



NORWEGIAN MINISTRY OF
THE ENVIRONMENT

Excerpts in English: Report No. 26 (2006–2007) to the Storting

The Government's Environmental Policy and the State of the Environment in Norway



Foreword

The white papers on the Government's environmental policy and the state of the environment provide a complete overview of Norway's environmental policy, and have been published every other year since 1999. The present white paper sets out the Government's environmental policy goals and ambitions, based partly on its 2005 policy platform.

The present white paper, like those published earlier, deals with the priority areas of environmental policy. Some of these have now been merged to give a simpler system of four priority areas, instead of the eight that were previously used. In addition, the white paper discusses the following cross-cutting themes: environment and development, environment and consumption, and sustainable land-use and transport policy. The Norwegian version also includes a chapter on environment and value creation.

Long-term strategic objectives have been defined for each priority area. These are combined with verifiable national targets with clear time frames for each objective. The targets are related to pressures (land use, releases of pollutants, etc) that alter the state of the environment, or to the desired state of the environment. These targets are the starting point for working targets for each sector, which the appropriate ministries are responsible for drawing up.

The sectoral authorities report annually to the environmental authorities on environmental trends in their sectors, and on the use of policy instruments. These reports form an important basis for other documents, including the white

papers on the Government's environmental policy and the state of the environment in Norway.

Trends in the state of the environment and factors that have an impact on it are monitored using a set of national indicators, which show the degree of progress in achieving the strategic objectives and national targets of environmental policy. The indicator set is also used in international environmental reporting and in other settings where information on the state of the Norwegian environment is presented.

When addressing global environmental issues such as climate change and biodiversity or analysing environment and development issues, the white papers on the Government's environmental policy and the state of the environment in Norway must be considered in conjunction with Norway's strategy for sustainable development. A new strategy for sustainable development is to be presented in the National Budget and deals with all three dimensions of sustainable development – environmental, economic and social.¹ It states that the main challenge is to reduce poverty and at the same time safeguard the quality of life and living standards for future generations. The strategy gives high priority to global poverty reduction and Norway's contribution to sustainable social, ecological and economic development at global level. It also gives considerable weight to the role of actors outside the state sector - the business sector, local government, NGOs and consumers.

¹ See Report No. 1 (2007–2008) to the Storting on the National Budget 2008.

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1 Key priorities of Norwegian environmental policy

We will make Norway a leading nation in environmental policy

Environmental protection is back where it belongs – at the top of the political agenda. The Government will ensure that it keeps this position by making Norway a leading nation with regard to environmental policy and an example to other countries. We will take steps to address the major environmental challenges, and devise measures and policy instruments that give results in practice. We must ensure economic development and improvements in welfare, but not at the expense of the environment.

We have taken effective steps to deal with a number of pollutants. Cuts have been made in emissions of sulphur dioxide, lead and ozone-depleting substances. Local air and water pollution and discharges of phosphorus and nitrogen to the North Sea have been reduced. In these areas, we must seek to consolidate the results that have been achieved and work towards further reductions.

However, much still remains to be done: other emissions and environmental pressures are still growing. Greenhouse gas emissions are rising, although less slowly than GDP, and it has so far proved difficult to reduce emissions of nitrogen oxides (NO_x) sufficiently. Waste generation is growing at about the same rate as the economy.

Greenhouse gas emissions and hazardous chemicals are serious problems at both national

and international level. Another major problem is the loss of biodiversity. A common feature of many environmental problems is that causal relationships are poorly understood and our knowledge base is inadequate. The long-term effects may prove to be more serious than the observed short-term effects. This is why it is so important to take a precautionary approach, based on prevention rather than cure.

Environmental policy also offers economic opportunities. When new forms of environmental regulation are introduced, innovative technology is needed. Norwegian firms should be in a good position to play a leading role in developing new solutions. Norway's natural environment and cultural heritage are a source of enjoyment and have great potential for the tourism and travel industry, which has not been fully exploited. We can use knowledge, expertise and economic incentives to encourage consumers, the public sector and businesses to make environmentally sound choices. If we organise our activities appropriately and include environmental considerations in decision-making, we can achieve far more than we are doing at present.

Norway is a sparsely populated country, with plenty of space and rich natural resources. However, our current level of production and consumption requires large quantities of resources, and we are adding to pollution of air and water. Our privileged position in the world community also gives a

considerable responsibility for the environment, both at home and internationally. We are taking this responsibility seriously by raising our ambitions and setting stricter standards.

We must address climate change

Unusual weather conditions and abnormally high temperatures in many parts of the world have resulted in growing recognition of the impact of human activity on the climate. The Intergovernmental Panel on Climate Change (IPCC) has presented extensive documentation that the global climate is changing, and there is broad consensus that the rising concentrations of greenhouse gases in the atmosphere are largely a result of anthropogenic emissions. Moreover, the 2004 Arctic Climate Impact Assessment documented that the rate of warming is particularly high in the Arctic, and that this will have global consequences. In addition, the Stern Review (2006) showed that the costs of not taking action to address climate change will be very high. The publication of all this documentation has resulted in a broader-based and more serious climate policy debate. It is now time to take action.

More than any other environmental issue, climate change is by its nature cross-cutting. Climate policy affects all countries and all sectors of society. Climate change will have consequences for other aspects of environmental policy as well. Generations after us will also have to deal with the problems of climate change. This means that climate policy measures must be international and cross-sectoral and have a long-term perspective. Technological, political and economic problems all need to be addressed. Our solutions must be practicable and cost-effective, they must have general support, and they must be politically feasible.

According to the International Energy Agency (IEA), global greenhouse gas emissions may rise by 45 % from 2000 to 2020 and by 70 % from 2000 to 2030 unless response measures are taken. Both developed and developing countries will be affected by climate change, but the impacts will be most severe in developing countries. Sea level rise and drought may displace several hundred million people. The loss of glaciers can result in widespread shortages of drinking water. Animal species may be lost.

The impacts of climate change in Norway will probably be relatively small compared with those in many other countries. Norway and other developed countries have the necessary resources to deal with climate change. What is needed both in

Norway and internationally is greater willingness to take effective steps to slow the negative trends in the global climate. Norway is a rich energy producer with a well-developed economy, a clear governance structure and a stable society. Even though Norway's efforts apparently make only a modest contribution in global terms, the country's favourable position make it important to mobilise the resources and expertise needed for an effective, clearly targeted climate policy. Failure to do this may undermine both Norway's own credibility and international efforts to tackle climate change.

The Government is to present a white paper on its climate policy, including a full review of its climate policy measures and how various sectors can contribute to efforts to mitigate and adapt to climate change.¹ Norway will meet its commitment under the Kyoto Protocol, and at the same time work towards broader-based and more ambitious agreements in the future. Norway will also develop an emission trading scheme that will enable us to contribute to cost-effective measures internationally. Norway will join the emission trading scheme that is being introduced in the EU.

We must safeguard biodiversity

Biodiversity is being lost at an alarming rate, and much of the loss can be ascribed to human activity. The findings of the Millennium Ecosystem Assessment were published in 2005 in the form of several reports on the state of the world's ecosystems. It was concluded that it is possible to reverse the negative trend and at the same time meet people's needs, but that this will require significant changes in political priorities.

Norway has adopted the international target of halting the loss of biodiversity by 2010. This is an ambitious goal, which will require clearly-targeted efforts in all countries.

The most serious threats to biodiversity in Norway are considered to be the conversion of agricultural land for other purposes and other changes in land use. Large areas are being lost in these ways in many parts of the country. However, apparently insignificant developments may also have cumulative effects that make it difficult for species and populations to survive. The Arctic fox population is still in a critical state.

The coastal environment is under great pressure today from various forms of infrastructure development, pollution and climate change. The

¹ See Report No. 34 (2006–2007) to the Storting: Norwegian Climate Policy

fisheries and the rapid growth of the aquaculture industry also have environmental impacts. A substantial proportion of the cold-water coral reefs along the Norwegian coast may already have been destroyed or damaged. Kelp forest is another very species-rich marine habitat that is declining in extent. The situation is particularly dramatic for the sea belt (*Laminaria saccharina*), which has almost disappeared from the Skagerrak coast and is declining rapidly in Western Norway. In future, minerals and gas hydrates may be extracted from the seabed, causing further environmental problems.

More and more building and development is taking place along the shoreline, particularly round the Oslofjorden and in Southern Norway. This is the result of a combination of many development projects and a liberal approach by the local authorities to the construction of holiday cabins. The construction of cabins in vulnerable mountain areas results in the fragmentation of habitats for important species such as wild reindeer, for which Norway has a special responsibility. Mountain ecosystems are also being adversely affected by climate change.

About half of the approximately 60 000 species that have been registered in Norway are believed to be associated with forests. Intensive forestry results in changes in natural ecosystems and ecological processes. The construction of forest roads also puts pressure on ecosystems and biodiversity, and plays an important role in the loss of areas without infrastructure development (defined as areas more than 1 km from the nearest major infrastructure development).

The extent of wilderness-like areas (defined as lying at least 5 km from the nearest major infrastructure development) has been reduced from about 50 % of Norway's land area in 1900 to only about 12 % in 1998. In the same year, wilderness-like areas accounted for only 5 % of the area of the southern half of the country.

Protection of areas is one of the main elements of efforts to safeguard biodiversity in Norway. Different habitats are very unevenly represented in the current protected areas: they include large mountain areas, but relatively little of the shoreline, cultural landscape, productive forest and marine ecosystems such as coral reefs and kelp forests. The marine protection plan, the plan to increase forest protection and various other protection plans that are being implemented will play an important role in achieving the target of halting the loss of biodiversity in Norway.

We must safeguard the cultural heritage and ensure that it is used for the benefit of society

A white paper on Norway's cultural heritage policy (Report No. 16 (2004–2005) to the Storting) documented the loss of irreplaceable elements of the cultural heritage. Integrated historical environments are beginning to be few and far between. Once these assets are lost, they cannot be recreated.

The white paper also documented that we are not making full use of potential of the cultural heritage, and that there has been too little recognition of the assets it represents. Cultural heritage conservation has often been regarded as a constraint.

The Government is in the process of implementing an action plan to safeguard, repair and maintain cultural monuments, sites and environments that are protected under the Cultural Heritage Act. This includes measures to ensure that the cultural heritage is actively used by local communities, both for enjoyment and for value creation, and to ensure that it is natural and as easy as possible to combine conservation and use.

We must take action to deal with hazardous substances and pollution of air and water

Internationally, there is cause for concern about hazardous substances. In Norway and other developed countries, emissions from industrial sources have been greatly reduced, and levels of some known ecological toxins such as PCBs are dropping. However, there are many substances that may be harmful to health and the environment, and growing problems are arising in connection with new substances that prove to be ecological toxins. Long-range transport of mercury pollution is a growing problem. The EU chemicals legislation is being reorganised with the implementation of the REACH regulation.

Inputs of nutrients to Norwegian coastal waters still constitute a substantial pollution problem. In addition to long-range transport of pollution, the main sources of discharges of nutrients are agriculture, fish farming, industry and waste water.

The main concern as regards pollution from the oil and gas industry is the uncertainty about the possible long-term impacts of discharges of produced water. Produced water contains a variety of dissolved oil components that cannot be removed with the technology available today. Since the long-term impacts of discharged water are uncertain, special requirements have been introduced for oil and gas activities in the Barents Sea.

These include a prohibition on discharges of produced water.

Waste quantities are still rising. Although waste generation has been growing more slowly than GDP since the early 1990s, there has been a sharp rise in the last few years, especially as regards industrial waste. The environmental impacts of waste are closely linked to how it is treated and disposed of. Norway's target is to increase material and energy recovery from waste, and progress is being made. However, there is cause for concern since an estimated 100 000 tonnes of the 800 000 tonnes of hazardous waste generated every year is not delivered to approved facilities. Moreover, this figure is rising, mainly because more and more types of waste are being classified as hazardous.

Problems related to noise and local air pollution are most noticeable in towns and urban settlements. The main source is road traffic, which is growing despite Norway's goal of changing over to more environmentally sound forms of transport. The towns are generally following up overall principles for urban redevelopment and high-density developments in order to reduce transport needs and reduce pressure on valuable nearby areas. Without transport solutions that put less pressure on the environment, traffic-related problems are likely to affect more people in the towns. And unless urban transport patterns are changed, the quality of green spaces and public meeting places may be reduced. Local authorities have a substantial share of the responsibility for the developing more sustainable transport systems in the largest towns.

Norway was involved in negotiating the Gothenburg Protocol, which sets emission ceilings for several long-range air pollutants. Norway is a net recipient of transboundary air pollution, and will enjoy substantial benefits if other countries meet their international commitments in this area. It is therefore vital for Norway itself to meet its commitments. Under the Gothenburg Protocol, Norway has undertaken to reduce its annual emissions of nitrogen oxides (NO_x) to a maximum of 156 000 tonnes by 2010. This ambitious target has not yet been achieved, and to do so, annual emissions must be reduced by about 20 % from the 2005 level. With the policy instruments that were in use in 2006, emissions in 2010 are expected to be about 193 000 tonnes. In order to reduce them further, a tax on NO_x was introduced from 1 January 2007. Exemption from the NO_x tax can be granted to companies that conclude agreements with the authorities on specific emission reductions with a clear time frame.

We must use our land resources sustainably

Utilisation of land resources must be based on knowledge of the environmental and social impacts that are to be expected. Land-use policy deals with both natural and human-influenced landscapes, and with both areas of international importance and our everyday surroundings.

The objective of sustainable land use management is not only to avoid environmental conflict as a result of the conversion or degradation of environmental assets, but also to make a contribution towards long-term solutions and enhance the environment.

Economic growth and development often result in competition for space, both in towns and built-up areas and in attractive areas of countryside. It is important to promote the interests of the community, for example as regards opportunities for outdoor recreation, soil resources and the cultural landscape, and public transport and housing. A large proportion of Norway consists of mountains and uncultivated land, which were once used mainly for activities such as grazing livestock and collecting fodder, but are now predominantly used for recreational purposes. A clear national policy is needed both to ensure long-term economic development and to safeguard the natural environment and cultural heritage.

To a considerable extent, land use in towns and urban settlements determines the demand for transport and the kind of transport solutions that are developed. Norway's current land-use policy, which encourages high-density urban development and urban redevelopment, offers great potential for developing sustainable transport solutions. It is increasingly being recognised that traffic and environmental problems in towns can only be solved by focusing on public transport, cycling and walking as real alternatives to the use of cars, and at the same time introducing policy instruments to restrict car use.

The municipalities are responsible for planning and management activities pursuant to the Planning and Building Act and thus have the main responsibility for land-use management. Planning and management under other legislation are also increasingly being delegated to the municipalities, which are thus being given increasing responsibility for coordination. This makes it more and more important for the central government to give clear messages about national guidelines for land-use policy. In many cases, land-use management issues are relevant to larger areas than a single municipality. Regional planning is therefore important both

for the implementation of national policy and for municipal planning.

Close coordination of land-use and transport policy and of central government, county and municipal policy instruments is necessary to ensure more sustainable development of transport in the larger towns. In connection with the new national transport plan for 2010–2019, the Government will consider what role binding agreements between the central government and local authorities can play in coordinating the use of policy instruments in land-use and transport policy.

Central government agencies must ensure that they act in accordance with land-use and transport plans when deciding on the location of their own premises and developing transport infrastructure. Services for the general public and institutions with many employers and users must be located centrally or near public transport nodes, and must be easy to reach by bicycle or on foot.

We will intensify our environment and development efforts

In 1987, the World Commission on Environment and Development (the Brundtland Commission) identified world poverty and the state of the world's environment as the most important challenges that the world community must address. In many poor countries, environmental problems act as an important constraint on social and economic development. The World Commission also emphasised that the richest nations are putting so much pressure on the environment and natural resources that other nations cannot improve their welfare without the tolerance limits of the environment being exceeded. The Commission's message was therefore that the rich countries of the world have a special responsibility for reducing environmental pressures.

In the past 20 years, there has been general economic and social progress in both developed countries and a number of developing countries. The proportion of poor people has been reduced in China, India, some other Southern Asian countries and certain Latin American countries. The developing countries have closed part of the gap to the developed countries in areas such as life expectancy, nutrition and educational attainment.

New international agreements are helping to mitigate environmental damage and are making states responsible for activities that put pressure on the environment. For example, emissions of ozone-depleting substances have been greatly reduced since the Montreal Protocol entered into

force. Most countries have established environmental institutions and environmental legislation, and drawn up strategies and action plans to address environment and development challenges. There is growing awareness throughout the world of the fundamental importance of the environment. Nevertheless, major challenges remain to be dealt with. Global environmental problems such as climate change, the loss of biodiversity and the spread of hazardous substances in the environment are still growing. Sub-Saharan Africa is still lagging behind in economic development.

Dealing with the major environmental challenges requires a more permanent form of organisation for international efforts and more binding rules. There is a discussion in progress on whether the UN Environment Programme (UNEP) should be upgraded to an organisation that is in a better position to set the agenda and develop international environmental policy. In a long-term perspective, the Government will work towards the establishment of such a World Environment Organisation. New agreements are also needed both in new areas and to strengthen the existing rules, particularly because of the close links between many environmental problems. A new global climate agreement is needed for the period after 2012, the use and releases of a number of environmentally harmful substances must be reduced, and greater priority must be given to the conservation and sustainable use of biodiversity.

The Millennium Ecosystem Assessment pointed out that economic growth, which has lifted millions of people out of poverty, also has costs. Resources are being used more intensively, reducing nature's ability to provide us with clean air, soils and water, protection against natural disasters and disease, and resources that can be used for the development of medicines. It also concluded that most ecosystems are under such pressure that it may be difficult to meet the goal of achieving a significant reduction in the current rate of loss of biodiversity by 2010 and to achieve the Millennium Development Goals by 2015. Although population growth is expected to level off by the middle of this century, the projected strong growth of the world economy means that ecosystem degradation will continue.

The Government's aim is for Norway to play a leading role in making environmental concerns an integral part of all development cooperation. In these efforts, the Government will give priority to sustainable management of biodiversity and natural resources, water resources management, water and sanitation, climate change and access to clean

energy, and hazardous substances. Norway's efforts are intended to help developing countries to improve their own capacity and expertise in the environmental field

The Government is working towards an international trade regime that gives particular emphasis to environmental considerations, labour stand-

ards, social rights, food security and development in least developed countries. Trade agreements must not deprive poor countries of the autonomy and instruments they need for their economic and social development. Norway is also seeking to ensure easier and cheaper access to environmental goods and services for developing countries.

2 Environmental challenges 20 years after Our Common Future

2.1 Introduction

In 1987, the World Commission on Environment and Development (WCED) defined sustainable development as «a form of development that meets the needs of the present without compromising the ability of future generations to meet their own needs.»

The WCED identified world poverty and the state of the world's environment as the most important challenges confronting the world community. It pointed out that in many poor countries, environmental problems act as an important constraint on social and economic development. Furthermore, the WCED said that the richest nations are now putting so much pressure on the environment and

natural resources that other nations cannot improve their welfare without exceeding environmental tolerance limits. It identified climate change, over-exploitation of natural resources and the loss of biodiversity as visible signs of these problems.

Today, there are still serious and growing global environmental problems, and their effects are becoming apparent more quickly than was expected. Even though we have developed cleaner and more effective technology and forms of energy use in the past 20 years, and are using resources much more effectively, these benefits are being outweighed by the rapid growth in production and consumption. The world economy is expected to grow by a factor of three to six by 2050. Major

Box 2.1 The UN Millennium Development Goals and targets

In 2000, the UN member states adopted eight goals for combating world poverty, all by the target date of 2015. The MDGs are the basis for Norway's efforts in the fight against poverty.

1. Eradicate extreme poverty and hunger

Reduce by half the proportion of people living on less than a dollar a day. Reduce by half the proportion of people who suffer from hunger.

2. Achieve universal primary education

Ensure that all boys and girls complete a full course of primary schooling.

3. Promote gender equality and empower women

Eliminate gender disparity in primary and secondary education preferably by 2005, and at all levels by 2015.

4. Reduce child mortality

Reduce by two thirds the mortality rate among children under five.

5. Improve maternal health

Reduce by three quarters the maternal mortality ratio.

6. Combat HIV/AIDS, malaria and other diseases

Halt and begin to reverse the spread of HIV/AIDS.

7. Ensure environmental sustainability

Integrate the principles of sustainable development into country policies and programmes; reverse loss of environmental resources. Reduce by half the proportion of people without sustainable access to safe drinking water. Achieve significant improvement in lives of at least 100 million slum dwellers, by 2020.

8. Develop a global partnership for development

Develop further an open, rule-based, predictable, non-discriminatory trading and financial system. Address the special needs of the least developed countries.

changes in production and consumption patterns will be required to achieve a sustainable path of development.

In 2000, the UN adopted the Millennium Declaration (see box 2.1). This is a global agreement that sets out obligations for both rich and poor countries. The Declaration and the eight Millennium Development Goals (MDGs) provide a framework for efforts to eradicate poverty, and confirm the links between poverty reduction, education, gender equality, health and the environment. MDG 7 is to ensure environmental sustainability, and several of the other MDGs can only be achieved if important environmental assets are safeguarded for the future.

The Millennium Ecosystem Assessment concluded that most ecosystems are under such pressure that it may be difficult to meet the goal of achieving a significant reduction in the current rate of loss of biodiversity by 2010, and to achieve the MDGs by 2015.

The WCED's recommended economic growth with a different content, and this is still relevant today. We must counteract the negative consequences of economic globalisation. We must reinforce our efforts in several fields at the same time. The developed countries have a special responsibility and must show more clearly that they are prepared to shoulder it. However, this will not be sufficient to solve the problems. Global environmental problems require global answers. It is essential to put the developing countries in a better position to meet their current commitments in addition to working towards new and stricter commitments for all countries.

2.2 More effective environmental agreements

The Government will:

- Play a leading role in efforts to develop new and stricter environmental agreements, particularly at global level.
- Work towards effective mechanisms to ensure that parties meet their commitments under environmental agreements, using a combination of compliance assistance and sanctions.
- Follow up the recommendations of the High-Level Panel on UN System-wide Coherence on strengthening the Global Environmental Facility (GEF).
- Improve the capacity of the GEF to play a part in achieving global environmental goals, for example through co-financing of projects.

- Make use of the potential for greater effectiveness, more efficient resource use and synergies between multilateral environmental agreements (MEAs).

2.3 Strengthening the role of the UN in environment issues

The Government will:

- Work towards the establishment of a World Environment Organisation as a long-term goal.
- Develop strategies for achieving this in cooperation with other countries and take the initiative for relevant research and development.
- In the short and medium term, strengthen UNEP's core functions, which are to keep the state of the environment under review and act as a normative environmental policy body.
- Support UNEP's fundamental role in addressing the global environmental problems, among other things by strengthening and improving cooperation between UNEP and the MEAs and between the MEAs.
- By contributing to the UN reform process, seek to ensure that UNEP sets the environmental framework for capacity building efforts in developing countries and that it develops close cooperation with other actors in the fields of environment and development.
- Work towards more long-term, stable funding for UNEP.
- Play a part in efforts to make UNEP's working methods more effective and continue the Nordic cooperation on the introduction of four-year strategic plans for all UNEP's activities.

2.4 Environment and development cooperation

The Government will:

- Ensure that Norway plays a leading role in integrating environmental issues into development cooperation.
- Continue its review of multilateral and bilateral development cooperation with a view to finding new openings for environmental initiatives in individual countries and regions, including both specific environmental programmes and sector-integrated environmental assistance.
- Seek to ensure that environmental considerations are an integral part of UN activities when it «delivers as one» at country level, and that UNEP is brought into the reform process.

- Play a part in the development of a sound understanding between UNEP, UNDP, the international financial institutions and other development actors as regards their roles in global capacity building for environmental assistance.
- Assist developing countries to meet their international environmental commitments, and use bilateral cooperation as a tool for strategic political dialogue dealing with all areas for which environmental authorities are responsible.
- Contribute to coordinated implementation of national environmental action plans and poverty reduction strategies, and to the integration of biodiversity concerns into all sectors at country level.
- Develop environmental cooperation with the countries of Eastern Europe, Caucasus and Central Asia (the EECCA countries) through the UNECE and the Environment for Europe process.
- Make use of the comparative advantages of different organisations and use co-financing as a tool.

2.5 Environment and international trade, investment and business

The Government will:

- Seek to ensure that the international trade regime promotes sustainable development, and that environmental considerations are taken into account in all relevant areas in the WTO.

The Government is also seeking to ensure that the trade regime and the MEAs are mutually supportive and promote sustainable development.

- Liberalise trade in environmentally sound products and technologies.
- Draw up new trade commitments in such a way that they take into account the need for good governance at national level and for sufficient freedom of action to develop an effective environmental policy. New trade commitments and further liberalisation must not restrict national freedom of action to make use of environmental policy instruments.
- Find a balance between trade concerns and wider public interests in free-trade agreements, and develop such agreements so that they help to ensure sustainable production and consumption in developing countries.
- Generate more knowledge of the environmental impacts of trade liberalisation and Norway's trade commitments.
- Support initiatives for the use of environmental criteria when making international investments, and promote environmentally sound investments
- Contribute to more balanced development of the legal framework for bilateral investment treaties (BITs).
- Expect Norwegian firms to follow the same social, environmental and ethical standards in developing countries as they do in Norway.
- Work towards operational guidelines for corporate social responsibility that are used globally.

4 Environment and consumption

4.1 Background

The consumption of goods and services has been increasing steadily in developed countries for many years, and the same is now happening in many developing countries as well. As a result of this trend, greenhouse gas emissions, releases of hazardous substances and waste generation are all rising.

Production and consumption are closely linked. The production of goods and services has environmental impacts at all stages from the extraction of raw materials, through production processes, to distribution and use, and finally to the disposal of waste. A substantial share of the rise in consumption in rich countries is based on production in countries where environmental regulation is less strict. The Government intends to promote the production and consumption of products and services that have less environmental impact at all stages of their lifecycles. This will require policy instruments targeting households, the public sector, the business sector, and international cooperation. The Government considers it important for public bodies to set an example as responsible consumers. Consumption-oriented environmental measures are important both because they can be an effective way of achieving environmental goals and because they can promote a shift towards greener product development and production, both in Norway and internationally.

4.2 Knowledge, information and engagement as a basis for environmentally sound choices

The Government will:

- Improve knowledge about the pressure consumption puts on resources and the environment and encourage greener consumption: this will include the following activities:
 - Carrying out a climate awareness campaign targeting the general public, the business sector and municipalities.

- Developing indicators for the environmental impacts of the most important consumption categories.
- Taking steps to expand the use of ecolabelling schemes such as the Nordic Swan and the EU Flower and encouraging cooperation between these schemes and the Ø logo for organic products and Fairtrade Max Havelaar. One aim is to make them better known to the general public.
- Offering university colleges that run teacher training courses more assistance and expertise as a means of improving the quality of teaching about sustainable development in schools.
- Making the rules of the Environmental Information Act and the Product Control Act even better known.
- Taking steps to improve the general public's understanding of the environmental impacts of their consumption and provide information that will help people to make environmentally friendly choices in their day-to-day lives. This will be an important supplement to more structural measures, regulation and economic instruments.

4.3 Environmental and social responsibility in public procurement

The Government will:

- Encourage the public sector to set an example as a responsible consumer and in creating a demand for environmentally-friendly goods and goods whose manufacture complies with high ethical and social standards. The Government has therefore drawn up a three-year action plan for environmental and social responsibility in public procurement, which includes the following main points:
 - Preparation of an environmental policy for government procurement specifying goals and requirements for priority product groups. Work on environmental management systems will be continued in the state

sector, and central government agencies whose activities have a substantial environmental impact will be encouraged to introduce an environmental management system with third-party certification. The Government will also take steps to improve statistics and reporting on the environmental impacts of public procurement.

- Seek to ensure that counties and municipalities give more weight to environmental and social responsibility in their procurement, for example through cooperation with the Norwegian Association of Local and Regional Authorities.
- Take steps to build up expertise and advisory services related to environmental and social responsibility in public procurement at both central and local government level.
- Propose measures to promote innovation of environmental technology, including mak-

ing better use of Innovation Norway's grant scheme for research and development contracts between firms and public-sector customers.

- Review how much leeway there is under current national and international law on public procurement to specify ethical and social requirements. On the basis of the results, the Government will commission a review of which product groups should be given priority when setting ethical and social requirements for public procurement processes, and how criteria for ethical responsibility in public procurement can be formulated.
- Through the UN, the EU and the Nordic Council of Ministers, cooperate closely with other relevant countries on environmental and social responsibility in public procurement.

5 A sustainable land-use and transport policy

The Government will develop a more active national land-use policy in order to achieve sustainable management of Norway's total land resources and create a healthy physical environment. The land-use policy should also be instrumental in reducing greenhouse gas emissions. Development patterns and transport systems are to be coordinated with a view to reducing the need for motorised transport and encouraging use of public transport and bicycles rather than cars, and to promote traffic efficiency and safety. A more long-term, integrated land-use policy is intended to ensure coherence between national goals for local and regional development and those for protection of landscapes, the natural environment and the cultural heritage.

Important elements of land-use policy are finding a balance between use and protection, providing opportunities for enjoying the natural surroundings and for recreation, and safeguarding the values inherent in the landscape, biodiversity and the cultural heritage. The objective of sustainable land-use management is not only to avoid environmental conflict as a result of development or the degradation of environmental assets, but also to make a contribution towards long-term solutions and value creation.

The municipalities are responsible for planning and management activities under the Planning and Building Act, which gives them the main responsibility for land-use management. Their planning responsibilities also involve safeguarding national and important regional interests. The regional authorities assist the municipalities and can raise objections to plans that do not take sufficient account of such overall national and regional concerns. In addition, planning and management activities pursuant to other legislation are increasingly being delegated to the municipalities. Many land-use management issues are relevant to larger areas than a single municipality. Regional planning is therefore important for the implementation of both national and municipal environmental and land-use policy.

5.1 Strategic steps towards a sustainable land-use policy

The Government will:

- Put forward new planning provisions to be included in the Planning and Building Act that will give more emphasis to sustainable land-use policy, knowledge concerning the environmental impacts of development projects, long-term decisions on land use, and coordination across sectors and areas of administration.
- Strengthen expertise on environmental protection and planning at regional and local level.
- Encourage the municipalities to develop a proactive policy for environmental and community development through networking and the exchange of experience in the programme «Livable Communities – municipalities working in small networks for sustainable community development».
- Improve the basis for making decisions on land-use policy through better mapping of land resources, stricter requirements for updating of municipal plans and a greater emphasis on regional planning and coordination.
- Encourage the municipalities to use land-use planning processes to reduce greenhouse gas emissions and to conduct vulnerability and risk assessment for climate change.
- Ensure that land use supports efforts to achieve Norway's target of halting the loss of biodiversity by 2010.
- Develop a national policy for the architectonic and environmental quality of our surroundings, and raise awareness in both the public and the private sector.

5.2 A land-use and transport policy for towns and urban settlements

The Government will:

- Permit the use of revenues from road tolls towards the running costs of public transport services.

- In connection with the new national transport plan for 2010–2019, consider what role binding agreements between the central government and local authorities can play in coordinating the use of policy instruments in land-use and transport policy.
- On the basis of the conclusions from an evaluation of the current arrangements, consider strengthening incentives for urban areas to improve public transport and curb the growth in passenger car traffic (known as the *belønningsordning*).
- Take steps to make public transport more easily accessible for everyone.
- Allocate more resources to promoting cycling as a means of transport.
- Clarify the rules on siting public and private services for the general public.
- Provide a better framework for managing car parking in urban areas.

6 Biodiversity and outdoor recreation

Biodiversity is the basis for our existence and survival, for economic growth, and for the quality of our lives and well-being. The natural world includes both living and non-living components. The living components are in principle renewable resources that are continually evolving. It is therefore essential to manage these resources through sustainable use, protection and equitable distribution, so that they are not depleted for future generations.

The rate of species extinction worldwide is alarmingly high. In the Millennium Ecosystem Assessment (2005), the rate of loss of biodiversity is estimated to be up to 1000 times the normal level. Species are dying out in Norway as well. The 2006 Norwegian Red List contains 3 886 species, 285 of which are considered to be critically endangered.

Biodiversity loss is essentially irreversible. Important reasons for species extinction include the loss of habitats, anthropogenic climate change, the introduction of alien species that disturb the balance of ecosystems, overexploitation of species

and pollution. The Millennium Ecosystem Assessment states that over the past 50 years, humans have changed ecosystems more rapidly and extensively than in any comparable period of time in human history. This has consequences for the choices available to us today.

The Millennium Ecosystem Assessment emphasises the variety of values associated with ecosystems, and uses the concept of «ecosystem services», see box 6.1. In addition to the benefits we obtain from traditional forms of harvesting, these include supporting, regulating and cultural services. According to the assessment, approximately 60 % (15 out of 24) of the ecosystem services evaluated are being degraded or used unsustainably.

Norway's target, which is in line with the international target, is to halt the loss of biodiversity by 2010, see box 6.2. From a global perspective, the close links between biodiversity and sustainable development are now generally accepted. In autumn 2006, the UN General Assembly decided to include the goal of reducing biodiversity loss as one of the targets under MDG 7. This is a confirmation of the close links between conservation of biodiversity and combating poverty, which are emphasised in the Norwegian action plan for environment in development cooperation.

The UN Convention on Biological Diversity is the key international agreement in efforts to halt the loss of biodiversity by 2010. Determined efforts and extensive cross-sectoral cooperation at both national and international level will be necessary to achieve this target.

The 2005 white paper on the Government's environmental policy and the state of the environment in Norway¹ presents a series of measures for achieving the target of halting biodiversity loss by 2010. The Government is now in the process implementing these measures, which include preparing new legislation, expanding surveying and monitoring activities, and drawing up action plans for endangered species. Further measures to ensure

Box 6.1 Biodiversity and ecosystem services

Biodiversity, the variability among living organisms, can be divided into ecosystem, species and genetic diversity (see the Convention on Biological Diversity).

For management purposes, it is essential to take into account the dynamic interactions between different components of natural systems. There is now growing awareness of the importance of ecosystem services, which cover the whole range of goods and services supplied by biodiversity. They include provisioning services (e.g. food, fibres, medicines), regulating services (e.g. climate regulation, water regulation), cultural services (e.g. spiritual benefits, education, aesthetic value) and supporting services that maintain the conditions for life on earth (e.g. soil formation, pollination, primary production).

¹ Report No. 21 (2004–2005) to the Storting: The Government's environmental policy and the state of the environment in Norway

that this target is achieved are listed below. In 2008, a biodiversity index for Norway is to be presented, together with a report on the status of biodiversity and the degree of progress that has been made towards the target of halting the loss of biodiversity by 2010.

Outdoor recreation is part of the Norwegian cultural heritage. It is a source of enjoyment, promotes good health and helps to improve people's understanding of the importance of the natural environment. The general right of public access to all uncultivated areas is the basis for Norwegian outdoor recreation. This right is based on the principles of respect for the countryside and a duty to show due care for environmental assets and vis-à-vis landowners and other users.

6.1 Sustainable use and protection of habitats

Active management of biodiversity at all levels requires a focus on protecting habitats, so that biodiversity can continue to evolve and adapt. Anthropogenic climate change adds to the pressures on the environment. To reduce the impacts of climate change, it is important to ensure that the species and populations that occur in Norway today are given sufficient space to spread naturally wherever possible, and that we take what steps we can to make biodiversity more robust to climate change. This includes reducing other pressures on biodiversity as far as possible, so that we can continue to harvest natural resources and enjoy the benefits of ecosystem services.

6.1.1 Goals

Box 6.2 shows the Government's goals for the priority area Biodiversity and outdoor recreation. Box 6.3 shows the targets for the subdivision Sustainable use and protection of habitats.

6.1.2 Policy instruments and measures

The Government will:

- Develop a biodiversity index for Norway as a tool for following trends in the environment, including the cultural landscape. A first version of the index is to be presented in 2008, together with a report on the status of biodiversity and the degree of progress that has been made towards the target of halting the loss of biodiver-

Box 6.2 Goals for biodiversity and outdoor recreation

Strategic objectives:

The environment will be managed in a way that maintains the diversity of habitats and landscape types and ensures that there are viable populations of naturally-occurring species: this will ensure that biological diversity can continue to evolve.

Norway aims to halt the loss of biodiversity by 2010.

Everyone will have the opportunity to take part in outdoor recreation as a healthy and environmentally sound leisure activity that provides a sense of well-being both near their homes and in the countryside.

Box 6.3 Goals for biodiversity and outdoor recreation

Subdivision: Sustainable use and protection of habitats

National targets:

1. A representative selection of Norwegian habitats will be protected for future generations.
2. Major disturbance such as infrastructure development will be avoided in endangered habitats, and in vulnerable habitats important ecological functions will be maintained.
3. The cultural landscape will be managed in such a way that biological diversity, the historical and aesthetic value of the landscape, opportunities for experiencing it and its accessibility are maintained.
4. The needs of future generations will be taken into account when managing soil resources that are suitable for cereal production.

sity by 2010, compared with the situation in other relevant countries.

- Expand survey and monitoring activities related to biodiversity: this will include continuing the national programme to survey and monitor biological diversity. Terrestrial and coastal habitats, endangered species and alien species

will be given priority as elements of the knowledge-based management system first presented in a white paper on biodiversity.²

- Enhance progress in voluntary forest protection and carry out a scientific evaluation of such protection in 2008.
- Implement existing conservation plans.
- Maintain the value of protected areas by drawing up management plans and carrying out management measures where necessary.
- Bring Norway's conservation policy more in line with the EU system as regards the establishment of protected areas (Natura 2000 network) and reporting to the European Environment Agency (EEA).
- Safeguard habitats for endangered species through municipal planning, based on the best possible information. Any developments planned in such areas must be evaluated in relation to the impact they may have on relevant species.
- Amend the regulations relating to the construction of forest roads so that areas without infrastructure development are safeguarded in accordance with the Government's policy platform. Prepare for this by evaluating the quality of the data on forest roads and areas without infrastructure development and the forestry industry's need for road construction, and by considering options and consequences with a view to amending the rules on grants in 2007.
- Ensure that planning processes and administrative procedures for forest road construction safeguard areas of importance for biodiversity and areas of high conservation value. Promote transparency and participation in administrative procedures relating to forest road construction.
- Seek to ensure that the importance of biodiversity as a resource for sustainable development is considered in all relevant international processes.
- Seek to ensure that full use is made of opportunities for synergies between biodiversity management and measures for adaptation to climate change at national and international level, and that information on the effects of climate change on biodiversity is communicated effectively.
- Promote the further development of internationally binding cooperation on biodiversity:

this includes organising the fifth Trondheim Conference on Biodiversity in autumn 2007

- Take part in the formalisation of a system to provide a sound scientific basis for the effective development and implementation of multilateral agreements on biodiversity.
- Play an active part in ensuring the spread of information on biodiversity at national and international level, including helping to establish new targets for biodiversity after 2010.
- Work towards active European cooperation on biodiversity and on forests and seek to ensure effective cooperation between the Pan-European Biological and Landscape Diversity Strategy and the Ministerial Conference on the Protection of Forests in Europe.

6.2 Sustainable use and protection of species, populations and genetic resources

The Millennium Ecosystem Assessment concludes that the changes that have been made to ecosystems have contributed to substantial net gains in human well-being and economic development, but that these gains have been achieved at the cost of degradation of ecosystems and a growing risk of sudden changes in the capacity of ecosystems to provide the goods and services on which we depend.

Genetic variation in living organisms is necessary to enable species to evolve and adapt to changes in conditions, such as climate change. For thousands of years, people have made use of genetic variation to develop plant varieties and animal breeds. Opportunities for utilising genetic material from naturally occurring organisms have expanded with developments in biotechnology and gene technology. These developments have resulted in an increase in the value of genetic material as a «raw material» in a number of sectors.

6.2.1 Goals

Box 6.5 shows the Government's targets for sustainable use and protection of species, populations and genetic resources.

6.2.2 Policy instruments and measures

The Government will:

- Continue the development of an ecosystem-based management regime in order to ensure an integrated approach to the management of

² Report No. 42 (2000–2001) to the Storting: Norwegian biodiversity policy and action plan – cross-sectoral responsibilities and coordination

Box 6.5 Goals for biodiversity and outdoor recreation

Subdivision: Sustainable use and protection of species, populations and genetic resources

National targets:

1. Harvesting and other use of living resources will not cause species or populations to become extinct or endangered.
2. Populations of endangered species and species for which Norway has a special responsibility will be maintained or restored to viable levels.

commercial marine species and an assessment of how this affects the ecosystem as a whole. This also requires taking into account vulnerable and endangered species and their nutritional needs.

- Set precautionary reference points for all the spawning stocks that are exploited commercially, particularly stocks that are being restored to sustainable levels.
- In the course of 2008, carry out an evaluation of what the authorities and sectors that are particularly affected can do in the short and long term to safeguard endangered species in Norway.
- Revise the Norwegian Red List in 2010, and further develop the basis for assessing the threats to red-list species in the period up to 2010.
- Continue to draw up, implement and follow up action plans for selected endangered species.
- In the course of 2008, draw up a plan for protecting the habitats of species that are protected under the Nature Conservation Act.
- Step up efforts related to the management of agricultural genetic resources at the Norwegian Genetic Resource Centre: its responsibilities are to be expanded to include wild plants and fish.
- Complete the establishment of the Svalbard Global Seed Vault.
- Ensure that utilisation of genetic resources by Norwegian nationals and enterprises, both in Norway and abroad, takes place in accordance with the Convention on Biological Diversity.
- Work towards an effective international regime for access to genetic resources and the fair and equitable sharing of benefits arising out of their

utilisation, in which some of the elements are legally binding.

- Continue to act a bridge-builder between developed and developing countries in this field, and seek to ensure that the interests of indigenous people are safeguarded and traditional knowledge related to the use of genetic resources is taken into account.
- Continue to work towards the disclosure of the country of origin/source of genetic resources in international patent applications that are based on such resources.
- Draw up and implement an action plan on trade in tropical timber.
- Protect Norway's wild salmon stocks through the system of national salmon rivers and fjords, steps to deal with the problem of escaped farmed salmon, efforts to eradicate the salmon parasite *Gyrodactylus salaris* and liming of salmon rivers.

6.3 Alien species and genetically modified organisms

The introduction of organisms to areas where they do not occur naturally is a growing threat to biodiversity. The introduction and spread of alien species can be a form of biological pollution, and it may therefore be appropriate to use environmental principles such as the polluter-pays principle in efforts to deal with such species. The Cartagena Protocol on Biosafety deals with genetically modified organisms: it is based on the precautionary principle, and requires advance informed consent and the elaboration of rules and procedures for liability and redress for damage resulting from the use of such organisms. The importance of applying the precautionary principle is also emphasised in international efforts to deal with alien species.

6.3.1 Goals

Box 6.7 shows the Government's target for alien species and genetically modified organisms.

6.3.2 Policy instruments and measures

The Government will:

- Continue efforts to deal with alien species in Norway through follow-up of the cross-sectoral Norwegian strategy on invasive alien species.
- Consider measures to deal with invasive alien species that are already established in Norway, based among other things on the Norwegian

Box 6.7 Goals for biodiversity and outdoor recreation

Subdivision: Alien species and genetically modified organisms

National target:

The spread of organisms that do not occur naturally in ecosystems as a result of human activity will not damage or limit ecosystem functions.

Biodiversity Information Centre's list of alien species that are expected to pose a threat to native biodiversity.

- Survey and monitor alien species and develop early warning systems for new alien species.
- Ensure that all sectors have adequate and appropriate legislation in this area by 2010.
- Expand information and communication activities relating to the threats to the environment and health posed by alien species.
- Work towards harmonisation of the international trade regime and environmental legislation to provide support for the right of individual countries to take steps to prevent the introduction of potentially invasive alien species.
- Continue to pursue a restrictive policy on genetically modified organisms to avoid damage to biodiversity and health: this includes stepping up research on the impacts of genetically modified organisms and ensuring that expertise on environmental risk assessments of applications for the use of GMOs is available.
- Continue Norway's current policy on GMOs when new EU legislation in the field is incorporated into the EEA Agreement.
- Work towards globally agreed rules on liability and compensation for damage attributed to GMOs and stricter requirements relating to information on the GMO content of goods GMOs in accompanying documents for transport across national borders.
- Internationally, work towards a requirement that seeds for commercial use must be labelled as genetically modified even if their GMO content is at about the detection threshold. This is essential for maintaining access to GMO-free food, seeds and feed and to enable ecological farmers to continue GMO-free production.

6.4 Outdoor recreation

Opportunities for outdoor recreation are a common good that must be maintained as a means of improving the quality of people's lives and their well-being and promoting good health and sustainable development. Outdoor recreation is a way for people to enjoy the natural environment and learn more about it, and thus makes an important contribution to sustainable use and protection of the natural and cultural heritage.

6.4.1 Goals

Box 6.9 shows the Government's goals for outdoor recreation.

6.4.2 Policy instruments and measures

The Government will:

- Secure the legal basis for outdoor recreation activities, including the right of public access to uncultivated land.
- Continue substantial purchases of attractive outdoor recreation areas and stretches of shoreline for public use.
- Ensure that public user rights and outdoor recreation interests are taken into account when

Box 6.9 Goals for biodiversity and outdoor recreation

Subdivision: Outdoor recreation

National targets:

1. The tradition of outdoor recreation based on the right of access to uncultivated land will be kept up by all sections of the population.
2. Children and young people will be given the opportunity to develop skills in outdoor recreation activities.
3. Areas of value for outdoor recreation will be safeguarded so that environmentally friendly access and passage and harvesting of natural resources is promoted and the natural resource base is maintained.
4. Near housing, schools and day care centres, there will be adequate opportunities for safe access and play and other activities in a varied and continuous green structure, and ready access to surrounding areas of countryside.

the Norwegian Defence Forces sell properties that include attractive areas along the shoreline, and that the most important of these remain in public ownership.

- Secure public interests, including opportunities for outdoor recreation, in the future management regime for lighthouse properties under the Norwegian Coastal Administration.
- Continue the system of legal assistance for municipalities that need it in their efforts to protect the shoreline.
- Continue the cooperation with several of the largest towns on maintaining important elements of the green structure, and consider whether to expand these arrangements.
- Give priority to arrangements for public access and maintenance at designated outdoor recreation areas.
- Encourage measures to make the agricultural landscape more accessible to the public and for outdoor recreation.
- Seek to increase the value and accessibility of areas owned by Statskog (a state-owned enterprise responsible for the management of state-

owned forest and mountain land) for outdoor recreation.

- Put forward a proposal for specific legislation to protect the recreational woodland areas around Oslo. Protection of similar areas around other towns will be dealt with under the new Planning and Building Act.
- Secure public access to areas designated as outdoor recreation areas and provide a framework that will promote greater physical activity.
- Follow up the work on outdoor recreation and public health, which deals with both physical activity and mental health.
- Continue support for outdoor recreation organisations and their work.
- Ensure that there is expertise in outdoor recreation activities in the school system and schools organise such activities.
- Intensify cooperation with and services for people with disabilities and ethnic minorities.
- Ensure that the principles of universal design are increasingly used as a basis for new measures in this field, where appropriate.

7 Protection and use of the cultural heritage

Cultural monuments, sites and environments are society's common assets. The cultural heritage is a unique and irreplaceable source of knowledge and enjoyment, and can provide a basis for local development and cultural, social and economic value creation. These assets and opportunities must be managed with respect for those who lived before us and for future generations, and for the enjoyment and benefit of those who are alive today.

The cultural heritage includes all traces of past human activity in our physical environment, including localities associated with historical events, beliefs or traditions. A cultural environment means any area where a monument or site forms part of a larger entity or context.

7.1 Goals

Box 7.2 shows the Government's goals for the cultural heritage.

A white paper on Norway's cultural heritage policy¹ documented the loss of irreplaceable elements of the cultural heritage. Integrated historical environments are beginning to be few and far between. Once these assets are lost, they cannot be recreated.

The white paper also documented that the potential of the cultural heritage is not being fully used at present. Cultural heritage conservation is often been regarded as a constraint rather as offering opportunities.

The Government will further develop its cultural heritage policy by:

- Raising awareness of efforts to repair and maintain cultural monuments, sites and environments that are protected under the Cultural Heritage Act through 10 conservation programmes.
- Inviting the regions to develop packages of measures for specific geographical areas, focusing on the importance of the cultural heritage for regions and local communities.

¹ Report No. 16 (2004-2005) to the Storting: Living with our Cultural Heritage

Box 7.2 Goals for protection of the cultural heritage

Strategic objective:

The diversity of cultural monuments, sites and environments will be managed and enhanced as resources for continued active use and as a repository of knowledge, to provide opportunities for experiencing our cultural heritage, and as a basis for economic activity. A representative selection of cultural monuments, sites and environments will be safeguarded on a long-term basis.

National targets:

1. Annual losses of cultural monuments, sites and environments as a result of demolition, damage and decay will be minimised, and by 2020 will not exceed 0.5 % of the total.
2. Cultural monuments, sites and environments protected under the Cultural Heritage Act will be safeguarded and a standard requiring only normal maintenance will be achieved by 2020.
3. The selection of permanently protected cultural monuments, sites and environments will include a wider range in terms of geography, social class, ethnicity, industrial and commercial use and historical periods, and by 2020 a representative selection of these monuments, sites and environments will be protected under the Cultural Heritage Act.

- Taking steps to ensure that these initiatives are largely completed by 2020, with interim targets for 2009, which is to be the Norwegian Year of Cultural Heritage, and 2014, which is the 200th anniversary of the signing of Norway's Constitution.

In addition, the Government will continue work related to the value creation programme for the cultural heritage and the Norwegian Cultural Heritage Fund, and will encourage efforts to integrate cultural heritage conservation into activities in

municipalities and local communities, for example through the Norwegian Year of Cultural Heritage 2009 and the Livable Communities programme, see Chapter 5.1.

8 Clean waters and a non-toxic environment

This priority area is divided into five subdivisions:

- Integrated marine and inland water management
- Eutrophication and sediment deposition
- Oil pollution
- Hazardous substances
- Waste and waste recovery.

8.1 Integrated marine and inland water management

The scale of activities that have an impact on the marine environment and inland waters is increasing rapidly. For example, offshore oil extraction is expanding both to areas where conditions are more extreme (further north and at greater depths) and to areas closer to the coast (which are more vulnerable), and the volume of maritime transport of oil and gas along the coast is growing. Intensive land use results in runoff of nutrients and particulate matter to coastal and inland waters. In many cases, activities are carried on without an adequate knowledge of the relationships between environmental pressures and their impacts on ecosystems. At the same time, we are becoming more and more aware of the vulnerability of our coastal, marine and aquatic environments.

8.1.1 Goals

Box 8.1 shows the Government's goals for integrated marine and inland water management.

8.1.2 Policy instruments and measures

The Government will:

- Draw up an integrated management plan for the Norwegian Sea, to be presented in a white paper in 2009.
- Take steps to ensure that Norway plays a leading role in efforts to develop an integrated management regime for the North Sea, among other things through Nordic cooperation and within the framework of the Convention for the Protection of the Marine Environment of the North-East Atlantic (the OSPAR Convention).

Box 8.1 Goals for clean waters and a non-toxic environment

Subdivision: Integrated marine and inland water management

Strategic objective:

The water quality in inland and marine waters will be high enough to maintain species and ecosystems and to take account of the requirements of human health and welfare.

National targets:

1. By 2015, integrated, ecosystem-based management plans will be drawn up for all Norwegian sea areas.
2. By 2015, integrated, ecosystem-based management plans with programmes of measures will be drawn up for all inland and coastal waters in each of the river basin districts, in accordance with the Water Management Regulations.
3. By 2009, integrated, ecosystem-based management plans with programmes of measures will be drawn up for at least one catchment in each river basin district, in accordance with the Water Management Regulations.

- Ensure follow-up of the steps set out in the declaration from the North Sea Ministerial Meeting on the Environmental Impact of Shipping and Fisheries.
- Ensure that integrated management plans with programmes of measures are drawn up for inland and coastal waters in accordance with the Water Management Regulations and the EU Water Framework Directive, and in this connection:
 - Ensure that integrated management plans with programmes of measures are drawn up for each of the new river basin districts by 2015.
 - Facilitate implementation of the regulations in the new river basin districts.

- Encourage local cooperation and intermunicipal projects as part of this work.
- Make arrangements for river systems where there are considerable environmental problems or conflicts between user groups to be given priority in the period up to 2009.
- Ensure that environmental characterisation of all Norwegian water bodies is completed by 2009.
- Review future monitoring needs in accordance with the Water Management Regulations.
- Strengthen monitoring of coastal waters.

8.2 Eutrophication and sediment deposition

Inputs of particulate matter and nutrients to inland and marine waters originate from agriculture, fish farming, waste water and industry. In addition, there is a certain level of background (natural) runoff to rivers, and long-range transport of particulate matter and nutrients with ocean currents. These inputs can damage ecosystems through sediment deposition and eutrophication. Adverse impacts include excess algal growth, blooms of toxic algae, an increase in the quantity of particulate matter suspended in the water and in sediment deposition, decreased light penetration and oxygen depletion. Several of these factors can have impacts on biodiversity.

8.2.1 Goals

Box 8.2 shows the Government's goals for eutrophication and sediment deposition.

8.2.2 Policy instruments and measures

The Government will:

- Ensure that necessary local and regional measures are implemented to reduce inputs of nitrogen, phosphorus and particulate matter in order to achieve good water status in accordance with the Water Management Regulations.
- Continue efforts to improve water quality in Lake Vansjø and any other water bodies where there are particularly serious, complex environmental problems
- Ensure that the EU Urban Waste Water Treatment Directive is implemented in part 4 of the Pollution Regulations on municipal waste water, and that the EU Nitrates Directive is

Box 8.2 Goals for clean waters and a non-toxic environment

Subdivision: Eutrophication and sediment deposition

Strategic objective:

The water quality in inland and marine waters will be high enough to maintain species and ecosystems and to take account of the requirements of human health and welfare.

National targets:

1. Norwegian inputs of nutrients and particulate matter to inland and marine waters that are being affected by eutrophication or sediment deposition will be reduced to a level that will ensure good ecological status by 2021, in accordance with the requirements of the Water Management Regulations.
2. There will be no deterioration in the status of any water body (downgrading) as a result of an increase in inputs of nutrients or particulate matter, in accordance with the requirements of the Water Management Regulations.

implemented in the Regulations relating to fertilisers and the Regulations relating to fertiliser plans, which are now being used in implementation of the Water Management Regulations.

- Consider whether the current boundaries between sensitive and less sensitive areas in part 4 of the Pollution Regulations on municipal waste water should be revised, since the treatment requirements depend on how an area is classified.

8.3 Oil pollution

Oil production can be the result of either acute (illegal and uncontrolled) discharges or operational discharges from offshore installations, ships and onshore sources. The impacts of oil spills depend on the quantity and type of oil discharged, the time of year, where the oil is discharged, wind conditions and currents, and how the spill is dealt with, including how much of the oil is recovered. We do not know enough about the long-term impacts of operational discharges to the sea, particularly their impacts on biodiversity and the structure, functioning and productivity of ecosystems.

Box 8.3 Goals for clean waters and a non-toxic environment

Subdivision: Oil pollution

Strategic objective:

The water quality in inland and marine waters will be high enough to maintain species and ecosystems and to take account of the requirements of human health and welfare.

National targets:

1. By 2015, integrated, ecosystem-based management plans will be drawn up for all Norwegian sea areas.
2. A low level of risk of harm to health or the environment as a result of acute pollution will be maintained, and continuous efforts will be made to reduce the level of risk. This will also be a guiding principle for activities that represent a risk of acute pollution.

8.3.1 Goals

Box 8.3 shows the Government's goals for oil pollution.

8.3.2 Policy instruments and measures

The Government will:

- Give high priority to efforts to ensure that the remaining black- and red-category chemical additives are phased out completely (these categories are from the system used by the Norwegian Pollution Control Authority).
- In 2009, evaluate progress and whether further measures are needed to ensure that the zero-discharge targets are achieved for oil and naturally-occurring substances discharged with produced water from the offshore petroleum industry.

8.4 Hazardous substances

All products contain chemicals, and they are used in almost all industrial processes. The use and releases of hazardous substances are one of the most serious challenges we face today. These substances can cause diseases such as cancer and allergies, have adverse effects on reproduction or

Box 8.6 Goals for clean waters and a non-toxic environment

Subdivision: Hazardous substances

Strategic objective:

Emissions and use of hazardous substances will not cause injury to health, harm ecosystems, or damage the productivity of the natural environment and its capacity for self-renewal. Concentrations of the most hazardous chemicals in the environment will be reduced towards background values for naturally occurring substances and close to zero concentrations for man-made synthetic substances.

National targets:

1. Releases of certain ecological toxins will be eliminated or substantially reduced by 2005 or 2010.
2. Releases and use of substances that pose a serious threat to health or the environment will be continuously reduced with a view to eliminating them within one generation (by the year 2020).
3. The risk that releases and use of chemicals will cause injury to health or environmental damage will be minimised.
4. The dispersal of ecological toxins from contaminated soil will be stopped or substantially reduced. Steps to reduce the dispersal of other hazardous substances will be taken on the basis of case-by-case risk assessments.
5. Contamination of sediments with substances that are hazardous to health or the environment will not give rise to serious pollution problems.

damage the genetic material of plants and animals. The most dangerous substances, which Norway categorises as ecological toxins, break down very slowly in the environment and accumulate in food chains. They are therefore a serious threat to biodiversity, food supplies and the health of future generations.

8.4.1 Goals

Box 8.6 shows the Government's goals for hazardous substances.

8.5 Waste and waste recovery

The overall objective of Norway's waste management policy is to make more use of the resources in waste, and at the same time minimise releases of greenhouse gases and ecological toxins from waste. Legislation, taxes and other policy instruments will be used to make it possible to include more waste fractions in the waste cycle and use them as raw materials.

There are separate national targets for most of the environmental problems caused by waste, such as greenhouse gas emissions (see Chapter 9.1) and hazardous substances (see Chapter 8.4). Policy instruments specifically relating to waste management must therefore be considered in conjunction with those used in other areas.

8.5.1 Goals

Box 8.7 shows the Government's goals for waste and waste recovery.

8.5.2 Policy instruments and measures

The Government will:

- Introduce waste management plans as a mandatory element of all building projects, as part of municipal administrative procedures.
- Encourage more use of biodegradable waste for energy recovery.
- Work towards considerably stricter international rules on control of ship recycling.
- Continue and revise the strategy to increase the proportion of hazardous waste delivered to approved facilities: this will include identifying new priority types of waste, improving the statistics, and facilitating the delivery of hazardous waste and EEE waste by consumers.
- Take steps to ensure that the use of waste products, compost and sewage sludge can continue safely in agriculture by intensifying research and if necessary by measures to reduce the content of ecological toxins in such products.

Box 8.7 Goals for clean waters and a non-toxic environment

Subdivision: Waste and waste management

Strategic objective:

Damage to people and the environment caused by waste will be minimised. To achieve this, waste problems will be solved by means of policy instruments that ensure a good socio-economic balance between the quantity of waste generated and the quantities re-used, recovered, incinerated and landfilled.

National targets:

1. The growth in the quantity of waste generated will be considerably lower than the rate of economic growth.
 2. The proportion of waste recovered will be raised to about 75 % of the total quantity in 2010 and subsequently to 80 %. This is based on the principle that the quantity of waste recovered should be increased to a level that is appropriate in economic and environmental terms.
 3. Hazardous waste will be dealt with in an appropriate way, so that it is either recovered or sufficient treatment capacity is provided within Norway. The generation of each type of hazardous waste will be reduced by 2020 compared with the 2005 level.
- Increase the use of phosphorus resources as plant nutrients in Norwegian agriculture, and keep the cadmium content in phosphorus fertiliser below established limit values.

9 A stable climate and clean air

9.1 Climate change

Greenhouse gas emissions will probably result in a rise in global mean surface temperature. This may

Box 9.1 The greenhouse effect, climate change and the IPCC

The global mean temperature is about 15 °C. Without the natural greenhouse effect, it would be about 34 °C lower, and the earth would be uninhabitable. The greenhouse effect arises because various gases in the atmosphere absorb heat energy that is radiating outwards from the earth and thus warm up the atmosphere and the surface of the earth. The natural greenhouse effect is caused by water vapour (H₂O), clouds, carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O) and ozone (O₃) in the atmosphere. However, the greenhouse effect is being enhanced by the rising atmospheric concentrations of gases and particulate matter that can absorb heat and are being generated by human activities. This is what causes the problem of climate change and is generally referred to as the greenhouse effect. The UN Intergovernmental Panel on Climate Change (IPCC) has published considerable scientific documentation that the world's climate is changing, and there is broad consensus that the rising concentrations of greenhouse gases in the atmosphere are largely a result of anthropogenic emissions. Human activity has also released greenhouse gases that do not occur naturally in the atmosphere. The anthropogenic rise in concentrations of greenhouse gases has altered the heat balance of the earth-atmosphere system and enhanced the greenhouse effect. This will probably result in global warming and climate change. The rise in the atmospheric concentration of CO₂ is the most important cause of the enhanced greenhouse effect (about 60 % of the additional effect due to human activities). Anthropogenic CO₂ emissions are primarily generated by the use of fossil fuels and by deforestation in tropical regions.

result in changes in precipitation patterns and wind systems, a shift in climate zones and a rise in sea level. It is feared that the frequency and severity of extreme weather events will increase with global warming. These changes may have major impacts on natural ecosystems and human society (see box 9.1).

9.1.1 Goals

Box 9.2 shows the Government's goals for reducing greenhouse gas emissions.

9.1.2 Policy instruments and measures

Under the Kyoto Protocol, Norway has undertaken to ensure that in the period 2008–2012, its annual greenhouse gas emissions are on average no more than 1 per cent higher than in 1990. In 1990, Norway's emissions totalled 52.1 million tonnes CO₂ equivalents. However, the Protocol provides for countries to contribute to emission reductions or acquire emission units in other countries as a supplement to domestic action.

Box 9.2 Goals for a stable climate and clean air

Subdivision: Climate change

Strategic objective:

Concentrations of greenhouse gases will be stabilised at a level that will prevent dangerous anthropogenic interference with the climate system, in accordance with Article 2 of the Climate Change Convention. The average rise in global mean temperature will be limited to no more than 2°C.

National target:

Norway will comply with its commitment under the Kyoto Protocol, which is that its greenhouse gas emissions in the period 2008–2012 must not be more than one per cent higher than in 1990.

For a review of Norway's climate policy instruments and implementation measures in connection with climate change, see the recent white paper on climate policy.¹

9.2 Depletion of the ozone layer

The ozone layer protects people, animals and plants against harmful ultraviolet radiation. Depletion of the ozone layer could have serious impacts on life on earth. Excessive ultraviolet radiation can result in skin cancer and eye injury, damage the immune system of people and animals, and reduce plankton growth in the sea and plant growth on land.

9.2.1 Goals

Box 9.5 shows the Government's goals for phasing out the use of ozone-depleting substances.

9.2.2 Policy instruments and measures

The Government will:

- Work actively to further develop a framework that will make it easier for developing countries and Eastern European countries to meet their

Box 9.5 Goals for a stable climate and clean air

Subdivision: Depletion of the ozone layer

Strategic objective:

All production and use of ozone-depleting substances will be eliminated.

National targets:

1. Consumption of halons, all types of chlorofluorocarbons (CFCs), tetrachloromethane, methyl chloroform and hydrobromofluorocarbons (HBFCs) will be eliminated.
2. Consumption of methyl bromide will be phased out by 2005.
3. Consumption of hydrochlorofluorocarbons (HCFCs) will be stabilised in 1995 and phased out by 2015.

existing commitments and if appropriate undertake new commitments under the Montreal Protocol.

- Continue work under the Montreal Protocol to ensure that phasing out ozone-depleting substances more rapidly does not result in more use of HFCs and other substances that enhance the greenhouse effect.

9.3 Long-range air pollution

Acidification caused by emissions of sulphur oxides (SO_x), nitrogen oxides (NO_x) and ammonia (NH₃) is one of the greatest threats to biodiversity in Norway. Freshwater fish in parts of the southern half of the country are particularly at risk. Emissions of volatile organic compounds (VOCs) combined with nitrogen oxides result in the formation of ground-level ozone, which at high concentrations can damage health, crops and materials. Inputs of nitrogen oxides and ammonia can result in eutrophication. Long-range transport of pollution also contributes to high concentrations of harmful particulate matter in the atmosphere.

Emissions from other countries in Europe and international shipping are the main reasons why sulphur and nitrogen deposition in Norway exceeds critical loads for acidification. The environmental problems caused by long-range transboundary pollution can therefore only be dealt with effectively through binding international cooperation. Norway has undertaken ambitious commitments to reduce its emissions. The greatest challenge is to reduce annual NO_x emissions by almost 30 % by 2010, as required by the Gothenburg Protocol. To do this, Norway will have to introduce new measures to bring about substantial reductions in several sectors. The Government has introduced a new tax on NO_x emissions and other policy instruments to ensure that Norway meets its NO_x commitment.

9.3.1 Goals

Box 9.6 shows the Government's goals for reducing emissions of long-range air pollutants.

The national targets for long-range air pollutants reflect the commitments Norway has undertaken for these substances under the ECE Convention on Long-range Transboundary Air Pollution, including the Gothenburg Protocol.

¹ See Report No. 34 (2006–2007) to the Storting: Norwegian Climate Policy

Box 9.6 Goals for a stable climate and clean air

Subdivision: Long-range air pollutants

Strategic objective:

Emissions of sulphur dioxide, nitrogen oxides, volatile organic compounds and ammonia will be reduced so that critical loads and levels are not exceeded, thus avoiding environmental damage, and so that injury to health is avoided.

National targets:

1. Annual emissions of sulphur dioxide (SO₂) will not exceed 22 000 tonnes from 2010 onwards.
2. Annual emissions of nitrogen oxides (NO_x) will not exceed 156 000 tonnes from 2010 onwards, and annual emissions in the period up to 2010 will not exceed the 1987 level (218 000 tonnes).
3. Annual emissions of volatile organic compounds (VOCs) will not exceed 195 000 tonnes from 2010 onwards. In the period up to 2010, annual emissions will not exceed the 1988 level (252 000 tonnes), and annual emissions from the entire mainland and the Economic Zone of Norway south of 62 N will not exceed 70 % of the 1989 level (191 000 tonnes).
4. Annual emissions of ammonia (NH₃) will not exceed 23 000 tonnes from 2010 onwards.

- Differentiate the road tax for vehicles of maximum total weight up to 7.5 tonnes according to which EU requirements for exhaust emissions they satisfy. Among other things, these requirements regulate maximum NO_x emissions.

- Play an active part in evaluation and revision of the Gothenburg Protocol, with a view to achieving further environmental improvement in Norway.
- Play an active part in following up the EU Thematic Strategy on Air Pollution.
- Continue the initiatives Norway has taken vis-à-vis the International Maritime Organisation (IMO) for the revision of the rules on emissions to air from ships. Norway will give priority to the development of international rules that will effectively reduce emissions to air from ships in cases where critical loads for ecosystems and human health are exceeded partly as a result of these emissions.
- Follow up the monitoring strategy adopted by the EMEP programme (European Monitoring and Evaluation Programme).

9.4 Local air quality

Local air quality is generally good in Norway, but in towns and urban settlements, local air pollution can at times cause substantial health and welfare problems. A relatively large proportion of the population, especially in larger towns and near busy roads, is exposed to levels of air pollution that can increase the risk of premature death and health problems such as respiratory infections, lung disease and cancer. Such pollution originates partly from Norwegian sources and partly from other countries.

9.3.2 Policy instruments and measures

The Government will:

- Introduce the necessary measures and instruments needed to ensure that Norway meets its commitment for the reduction of nitrogen oxide (NO_x) emissions under the Gothenburg Protocol by 2010. The most important of these will be as follows:
 - Implement the tax on NO_x emissions, agreements on exemptions from the tax and other policy instruments in a way that gives sufficient emission reductions.
 - Lay down new emission limits pursuant to the Pollution Control Act.

9.4.1 Goals

Box 9.7 shows the Government's goals for improvements in air quality.

9.4.2 Policy instruments and measures

The Government will:

- Reduce emissions from the major sources, which are the transport sector and fuelwood use.
- Draw up an action plan for local air quality.

Box 9.7 Goals for a stable climate and clean air

Subdivision: Local air quality

Strategic objective:

Local air pollution problems will be prevented and reduced to take account of the requirements of human health and welfare.

National targets:

1. The 24-hour mean concentration of particulate matter (PM₁₀) will not exceed 50 µg/m³ on more than 25 days per year by 2005 and 7 days per year by 2010.
2. By 2010, the hourly mean concentration of nitrogen dioxide (NO₂) will not exceed 150 µg/m³ for more than 8 hours per year.
3. The 24-hour mean concentration of sulphur dioxide (SO₂) will not exceed 90 µg/m³.
4. By 2010, the annual mean concentration of benzene will not exceed 2 µg/m³, measured as urban background concentration.

9.5 Noise

Noise adversely affects people's well-being and health. Noise disturbs sleep and prevents communication, concentration and learning. It has been shown that noise can result in short-term physiological changes that are typical of psychological stress. Stress can be a contributory factor in various complaints such as muscular tension and musculoskeletal disorders, which are very common reasons for illness and incapacity for work. A number of studies have also shown that noise increases the risk of high blood pressure and the development of heart disease.

More deprived groups are generally exposed to higher noise levels. Housing in areas where noise levels are high is often less attractive, and prices therefore tend to be lower than in quieter areas. It is more difficult for people who are in a poorer

financial position to move away from areas where noise levels are high, even if noise has a negative impact on them.

9.5.1 Goals

Box 9.9 shows the Government's goals for noise reduction.

9.5.2 Policy instruments and measures

The Government will:

- Introduce new national targets for noise reduction.
- Carry out an action plan for noise reduction for the period 2007–2011, which includes the following:
 - Strengthening research and development efforts as a basis for new policy instruments and measures to reduce noise at source.
 - Increasing the emphasis on measures that can be carried out in the short term.

Box 9.9 Goals for a stable climate and clean air

Subdivision: Noise reduction

Strategic objective

Noise problems will be prevented and reduced to take account of the requirements of human health and welfare.

National targets

1. By 2010, noise annoyance will be reduced by 10 % from the 1999 level¹⁾.
2. By 2020, the number of people exposed to indoor noise levels exceeding 38 dB will be reduced by 30 % compared with the 2005 level²⁾.

¹⁾ Calculated without population growth.

²⁾ Based on calculations of the number of dwellings exposed to noise using simplified figures for the noise abatement properties of the facade, which do not take into account ventilation structures.

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