S	R	R	R	R	
					R	R					R					R						R					
S			R	R	R	R	R	R	R	R	R	S	R	R	R	R	S	R	R	R	R	R	R	R	R	R	
S			R	R	R	R	R	R	R	R	R	S	R	R	R	R	S	R	R	R	R	R	R	R	R	R	
			S	R	S	R	S	R	S	S	R	S	S	R	S	S	R	R	R		S	S	S		S	S	
			S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	
			S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	
			S		S	S	S		S				S	S			R	S	S		S	S	S	S			

## Reference III

### ABBREVIATIONS

BOD	Biochemical oxygen demand
CFC	Chlorofluorocarbon
CGIAR	Consultative Group on International Agriculture Research
CHP	Combined heat and power
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
COD	Chemical oxygen demand
EIA	Environmental impact assessment
EMAS	Eco-Management and Audit Scheme (of the European Union)
EMS	Environmental management system
EPR	Environmental Performance Review
EQO	Environmental quality objective
EU	European Union
FAO	Food and Agriculture Organization (UN)
GDP	Gross domestic product
GHG	Greenhouse gas
GNI	Gross national income
HELCOM	Helsinki Commission
IBSFC	International Baltic Sea Fishery Commission
ICES	International Council for the Exploration of the Sea
IPPC	Integrated pollution prevention and control
IMO	International Maritime Organization
ISO	International Organisation for Standardization
ITTO	International Tropical Timber Organization
IUCN	International Union for the Conservation of Nature (now the World Conservation Union)
LPG	Liquefied petroleum gas
MARPOL	International Convention for the Prevention of Pollution from Ships
Mtoe	Million tonnes of oil equivalent
NGO	Non-governmental organisation
NMVO	Non-methane volatile organic compound
NUTEK	Swedish Business Development Agency
ODA	Official development assistance

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ODS	Ozone-depleting substance(s)
OSPAR	Oslo-Paris Convention for the Protection of the Marine Environment of the North-East Atlantic
PAC	Pollution abatement and control
PAH	Polycyclic aromatic hydrocarbon
PBDE	Polybrominated diphenyls ether
PCB	Polychlorinated biphenyls
PM	Particulate matter
POP	Persistent organic pollutant
SEPA	Swedish Environmental Protection Agency
SIDA	Swedish International Development Co-operation Agency
TAC	Total allowable catch
UNECE	UN Economic Commission for Europe
UNEP	UN Environment Programme
VOC	Volatile organic compound

## Reference IV

### PHYSICAL CONTEXT

Sweden is *one of the largest countries in Western Europe*, with a total area of 450 000 km<sup>2</sup>. It occupies about two-thirds of the Scandinavian peninsula and extends for about 1 600 km from the southern Baltic to north of the Arctic Circle; its coastline measures more than 2 700 km. The Swedish countryside is dotted with more than 83 000 lakes, and thousands of islands are located off its jagged coast. Most of the land is relatively flat, but a long mountain chain in the north-west reaches heights of up to 2 111 metres.

About 68% of Sweden's *land area* (411 620 km<sup>2</sup>) is covered with forests and other wooded land. About 3% is built-up area. Some 8% is farmland, enough to make the country self-sufficient in most farm products. A further 12% consists of mires (bogs and fens). Lakes cover close to 40 000 km<sup>2</sup>. Many moose, deer, foxes and other *wildlife* can be found in much of the country, and about 230 000 reindeer roam northern Sweden. Under the Swedish right of common access to private land (*allemansrätten*), anyone may hike through forests and fields to gather berries and mushrooms.

Vast *forests* of spruce, pine and other softwood trees supply a highly developed sawmill, pulp, paper and finished wood product industry. About 85% of the paper and market pulp output and 75% of sawn timber products are exported. The state owns some 3% of the forest area. Other *natural resources* are water power, iron ore, uranium and other minerals. Sweden lacks significant oil and coal deposits. The only iron mines still in production are in the far north; their output is mainly exported. A number of mines with sulphide ores are found in central and northern Sweden.

Cheap hydropower was a major factor in the country's industrial development. Today around 32% of Sweden's total energy supply of 47 Mtoe comes from hydropower; many of the plants are on northern rivers. Eleven *nuclear* reactors supply a further 32%. The rest of the energy supply is imported oil (28.6%), solid fuels (5.5%) and gas (1.5%). After a 1980 referendum, the Riksdag, Sweden's parliament, voted to phase out the use of nuclear power by 2010, but that target was abandoned in 1997. One reactor, Barsebäck 1, has been closed so far.

## Reference V

### SELECTED ENVIRONMENTAL EVENTS (1996-2003)

#### 1996

- A government commission examining environmental research recommends that, in the next bill on the subject, the government should propose a new direction for environmental research with more emphasis on social aspects as well as science.
- The Prime minister announces that Sweden ambition is to accomplish the greening of the welfare state. Sustainability incorporated into the longstanding “People’s Home” concept of consensus politics aimed at reducing economic disparities, redistributing wealth and carrying out welfare reforms.
- The Transport Policy Commission presents a ten year investment plan for road and rail, including an environmentally sound transport system.
- At the Visby summit, regional Prime ministers establish “Baltic 21”, an Agenda 21 for the Baltic Sea region.
- Sweden’s 25th national park, Tresticklan, with almost 3 000 hectares of virgin forest, is established on the border with Norway.
- UNESCO adds two Swedish sites to its World Heritage list: the Church Town of Gammelstad, in the northern municipality of Luleå, and the Laponian area (Lapland).
- A new tax on extraction of natural gravel enters into force.
- A Government Bill proposes a CO<sub>2</sub> tax of SEK 0.37 per kg emitted, with some exemptions for energy-intensive production.
- The government proposes decreasing the 1997 budget of the Swedish Environmental Protection Agency (SEPA) to SEK 230 million, including SEK 170 million for research and SEK 40 million for purchases of nature areas.
- Several government agencies are requested to participate in a pilot project on ISO 14000 environmental management systems.

## 1997

- The government presents the first Communication to the Riksdag on work for a sustainable Sweden. Environmental quality objectives (EQOs), to be reached within one generation (by 2020), are drawn up.
- The Commission for Ecologically Sustainable Development is appointed, consisting of five ministers and chaired by the Environment minister.
- More stringent controls on exhaust emissions from motor vehicles are adopted.
- The Riksdag passes the Ordinance on Producer Responsibility for Packaging.
- All ministries and government agencies are requested to start applying the European Eco-Management and Audit Scheme (EMAS).
- The government halts work on a controversial agreement by the Social Democratic Party, Liberal Party and Moderate Party concerning infrastructure projects and road pricing in the Stockholm area.
- The government give the Riksdag a bill proposing an action plan for biodiversity, including strengthened protection of endangered species.
- In its Spring Finance Bill, the government proposes local investment programmes for environmentally sustainable development. The Riksdag approves the allocation of SEK 5.4 billion for such programmes for 1998 – 2000.
- A Government Bill proposes that annual reports from public limited companies should include environmental aspects.
- Sweden's National Parks Information Centre opens in Tyresta National Park, south of Stockholm.
- The Riksdag adopts new energy policy guidelines aimed at facilitating efforts to bring about an environmentally sustainable society.
- It is decided to ban exports of mercury, whose use is being phased out in Sweden.
- In a communication to the Riksdag, the government outlines its efforts to achieve environmental sustainability in Sweden.
- The government sends the Riksdag a Bill on Sustainable Agriculture and Fisheries Policies with a focus on environmental aspects.
- Neurological symptoms in cattle and in workers trigger a major environmental scandal in which it is revealed that large quantities of acrylamide, used in construction of a railway tunnel through the Hallandsåsen ridge in order to make the



tunnel airtight, leached into the nearest river, where cattle were drinking, and also affected construction workers. Work on the tunnel is subsequently halted.

- A government commission proposes reorganising Sweden's water administration so that it is based on catchment areas.
- The Riksdag passes a law on the phase-out of nuclear power. Two reactors at Barsebäck power plant are to be closed by 2001, provided that their power production can be replaced by renewable resources and energy conservation.

## 1998

- Sweden signs the Kyoto Protocol.
- Sweden introduces differentiated environmental dues, depending on ship-generated SO<sub>2</sub> and NO<sub>x</sub> emissions, for shipping fairways.
- The government introduces producer responsibility for end-of – life vehicles.
- The government issues its first national report on implementation of the Convention on Biodiversity.
- The OECD Megascience Forum meets in Saltsjöbaden, to examine the role of the scientific community in providing integrated analyses and advice on global scientific issues such as climate change, as well as on other environmental issues and on health and food safety.
- A Government Bill proposes a sustainable transport policy.
- The government modifies its action programme for architecture, form and design to strengthen quality in built environments.
- The Government Environment Bill presents the 15 EQOs, whose “generation goal” means that, by 2020 (for climate change, 2050), environmental pressures should be reduced to levels that are sustainable in the long run.
- The Foreign ministers of the Council of the Baltic Sea States (CBSS) adopts Baltic 21.
- Karlskrona's naval port becomes a World Heritage site.
- A planned tax on waste products that are not recycled is postponed owing to uncertainty about how it fits in with EU regulations.
- Vehicle taxes are lowered on electric cars and hybrid cars.
- EMAS is introduced for all sectors in Sweden.

- Sweden's 26th national park, Färnebofjärden, is established. Its 10 000-plus hectares include a unique river system with shallow lakes connected by rapids and surrounded by alluvial forests.
- The Swedish Council for Planning and Co-ordination of Research (FRN) reports to the government on a new strategy for research on sustainable development.
- The National Forestry presents its five-year nationwide inventory of key habitats, with 40 000 habitat indicators.
- The government proposes substantial increases in appropriations for purchases of valuable natural areas, especially forest areas, amounting to an additional SEK 660 million over three years.
- An annual environmental index for companies listed on the Stockholm Stock Exchange is launched, with a substantial number of companies participating.

## 1999

- The Environmental Code, combining 15 previous environmental statutes, is enacted to resolve three main problems: the former environmental legislation was hard to understand, many activities (e.g. roads and railways) were inadequately regulated and new environmental problems had arisen.
- The government strengthens legislation to halt illegal trade in threatened species.
- The Riksdag adopts the EQOs and asks the government to present comprehensive proposals for interim targets, measures and strategies for achieving the EQOs.
- The Government Bill on Cultural Heritage, Cultural Environments and Cultural Assets is presented to the Riksdag.
- The government proposes raising appropriations for environmental protection from SEK 1.5 billion to SEK 2 billion.
- The first nuclear reactor at the Barsebäck power plant is closed.
- SEPA proposes a new policy on Sweden's four large predators: bear, wolf, lynx and wolverine.
- In Göteborg, 27 countries sign a protocol to the Convention on Long-range Transboundary Air Pollution on abating acidification, eutrophication and ground-level ozone, setting national emission ceilings for 2010.

## 2000

- A SEK 250 per tonne tax on landfilling enters into force.
- A ban on lead shot takes effect.
- Sweden participates in the World Bank's Prototype Carbon Fund. The Ministry of Industry, Employment and Communications expects to buy about 1-2 million tonnes of CO<sub>2</sub>.
- A Government Bill on a strategy for chemicals to aid in attaining the EQO "A Non – Toxic Environment" is presented to the Riksdag. It outlines ways to reach the EQO and includes a set of interim targets.
- A Commission on Producer Responsibility is established.
- The government concludes a covenant with the motor industry on development of alternative-fuel vehicles.
- A strategy on a "green tax shift" is introduced as a result of an agreement by the Social Democratic government, the Left Party and the Green Party.
- Sweden's 27th national park, Söderåsen, is established to protect some 1 600 hectares including unique virgin deciduous forest with very extensive flora and fauna and virgin watercourses.
- A government commission proposes new guidelines on chemical policies to promote stricter EU legislation on chemicals.
- The government establishes a national committee on Agenda 21 and Habitat.
- UNESCO adds the agricultural landscape of southern Öland, a Baltic island, and the "High Coast" (Höga Kusten) of the county of Ångermanland to the list of World Heritage sites.
- The Environmental Committee of the Confederation of Swedish Enterprise presents its "Vision for Sustainable Industrial Development in the year 2025".
- The European Commission approves the Swedish Environmental and Rural Development Programme for 2000 – 06.
- The Climate Commission proposes that the levels of Sweden's GHG emissions should be halved by 2050 from 1990 levels.
- The government purposes a substantial increase in CO<sub>2</sub> tax, from SEK 0.37/kg to SEK 0.53/kg.

## 2001

- Sweden's six-month presidency of the Council of the European Union begins. Environmental issues are one of the government's three priority areas.
- The government issues its second national report on implementing the Convention on Biodiversity.
- A Government Commission on Waste is established.
- The government presents a Bill on Interim Targets and Action Strategies for the EQOs and proposes an Environmental Objectives Council, associated with SEPA. The government also announces it intends to submit a proposal to the Riksdag for a 16th EQO, on biodiversity.
- As part of the Environmental and Rural Development Programme, the Board of Agriculture, the County Administrative Boards, the Federation of Swedish Farmers and various agri-business companies launch a joint initiative called "Focus on Nutrients" to reduce nutrient losses from agriculture to air and water. The initiative draws on the EQOs, especially "Zero Eutrophication".
- The Stockholm Convention on Persistent Organic Pollutants, which requires the complete phase-out of nine toxic pesticides and limits the use of several other chemicals, is signed by 92 countries.
- SEPA and the Centre for Biodiversity establish a Swedish Species Information Centre.
- The European Council, meeting in Göteborg, adopts a sustainable development strategy.
- EU Environment ministers unanimously adopt a common position on a Sixth Environmental Action Plan and the Council Conclusions on future EU policy on chemicals.
- The mining area of the Great Copper Mountain (Kopparbergslagen) and the central Swedish town of Falun are named World Heritage sites.
- The government's budget bill for 2002 proposes introducing climate investment programmes to replace the local investment programmes, and appropriating SEK 200 million for the first year, rising to SEK 400 million by 2004. The purpose is to support municipal measures to reduce GHG emissions.
- The Riksdag postpones the shutdown of the second reactor at Barsebäck, after deciding that the requirements have not been met, and orders a new evaluation to be made in 2003.

- The government sends the Riksdag a Bill on Climate Change proposing that national GHG emissions should be reduced by 4% by 2010.
- The government initiates an inquiry on how to implement the EU Water Framework Directive in Sweden.

## 2002

- Sweden ratifies the Kyoto Protocol.
- Requirements concerning separation of combustible waste and a ban on dumping separated combustible waste enter into force. The landfill tax is increased from SEK 250 to SEK 288 per tonne.
- Sweden ratifies the 1999 Beijing Amendment to the Montreal Protocol on ozone-depleting substances.
- The government sends the Riksdag a Bill on infrastructure for a long-term sustainable transport system, and launches an assessment of shipping fairway dues to make them more cost-effective.
- The government formulates a comprehensive nature conservation policy, presenting new strategies that take into account sustainable development and the EQOs, and highlighting key new ideas such as sectoral integration and enhanced dialogue with local communities.
- Sweden ratifies the Stockholm Convention on Persistent Organic Pollutants.
- An expert is launched on management and final disposal of radioactive waste from non-nuclear activities.
- Ratification of the EU burden sharing agreement confirms that Sweden may increase its CO<sub>2</sub> emissions by 4%.
- On the 30th anniversary of the UN Conference on the Human Environment, which was held in Stockholm, the government assembles 250 experts from around the world to review three decades of international environmental co-operation and discuss strategies for the next 30 years. The Riksdag adopts the Government Energy Bill on co-operation to achieve a secure, efficient and environment-friendly energy supply.
- A government negotiator is appointed to seek agreement between government and industry on a long-term sustainable policy for the phase-out of nuclear power and continued change in the energy system.

- The International Secretariat of the Global Water Partnership, a network on global water resources, is established in Stockholm.
- Sweden ratifies the Cartagena Protocol on Biosafety, an agreement under the Convention on Biodiversity concerning genetically modified organisms.
- Sweden presents its national report, “From Vision to Action,” at the World Summit on Sustainable Development in Johannesburg.
- Sweden establishes its 28th national park, Fulufjället, whose 38 500 hectares include virgin forests with long valleys, steep-sided ravines and Sweden’s highest waterfall.
- The government decides to designate new areas as vulnerable zones in accordance with the EU nitrate directive.
- Envisions 2002, a stakeholder conference on sustainable development, is held in Västerås to discuss the follow-up to the Johannesburg Summit. Some 700 people participated, including representatives of governments, municipalities, NGOs and industry.
- The government inquiry on implementation of the Water Framework Directive results in a proposal to establish five water administration agencies.
- SEPA launches a campaign to increase knowledge about, and change attitudes towards, the greenhouse effect.

## 2003

- The landfill tax is raised from SEK 288 to SEK 370 per tonne.
- A forum for environmental NGOs on efforts to achieve the EQOs is established.
- The national Environmental Court rules that the National Rail Administration can triple the amount of groundwater drained from the railway tunnel being built through the Hallandsåsen ridge. Local residents challenge the decision in the Environmental Court of Appeal.
- The Swedish Business Development Agency (NUTEK) proposes establishing a national centre for environment-driven business development and exports of environmental technology.
- In a proposal to the European Commission, the government seeks the inclusion of a further 54 Swedish sites in the Natura 2000 network, for a total of 3 581 Swedish sites.

- The government sends the Riksdag its Ecocycle Bill proposing “a society with a non-toxic and resource-saving ecocycle”. It also introduces a Bill on Shared Responsibility: Sweden’s Policy for Global Development.
- The Riksdag adopts the government proposal on green certificates for electricity produced from renewable sources.
- A Government Bill proposes a new system for property registration.
- The Government establishes a Council for Outdoor Recreation Activities.
- A Chinese tanker sinks in the Baltic Sea, releasing a large amount of oil. The accident brings renewed calls for the Baltic to be classified as a particularly sensitive sea area.
- The Commission on Ocean Environment presents its proposal to the government on actions and strategies for the Baltic Sea and the North Sea.
- The government appoints a commission of inquiry on objectives and strategies for the continued introduction of vehicle fuels from renewable sources.
- Three environment ministerial meetings are held in Luleå, northern of Sweden: the Nordic Environment ministers, the Environment ministers of the Barents Euro-Arctic Council and the CBSS Environment ministers.
- The Environmental Court of Appeal agrees to study the Hallandsåsen ridge railway tunnel project and advise the government on whether it should continue.
- An agreement by the government, the Left Party and the Green Party on the 2004 budget includes a decision to expand the green tax shift by SEK 2.0 billion and raise resources for biodiversity protection to SEK 1.4 billion.
- Several private companies and public agencies declare their intention to join the “At Least One Green Car” network (Minst en miljöbil), whose members agree to buy at least one alternative-fuel vehicle.
- The government presents a communication to the Riksdag on a revised set of Swedish priorities for EU environmental co-operation. Marine issues are added as a priority, joining air pollution, climate, acidification, chemicals and sustainable use of natural resources.
- The government announces a programme for local nature protection projects entailing funding of SEK 300 million over the period 2004-06.
- The government completes its proposal for the European Nature 2000 network, bringing the total of proposed Swedish Natura sites to 3 949.

## Reference VI

### SELECTED ENVIRONMENTAL WEB SITES

<b>Web site</b>	<b>Host institution</b>
<a href="http://miljo.regeringen.se">http://miljo.regeringen.se</a>	Ministry of the Environment
<a href="http://naring.regeringen.se">http://naring.regeringen.se</a>	Ministry of Employment, Industry and Communications
<a href="http://jordbruk.regeringen.se">http://jordbruk.regeringen.se</a>	Ministry of Agriculture, Food and Consumer Affairs
<a href="http://social.regeringen.se">http://social.regeringen.se</a>	Ministry of Health and Social Affairs
<a href="http://www.utrikes.regeringen.se">http://www.utrikes.regeringen.se</a>	Ministry of Foreign Affairs
<a href="http://finans.regeringen.se">http://finans.regeringen.se</a>	Ministry of Finance
<a href="http://www.naturvardsverket.se">http://www.naturvardsverket.se</a>	Swedish Environmental Protection Agency
<a href="http://www.kemi.se">http://www.kemi.se</a>	National Chemicals Inspectorate
<a href="http://www.formas.se">http://www.formas.se</a>	Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning
<a href="http://www.fhi.se">http://www.fhi.se</a>	National Institute of Public Health
<a href="http://www.sos.se">http://www.sos.se</a>	National Board of Health and Welfare
<a href="http://www.lst.se">http://www.lst.se</a>	Sweden's County Administrations
<a href="http://www.imm.ki.se">http://www.imm.ki.se</a>	Institute of Environmental Medicine
<a href="http://www.fiskeriverket.se">http://www.fiskeriverket.se</a>	National Board of Fisheries
<a href="http://www.sjv.se">http://www.sjv.se</a>	Swedish Board of Agriculture
<a href="http://www.svo.se">http://www.svo.se</a>	National Board of Forestry



## TABLE OF CONTENTS

<b>1. CONCLUSIONS AND RECOMMENDATIONS</b> .....	15
1. Environmental Management .....	16
Implementing more efficient environmental policies .....	16
Water .....	18
Nature and biodiversity .....	20
2. Towards Sustainable Development .....	21
Integration of environmental concerns into economic decisions .....	21
Integration of environmental and social concerns .....	23
Health .....	24
3. International Commitments .....	25

### Part I

## ENVIRONMENTAL MANAGEMENT

<b>2. IMPLEMENTING ENVIRONMENTAL POLICIES</b> .....	29
Recommendations .....	30
Conclusions .....	30
1. Institutional and Legal Framework .....	32
1.1 Reform of environmental legislation: the Environmental Code .....	33
1.2 EU environmental regulations .....	36
1.3 Environmental planning reform: EQOs and targets .....	36
2. Regulatory Instruments .....	40
2.1 Licensing .....	40
2.2 Inspection and enforcement .....	41
2.3 Administrative and judicial procedures .....	43
3. Economic Instruments .....	45
4. Other Instruments: Spatial Planning and EIA .....	47
4.1 Spatial planning .....	48
4.2 Environmental impact assessment .....	49
5. The Role of Industry .....	49
5.1 Environmental management and initiatives .....	50
5.2 Influencing product and production processes .....	51
<b>3. WATER MANAGEMENT</b> .....	53
Recommendations .....	54
Conclusions .....	54

1. Water Management Objectives .....	55
2. Performance Concerning Freshwater Resources.....	61
2.1 Progress on acidification .....	63
2.2 Dealing with eutrophication .....	63
2.3 Toxic contaminants.....	64
2.4 Groundwater quality.....	66
3. Performance Concerning the Baltic and North Seas.....	66
4. Waste Water Treatment .....	67
5. Integrating Agricultural and Water Policies.....	68
6. Expenditure and Water Charges.....	73
6.1 Expenditure and financing.....	73
6.2 Water charges and economic instruments.....	74
<b>4. NATURE CONSERVATION AND BIODIVERSITY.....</b>	<b>75</b>
Recommendations.....	76
Conclusions .....	76
1. Policy Objectives.....	77
2. State of Nature and Biodiversity .....	78
2.1 Species .....	78
2.2 Habitats .....	80
3. Policy Responses.....	81
3.1 Protected areas.....	82
3.2 Forestry .....	85
3.3 Agriculture.....	87
3.4 Freshwater fishing and ecosystems .....	88
3.5 Shore protection, land use changes.....	89
3.6 Wetland protection.....	90
3.7 International co-operation in nature conservation.....	90
<b>Part II</b>	
<b>SUSTAINABLE DEVELOPMENT</b>	
<b>5. ENVIRONMENTAL-ECONOMIC INTERFACE .....</b>	<b>91</b>
Recommendations.....	92
Conclusions .....	92
1. Decoupling of Environmental Pressures from Economic Growth.....	93
1.1 Emission intensity .....	93
1.2 Energy intensity.....	97
1.3 Material intensity.....	97
2. Towards Sustainable Development .....	98
2.1 Sweden's sustainable development strategy.....	98
2.2 Institution-based integration.....	99
2.3 Market-based integration.....	101

3. Sectoral Integration .....	109
3.1 Integration of environmental concerns into energy policy .....	109
3.2 Integration of environmental concerns into transport policy.....	111
3.3 Integration of environmental concerns into agriculture policy .....	114
4. Environmental Expenditure and Financing.....	116
4.1 Overall environmental expenditure .....	116
4.2 Financing environmental research and technology .....	117
4.3 Local investment programmes .....	117
4.4 Environmentally motivated subsidies.....	118
<b>6. ENVIRONMENTAL-SOCIAL INTERFACE .....</b>	<b>121</b>
Recommendations.....	122
Conclusions .....	122
1. Environment and Employment.....	123
1.1 Employment effects of environmental policy .....	123
1.2 Environmental employment market .....	126
2. Environmental Democracy: Information, Participation, Legal Recourse and Education .....	127
2.1 Availability of and access to environmental information .....	127
2.2 Public participation.....	129
2.3 Legal recourse.....	131
2.4 Environmental education.....	131
3. Distributional Aspects of Environmental Policies .....	132
3.1 Access to nature, pollution exposure.....	132
3.2 Distributional effects of the green tax shift .....	133
3.3 Regional development .....	135
<b>7. HEALTH AND ENVIRONMENT .....</b>	<b>137</b>
Recommendations.....	138
Conclusions .....	138
1. Institutional Framework .....	139
1.1 Policy objectives.....	142
1.2 Responsible institutions .....	143
2. Air Pollution and Public Health .....	145
2.1 Outdoor air quality .....	145
2.2 Indoor air quality .....	147
3. Noise.....	149
4. Chemicals and Health.....	150
4.1 National level.....	150
4.2 International level .....	153
5. Access to Nature and Green Spaces .....	153

## Part III

**INTERNATIONAL COMMITMENTS**

<b>8. INTERNATIONAL CO-OPERATION</b> .....	155
Recommendations.....	156
Conclusions .....	156
1. Objectives.....	158
2. Climate protection.....	159
2.1 Intentions, actions and results.....	159
2.2 Going beyond Kyoto .....	161
3. Transboundary Air Pollution.....	164
3.1 Sulphur oxides .....	167
3.2 Nitrogen oxides .....	168
3.3 Volatile organic compounds .....	168
3.4 POPs and heavy metals .....	168
4. The Marine Environment .....	169
4.1 Pollution from land-based sources .....	169
4.2 Pollution from ships .....	170
4.3 Scrapping of ships .....	172
5. Management of Living Marine Resources .....	172
5.1 Offshore fisheries: overfishing .....	173
5.2 Protection of marine ecosystems .....	174
6. Environmental Development Aid.....	175
7. Regional Co-operation for Sustainable Development.....	177
8. International Trade and the Environment.....	177
8.1 Ozone-depleting substances .....	178
8.2 Hazardous waste .....	179
8.3 Timber.....	179
8.4 Endangered species.....	179

**REFERENCES**

I.A Selected environmental data.....	182
I.B Selected economic data .....	184
I.C Selected social data .....	186
II.A Selected multilateral agreements (worldwide).....	188
II.B Selected multilateral agreements (regional).....	194
III. Abbreviations .....	198
IV. Physical Context.....	200
V. Selected environmental events (1996-2003).....	201
VI. Selected environmental Web sites.....	210

## LIST OF FIGURES, TABLES AND BOXES

### Figures

Map of Sweden .....	13
3.1 Water use .....	62
3.2 Population connected to public waste water treatment plant .....	69
3.3 Agricultural inputs.....	72
4.1 Fauna and flora.....	79
4.2 Protected areas.....	83
5.1 Economic structure and trends .....	95
5.2 Road fuel prices and taxes.....	113
5.3 Private sector investment and current environmental expenditure.....	117
6.1 Social indicators .....	125
7.1 Selected environmental health indicators.....	146
7.2 POPs in mothers' milk .....	152
8.1 Energy structure and intensity .....	162
8.2 Air pollutant emissions.....	163
8.3 Official development assistance .....	176

### Tables

2.1 Environment staff.....	33
2.2 Selected environmental legislation.....	35
2.3 Environmental quality objectives and interim targets .....	37
2.4 Environmental-sanction (civil) fines .....	44
2.5 Environmental cases brought to court .....	45
2.6 Voluntary environmental agreements .....	51
3.1 Selected water-related objectives .....	57
3.2 Reduction in Swedish nutrient discharges to the Baltic .....	67
4.1 Types of protected areas .....	82
4.2 Protected forest areas.....	86
5.1 Decoupling: economic trends and environmental pressures .....	96
5.2 Revenue from selected environment-related taxes, and energy and vehicle taxes	101
5.3 Selected environment-related taxes on energy and transport .....	104
5.4 Local investment programmes .....	118
5.5 Environmentally motivated subsidies .....	119
6.1 Structure of the Swedish environment sector.....	127
7.1 Health effects of selected environmental factors in Sweden.....	141

7.2	Selected national objectives related to environment and public health.....	142
8.1	GHG emissions from energy and transport, actual and projected.....	160
8.2	GHG emissions in Sweden, actual and projected.....	164
8.3	Sweden's performance under the Convention on Long-range Transboundary Air Pollution .....	167
8.4	Fishing catch, aquaculture and fishers .....	173
I.A	Selected environmental data.....	182
I.B	Selected economic data .....	184
I.C	Selected social data .....	186
II.A	Selected multilateral agreements (worldwide).....	188
II.B	Selected multilateral agreements (regional) .....	194

### Boxes

2.1	Environmental institutions .....	32
2.2	General principles of the Environmental Code .....	34
3.1	Contaminated sites: liability and public funding.....	65
3.2	Innovation for sustainable sewage treatment .....	70
4.1	Major types of protected areas .....	83
4.2	Nature protection at local level .....	84
5.1	Economic context.....	94
5.2	Green tax shift .....	102
6.1	Social context .....	124
6.2	Sámi development policies.....	134
7.1	Equity in public health policy .....	140
7.2	Public health and electromagnetic radiation .....	144
7.3	Incidence of environment- and lifestyle-related disease .....	148
8.1	Protecting the Arctic from long-range POPs pollution .....	165
8.2	Reducing air emissions from ships in the Baltic Sea .....	166

## Signs

The following signs are used in Figures and Tables:

- .. : not available
- : nil or negligible
- . : decimal point

## Country Aggregates

OECD Europe: All European member countries of the OECD, i.e. countries of the European Union plus the Czech Republic, Hungary, Iceland, Norway, Poland, the Slovak Republic, Switzerland and Turkey.

OECD: The countries of OECD Europe plus Australia, Canada, Japan, the Republic of Korea, Mexico, New Zealand and the United States.

Country aggregates may include Secretariat estimates.

The sign \* indicates that not all countries are included.

## Currency

Monetary unit: Sweden Krona (SEK)

In April 2004, SEK 9.19 = EUR 1.

## Cut-off Date

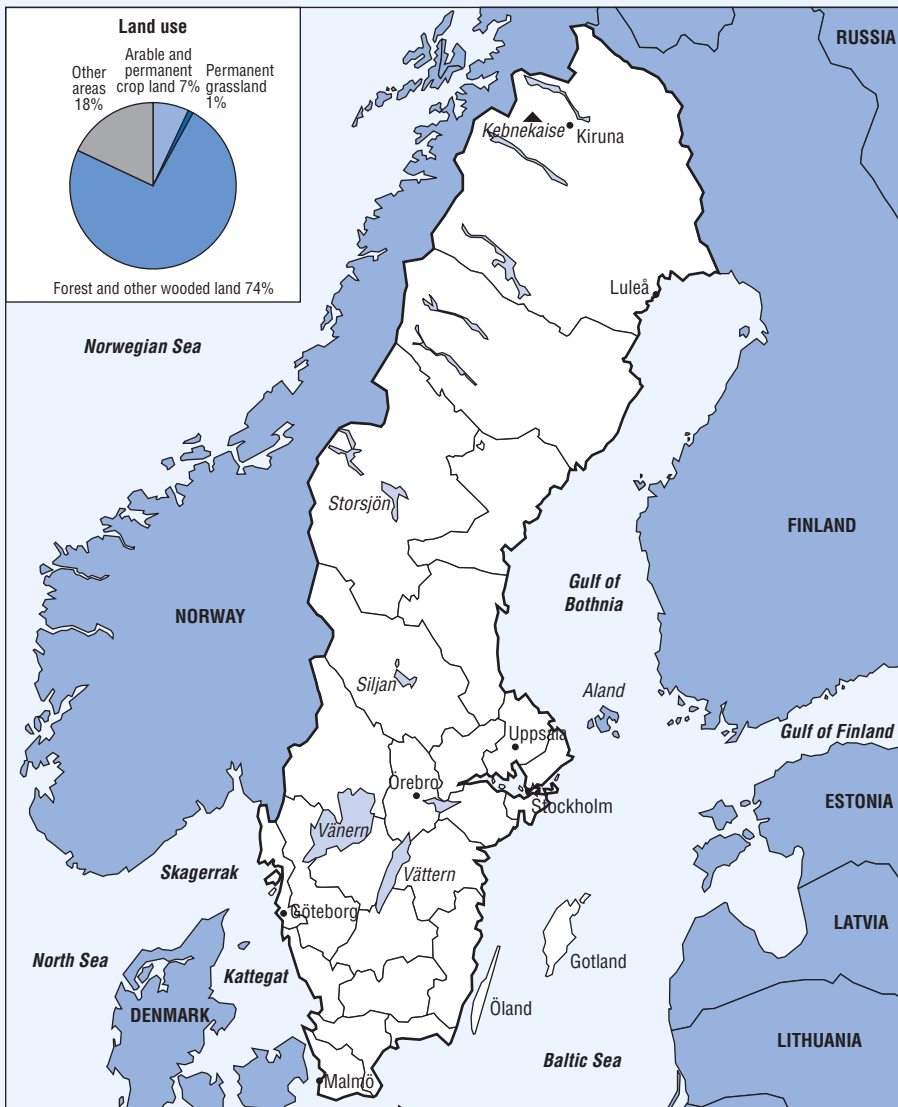
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### Map of Sweden



Source: OECD.



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