



Sweden

Highlights in 2008

One of the major issues within Swedish environment policy in 2008 is the government's decision to reform the Swedish system of 16 environmental quality objectives. The system, which has been in place for almost 10 years,

was praised in OECD's 2004 environmental performance review for its sound long-term view. According to the government it needs to be adapted to reflect the intensified work at EU level.

During 2008, the country put a lot of effort into improving the marine environment around Sweden. In May, a committee looking into the marine environment proposed that the Baltic Sea should become a pilot area for intergovernmental cooperation on the marine environment. This could provide opportunities for spearheading measures already planned under the EU Marine Strategy Directive. Further, the Environmental Protection Agency presented a national plan outlining how Sweden should tackle environmental challenges in the Baltic Sea, Oresund, and Kattegat.

Climate change and energy

| | Sweden | | | | EU-27 total | rank in EU-27 |
|--|--------|-------|-------|----------------|----------------------|----------------------|
| | 2000 | 2005 | 2006 | target | | |
| Total Kyoto GHG emissions | | | | | | |
| – million tonnes (Mt) CO ₂ eq. | 68.3 | 66.9 | 65.7 | 75.1 | 5142.8 | |
| | | | | (by 2008-2012) | | |
| – from energy supply and use, including transport (Mt CO ₂ eq.) | 50.8 | 49.5 | 48.7 | | 4098.7 | |
| – from transport (Mt CO ₂ eq.) | 19.0 | 20.3 | 20.2 | | 992.3 | |
| | | | | | EU-27 average | rank in EU-27 |
| – per capita (tonnes CO ₂ eq.) | 7.7 | 7.4 | 7.3 | | 10.4 | 4 |
| – per GDP (tonnes CO ₂ eq. per 1000€ GDP) | 256.3 | 221.3 | 209.0 | | 495.7 | 1 |
| – trend (% change compared to base year*) | -5.4% | -7.3% | -8.9% | +4.0% | -7.7% | 12 |
| | | | | (by 2008-12) | | |
| – Projected 2010 emissions trend compared to base year* | | | | | | |
| – with existing measures, Kyoto mechanisms and carbon sinks | | -5.7% | | +4.0% | -13.4% | |
| – with existing and additional measures, Kyoto mechanisms and carbon sinks | | -5.7% | | (by 2008-12) | -16.3% | |

* Base year for CO₂, N₂O and CH₄ is 1990 and for F-gases is 1995.

| | Sweden | | | | EU-27 average | rank in EU-27 |
|--|--------|--------------|--------------|---------------------------|---------------|---------------|
| | 2000 | 2005 | 2006 | target | | |
| Average CO ₂ emissions from new passenger cars sold (grams CO ₂ /km) | 198.6 | 187.2 (2006) | 180.1 (2007) | 130 by 2012 -15 for EU-27 | 157.5 | 24 |
| Electricity produced from renewable energy sources (% gross electricity consumption) | 55.4% | (2006) 48.2% | (2007) 52.1% | 60.0% (by 2010) | 15.6% | 2 |
| – from hydropower | 52.3% | 41.3% | 44.1% | | 9.2% | |
| – from wind | 0.3% | 0.7% | 1.0% | | 3.1% | |
| – from biomass | 2.8% | 6.2% | 7.0% | | 3.0% | |
| Combined heat and power generation (% gross electricity generation) | 5.9% | 6.7% | 8.0% | 18% (by 2010 for EU-15) | 10.9% | 18 |
| Energy consumption per capita (kg oil eq.) | 5 398 | 5 724 | 5 598 | | 3 694 | 24 |
| Energy intensity - Energy consumption per 1000€ GDP (kg oil eq.) | 210 | 199 | 188 | | 202 | 8 |

In 2006, Sweden's greenhouse gas emissions were 9% lower than the base-year level, which is much better than its Kyoto target of +4% for the period 2008-2012. Sweden is projected to significantly overachieve its Kyoto target. In December 2008, Sweden agreed to a 2020 reduction target of 17% compared to 2005 levels for greenhouse gas emissions in the sectors not covered by the Emissions Trading System (e.g. buildings, road transport and farming). Furthermore, Sweden has committed to achieving by 2020 a share of energy from renewable sources in gross final energy consumption of 49% (up from 40% in 2005).

The Climate Committee delivered its report on Swedish climate policy in March 2008. The Committee was asked to undertake a broad review of Swedish climate policy and to make suggestions for a new Swedish climate policy. As an interim target, the report suggests a reduction of greenhouse gas emissions by 4% in 2008-2012 compared to 1990 levels. In 2020, total greenhouse gas

emissions would need to be cut by 38% (compared to 1990) to implement the Committee's action plan. The report also gives an indicative emissions target for 2050 of at least 75–90% compared to 1990. Proposals from the government are expected in 2009.

In May, the Swedish Board of Agriculture made a proposal to the government for special investment support of SEK 600 million (approximately €55 million⁵) to be targeted at "biogas" within the rural development programme for 2009-2013. This is further development of a proposal concerning bioenergy from agriculture as a growing resource, and concerns mainly biogas from manure. The motivation for the programme is the large environmental benefits in terms of reduced greenhouse gas emissions that can be realised by producing biogas from manure, thus both reducing emissions of methane and replacing fossil fuels.

⁵ Exchange rate April 2009: 1 € = 10.878 SEK

Nature and biodiversity

| | 2000 | 2006 | Sweden 2007 | 2008 | target | EU-27 average | rank in EU-27 |
|--|-------|-------|----------------|-------|------------------|--------------------|------------------|
| Natura 2000 area (sites designated under Habitats and Birds Directives) as % of terrestrial area | | 13.2% | 13.6% | 14.5% | | 17.0% | |
| Sufficiency of site designation under the Habitats Directive | 91.4% | | 92.3% | 99.0% | 100% | | |
| Area occupied by organic farming (% of Utilised Agricultural Area) | 5.7% | 7.1% | 8.0% | | 20% * by 2010 | 4.2% | 6 |
| Freight transport (billion tkm) | 55.7 | 62.2 | 63.8 | | | EU total 2505.0 | |
| – % road | 63.9% | 64.2% | 63.6% | | | 76.9% | 5 of 26 |
| – % rail | 36.1% | 35.8% | 36.4% | | | 17.4% | 4 of 26 |

* Indicative target according to the action plan "Regeringens skrivelse 2005/06:88: Ekologisk produktion och konsumtion - Mål och inriktning till 2010".

In March, the government decided to impose a total ban on phosphates in detergents in Sweden. According to calculations by the Swedish authorities, the total amount of phosphorus dispersed into the Baltic Sea would be reduced by 20% if all countries around the sea were to do the same. Sweden has worked for a ban on phosphates in the EU as well as in the Helsinki Commission. According to the Swedish authorities, all countries along the Baltic Sea have pledged to ban phosphates in detergents, and Sweden is the first country to implement the ban.

In May, the Committee looking into the marine environment proposed that the Baltic Sea becomes a pilot area for intergovernmental cooperation to improve the marine environment. It also proposed a whole new planning system for Swedish waters, with plans and zoning as well as solutions to a

number of acute problems. To create a pilot area for the waters of the Baltic Sea provides possibilities for spearheading measures already planned under the EU Marine Strategy Directive. To incorporate EU Common Agricultural Policy, as well as EU Common Fisheries Policy and regional policy is one of the challenges this initiative is facing.

Also in May, the Swedish Environmental Protection Agency delivered its first report on a national plan to tackle environmental challenges in the Baltic Sea, Oresund, and Kattegat. The report outlines how to achieve the targets in the Baltic Sea Action Plan, and it suggests, among other things, protective margins around fields in nitrate sensitive areas and tougher regulations for applying manure.

In June, the Swedish Environmental Protection Agency decided to launch a new framework programme for game/wildlife research for 2009-2014. The objective of this programme is to understand how game is influenced by climate change, and the programme spells out which research questions

should be prioritised. Some of the relevant questions include how increasing average temperatures affect wildlife, but also how changes in land use due to increasing production of biofuels might affect wildlife. The Agency will allocate SEK 15 m (EUR 1.55 m) annually for five years for research within this area.

Environment and health

| | Sweden | | | | EU-27 average | rank in EU-27 |
|--|--------|------------------------------|-------|-----------|---------------|---------------|
| | 2000 | 2005 | 2006 | Ceiling | | |
| Urban population exposure to air pollution by particles (annual mean concentration, $\mu\text{g}/\text{m}^3$) | 17 | 19.5 | 20.4 | 30.0 | 30.0 | 4 out of 23 |
| Urban population exposure to air pollution by ozone (SOMO35 level, $\mu\text{g}/\text{m}^3 \cdot \text{day}$) | 1 598 | 2 917 | 2 898 | 1 715 | 4 417 | 7 out of 23 |
| Air pollutant emissions (thousand tonnes) | | | | (by 2010) | EU27 total | |
| – sulphur dioxides (SO_2) | 46 | 40 | 39 | 67 | 7946 | |
| – nitrogen oxides (NO_x) | 220 | 181 | 175 | 148 | 11198 | |
| – non-methane volatile organic compounds (NMVOCs) | 220 | 200 | 195 | 241 | 9391 | |
| – ammonia (NH_3) | 56 | 53 | 52 | 57 | 4006 | |
| | 1990 | Latest available year (2004) | | | | |
| Water exploitation index | 1.7% | | | 1.5% | n.a. | 4 |

In September, the government initiated work on a new vision for sustainable cities, which should stimulate urban planning and construction projects that help improve the environment and reduce climate effects, while at the same time supporting Swedish exports of environmental technologies. The initiative

should inspire climate-friendly construction of buildings throughout Sweden. The government has set aside SEK 340 m (EUR 34.8 m) for 2009 and 2010 to mobilise the industry and a national institutional platform is to be established to support the development of sustainable cities.

Natural resources and waste

| | Sweden | | | Target | EU-27 average | rank in EU-27 |
|---|--------|-------|-------|----------------------|---------------|---------------|
| | 2000 | 2006 | 2007 | | | |
| Municipal waste generated (kg per capita) | 428 | 497 | 518 | | 522 | 14 |
| – % landfilled | 22.9% | 5.0% | 4.1% | | 41.0% | 3 |
| – % incinerated | 38.3% | 46.9% | 46.3% | | 19.9% | |
| | 2000 | 2005 | 2006 | | | |
| Recycling of packaging waste (as % total packaging waste) | 58.0% | 48.2% | 58.1% | 55%-80% (by 2008) | 56.5 % | 7 |

The government has made a change to the procedures for producers of packaging and paper (e.g. newspapers and magazines) requiring them to make sure that their products are covered by a waste collection and recycling system. A fundamental principle of the procedures is to make producers liable for establishing incentive structures and collection facilities that facilitate the collection and recycling of this type of waste. The changes mean that producers are to be held to account if the system fails to encourage consumers to recycle their waste.

In August the government appointed a negotiator to help identify better cooperative waste handling solutions between municipalities and producers, for the recycling of glass and paper. The issues that are meant to be resolved between producers and the municipalities are: “bulk waste” (physically large pieces of waste), which is the responsibility of the municipalities; waste ending up in the producers’ waste collection system, that should have been put in the ordinary waste collection system; and glass and paper which ends up in the ordinary system, but which should have gone to the producers’ collection system.

Better regulation and implementation

| | Sweden | | | EU-27 total |
|---|------------|------------|------------|-------------|
| | 31/12/2006 | 31/12/2007 | 31/12/2008 | |
| Infringements of EU environmental legislation | 6 | 10 | 9 | 481 |

Use of market-based instruments

| | Sweden | | | EU-27 average |
|---|--------|------|------|---------------|
| | 2000 | 2005 | 2006 | |
| Share of environmental taxes in total tax revenue | 5.3% | 5.7% | 5.6% | 6.4% |

The government proposal for an increase in the CO₂ tax presented in November 2007 came into effect in January 2008. The tax increase has meant an increase in transport fuel costs to consumers.

The Stockholm congestion charge on road traffic was made permanent in August 2007 and helps to reduce traffic and transport emissions. The congestion charge currently ranges from 10 to 20 SEK (0.92-1.84) per trip per day (max 60 SEK/day or 5.5 EUR/day) depending on the time of the day. Taxis, buses, and “green” cars are exempt from the charges.

Environmental technologies

In 2008, the Swedish Energy Agency supported approximately 70 research projects on vehicles with a smaller climate impact for a total of SEK 343 m (€ 31.5 m). Most of the projects aim at developing hybrid cars and improving the energy efficiency of conventional cars. In December, the Agency announced that funding for research and development until 2011 will reach or exceed the “climate billion” (SEK 1bn/€91m) target it had set previously.

Outlook for 2009

The Swedish government will focus its priorities on three specific areas in the period 2009-2011: climate, the marine environment, and environmental research. In the spring, it will outline proposals that will help Sweden meet its obligations under the EU climate and energy package, including changes in the structure of environmental and energy taxes. Further, it plans to spend SEK 300 million (€ 27.5 million) on climate adaptation in 2009-2011, for example on improving the knowledge base on the risk of landslides and improving coordination between local authorities. The government has also earmarked SEK 655 million (€ 60 million) for 2009-2011 to initiate further efforts to improve

the marine environment in the Baltic Sea and Kattegat. Concerning the focus on research, the idea is to promote research on energy efficient technologies, transport systems and renewable materials, which are all considered important for the environmental challenges of the future.

The issue of biodiversity is also considered a cornerstone in Swedish environment policy, and will require by far the largest proportion of the environmental budget, namely SEK 5.5 billion (EUR 505 m) during the period 2009-2011. Some of the issues that the government is emphasising are protection of forest resources, protection of valuable nature, and protection of wildlife. In 2009 the government will produce a specific proposal on the future protection of wildlife.

In the second half of 2009, Sweden will hold the Presidency of the EU Council. Climate change, marine environment and biodiversity will be among the priorities.

