Reduced Climate Impact, A Non-Toxic Environment, Sustainable Forests and A Rich Diversity of Plant and Animal Life are just a few of the 16 environmental quality objectives that have been adopted to guide environmental efforts in Sweden and to ensure that future generations, too, can grow up in a clean, healthy environment. These objectives cover every major environmental issue and provide a basis for the action needed to improve the state of the environment.

The environmental quality objectives have been set by the Swedish Parliament and are to be achieved by 2020. The vision is to hand over to the next generation a society in which Sweden’s key environmental problems have been solved. To meet the objectives, everyone must play their part – from government and industry to organizations and individuals. This booklet offers a brief introduction to the environmental quality objectives and sums up the Environmental Objectives Council’s 2008 evaluation, Sweden’s Environmental Objectives: No Time to Lose.

More information on Sweden’s environmental goals and efforts to achieve them can be found on the Environmental Objectives Portal, www.miljomal.nu. There you can also download the full version of the Council’s 2008 evaluation, together with the background reports on which it is based.
To the reader

One of the jobs of the Environmental Objectives Council is to monitor progress towards Sweden’s 16 national environmental quality objectives. This booklet offers a brief account of these goals and a summary of the Council’s second evaluation of them: *Sweden’s Environmental Objectives: No Time to Lose. An Evaluation by the Swedish Environmental Objectives Council 2008*. The purpose of the evaluation is to provide a basis for the Swedish Government’s Environmental Objectives Bill and for Sweden’s continuing efforts to secure a better environment.

The first part of the booklet introduces the objectives and the action under way across Swedish society to achieve them. The second gives an overall picture of progress towards each of the environmental quality objectives, together with brief outlines of proposals for new and revised interim targets.

The third part sums up the measures proposed by the Environmental Objectives Council to meet the objectives, with examples of various policy instruments put forward in three action strategies. On the inside back cover you can read more about how these proposals are intended to be translated into decisions for a better environment.

What happens next?

The Environmental Objectives Council’s 2008 evaluation, *Sweden’s Environmental Objectives: No Time to Lose*, was submitted to the Swedish Government on 31 March. The evaluation provides a basis for the Government’s next Environmental Objectives Bill. That bill will be considered, and a decision reached on it, by the Swedish Parliament, the Riksdag. The full evaluation report, including all the proposals, can be downloaded from the Swedish Environmental Protection Agency’s online bookshop, www.naturvardsverket.se/bokhandeln, and from www.miljomal.nu.

Key to symbols used for assessments of the environmental quality objectives

See pages 8–24

<table>
<thead>
<tr>
<th>Symbols</th>
<th>Trend arrows</th>
<th>Trend in the state of the environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>☀️</td>
<td>The objective is expected to be achieved within the defined time frame</td>
<td></td>
</tr>
<tr>
<td>☀️</td>
<td>The trend in the state of the environment is positive</td>
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<tr>
<td>⛅️</td>
<td>The objective can be achieved within the defined time frame, provided that further action is taken</td>
<td></td>
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<tr>
<td>☁️</td>
<td>No clear trend in the state of the environment can be seen</td>
<td></td>
</tr>
<tr>
<td>☩️</td>
<td>The trend in the state of the environment is negative</td>
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</tr>
<tr>
<td>☔️</td>
<td>The objective will be very difficult or not possible to achieve within the defined time frame, even if further action is taken</td>
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</table>
Sweden has set objectives for the future state of its environment. These goals – adopted by the Swedish Parliament, the Riksdag – are intended to ensure that, by 2020, the country’s major environmental problems have been solved.

Sweden’s 16 environmental quality objectives describe a state of the environment that is sustainable in the long term. They are a promise to future generations of clean air, healthy living environments and rich contact with nature.

Efforts to achieve the objectives are guided by a fixed structure of regular monitoring, evaluations and proposals for changes. The evaluations provide important information on the environmental situation in the country and the measures and priorities needed to improve it.

The objectives have now served as signposts for environmental action in Sweden for almost ten years. Although progress is being made in many areas, major challenges remain: more than half of the objectives are not expected to be met by 2020, even if further measures are introduced. More of us need to do more, if our children and young people are to be able to enjoy the quality of the environment which these goals describe.
Sweden’s system of environmental objectives shares responsibility for tackling the most pressing environmental problems among different stakeholders and levels of decision-making in society. The goals provide a basis for defining measures and priorities, and enable everyone to play their part and pull in the same direction.

The environmental objectives describe the quality of the environment we want to achieve. They spell out the implications of sustainability, in terms of what nature and its ecosystems are able to tolerate. In short, they represent the environmental dimension of sustainable development. The objectives are thus an important starting point for action to achieve both a better environment and a sustainable society. They are not laid down by law, but nevertheless define the direction of efforts throughout Swedish society to safeguard the environment.

National objectives . . .
The national environmental quality objectives were adopted by the Riksdag in April 1999. Sweden now has goals of this kind covering 16 different areas. Three cross-cutting issues related to these objectives – the cultural environment, human health, and land use planning and wise management – are also being addressed. The objectives are to be met by 2020, i.e. within a generation of their being adopted (2050 in the case of the climate objective).

For each of the environmental quality objectives, interim targets have been adopted, detailing what needs to be done by specific dates if the objective is to be attained. For example, a given type of harmful emission may need to be reduced to a stated level by 2010. In all, there are some 70 such targets linked to the 16 objectives.

. . . regional objectives . . .
The national goals have also been translated into regional terms, and all of Sweden’s counties now have regional objectives for the environment. The county administrative boards seek to ensure that these objectives have an impact in their areas and monitor progress towards them. They have a key role to play in driving and coordinating regional efforts, as well as providing local authorities with data and other support for local goals and action programmes. Regional goals are important, in particular, as a basis for regional development, growth and structural fund programmes.

. . . and local objectives
Increasingly, local authorities are adapting the national and regional environmental objectives to their local situations and basing their sustainable development policies on them. With their responsibility for planning the use of land, water and the built environment, they have considerable scope to shape what happens in their areas. They are also responsible for other activities affecting progress towards the objectives. They supervise chemical products, for instance, and license single-household sewage systems and certain environmentally hazardous activities.

Follow-up and evaluation
Implementation of the objectives is reviewed every year. To assess whether things are moving in the right direction, use is made of indicators reflecting progress towards the various environmental quality objectives and interim targets. These indicators are based on regular sampling, questionnaires and other studies of the state of the environment.

Every four years, a larger-scale evaluation of efforts to reach the objectives is carried out. Assisted by central government agencies, county administrative boards and NGOs, the Environmental Objectives Council proposes new and revised interim targets and measures to achieve the goals set. Its recommendations are submitted to the Government and form a basis for decisions in various policy areas. Decisions to adopt new and revised targets are taken by the Riksdag.

A challenge to us all

THE ENVIRONMENTAL QUALITY OBJECTIVES ARE INTENDED TO:
- promote human health
- safeguard biodiversity and the natural environment
- preserve the cultural environment and cultural heritage
- maintain long-term ecosystem productivity and
- ensure wise management of natural resources

The objectives . . .
Lead agencies
Seven government agencies have been designated by the Government as lead agencies for the 16 national environmental quality objectives, and three as lead agencies for the related cross-cutting issues (see box). It is their job to promote progress towards the objectives and ensure that the cross-cutting issues are taken into account. Likewise, the county administrative boards have been made regional lead agencies.

To integrate the environmental objectives more fully into society as a whole, a number of agencies have in addition been given a special sectoral responsibility for them, based on the principle that every sector must play its part in safeguarding the environment. Such bodies include the Swedish Energy Agency and the Swedish Road Administration.

Concerted action
Achieving the environmental objectives is a major collaborative undertaking, requiring involvement across society. The business sector’s role is very important. Environmental and other NGOs can shape public opinion and promote understanding of what needs to be done. And individuals can make a major contribution through their choices in areas such as travel, housing and food.

Coordinating role of Council
The Council, appointed by the Government, draws its members from central government agencies and county administrative boards. It also has experts attached to it, representing local authorities, NGOs and the business sector. The Council coordinates efforts to meet the objectives, reviews progress towards them and reports to the Government. Its Secretariat is based at the Environmental Protection Agency.
When the environmental quality objectives were adopted in 1999, almost 200 partly overlapping goals in the environmental field were merged into a coherent system. This system of objectives offers a broader picture, showing how different environmental issues are linked.

‘The most important environmental problems have been identified and clear goals set for them, describing what needs to be achieved. They are goals that everyone can understand, and they allow us all to see what role we have to play,’ Johansson explains.

The environmental objectives system has helped to bring together natural environment and cultural heritage concerns, and fleshed out the implications of many environmental issues.

‘We’ve developed a greater respect for the complexity and vulnerability of nature. The objective A Rich Diversity of Plant and Animal Life, for example, has turned the spotlight on biodiversity and set the bar for what needs to be done to avoid species and entire habitats of animals and plants being lost.’

Better coordination

By clarifying and highlighting connections, the environmental goals make for more effective protection of the environment. They also help ensure better coordination between public agencies. As an example, Johansson cites the broad collaboration behind the proposals for measures in the energy and transport fields emerging from the 2008 evaluation of the objectives. Six agencies have together put forward some 50 new or revised policy instruments to save energy and cut carbon dioxide and other emissions (see page 26).

‘It’s also partly thanks to the objectives that Sweden’s local authorities are now adopting a more strategic approach to the environment and sustainable development,’ he suggests. ‘Many authorities have translated the environmental quality objectives into local goals, which then serve as a basis for land use and transport planning.’

Objectives with potential

In the business sector, certification schemes and environmental management systems are often the main tools used to address environmental and sustainability issues. But here too the objectives, with their accessible structure, have the potential to enhance the impact of environmental efforts and the commitment of both employees and customers, Johansson believes.

One challenge for the future is to get across what individuals can do to help attain the environmental objectives. There must not be too big a gap between our own personal contribution and a given objective.

‘It’s important that we all realize that, as consumers of goods and services, there’s a great deal we can do to improve the environment,’ he concludes.
Regional efforts to implement the environmental objectives lend an impetus to environmental protection both locally and nationally. They serve to flesh out the national goals, taking into account the circumstances of individual counties.

‘In Värmland, 42 of our interim targets are regional versions of the national ones,’ Eriksson explains. ‘They have basically the same wording, but have been adjusted in terms of concentrations, standards or target dates.’

Värmland priorities

The Värmland county administrative board is particularly committed to freshwater conservation and biodiversity, a fact reflected in its approach to the environmental objectives. For example, it has set an interim target of its own calling for an assessment of river restoration needs in the county. Its goals under A Non-Toxic Environment are that bit more ambitious than those adopted nationally, with a county target for sewage sludge quality, for instance. Other county-specific targets concern an action programme for river Klärälven salmon (Flourishing Lakes and Streams) and halting the building of forest roads across valuable wetlands (Thriving Wetlands), both to be met by 2010.

Meeting places important

Eriksson is also keen to champion the regional level as a meeting place for a broad dialogue on the objectives. In Värmland, a series of hearings and seminars were held in advance of a decision in January 2008 on new environmental goals for the county. She is convinced that these discussions with industry, local authorities and NGOs about the objectives and what needs to be done have made a difference. Environmental efforts are being stepped up around the county.

‘We have a long way to go, but a lot of good things are happening in terms of the environment. The county’s local authorities are introducing various measures that are helping to meet the objectives. Our major industries are taking effective action to save energy, and a decision by one paper company, Skogshalls Bruk, to stop burning oil enabled Värmland’s earlier regional target for carbon dioxide emissions to be met in full.’

Water quality is a priority in Värmland. Pictured here is the ‘Sugar Castle’ in central Karlstad, by the river Klärälven.

Värmland Objectives

Värmland has 14 environmental quality objectives (two of the national objectives, A Balanced Marine Environment and A Magnificent Mountain Landscape, not being relevant to the county) and 77 interim targets. Evaluations suggest that Clean Air and Zero Eutrophication will be somewhat easier to achieve in Värmland than in Sweden as a whole. The assessment for A Good Built Environment is also more positive. Nevertheless, even for these goals, further action will be needed if they are to be met by 2020.
In June 2008 Hudiksvall’s municipal council is expected to agree a set of objectives for the local environment. It will then be one of the good third of Sweden’s local authorities that have adopted such goals, based on the national or regional objectives.

Angel explains that the new goals have been drafted by working groups including people from local businesses and organizations. She has also been assisted by a steering group representing political parties and council committees. This has ensured broad support for what is to be achieved and how.

‘It has taken time – a couple of years – but now everyone can feel they’ve been involved,’ she comments. ‘So there’s less risk of the goal documents ending up on a shelf gathering dust.’

Political agreement
Rigmor Angel feels that the objectives have raised the status of the local authority’s efforts to safeguard the environment. There is now political agreement on introducing the measures needed to meet the goals. And many earlier conflicts have disappeared:

‘A classic area of local authority provision that is often set against environmental action is care and education, funding for which can’t be diverted elsewhere. But now there’s a growing realization that implementing the environmental objectives is a way of addressing those issues as well.’

Businesses benefit
The view that environmental protection gets in the way of local business growth and new jobs is also beginning to change, says Angel. She points out that environmental goals can in fact benefit local firms: targets to reduce transport demand, for instance, can mean more business for local suppliers.

‘These days, action to safeguard the environment is seen as a growth factor, a sign that you’re a forward-looking municipality. That’s important in attracting people and businesses to the area.’

Hudiksvall Objectives
The municipality of Hudiksvall has developed 46 local environmental goals. They include increasing the share of ‘clean vehicles’ in the local authority’s fleet, removing barriers to fish migration and improving conditions generally for natural fish populations in rivers, making sure the council buys more organic food, and using renewable fuels to heat all homes in the area, including privately owned ones.
Trends in the environment are, in many cases, moving in the right direction – but not quickly enough. According to the Environmental Objectives Council’s 2008 review of progress, more than half of the environmental quality objectives will be very difficult or not possible to meet on time.

In several respects, the state of Sweden’s environment gives cause for concern. Nine of the 16 environmental quality objectives will be difficult or not possible to achieve by the target date. The situation is particularly serious for the climate objective, with trends pointing in the wrong direction despite a fall in Swedish emissions. The state of our seas, too, is disturbing. As regards Sustainable Forests, some encouraging trends can be noted, but this objective is nevertheless judged to be very hard or not possible to meet by 2020. The assessment for A Good Built Environment has been revised: this goal, too, is now regarded as very difficult or impossible to reach on time.

Why so hard to achieve?
There are several reasons why the environmental quality objectives will be difficult to achieve. Most of them depend to a large degree on developments both in Swedish society and around the world. Several will not be met on schedule because nature takes a long time to recover once it has suffered damage. Others will be missed because sufficient measures have not been introduced to tackle the environmental problems concerned.

Action produces results
But there are more hopeful signs, too, in the endeavour to achieve the objectives. One example of how action produces results is the objective A Protective Ozone Layer, which, thanks to successful international cooperation, is now considered to be within reach.

Compared with the environmental quality objectives, the interim targets present a more encouraging picture. Some of these targets have already been met. Another 30 or so are judged to be achievable by the target year, although to meet many of them additional and more vigorous action will be required.

To improve the prospects of attaining the environmental quality objectives, the Environmental Objectives Council calls for most of the interim targets to be revised and made more stringent. It also proposes 19 new ones, relating for example to emissions from shipping, organic production, and nature in and near urban areas. In addition, a wide range of measures and policy instruments are proposed (see page 25).
Sweden’s environmental quality objectives – the situation in brief

Smileyys and trend arrows are explained on the inside front cover.

<table>
<thead>
<tr>
<th><strong>OBJECTIVE</strong></th>
<th><strong>Forecast for 2020</strong></th>
<th><strong>Trend</strong></th>
<th><strong>Factors that have affected the assessment</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduced Climate Impact*</td>
<td></td>
<td></td>
<td>To meet the goal, global greenhouse gas emissions must begin to fall within 10–15 years, be halved by 2050 and be near zero by 2100. Emissions worldwide have grown by 70% in the last 35 years, and are expected to go on rising for the next 20–30.</td>
</tr>
<tr>
<td>Clean Air</td>
<td></td>
<td></td>
<td>Causes of air pollution include old vehicles, increased traffic, wood-fired heating and studded tyres. In 2020, pollutants will still adversely affect health and the environment. The trend towards better air quality in towns has not been maintained.</td>
</tr>
<tr>
<td>Natural Acidification Only</td>
<td></td>
<td></td>
<td>Land-based sulphur and nitrogen emissions in Europe have fallen sharply, but not enough. Factors behind the fall in Sweden include the sulphur tax and vehicle exhaust standards. Shipping emissions are rising. Growth in forestry could add to acidification.</td>
</tr>
<tr>
<td>A Non-Toxic Environment</td>
<td></td>
<td></td>
<td>Diffuse releases of dangerous substances from products and processes will be hard to tackle by 2020. Production volumes are rising, especially in countries with limited regulation of chemicals. REACH is a major step forward, but further action is needed.</td>
</tr>
<tr>
<td>A Protective Ozone Layer</td>
<td></td>
<td></td>
<td>For the first time, this goal is judged achievable. Sweden’s phase-out of ozone-depleting substances is going as planned, but substances are still present in some products. Levels in the upper atmosphere are falling; thanks to successful global action.</td>
</tr>
<tr>
<td>A Safe Radiation Environment</td>
<td></td>
<td></td>
<td>Emissions of radioactive substances are limited. Changing human behaviour so as to reduce the incidence of skin cancer is difficult. But the target for electromagnetic fields is now judged to be met, as risks are being studied and addressed.</td>
</tr>
<tr>
<td>Zero Eutrophication</td>
<td></td>
<td></td>
<td>Swedish emissions of phosphorus compounds and nitrogen compounds, including ammonia, have fallen. The majority of nutrient inputs to seas and forest soils originate in other countries. Recovery of natural ecosystems will take a long time.</td>
</tr>
<tr>
<td>Flourishing Lakes and Streams</td>
<td></td>
<td></td>
<td>Better stewardship is needed in farming and forestry. Conservation of cultural and natural environments must be stepped up. Conditions for ecological restoration have improved. Water supply plans are often lacking. Many species are threatened. Alien species are a problem.</td>
</tr>
<tr>
<td>Good-Quality Groundwater</td>
<td></td>
<td></td>
<td>Groundwater is affected by farming, towns, roads, contaminated land, over-abstraction etc. Monitoring is inadequate. Many water sources lack sufficient protection. Water authorities’ programmes of measures are expected to help meet this objective.</td>
</tr>
<tr>
<td>A Balanced Marine Environment, Flourishing Coastal Areas and Archipelagos</td>
<td></td>
<td></td>
<td>Nutrient inputs are falling, but abatement of eutrophication is less clear. The status of cod and eel stocks is critical. Coastal and offshore development pressures are growing, as is the risk of oil discharges. The area protected is gradually increasing.</td>
</tr>
<tr>
<td>Thriving Wetlands</td>
<td></td>
<td></td>
<td>Wetland conservation and restoration are progressing slowly. Environmental stewardship must improve, especially in forestry. On the plus side: a revised Mire Protection Plan and continued progress on Natura 2000, water management and threatened species.</td>
</tr>
<tr>
<td>Sustainable Forests</td>
<td></td>
<td></td>
<td>Conflicting trends can be seen. Several key factors for biodiversity are improving, e.g. dead wood, large trees, mature forest. But forests of high conservation value are being felled, and cultural remains damaged. Use of forest resources is intensive.</td>
</tr>
<tr>
<td>A Varied Agricultural Landscape</td>
<td></td>
<td></td>
<td>Natural and cultural assets are threatened by both scrub encroachment and intensification of farming. Agri-environment measures and business and rural development are major factors affecting the prospects of achieving the objective.</td>
</tr>
<tr>
<td>A Magnificent Mountain Landscape</td>
<td></td>
<td></td>
<td>Reindeer grazing is needed to maintain the unique values of the mountain landscape. Reindeer numbers have fallen. Damage due to off-road vehicles has increased slightly. More of these vehicles are now quieter. Mountain cultural heritage is inadequately protected.</td>
</tr>
<tr>
<td>A Good Built Environment</td>
<td></td>
<td></td>
<td>Buildings and urban structures have long lifetimes, so existing problems will persist, making it very hard to meet the objective by 2020. Noise and poor indoor environments are major health problems. Cultural heritage is inadequately protected.</td>
</tr>
<tr>
<td>A Rich Diversity of Plant and Animal Life</td>
<td></td>
<td></td>
<td>Despite the action taken, loss of biodiversity (both species and ecosystems) continues. Several common species, e.g. farmland birds, are declining. The status of threatened species has worsened. Many biological resources are not being used sustainably.</td>
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</tbody>
</table>

* Target year 2050, as a first step
Reduced Climate Impact

**ENVIRONMENTAL QUALITY OBJECTIVE ONE** The UN Framework Convention on Climate Change provides for the stabilization of concentrations of greenhouse gases in the atmosphere at levels which ensure that human activities do not have a harmful impact on the climate system. This goal must be achieved in such a way and at such a pace that biological diversity is preserved, food production is assured and other goals of sustainable development are not jeopardized. Sweden, together with other countries, must assume responsibility for achieving this global objective.

The Council’s assessment

This objective will be very difficult or not possible to achieve by 2050. The trend in the state of the environment is negative.

Levels of greenhouse gases in the atmosphere continue to rise. Global emissions have grown by 70% in the last 35 years, and are expected to increase more rapidly over the next 20–30 if no further action is taken to reduce them.

The biggest rise has been in releases of carbon dioxide from fossil fuel use in the energy and transport sectors. Deforestation around the world is another significant factor behind the increased atmospheric concentration of this gas.

Sweden’s greenhouse gas emissions have fallen. Over the period 1999–2006, they have averaged 4.5% below 1990 levels. The Swedish interim target for 2008–12 is for annual emissions to be at least 4% lower than in 1990.

How can the objective be met?

Emissions will need to be reduced throughout this century if the objective is to be attained. The EU has adopted a long-term climate goal of limiting the global average temperature rise to no more than 2°C above pre-industrial levels. To meet that goal, the industrial nations will have to cut their emissions by 30–40% by 2020 and 75–90% by 2050, compared with 1990.

Important factors in achieving Reduced Climate Impact include the development of more energy-efficient technologies and carbon capture and storage technology, an increased share of renewable energy, transfer of energy-efficient and renewable energy technologies to developing countries, and reduced deforestation.

NEW AND REVISED INTERIM TARGETS

A new interim target is proposed, in line with the medium-term (2020) target for Swedish greenhouse gas emissions proposed by the Climate Committee. The existing interim target should be retained unchanged.
Clean Air

ENVIRONMENTAL QUALITY OBJECTIVE TWO The air must be clean enough not to represent a risk to human health or to animals, plants or cultural assets.

The Council’s assessment

This objective will be very difficult or not possible to achieve by 2020, even if further action is taken. No clear trend in the state of the environment can be seen.

Air pollution continues to have adverse effects on health and the environment. So far this century, no improvement in air quality has been recorded in Sweden’s towns and cities. The biggest problems exist in major towns, certain areas of southern Sweden, and some northern areas affected by inversions (weather conditions in which exhaust emissions and other pollutants are trapped close to the ground).

Causes of air pollution include old vehicles, increased traffic, wood-fired heating and studded tyres. As recently as 2006, the Clean Air objective was regarded as achievable, provided that further action was taken. The current, more pessimistic assessment is based on a better understanding of environmental and health risks, especially those associated with particles. Other contributory factors include a halt in the positive trend in nitrogen dioxide levels and higher background concentrations of ground-level ozone. On the other hand, the interim targets for volatile organic compounds (VOCs) and sulphur dioxide have been reached.

How can the objective be met?

The biggest obstacles to achieving Clean Air are the difficulties in reducing concentrations of particles, nitrogen dioxide and ground-level ozone. Insufficient action has been taken locally to bring down air pollutant levels in urban areas.

Much of the air pollution occurring in Sweden comes from sources outside the country. A good deal more global cooperation is needed to curb emissions of ozone precursors and fine particles. Further policy instruments and measures to encourage replacement of old boilers and installation of accumulator tanks are seen by several county administrative boards as necessary to attaining the objective.

Key factors affecting the prospects of meeting this environmental quality objective are developments in the transport sector, international efforts to tackle air pollution, and trends in energy use and individual heating systems.

NEW AND REVISED INTERIM TARGETS

A new interim target for ground-level ozone, for the protection of vegetation, is proposed. Existing targets should be retained, or revised and given new target years. The target for sulphur dioxide has been met and should be withdrawn.

<table>
<thead>
<tr>
<th>CURRENT INTERIM TARGETS</th>
<th>TARGET YEAR</th>
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<tbody>
<tr>
<td>Sulphur dioxide</td>
<td>2005</td>
</tr>
<tr>
<td>Nitrogen dioxide</td>
<td>2010</td>
</tr>
<tr>
<td>Ground-level ozone</td>
<td>2010</td>
</tr>
<tr>
<td>Volatile organic compounds</td>
<td>2010</td>
</tr>
<tr>
<td>Particles</td>
<td>2010</td>
</tr>
<tr>
<td>Benzo[a]pyrene</td>
<td>2015</td>
</tr>
</tbody>
</table>

In the Swedish towns with the highest particle emissions, road surface abrasion by studded snow tyres is an important source.
The Council’s assessment

Greatly reduced emissions of acidifying sulphur and nitrogen across Europe in recent decades have led to significant improvements in the acidification status of soil and water. Projections point to a further modest decline in emissions by 2020, and the situation is thus expected to continue to improve – but not enough. Shipping emissions in sea areas around Sweden are expected to go on rising. Increased harvesting of biomass from forests could adversely affect the recovery capacity of forest soils and thus exacerbate acidification.

How can the objective be met?

To achieve this environmental quality objective, further action needs to be taken. The objective cannot be met by national measures alone, but requires international cooperation, since acid deposition originates largely from sources outside Sweden. Key factors affecting the prospects of attaining this goal include international and domestic shipping, energy use in society, growth in road traffic, and increasingly intensive forestry.

<table>
<thead>
<tr>
<th>CURRENT INTERIM TARGETS</th>
<th>TARGET YEAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acidification of lakes and streams</td>
<td>2010</td>
</tr>
<tr>
<td>Acidification of forest soils</td>
<td>2010</td>
</tr>
<tr>
<td>Sulphur dioxide emissions</td>
<td>2010</td>
</tr>
<tr>
<td>Nitrogen oxide emissions</td>
<td>2010</td>
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</tbody>
</table>

NEW AND REVISED INTERIM TARGETS

New targets concerning the acidifying effects of forestry and emissions from shipping are proposed. Existing targets should be revised and given new target years. The target for sulphur dioxide emissions has been met and should be withdrawn.
The Council’s assessment

This objective will be very difficult or not possible to achieve by 2020, even if further action is taken. No clear trend in the state of the environment can be seen.

Levels of known toxic pollutants in the environment, such as dioxin-like compounds, mercury and cadmium, will still be a problem in 2020. Point-source emissions of substances hazardous to health and the environment have declined, but the volume of production has grown, making diffuse and secondary sources increasingly important. Understanding of the hazardous properties and environmental occurrence of many substances is poor, and new problem substances are constantly being identified.

Good progress has been made in reducing risks in the workplace, but allergy and other forms of hypersensitivity remain a major problem. Infant exposure to chemicals, at the fetal and neonatal stages, has caused mounting concern in recent years, with growing evidence to suggest a link with permanent developmental changes.

How can the objective be met?

To achieve A Non-Toxic Environment, national action will not be enough; there also need to be changes at the EU and international levels. Globalization of production and trade is a major factor affecting progress. Use of dangerous substances in products needs to be reduced, but at the same time demand for chemical products is growing. Swedish efforts to promote global action on chemicals are important in moving towards this objective, as are stricter legislation, more effective supervision and Swedish research of a high standard.

Concentrations of persistent organic pollutants in breast milk show only a gradual decline, despite reductions in both use and emissions of these substances.

**Current interim targets**

<table>
<thead>
<tr>
<th>Current interim targets</th>
<th>Target year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data on health and environmental properties of chemical substances</td>
<td>2010/2020</td>
</tr>
<tr>
<td>Information on dangerous substances in products</td>
<td>2010</td>
</tr>
<tr>
<td>Phase-out of substances of very high concern</td>
<td>2007/2010</td>
</tr>
<tr>
<td>Continuous reduction of health and environmental risks of chemicals</td>
<td>2010</td>
</tr>
<tr>
<td>Guideline values for environmental quality</td>
<td>2010</td>
</tr>
<tr>
<td>Remediation of contaminated sites</td>
<td>2010</td>
</tr>
<tr>
<td>Remediation of contaminated sites</td>
<td>2005–2010/2050</td>
</tr>
<tr>
<td>Dioxins in food</td>
<td>2010</td>
</tr>
<tr>
<td>Cadmium</td>
<td>2015</td>
</tr>
</tbody>
</table>

**New and revised interim targets**

A new interim target for unintentionally produced substances is proposed. Existing targets should be revised and given new target years. The target concerning guideline values for environmental quality has been met and should be withdrawn.
A Protective Ozone Layer

ENVIRONMENTAL QUALITY OBJECTIVE FIVE The ozone layer must be replenished so as to provide long-term protection against harmful UV radiation.

The Council’s assessment

This objective is expected to be achieved by 2020. The trend in the state of the environment is positive.

Atmospheric concentrations of ozone-depleting substances are falling, thanks to successful international action under the Montreal Protocol. For the first time, therefore, this objective is judged to be achievable. However, total ozone levels are still 3.5% lower than they were before ozone depleters began to be released into the atmosphere.

Substances that deplete the ozone layer contain either chlorine or bromine, and were previously used as aerosol propellants and as refrigerants in refrigeration and air conditioning equipment. Chemicals of this type have also been used in foam plastic insulation materials and as fire-extinguishing agents.

The degree of ozone thinning remained constant over the period 2002–5, suggesting that atmospheric levels of ozone are no longer declining. This can be linked to a simultaneous decrease in abundances of ozone-depleting gases in the upper atmosphere. However, full recovery of the ozone layer is not expected until some point beyond 2050.

Sweden’s phase-out of ozone-depleting substances is going according to plan, but such substances are still to be found in certain products.

How can the objective be met?

To achieve this environmental quality objective, further international cooperation and compliance with existing rules are essential. The binding agreements reached under the Montreal Protocol to curb the use and production of ozone-depleting substances have a crucial part to play.

Key factors affecting the prospects of attaining the objective, apart from successful implementation of the Montreal Protocol, include an effective combination of policy instruments, and technical solutions for the phase-out and recovery of materials (e.g. insulation materials) containing ozone-depleting chemicals. In addition, alternatives need to be developed.

NEW AND REVISED INTERIM TARGETS

The target for emissions of ozone-depleting substances is expected to be met by 2010 and should then be withdrawn. The assessment is that further effective progress towards the objective can be achieved without an interim target.
A Safe Radiation Environment

ENVIRONMENTAL QUALITY OBJECTIVE SIX Human health and biological diversity must be protected against the harmful effects of radiation in the external environment.

The Council’s assessment
This objective can be achieved by 2020 if further action is taken. No clear trend in the state of the environment can be seen.

Emissions of radioactive substances are limited, and radiation doses to the public from individual activities are judged to be negligible. As regards monitoring of the risks associated with electromagnetic fields (EMFs), the trend is positive. EMFs arise, for example, around power lines, wireless broadband and 3G equipment. The interim target for EMFs is considered to have been met, as the associated risks are being studied and appropriate steps taken.

For the skin cancer target, however, the picture is less encouraging. The incidence of this disease continues to rise, and the target is judged to be very hard to achieve.

How can the objective be met?
It is difficult to assess what remains to be done to reach this objective. In some areas, such as radiological protection of plant and animal life, not enough is known about effects and risks. In others, like final disposal of radioactive waste, development work is still under way.

Key factors that could affect the prospects of achieving the objective are the difficulties in influencing people’s exposure to ultraviolet radiation, criminal or terrorist use of radioactive substances, developments in sectors involving radiation (e.g. health care, industry and research), Sweden’s emergency preparedness, arrangements for disposal of radioactive waste, and demand for technologies involving EMFs.

Society’s dependence on electricity may also be significant, since roughly half the power used in Sweden is nuclear-generated. The country’s need for electricity may therefore result in the release and spread of radioactive substances.

Number of new cases of malignant skin cancer, 1970–2006

<table>
<thead>
<tr>
<th>Thousands</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Other malignant skin cancer, interim target 2020</td>
</tr>
<tr>
<td>2</td>
<td>Malignant melanoma, interim target 2020</td>
</tr>
<tr>
<td>1</td>
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</tbody>
</table>

SOURCE: NATIONAL BOARD OF HEALTH AND WELFARE
The incidence of skin cancer in Sweden continues to rise. Initiatives to change attitudes and sun-exposure habits are important in reversing this trend.

A new interim target for disposal of radioactive waste is proposed, replacing the current target for radioactive substances. Other existing targets should be revised or retained unchanged.
The Council’s assessment

This objective will be very difficult or not possible to achieve by 2020, even if further action is taken. No clear trend in the state of the environment can be seen.

Emissions to both air and water of substances causing eutrophication are falling, but no corresponding improvement can be seen in the state of the environment. The biggest problems are to be found in the marine environment, where algal blooms are believed to have increased in number and scale as a result of eutrophication. In 2005 and 2006 massive blooms occurred in the Baltic Sea, those in 2006 being the largest for ten years. Oxygen and hydrogen sulphide levels in the northern and western Gotland Basin were the worst ever recorded.

However, while we have yet to see any large-scale improvement in the state of the environment, declining emissions to air and water are reported both in Sweden and in other parts of Europe. Nutrient levels in rivers draining agricultural areas of southern Sweden are falling, with further decreases forecast.

How can the objective be met?

Although this objective is not expected to be attained by 2020, the Council’s assessment is that, by that date, the conditions for achieving it in the longer term can be created – but only if all the Helsinki Commission (HELCOM) countries fulfil their commitments under the Baltic Sea Action Plan.

Future trends in agriculture will crucially affect the prospects of achieving Zero Eutrophication. Single-household sewage systems are another key area, with a growing number of second homes being used all year round, combined with inadequate supervision and substandard treatment.

ENVIRONMENTAL QUALITY OBJECTIVE SEVEN

Nutrient levels in soil and water must not be such that they adversely affect human health, the conditions for biological diversity or the possibility of varied use of land and water.

CURRENT INTERIM TARGETS

<table>
<thead>
<tr>
<th>Substance</th>
<th>Target Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phosphorus emissions</td>
<td>2010</td>
</tr>
<tr>
<td>Nitrogen emissions</td>
<td>2010</td>
</tr>
<tr>
<td>Ammonia emissions</td>
<td>2010</td>
</tr>
<tr>
<td>Nitrogen oxide emissions</td>
<td>2010</td>
</tr>
</tbody>
</table>

NEW AND REVISED INTERIM TARGETS

No new targets are proposed. Existing targets should be revised and given new target years.
Flourishing Lakes and Streams

ENVIRONMENTAL QUALITY OBJECTIVE EIGHT Lakes and watercourses must be ecologically sustainable and their variety of habitats must be preserved. Natural productive capacity, biological diversity, cultural heritage assets and the ecological and water-conserving function of the landscape must be preserved, at the same time as recreational assets are safeguarded.

The Council’s assessment

This objective can be achieved by 2020 if further action is taken. The trend in the state of the environment is positive.

Positive progress towards this objective is expected, provided that county administrative boards continue to make the environmental objectives a priority and, in certain respects, do more in this area. Increased allocations for nature conservation, combined with strategies, improved knowledge and future efforts to achieve water status objectives, are in the long term expected to enhance biodiversity and ensure greater consideration for natural and cultural heritage assets.

The interim targets relating to releases of animals and plants and action programmes for threatened species have been achieved, and the target for restoration of rivers and streams can also be met if further measures are introduced. The targets concerning water supply plans and protection of natural and cultural environments, however, will be very difficult to meet on time, even with additional action.

How can the objective be met?

To achieve Flourishing Lakes and Streams, further measures must be introduced. Better consideration for the environment is called for in primary sectors, especially farming and forestry, and efforts to conserve cultural and natural environments need to be stepped up. Other key factors include the impacts of hydroelectric schemes on biodiversity, and construction near lakes and rivers, which adversely affects animal and plant life. When ecological restoration projects are planned and carried out, due account must also be taken of valuable cultural environments.

NEW AND REVISED INTERIM TARGETS

No new targets are proposed. The target concerning action programmes for threatened species should be withdrawn, and related issues dealt with under the objective A Rich Diversity of Plant and Animal Life. Other existing interim targets should be revised and given new target years.
The Council’s assessment

This objective can be achieved by 2020 if further action is taken. No clear trend in the state of the environment can be seen.

The creation of new water authorities has prompted greater efforts and a greater concern for groundwater on the part of both county administrative boards and local authorities. In the road transport, drinking water supply, agriculture and well-drilling sectors, too, work is under way that will help to meet this objective.

Many improvements may be noted: more care is being taken when salting roads and in pesticide and fertilizer use in farming and forestry, for example, and acid deposition is much reduced. However, the inertia of soil and groundwater systems means that it takes time for such improvements to make themselves felt. Nitrate levels, for instance, will probably remain high beyond 2020 in some groundwaters. Also, there are still major gaps in our understanding of groundwater quality with respect to pollutants.

How can the objective be met?

To achieve this objective, the water authorities’ overall programmes of measures at the regional and local levels will need to meet existing requirements in terms of water quality management. Local authority planning and action on water supply, sewage and solid waste issues must take into account the need to protect groundwater.

Another area affecting progress is agriculture, since fertilizer and pesticide use and irrigation often impair groundwater status. Trends in forestry too, such as an increase in nitrogen fertilization, could adversely affect groundwater.

NEW AND REVISED INTERIM TARGETS

A new target for private water supplies is proposed. Existing targets should be revised and given new target years.
A Balanced Marine Environment, Flourishing Coastal Areas and Archipelagos

**ENVIRONMENTAL QUALITY OBJECTIVE TEN** The North Sea and the Baltic Sea must have a sustainable productive capacity, and biological diversity must be preserved. Coasts and archipelagos must be characterized by a high degree of biological diversity and a wealth of recreational, natural and cultural assets. Industry, recreation and other utilization of the seas, coasts and archipelagos must be compatible with the promotion of sustainable development. Particularly valuable areas must be protected against encroachment and other disturbance.

The Council’s assessment

This objective will be very difficult or not possible to achieve by 2020, even if further action is taken. No clear trend in the state of the environment can be seen.

Despite considerable efforts over the last 30 years, the environmental status of the Baltic Sea, Kattegat and Skagerrak remains poor. For several fish species and populations, the situation is still very serious, and bycatch of fish, birds and marine mammals continues to be a problem.

Some coastal and archipelago areas are under growing pressure from built development, recreation and tourism. Elsewhere, depopulation is a problem, resulting in overgrown agricultural landscapes and the decline or decay of built heritage and unique amenity values.

There are some encouraging trends as well, however, such as progress in establishing marine nature reserves and no-fishing areas, and a steady decrease in illegal discharges of oil into the Baltic.

How can the objective be met?

Cooperation within the EU and internationally is crucial to attaining this objective. Sweden is dependent on international agreements to reduce inputs of toxic pollutants and nutrients to the marine environment, to establish necessary controls on fisheries, and to improve environmental practice in the shipping industry. A future rise in temperature could produce dramatic changes, including a dilution of salinity, changes in species composition and increased leaching of nutrients.

**NEW AND REVISED INTERIM TARGETS**

New targets for the restoration of inshore habitats and use of the coastal and archipelago landscape are proposed. The targets for noise and other disturbance and discharges of oil and chemicals should be revised and merged into a new target relating to the impacts of shipping. The interim target calling for a strategy for cultural heritage and agricultural landscapes has been met and should be withdrawn. The target concerning threatened species should also be withdrawn, and related issues dealt with under *A Rich Diversity of Plant and Animal Life*. Other existing targets should be revised and given new target years.
Thriving Wetlands

ENVIRONMENTAL QUALITY OBJECTIVE ELEVEN The ecological and water-conserving function of wetlands in the landscape must be maintained and valuable wetlands preserved for the future.

The Council’s assessment

This objective can be achieved by 2020 if further action is taken. The trend in the state of the environment is positive.

Protection of mires and re-establishment of wetlands in the farmed landscape are progressing, though not quickly enough. Although three key interim targets will not be met on time, the prospects for Sweden’s wetlands look fairly promising in the slightly longer term. The Environmental Protection Agency and county administrative boards have revised the Mire Protection Plan for Sweden, and work on action programmes for threatened species is moving forward.

Consideration for aquatic and wetland environments in agriculture and forestry is likely to improve with the implementation of the EU Water Framework Directive. The Government has given county administrative boards special funding to establish and restore wetland areas. Re-creation of wetlands may prove important in mitigating the effects of climate change and changed precipitation patterns.

How can the objective be met?

Greater attention needs to be paid to wetlands, especially in forestry. More wetlands must be re-established in the right places in farming areas, both as habitats for animals and plants and to reduce marine eutrophication. In addition, more mires need to be protected and surveys made of wetland cultural heritage.

Perhaps the most important factor in achieving this objective is awareness and interest on the part of landowners when it comes to preventing damage to and recreating wetlands. Compliance, and supervision of compliance, with existing legislation is crucial, particularly as regards environmental consideration in forestry. In addition, policy decisions need to be taken on funding for compensation payments and nature conservation agreements to protect mire sites.

NEW AND REVISED INTERIM TARGETS

New targets regarding conservation of and consideration for wetlands are proposed. The current target for wetlands on agricultural land should be revised. The interim target calling for a strategy for protection and management has been met and should be withdrawn. The target concerning action programmes for threatened species should also be withdrawn, and related issues dealt with under A Rich Diversity of Plant and Animal Life.
The Council’s assessment

This objective will be very difficult or not possible to achieve by 2020, even if further action is taken. No clear trend in the state of the environment can be seen.

Several opposing trends are at work in Sweden’s forests. In some respects, biodiversity is still declining. Forest resources are intensively exploited and the felling rate is very high, partly owing to rising demand for biofuels. Diversity is under pressure from harvesting of forests of very high nature conservation value, and from continuing inadequate attention to conservation in connection with regeneration felling. Several common forest species are declining. Regeneration felling of near- and semi-natural stands is the single measure that is judged to threaten the largest number of species. At the same time, some basic factors for biodiversity are improving, such as the quantity of dead wood, numbers of large trees, and areas of mature forest with a large deciduous element.

Levels of damage caused by forestry to ancient monuments and other cultural heritage assets in Sweden’s forests are unacceptably high.

How can the objective be met?
The objective Sustainable Forests will not be achieved on time, but the interim targets and measures proposed will pave the way for meeting it in the longer term. Over and above the targets and measures put forward, further improvements will be needed beyond 2020. Another 500,000 ha of forest land must be restored, for example, to recreate sufficient areas of forest types of high nature conservation value that are currently lacking. The volume of dead wood needs to increase.

Key factors affecting the prospects of attaining this objective include future demand for forest raw materials and products, sufficient government funds to compensate landowners for formal forest protection (e.g. nature reserves), and further implementation of certification schemes in the forest industry.

New and revised interim targets

New targets are proposed concerning management of protected forests, structures of biological value on productive forest land, and environments in and around water in the forest landscape. The target calling for action programmes for threatened species should be withdrawn, and related issues dealt with under A Rich Diversity of Plant and Animal Life. Other existing targets should be revised and given new target years.
A Varied Agricultural Landscape

ENVIRONMENTAL QUALITY OBJECTIVE THIRTEEN The value of the farmed landscape and agricultural land for biological production and food production must be protected, at the same time as biological diversity and cultural heritage assets are preserved and strengthened.

The Council’s assessment

This objective can be achieved by 2020 if further action is taken. The trend in the state of the environment is positive.

The natural and cultural assets of the agricultural landscape are threatened by both scrub encroachment and intensification of farming. However, the last decade has seen a positive trend in the total area of meadow and pasture land. Regarding biodiversity and cultural heritage, improvements such as increased areas of high-value land under management may be noted. At the same time, many farmland species are still threatened or declining.

Major changes are affecting the diversity of buildings and built environments. The status and long-term productivity of arable land are satisfactory.

How can the objective be met?

It is difficult to assess how far we are from achieving this objective. We need to know more about how much land is required, and how far-reaching measures must be, to preserve the natural and cultural assets of the farmed landscape. Long-term funding for relevant measures is essential.

Key factors affecting the prospects of attaining the objective are the EU’s Common Agricultural Policy, economic and technological trends in agriculture, and rural development policy and overall trends in that area. The value of the agricultural landscape depends on the land being farmed and on the attractions of living and working in the countryside.

NEW AND REVISED INTERIM TARGETS

New targets are proposed for the arable landscape, buildings and built environments, and organic production. The interim targets for small-scale habitats and farm buildings of cultural heritage value have been met, partially or in full, and should be withdrawn. The target concerning action programmes for threatened species should also be withdrawn, and related issues dealt with under A Rich Diversity of Plant and Animal Life. Other existing targets should be revised and given new target years.

<table>
<thead>
<tr>
<th>CURRENT INTERIM TARGETS</th>
<th>TARGET YEAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meadow and pasture land</td>
<td>2010</td>
</tr>
<tr>
<td>Small-scale habitats</td>
<td>2005 (part of target)</td>
</tr>
<tr>
<td>Culturally significant landscape features</td>
<td>2010</td>
</tr>
<tr>
<td>Plant genetic resources and indigenous breeds</td>
<td>2010</td>
</tr>
<tr>
<td>Action programmes for threatened species</td>
<td>2006</td>
</tr>
<tr>
<td>Farm buildings of cultural heritage value</td>
<td>2005</td>
</tr>
</tbody>
</table>
A Magnificent Mountain Landscape

ENVIRONMENTAL QUALITY OBJECTIVE FOURTEEN The pristine character of the mountain environment must be largely preserved, in terms of biological diversity, recreational value, and natural and cultural assets. Activities in mountain areas must respect these values and assets, with a view to promoting sustainable development. Particularly valuable areas must be protected from encroachment and other disturbance.

The Council’s assessment

This objective can be achieved by 2020 if further action is taken. The trend in the state of the environment is positive.

Regarding the state of the mountain environment, a positive trend can be discerned. Damage to soil and vegetation from off-road vehicles has increased to only a negligible degree. The proportion of light off-road vehicles sold with low noise ratings has risen markedly, and if this trend continues noise levels in mountain areas will decline.

The county administrative boards’ regional environment and sustainable use programme is now being implemented, the aim being to create a better basis for sustainable development in the mountain environment. Particularly important elements include the proposed model for collaboration on mountain issues, resource and development planning geared to mountain conditions, and further capacity building.

How can the objective be met?

The key factors affecting the prospects of achieving A Magnificent Mountain Landscape are mineral exploration and test quarrying, with applications on the rise; growing interest in an expansion of wind power; and disturbance from off-road vehicles, use of which is expected to increase as a result of growing tourism. There must be no delay in heeding, and taking steps to prevent, the adverse effects of climate change on Sweden’s mountain environment.

NEW AND REVISED INTERIM TARGETS

A new interim target for the mountain landscape is proposed. The target concerning action programmes for threatened species should be withdrawn, and related issues dealt with under A Rich Diversity of Plant and Animal Life. Other existing targets should be revised and given new target years.

<table>
<thead>
<tr>
<th>CURRENT INTERIM TARGETS</th>
<th>TARGET YEAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Damage to soil and vegetation</td>
<td>2010</td>
</tr>
<tr>
<td>Noise</td>
<td>2010/2015</td>
</tr>
<tr>
<td>Natural and cultural assets</td>
<td>2010</td>
</tr>
<tr>
<td>Action programmes for threatened species</td>
<td>2005</td>
</tr>
</tbody>
</table>
The Council’s assessment

This objective will be very difficult or not possible to achieve by 2020, even if further action is taken. No clear trend in the state of the environment can be seen.

The long lifetimes of buildings and urban structures make it difficult to solve existing problems – relating to noise, poor indoor environments, and siting of activities that increase traffic – by 2020. Another concern is inadequate protection of cultural heritage in the built environment.

How can the objective be met?

To attain this objective, we need a better understanding, for example, of ways of improving indoor environments, and of the cultural assets of built environments and how they can be safeguarded. New technology can provide us with quieter vehicles and road surfaces, and improve the energy performance of buildings, but lifestyle changes are also necessary. Minor decisions for the individual, about travel to work, what we buy, and energy saving in the home, can have a major aggregate effect.

A rough estimate is that, with further action, A Good Built Environment could be achieved by 2050.
The Council’s assessment

This objective will be very difficult or not possible to achieve by 2020, even if further action is taken. No clear trend in the state of the environment can be seen.

Despite action to date, loss of biodiversity, in terms of species and ecosystems alike, continues. Current use of biological resources is not sustainable. There are many species whose present populations are not viable in the long term. For them, it is not enough for the decline now in progress to be halted; their populations need to increase. Today, however, the trend for threatened species is the opposite – the threats are growing. In many cases, we still lack a sufficient understanding of ecosystem functions and processes.

Even if trends at all levels were pointing in the right direction at present, the objective might not necessarily be met by 2020, given the long time-scale of some of the processes involved, as well as an extinction debt.

How can the objective be met?

Key factors affecting progress towards this objective include over-exploitation of biodiversity, undesirable habitat change and introductions of alien species. Climate change – higher mean temperatures and altered weather patterns – may put new or more severe strains on ecosystems.

Environmental Quality Objective Sixteen

Biological diversity must be preserved and used sustainably for the benefit of present and future generations. Species habitats and ecosystems and their functions and processes must be safeguarded. Species must be able to survive in long-term viable populations with sufficient genetic variation. Finally, people must have access to a good natural and cultural environment rich in biological diversity, as a basis for health, quality of life and well-being.
Sweden is making progress towards a better environment – but not fast enough. The Environmental Objectives Council’s 2008 evaluation shows that several major environmental problems will persist beyond 2020.

Achieving the environmental quality objectives and promoting sustainable development will require a major reorientation of society. Production of goods and services needs to be better geared to what nature and its ecosystems can withstand, management of land and water resources must be improved, and we all need to develop new habits and consumption patterns and live more sustainably.

Investments in environmentally sounder energy systems and infrastructure are essential. Political resolve is required to handle conflicts of interest and set priorities among different policy objectives. Measures already proposed or decided on must be implemented to a greater extent than at present.

The prospects of meeting most of the environmental objectives very much depend on what happens in the wider world. International as well as national measures are therefore called for to attain them.

Measures and instruments for change
To guide efforts to achieve the environmental quality objectives, three action strategies have been drawn up, describing the key activities in society giving rise to today’s environmental problems – and hence the particular challenges that need to be addressed if the objectives are to be met. In each of the strategies, a wide range of measures and policy instruments are proposed. Implementing these proposals will cost central government SEK 5–10 billion a year, but both economic and qualitative assessments suggest that they make economic sense. That is to say, the benefits will outweigh the costs.

The three action strategies are:

1. A Strategy for More Efficient Energy Use and Transport – to reduce emissions from the energy and transport sectors and increase the share of renewable energy.


On the next six pages you can read about the measures proposed by the Environmental Objectives Council under the three strategies. The full evaluation report, including all the proposals, can be downloaded from the Environmental Objectives Portal, www.miljomal.nu.
More Efficient Energy Use and Transport

Greater efficiency in energy use and transport is fundamental to achieving several of the environmental quality objectives, in particular Reduced Climate Impact, Natural Acidification Only, Zero Eutrophication, Clean Air and A Good Built Environment.

The Environmental Objectives Council therefore proposes a range of measures and some 50 new or modified policy instruments in the framework of the Strategy for More Efficient Energy Use and Transport. This strategy has an international perspective throughout, reflecting the fact that international cooperation will be a major factor in meeting the objectives concerned.

Key measures and instruments
Powerful measures and policy instruments are needed to limit the rise in emissions resulting from increases in energy use up to 2020. In the absence of further action, sharp growth in greenhouse gas emissions from power and district heating plants, industry and transport is predicted. The increase in releases of carbon dioxide from international shipping is expected to be very pronounced, and a continued rise in sulphur and nitrogen emissions from this sector is also anticipated.

Economic instruments are seen by the Council as the main priority, supplemented by administrative, information and other instruments.

1. More efficient use of energy
The first priority is measures to achieve a general improvement in energy efficiency, in industry, housing and services, and transport of passengers and goods.

EXAMPLES OF INSTRUMENTS PROPOSED:
• Higher tax on petrol and diesel (up SEK 0.75/litre, index-linked to GDP).
• Increased vehicle tax differential based on carbon dioxide emissions.
• Kilometre tax on road freight.
• Capacity building to promote transport-efficient spatial planning.
• State investment in public transport.
• Improved consumer information for buyers of new vehicles.
• Better regional coordination of environmental objectives with local authority planning.
• Grants for more efficient lighting on municipal road networks.
• More efficient emissions trading scheme for energy-intensive industry and electricity and district heating producers.

2. Increased share of renewable energy
Measures need to be introduced to increase the use of renewable and non-depleting energy sources, such as solar and wind. These are the highest priority, followed by biomass, which has considerable potential. A larger share of electricity and heat should be produced from renewable sources.

EXAMPLES OF INSTRUMENTS PROPOSED:
• Simplified licensing of wind power.
• Support for solar heating to be extended.
• Support for EU work on certification of transport biofuels.
3. Reduced nitrogen and sulphur emissions
Measures are required to reduce nitrogen oxide emissions from stationary sources, road transport and mobile machinery, and to curb releases of nitrogen and sulphur oxides from shipping.

EXAMPLES OF INSTRUMENTS PROPOSED:
• Nitrogen oxide charge to be raised and extended to more plants.
• Procurement criteria to promote cleaner mobile machinery.
• Fuel sulphur standards and nitrogen oxide emission regulations for ships to be tightened internationally.

4. Better air quality
Measures are needed to reduce air pollutant levels, for example by cutting emissions from small-scale burning of wood and use of studded tyres.

EXAMPLES OF INSTRUMENTS PROPOSED:
• Study of the extent of emissions from small-scale wood burning. Subsequently, grants could be offered to encourage replacement of boilers, for example, or a differentiated environmental charge could be introduced, based on boiler performance.
• Tax on studded tyres (SEK 50/tyre), combined with stricter tread depth requirements.
• Environmental classification of snowmobiles and other mobile machinery.

5. Less transport noise
Measures are required to reduce noise from transport.

EXAMPLES OF INSTRUMENTS PROPOSED:
• Stricter EU regulations to promote quieter vehicles and tyres.
• Information campaigns to the same end.
• Stricter noise standards for railway rolling stock.
• A noise component to be developed and included in railway track charges.
• Government grants to local authorities for noise abatement measures to be developed.
Non-Toxic, Resource-Saving Environmental Life Cycles

The life-cycle principle is crucial, both to achieving a sustainable society and to implementing several of the environmental quality objectives – in particular A Non-Toxic Environment, A Protective Ozone Layer, A Safe Radiation Environment, Zero Eutrophication, A Good Built Environment and Reduced Climate Impact.

Many environmental problems are directly or indirectly linked to the flow and use of natural resources in society, and are the result of our production and consumption of goods and services. The Strategy for Non-Toxic, Resource-Saving Environmental Life Cycles is focused on ensuring that what we extract from nature can be used, reused, recycled and finally disposed of with the least possible consumption of resources and without harm to the natural environment – the life-cycle principle.

Key areas of action
A range of measures are needed to promote progress towards non-toxic, resource-saving environmental life cycles. Patterns of both production and consumption must change. Good progress has been made, but further action is required, not least to promote sustainable use of resources. For certain natural resources and our overall consumption of them, change is too slow, or even moving in the wrong direction.

1. Implement and develop instruments already decided on
Legislation in support of environmental policy has developed over a long period of time, nationally and internationally. In many areas, therefore, the need is not for further regulations, but for improvements in the way existing ones are applied. Often it is a matter of making sure rules are effective and securing good compliance, for example in relation to waste and single-household sewage systems. It may also be necessary to work for the inclusion of new requirements in existing regulations, for instance to achieve a real reduction in the use of dangerous substances in products.

2. International solutions required
Objectives that are dependent on international action need to be followed up to ensure that we are solving environmental problems, and not simply exporting them. Indicators should be developed to measure the impacts of Swedish consumption on the environments of other countries. Sweden’s efforts in international contexts should have a more systematic
focus on seeking to achieve the Swedish environmental objectives.

3. Change production and consumption patterns
Several of the objectives call for changes in production and consumption, in Sweden and around the world. This is a major challenge. Measures should be implemented to make sure that the state, county councils and local authorities set an example in the environmental field, for example by applying clear environmental criteria when purchasing goods and services. But businesses and consumers need to take similar steps. With ‘green’ dietary advice, for example, consumers could more easily choose food products with less impact on the environment.

4. Reduce environmental impacts of food supply and construction
Measures are required to reduce the adverse environmental impacts of the food supply chain and the construction industry. The central government agencies responsible for these sectors should have a clearer overall responsibility for improving environmental performance. Action is needed to reduce waste in the food chain, and to conserve raw materials and energy in the construction and property sector.

5. Improve environmental coordination
Closer collaboration needs to be achieved between public agencies and other stakeholders at different levels in society, to ensure more effective environmental action.

Three areas are identified as of particular importance: the regulatory frameworks for products, chemicals and waste; the food sector; and the construction, property and civil engineering sector. More also needs to be done to bring about better coordination of regulations internationally.

6. More knowledge needed
Steps must be taken to improve our understanding of how the environmental quality objectives can be met. State funding for research should have a clearer focus on helping to build a sustainable society. A new knowledge centre is proposed, to speed progress towards sustainable production and use of chemicals.
Many of the environmental objectives are difficult to achieve as a result of ecosystems and natural resources being overexploited or used in ways that lead to a poorer environment. This is true, for example, of Flourishing Lakes and Streams, Good-Quality Groundwater, A Balanced Marine Environment, Flourishing Coastal Areas and Archipelagos, Thriving Wetlands, Sustainable Forests, A Varied Agricultural Landscape, A Magnificent Mountain Landscape, A Good Built Environment and A Rich Diversity of Plant and Animal Life.

In the Strategy for the Management of Land, Water and the Built Environment, the Environmental Objectives Council presents a range of proposals to ensure better management of these resources. Among other things, land use planning and consideration for the environment in agriculture, forestry and fisheries need to improve. Valuable environments must be protected and restored. The Council stresses the link between consideration and protection: if sufficient consideration is shown for the environment, less formal protection will be required.

Key measures and instruments
The strategy’s focus on consideration, protection and planning creates a good basis for greater collaboration between business, central government and local authorities. Better planning and environmental consideration can reduce the need for protection and restrictions. To ensure that the environmental objectives more clearly shape society, joint efforts must be made to develop methods for use in valuing ecosystem services, biodiversity and cultural heritage, and balancing competing claims to land and water. This could become all the more crucial as different sectors have to adapt to a changing climate.

1. Environmentally sound planning
Measures to promote environmentally sound land use planning and urban and regional development. One area of land use planning is the work of local authorities on comprehensive plans guiding the use of land and water and the development of urban areas.

EXAMPLES OF INSTRUMENTS PROPOSED:
• Funding for a knowledge development programme for local authorities and county administrative boards, linked to the environmental objectives. The aim is to strengthen expertise in environmental and health issues among administrators and politicians and to develop the resources of the non-profit sector.
• Improved consultation between county administrative boards and local authorities, to ensure better application of the Planning and Building Act and greater consideration for the environment in planning and decision-making.
• Criteria for environmentally sound construction and guidance to local authorities on environmental standards for this sector, to benefit health and the environment.

2. Improved consideration
Measures to develop and improve consideration for the environment in agriculture, forestry and fisheries, urban development and the infrastructure sector.

EXAMPLES OF INSTRUMENTS PROPOSED:
• Financial compensation, advice and information, to enhance farmland biodiversity and cultural heritage and reduce eutrophication from agriculture,
e.g. through management of landscape features, buffer zones and catch crops.

- Information, advice and clearer legislation, to enhance biodiversity and reduce damage to natural and cultural assets in forests, e.g. through buffer zones by streams, fewer forest roads, and a larger deciduous element in forests.

- Subsidies for selective fishing gear and grants for environmental certification and scrapping of vessels, to adapt harvesting of fish and reduce bycatch of marine mammals and birds.

3. Protection and conservation
Measures to ensure long-term protection and conservation of natural and cultural environments.

EXAMPLES OF INSTRUMENTS PROPOSED:
- Increased funding to protect and manage valuable forest land and nature in and near urban areas.
- Funding for protection and advice, and resources for county administrative boards, to conserve marine environments and create a national network of marine protected areas.
- Agri-environment payments, information and advice to farmers, to promote management of meadow and pasture land, cultural heritage and shielings.

4. Restoration and re-creation
Measures to restore or recreate natural habitats and structures of cultural heritage interest, to recover lost functions or values in the landscape.

EXAMPLES OF INSTRUMENTS PROPOSED:
- Funding for re-establishment of wetlands in farming areas, and for county administrative boards’ outreach advice to landowners.
- More efficient adjudication and supervision, and greater support to county administrative boards, to promote restoration of lakes and watercourses.
- Interregional action programmes and funding to restore disturbed marine and coastal habitats.
Achieving Sweden’s environmental objectives is a major collaborative undertaking. To succeed, however, efforts to that end need to be even more clearly integrated into the different areas of society – at every level.

To secure a long-term sustainable environment, everyone must play their part – from government and industry to organizations and individuals. The environmental objectives create a basis for this, but roles and responsibilities could be made clearer.

Action in Sweden . . .

In the Environmental Objectives Council’s view, county administrative boards and regional development councils need to make greater use of the objectives in regional development programmes and infrastructure initiatives.

Local authorities should lend greater weight to environmental objectives and concerns in their decisions, and make more use of the objectives in areas such as planning and supervision under the Environmental Code.

Businesses, too, could use the environmental goals more, for example in their environmental management systems.

Consumers need to be put in a better position to act and live more sustainably, for instance through clear ecolabelling of products. Environmental and sustainability issues should be given more space at every level of education.

More of us need to do more

. . . and internationally

Many of the environmental quality objectives have international dimensions. To achieve them, action also needs to be taken to curb emissions and other environmental impacts around the world. At the same time, production and consumption in Sweden affect the environments of other countries.

The Council believes that the objectives can speed progress towards sustainability beyond Sweden’s borders, and that the Government could make greater use of them as a starting point for negotiations, in the EU and internationally.

Firm resolve is needed, both nationally and in international cooperation, to attain the objectives and secure sustainable development.
To the reader

One of the jobs of the Environmental Objectives Council is to monitor progress towards Sweden’s 16 national environmental quality objectives. This booklet offers a brief account of these goals and a summary of the Council’s second evaluation of them: Sweden’s Environmental Objectives: No Time to Lose. An Evaluation by the Swedish Environmental Objectives Council 2008. The purpose of the evaluation is to provide a basis for the Swedish Government’s Environmental Objectives Bill and for Sweden’s continuing efforts to secure a better environment.

The first part of the booklet introduces the objectives and the action under way across Swedish society to achieve them. The second gives an overall picture of progress towards each of the environmental quality objectives, together with brief outlines of proposals for new and revised interim targets.

The third part sums up the measures proposed by the Environmental Objectives Council to meet the objectives, with examples of various policy instruments put forward in three action strategies. On the inside back cover you can read more about how these proposals are intended to be translated into decisions for a better environment.

Key to symbols used for assessments of the environmental quality objectives

See pages 8–24

Smiley:
- The objective will be very difficult or not possible to achieve within the defined time frame, even if further action is taken.
- The objective can be achieved within the defined time frame, provided that further action is taken.
- The objective is expected to be achieved within the defined time frame.

Trend arrows:
- The trend in the state of the environment is positive.
- The trend in the state of the environment can be seen.
- The trend in the state of the environment is negative.

What happens next?

The Environmental Objectives Council’s 2008 evaluation, Sweden’s Environmental Objectives: No Time to Lose, was submitted to the Swedish Government on 31 March. The evaluation provides a basis for the Government’s next Environmental Objectives Bill. That bill will be considered, and a decision reached on it, by the Swedish Parliament, the Riksdag. The full evaluation report, including all the proposals, can be downloaded from the Swedish Environmental Protection Agency’s online bookshop, www.naturvardsverket.se/bokhandeln, and from www.miljomal.nu.
Reduced Climate Impact, A Non-Toxic Environment, Sustainable Forests and A Rich Diversity of Plant and Animal Life are just a few of the 16 environmental quality objectives that have been adopted to guide environmental efforts in Sweden and to ensure that future generations, too, can grow up in a clean, healthy environment. These objectives cover every major environmental issue and provide a basis for the action needed to improve the state of the environment.

The environmental quality objectives have been set by the Swedish Parliament and are to be achieved by 2020. The vision is to hand over to the next generation a society in which Sweden’s key environmental problems have been solved. To meet the objectives, everyone must play their part – from government and industry to organizations and individuals. This booklet offers a brief introduction to the environmental quality objectives and sums up the Environmental Objectives Council’s 2008 evaluation, Sweden’s Environmental Objectives: No Time to Lose.

More information on Sweden’s environmental goals and efforts to achieve them can be found on the Environmental Objectives Portal, www.miljomal.nu. There you can also download the full version of the Council’s 2008 evaluation, together with the background reports on which it is based.

'SWEDEN’S ENVIRONMENTAL OBJECTIVES IN BRIEF' IS PUBLISHED BY THE SWEDISH ENVIRONMENTAL OBJECTIVES COUNCIL. THE COUNCIL MONITORS ENVIRONMENTAL TRENDS AND, EVERY FOUR YEARS, EVALUATES EFFORTS TO ACHIEVE THE OBJECTIVES. THE COUNCIL IS APPOINTED BY THE GOVERNMENT.