



NORWEGIAN MINISTRY OF FINANCE

Strategy

Norway's Strategy for Sustainable Development

Published as part of the National Budget 2008





NORWEGIAN MINISTRY OF FINANCE

Strategy

Norway's Strategy for Sustainable Development

Published as part of the National Budget 2008

Foreword by Kristin Halvorsen, Norwegian Minister of Finance

Sustainable development means substantially reducing the pressure on the earth's ecosystems while lifting millions out of poverty. The Norwegian Government gives high priority to this work. This new Norwegian strategy for sustainable development describes how Norway will contribute. It sets ambitious goals and will be an important basis for our efforts in the years ahead – climate change is a major concern in this context.

The new strategy is the result of extensive stakeholder dialogue and a broad hearing process. Swedish authorities contributed to a peer review of our policies, resulting in solid analyses and concrete suggestions for improvements. Many of the suggestions from the hearing and the peer review have been followed up in the final strategy, which was published as part of the 2008 National Budget.

In Norway, the Minister of Finance is responsible not only for public finances and economic and tax policies, but also for coordinating the government's work on sustainable development. I firmly believe that integrating this work in economic policies is key to succeed in our efforts. It is imperative that sustainable development becomes an integrated part of all decision making processes.

Kristin Halvorsen

Minister of Finance

Contents

1	Introduction	6
1.1	Background	6
1.2	Peer review and broad-based public consultation.....	7
1.3	Giving new momentum to the sustainable development effort.....	9
2	Sustainable development is firmly on the agenda.....	11
2.1	Resources and sustainable development.....	12
2.2	How Norway can contribute to global sustainable development	13
3	The Government's principles and policy instruments.....	15
3.1	Principles of action.....	15
3.2	The Government's policy instruments for sustainable development	16
3.3	Revision of the sustainable development indicator set	18
4	Sustainable production and consumption	20
4.1	The need for changes in production and consumption patterns	20
4.2	Large variations in the scarcity of natural resources	21
4.3	Climate change.....	24
5	Economic and social development	32
5.1	Population trends.....	32
5.2	High global economic growth	34
5.3	Development assistance, debt relief and trade.....	36
5.4	International trends in inequality of income	38
5.5	Extreme poverty is declining.....	39
5.6	Performance in relation to other MDGs	40
5.7	The Nordic model	42
6	The Government's policy in the priority areas of the strategy.....	45
6.1	International cooperation on promoting sustainable development and combating poverty	45
6.2	Climate change, the ozone layer and long-range air pollution.....	50
6.3	Biodiversity and cultural heritage	57
6.4	Natural resources.....	64
6.5	Hazardous substances.....	71
6.6	Sustainable economic and social development.....	73
6.7	Sami perspectives on natural resource management.....	83

7 Broad-based participation and implementation of the strategy	85
7.1 Corporate social responsibility	85
7.2 The role of local government	87
7.3 Non-governmental organisations.....	89
7.4 Environmental information, the role of the individual, and sustainable consumption	90
7.5 Environmental and social responsibility in public procurement	91
7.6 Education for sustainable development	92
7.7 Implementation	93

1 Introduction

1.1 Background

In its policy platform, the Government pledged that it would follow an ambitious policy for the environment and sustainable development. The Government wants Norway to play a leading role in these efforts. The intention behind Norway's strategy for sustainable development is to guide sustainable development efforts by the authorities, municipalities, NGOs, companies and individual people. It is also intended to mobilise support for joint efforts. This is the background for the present revised strategy.

This strategy replaces both the national strategy for sustainable development presented by the Ministry of Foreign Affairs in autumn 2002 and the national action plan for sustainable development (national Agenda 21) presented in the 2004 National Budget. It focuses on how Norway can contribute to sustainable development globally and ensure sustainable development at a national level. The priority areas in the strategy are:

1. International cooperation to promote sustainable development and combat poverty
2. Climate change, the ozone layer and long-range air pollution
3. Biodiversity and cultural heritage
4. Natural resources
5. Hazardous chemicals
6. Sustainable economic and social development
7. Sami perspectives on environmental and natural resource management.

Except for the inclusion of social development in priority area 6, the priority areas are the same as in the action plan. The Government intends to increase the focus on the social dimension of sustainable development. This will among other things be done by focusing on the Nordic model of society and its importance for sound use of society's resources, high employment, equitable distribution and a proactive approach to the challenges posed by globalisation and environmental threats.

The strategy is divided into seven chapters. The rest of Chapter 1 describes a peer review of Norway's sustainable development effort and the steps the Government is taking to give this effort new momentum. The background for the sustainable development effort is described in Chapter 2. Principles and policy instruments are described in Chapter 3. Chapter 4 provides a thorough account of climate change and sustainable production and consumption. Chapter 5 describes international economic and social development, focusing on progress towards the UN Millennium Development Goals. It also describes the importance of the Nordic model. Chapter 6 gives an account of Government policy for each of the priority areas in the strategy. The role of other actors, environmental and social responsibility in public procurement, and the follow-up to the strategy is discussed in the final chapter.

Since the action plan was presented in the autumn of 2003, much of the remaining scientific uncertainty about climate change has been eliminated. In February 2007, the UN Intergovernmental Panel on Climate Change (IPCC) released the first part of its Fourth Assessment Report, which deals with the status of scientific understanding of climate change. This confirmed that we are now experiencing anthropogenic climate change. The global mean temperature has risen by almost 0.8 °C in the past 100 years, and the temperature rise is accelerating. The scale of climate change and its impacts will depend on future global trends in greenhouse gas emissions. Norway will therefore actively support the efforts to conclude an ambitious international agreement to reduce greenhouse gas emissions at an early date. Norway is prepared to take its share of the burdens involved in implementing an ambitious climate policy. Because addressing climate change and combating poverty are key sustainable development challenges, they are dealt with thoroughly in this strategy.

The follow-up of the strategy is vital. This is not a strategy for the Government alone; it also describes how other groups should contribute to sustainable development. Our goal is for the strategy to be followed up not only by the state, but also by local government, the business sector, the voluntary sector, research communities and individual people.

The National Budget is the Government's most important planning document, and an annual follow-up of the strategy will be included here. The National Budget is discussed by the Storting (Parliament), which will help to ensure a continued focus on the sustainable development effort. The strategy will also be followed up in white papers, and each ministry is responsible for follow-up within its own field. The annual white papers on the government's environmental policy and the state of the environment in Norway, which also provide a more detailed account of developments at both national and international level, will be important in the follow-up of the environmental aspects of the strategy. A set of indicators for sustainable development in Norway has been developed for measuring Norway's progress towards its targets, and the Ministry of Finance has asked Statistics Norway to provide an annual update of the indicators.

1.2 Peer review and broad-based public consultation

The Government was interested in a peer review of its sustainable development policy as part of the input to the process of developing the new strategy. In spring 2006, the Swedish authorities were contacted and invited to contribute to the process. A group of experts with five representatives from Sweden and one from Uganda presented its report to the Minister of Finance and the Minister of the Environment in March 2007. The report was partly based on a broad-based public consultation involving Norwegian organisations and research institutions, held in January 2007. It provided a useful and critical review of Norwegian policy and policy instruments, and made many proposals for improvements.

The peer review group stated that to the best of its knowledge, the institutional arrangement making the Ministry of Finance responsible for coordinating the sustainable development effort is unique. The group considered this a good solution because of the importance of viewing the sustainable development effort

in the context of the National Budget, and found that there was general support for this solution in Norway. The group stressed the importance of making better use of economic instruments that enhance the cost effectiveness of environmental policy, and recommended that Norway should review how considerations of sustainable development can be better integrated into public decision-making processes. Furthermore, it suggested that Norway should consider the establishment of a national council to strengthen the institutional basis for sustainable development outside the government system.

The peer group drew attention to the important role Norway can play in the development of carbon capture and storage technology. It concluded that Norway is making considerable use of policy instruments to reduce greenhouse gas emissions, but recommended a more uniform CO₂ tax rate across sectors to improve cost-effectiveness, and identified a need for a longer-term climate change strategy. In the group's view, the current biodiversity policy instruments will not be sufficient to halt the loss of biodiversity by 2010, and it suggested that Norway could use the EU *Natura 2000* system as a guide. Norway has a generous development cooperation policy, but the peer group pointed out that there are high barriers to trade with developing countries, except for the 50 defined as least developed countries.

Broad participation by the voluntary sector

Norwegian institutions and voluntary organisations have been involved in several phases of the preparation of the strategy for sustainable development. At an early stage, they took part in a web-based consultation on how the work on the strategy should be organised and in January 2007, they participated in the two-day consultation held by the Swedish-Ugandan peer review group. In summer of the same year, a public consultation was held on the draft strategy and the set of indicators for sustainable development, and responses were received from 46 institutions and organisations. Many of them considered it very important that the Government has drawn up a new strategy and agreed on its focus and priorities and on Norway's goal of being a leading nation in environmental and sustainable development efforts. There was also a positive response to the Government's ambitious climate targets. Several respondents considered the draft to be an improvement on the earlier strategy and action plan. Many of the proposals from respondents were related to the importance of follow-up of the strategy and of a long-term approach, or concerned institutional issues. Several respondents would like the municipalities to play a stronger role in climate policy. Many suggested that the strategy should give priority to the development of energy technology and to reducing greenhouse gas emissions in Norway. A number of responses concerned how Norway should work towards international agreements. Voluntary organisations drew attention to serious problems relating to the loss of biodiversity, and called for a considerable expansion of efforts in this area. Development cooperation and market opportunities for poor countries were other areas of concern for many organisations. Several asked when the Government intended to fulfil its pledge to raise Norway's official development assistance to 1% of GNI, as set out in its policy platform. All the responses and a summary of the main points were published on the website of the Ministry of Finance.

1.3 Giving new momentum to the sustainable development effort

The Government is taking steps to achieve its goal of making Norway a leading nation with regard to environmental policy and sustainable development, as set out in its policy platform. It has followed up many of the recommendations of the peer review group and the proposals from the Norwegian voluntary sector concerning an ambitious climate policy, development cooperation and better market access for poor countries, biodiversity, and corporate environmental and social responsibility in both the public and the private sector.

In June 2007, the Government presented a white paper on Norwegian climate policy that set very ambitious targets.

Norway will work towards an ambitious international climate agreement in which all countries will participate. The new agreement should include international shipping and air traffic, emissions from deforestation, and cooperation on the development of technology and adaptation to climate change. It should be based on the same principles as the Kyoto Protocol, and a substantial proportion of the costs should be borne by the developed countries.

The Government has put forward a proposal for an emissions trading scheme for the period 2008–2012. If it is adopted, the economic instruments will apply to a larger proportion of Norway's greenhouse gas emissions. Climate policy is being implemented through a number of measures in the 2008 budget:

- Environmental and energy taxes are being raised, while other taxes are being reduced. The budget proposes an increase in the carbon tax on domestic air traffic and the basic tax on fuel oil. The restructuring of vehicle taxes is continuing.
- The budget proposes an allocation of NOK 500 million for purchases of project-based emission credits under the Kyoto Protocol and authorisation to enter into contracts to purchase emission credits in excess of this for up to NOK 3.6 billion.

The Government's vision is for Norway to be an environmentally-friendly energy producer and to play a leading role in the development of green energy. The promotion of energy efficiency measures, renewable energy and renewable electricity are central elements of this policy:

- A fund for the promotion of renewable energy and energy efficiency measures was established in 2007 with an initial capital of NOK 10 billion, and is expected to give a return of NOK 431 million in 2008. The Government proposes to allocate a further NOK 200 million to renewable energy in the 2008 budget. The Government intends to introduce a new support scheme for production of electricity from renewable energy sources from 1 January 2008.
- For 2008, an allocation of NOK 995 million is proposed for further work on CO₂ capture and storage at Kårstø and Mongstad and for operating costs for Gassnova SF, which is a net increase of NOK 265 million from the final 2007 budget.

The Government will increase development assistance to developing countries and improve market access for poor developing countries.

- The 2008 budget proposal includes official development assistance (ODA) totalling NOK 22 290 million, which corresponds to 0.98% of Norway's estimated GNI. This is a nominal increase of NOK 1 540 million from 2007.
- In the 2008 budget the Government proposes to increase the focus on environmental development cooperation by increasing funding for climate-related measures by NOK 400 million. Funding for the other priority areas in the Norwegian action plan for environment in development cooperation is increased by NOK 75 million in the budget proposal.
- The Government proposes giving 14 additional low-income countries the same duty- and quota-free access to the Norwegian market as the 50 least-developed countries. In addition, certain reductions in tariffs are proposed for other developing countries. The Government is focusing more on trade capacity building in developing countries.

In June this year, the Government presented its action plan for environmental and social responsibility in public procurement.

- According to the action plan, the environmental impact of public procurements is to be minimised.
- The Agency for Public Management and eGovernment was established under the Ministry of Government Administration and Reform from 1 January 2008, and one of its tasks will be to follow up the action plan.

The most recent white paper on the government's environmental policy and the state of the environment in Norway intensifies efforts relating to biodiversity. This includes surveys and monitoring, management of protected areas and bringing Norway's conservation policy more into line with the EU's Natura 2000. The 2008 budget proposal increases allocations to the following areas of the Ministry of the Environment's budget:

- Measures for cultural heritage conservation
- Use and management of protected areas and outdoor recreation areas
- Removal of ecological toxins and remediation of contaminated sediments
- Environmental research and monitoring and various climate-related measures.

The present strategy will be followed up in a number of different ways. The ministries are responsible for follow-up within their own spheres. Sustainability will be an important topic in future white papers, including one on innovation policy and one on economic policy, which are to be presented in autumn 2008.

One important measure in the follow-up will be the appointment of a committee of experts to review how concerns related to sustainable development and climate change can be better integrated into public decision-making processes.

The authorities and voluntary organisations in Norway have cooperated closely on sustainable development. The Government considers it important to develop this cooperation further, and has plans for a new meeting place where the emphasis will be on the roles and responsibilities of different actors in following up the strategy.

2 Sustainable development is firmly on the agenda

The fight against poverty is one of the most central challenges faced by both rich and developing countries. In recent years the situation of developing countries have moved higher and higher up the international agenda, and are now discussed regularly in forums like the G8, the Development Assistance Committee of the OECD (OECD/DAC), and other groups of donor countries. The UN Millennium Declaration of 2000 in particular has done much to draw attention to the challenges the whole world is facing in combating poverty.

The main challenge of sustainable development is to lift millions of people out of poverty while at the same time ensuring that our descendants are able to enjoy a standard of living and quality of life similar to that we enjoy today. Twenty years ago the World Commission on Environment and Development, chaired by former Norwegian Prime Minister Gro Harlem Brundtland, defined sustainable development as: “development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” As understood by the Commission, sustainability is based on human needs, and it emphasised solidarity between generations and at the global level. The Commission pointed out that a different kind of growth is needed throughout the world to ensure that long-term development remains within the tolerance limits of the environment.

The Brundtland Commission concluded that international poverty and the state of the environment are the two main challenges that must be addressed if development is to be sustainable. Poverty and environmental degradation have also been the main issues in the UN’s efforts to promote sustainable development. In 1992 the UN Conference on Environment and Development (UNCED) adopted the Rio Declaration, which contains principles for environmental and development work, and Agenda 21, which is an action plan for the international community. These documents and the Brundtland Commission’s report have since been of central importance in sustainable development efforts.

The UN Millennium Development Goals (MDGs, see Box 1) are the main goals for the efforts to reduce world poverty, and form the basis of the work to combat poverty and promote sustainable development in many countries.

The goals reflect the fact that poverty has economic, social, health and environmental dimensions. The World Summit on Sustainable Development held in Johannesburg in 2002 largely followed the same lines as the Rio decisions, but it also restated some of the already agreed targets in more specific terms:

- By 2015, halving the proportion of people who do not have access to basic sanitation.
- By 2010, achieving a significant reduction in the current rate of loss of biological diversity.
- By 2020, ensuring that chemicals are used and produced in ways that minimize adverse effects on human health and the environment.

Box 1 The Millennium Development Goals

In 2000 the UN Millennium Assembly adopted a declaration setting out specific goals for the efforts to combat global poverty:

- Eradicate extreme poverty and hunger
- Achieve universal primary education
- Promote gender equality and empower women
- Reduce child mortality
- Improve maternal health
- Combat HIV/AIDS, malaria and other diseases
- Ensure environmental sustainability
- Develop a global partnership for development

Most of these goals have time-limited, specific targets and indicators; for example, targets 1 and 2 under MDG 1 are to halve, between 1990 and 2015, the proportion of people who live on less than USD 1 a day and in the same time period to halve the proportion of people who suffer from hunger. Target 10, under MDG 7, is to halve the proportion of people without sustainable access to safe drinking water and basic sanitation.

The Millennium Declaration also stresses that respect for cultural diversity is one of the essential requirements for achieving sustainable development and ensuring that it benefits everyone. The cultural heritage is being threatened with destruction in many places, and growing integration at the global level is putting increasing pressure on small linguistic and cultural communities.

The adoption of the MDGs was a revolutionary step in that it was the first time the rich and the poor parts of the world had entered into a binding partnership for the purpose of promoting development. While the developing countries have the main responsibility for achieving the first seven goals, through national poverty reduction plans, good governance, equitable distribution and improving social services for their inhabitants, the eighth goal concerns the obligations that the rich countries, including Norway, must fulfil to make it possible to reach these goals. These obligations are: to increase development assistance, address the special needs of the least developed countries, develop further an open, rule-based, predictable, non-discriminatory trading and financial system, deal comprehensively with the debt problems of developing countries, and seek to ensure access to affordable essential medicines and, in cooperation with the private sector, make available the benefits of new technologies, especially information and communications technologies.

2.1 Resources and sustainable development

In the Brundtland Commission's report and the documents adopted at the Rio and Johannesburg summits, human welfare is used as a measure of sustainable development. This means that one of the basic premises for sustainable development is that the total assets of a society, or its capital in the widest sense of the word, are at least maintained over the long term. This capital is made up of per

capita real capital, human capital in the form of educational attainment and know-how, and natural capital. Historically, welfare improvements in Norway and other countries have come about through strong growth in human and real capital at the expense of natural capital. We have become richer and live longer, but the pressure on the environment is growing.

In many cases the development of a society's total capital can be used as a criterion for sustainability, but if the natural capital is depleted it is often not possible to replace it with other capital. Natural capital is unlike other forms of capital because if environmental tolerance limits are exceeded the consequences may be irreversible. This applies, for example, to climate change, reduction in biodiversity and the environmental impacts of certain hazardous substances. Norway's sustainable development policy, including its environmental protection policy, are therefore based on environmental targets that take account of the tolerance limits of the environment.

Sustainable development is primarily a global goal, and is based on the principle of solidarity between generations and between those who are alive today. This means that we should focus on the world's total resources, its capital in the broadest sense, and on how these resources are distributed. Thus in a situation with large global temperature changes, a steep rise in sea level and massive climate-related population displacements, development in one particular country can hardly be characterised as sustainable. Nor can development in a particular country be described as sustainable if the country is depleting its natural resources faster than it can build other forms of capital, as is happening in several countries that are rich in natural resources but poor in other terms.

2.2 How Norway can contribute to global sustainable development

Although Norway is a small country, in some areas our importance is greater than the size of our population would suggest. We play an active role in debt relief efforts. The level of our official development assistance as a percentage of GNI is one of the highest in the world. We intend to adopt a more proactive approach in the international efforts to relieve the debt burden of poor countries. We will take an active part in international cooperation in the environmental field and promote the use of international instruments such as emissions trading schemes and technological cooperation.

Issues such as development cooperation, trade with developing countries and greenhouse gas emissions must be viewed in relation to sustainable development at the global level. At the same time we are responsible for our own society. Social and economic factors in our own country may either threaten or promote the goal of sustainable development; for example large economic disparities or high unemployment may weaken support for necessary measures. Therefore, within the framework of the Nordic model of society, we must safeguard and further develop collective solutions that will take account of the diversity of the population, ensure equal opportunities for all and allow individuals to realise their potential.

Most of the policy areas and indicators in the strategy can be viewed from both a global and a national perspective. Safeguarding our biological and cultural diversity means that we are safeguarding our part of the world heritage.

Many policy areas and indicators in the strategy are covered by agreements under which Norway has specific commitments: the Climate Change Convention and the Kyoto Protocol, the UN Convention on Biological Diversity, the Convention on Protection of the Architectural Heritage of Europe (Granada Convention), the revised European Convention on the Protection of the Archaeological Heritage (Malta Convention), international agreements relating to indigenous peoples, the Montreal Protocol on Substances that Deplete the Ozone Layer, the Convention on Long-Range Transboundary Air Pollution and the Gothenburg Protocol to Abate Acidification, Eutrophication and Ground-level Ozone.

Many of the world's poorest countries have rich natural resources that are not used for the benefit of the population. Furthermore, depletion of non-renewable resources is often greater than investment in the other sectors of society, which reduces the national capital in its broadest sense. The resulting development is clearly unsustainable. Norway has a high level of technological expertise in areas relating to natural resources, particularly oil and gas. We have sound legislation and experience of institution-building and of converting petroleum reserves into other forms of capital. An increasing number of developing countries are therefore asking us to provide advice and technological assistance, and in autumn 2005 Norway launched its Oil for Development initiative, to assist developing countries in managing their petroleum resources.

The *Stern Review on the Economics of Climate Change* points out the importance for the whole world of developing technologies for carbon capture and storage. The Swedish–Ugandan peer review of Norway's sustainable development efforts states that we are in a unique position to contribute in this field, and Norway intends to play an active role in the development of such technology.

The Government Pension Fund – Global is becoming one of the world's largest funds. Thus our actions in connection with the fund not only have direct consequences, they also send a signal to the rest of the world. The fund has a set of ethical guidelines, which state that the fund is to be managed with a view to achieving high returns that will enable coming generations to benefit from the country's petroleum wealth. They also require Norway as an investor to share the responsibility for how companies we invest in behave, what they produce and how they treat the environment. The Ethical Guidelines lay down exercise of ownership rights and exclusion of companies from the fund's investment universe as the means to pursue these goals. The way the fund is managed will become increasingly important, especially from an ethical perspective, and the Government has decided that the guidelines are to be reviewed during the current parliamentary period to see whether they are having the intended effect.

The Government expects all companies, whether publicly or privately owned, to exercise corporate social responsibility. It considers that the Norwegian business sector must set a particularly good example by using the best available standards and best practices when operating in other countries, especially in countries which perform poorly in the social, ethical and environmental fields. The government calls on all countries and businesses to act according to internationally recognised principles and reporting norms so that their performance can be assessed. Norway is an active participant in the Global Compact.

3 The Government's principles and policy instruments

The need for sustainable development

Sustainable development has been put firmly on the international agenda in response to the persistent poverty in many developing countries and growing pressure on the earth's ecosystems. Climate change, over-exploitation of natural resources and the loss of biodiversity are visible signs of these problems. There is only one Earth, as we all know. At present, the richest nations are putting so much pressure on the environment and natural resources that other nations cannot improve their welfare without exceeding environmental tolerance limits. In fact, these have already been exceeded in a number of areas. Dealing with threats to the environment and world poverty will require changes in production and consumption patterns in order to reduce the environmental pressure exerted by economic activities. Natural resource management must be based on an ecosystem approach, and it will be necessary to adopt an integrated approach to economic, social and environmental issues across sectors and decision-making levels. Sustainable development must be integrated into all policy areas. The next section presents the principles underlying the Government's sustainable development efforts.

3.1 Principles of action

Peace, human rights, freedom of expression, gender equality and non-discrimination on ethnic or other grounds are essential components of sustainable development efforts in both rich and developing countries. In the Government's view, a policy for sustainable development must be based on:

Equitable distribution

Our fundamental values include equitable distribution both between people who are alive today and between current and future generations. We will follow a policy that encourages continued economic growth, but this must take place within the framework of sustainable development, without compromising the ability of future generations to meet their own needs. The Government will pursue a policy designed to combat poverty and reduce social and economic disparities both within Norwegian society and internationally. The Government will further develop the Norwegian welfare society by investing in collective solutions.

International solidarity

World poverty is a violation of human dignity, and it is vital to combat poverty and promote economic and social development, democracy and human rights. The countries of the world have common but differentiated responsibilities for dealing with global environmental problems. The rich countries are largely responsible for generating these problems and have the most extensive economic resources. However, not even the poorest countries can ignore the need to take environmental concerns into account. There must be close links between Norway's domestic policies and its international efforts. The Government will encourage people to follow the principle "think globally, act locally".

The precautionary principle

Norway's environmental policy is to be based on the precautionary principle, which means that if there is uncertainty about the outcome, environmental considerations must be given priority. This is in accordance with a long-term perspective that respects the tolerance limits of the environment. Avoiding serious, irreversible environmental change is of crucial importance for sustainable development.

The polluter-pays principle

Polluters should pay the true costs of any harm they cause to people or the environment. Requiring the polluter to pay can reduce pressure on the environment and enable society to use other resources more efficiently. Consistent application of this principle encourages environmentally sound behaviour and ensures that environmental goals are achieved at the lowest possible cost.

Joint efforts

Sustainable development is not something that concerns the authorities alone – it concerns all of us, and relies on a good dialogue and joint efforts by the whole population. We must make environmentally sound choices, both as consumers and as actors in business and industry. The environment and sustainable development must also be discussed in day care centres and schools, so that children can learn about these issues at an early stage. It is also important to strengthen research in relevant fields to provide a firm knowledge base for the public administration, consumers and the business sector. The authorities are responsible for making use of effective policy instruments and for providing information and a framework that enables people to make environmentally sound choices.

3.2 The Government's policy instruments for sustainable development

The resources available to the world community are limited. It is therefore essential to focus our efforts on the areas where we can achieve the greatest benefits to society, and ensure that goals can be reached with a minimum of resources. The Government has adopted this approach in its sustainable development efforts, thus making it possible to set more ambitious goals. Cost effectiveness in environmental work is achieved by directing resources to the areas where they will result in the greatest environmental improvements.

International cooperation

International cooperation is essential for achieving global sustainability goals and ensuring equitable burden-sharing between countries. The objective of Norway's active international engagement is to achieve ambitious and binding agreements involving as many countries as possible. This is particularly urgent in regard to climate change. More countries need to accept responsibilities and undertake commitments. Debt relief is another area where more countries need to become involved if significant results are to be achieved.

Through the Nordic Council, Norway is playing an active part in following up and further developing the Nordic strategy for sustainable development. With their

well-developed welfare societies and high ambitions as regards sustainability, the Nordic countries can exert a positive influence both within and outside Europe.

The EU Sustainable Development Strategy and other environmental work done by the EU forms an important frame of reference for Norway's sustainable development efforts. Through the Agreement on the European Economic Area (EEA Agreement), Norway is cooperating with the EU and EFTA states on the development and implementation of environmental legislation. At a global level, cooperation within the UN system, in the multilateral development banks, the Global Environment Facility (GEF) and the WTO is particularly important. The UN Commission on Sustainable Development (CSD) is the global forum for sustainable development.

Economic instruments

Environmental taxes, tradable emission allowances and deposit and return schemes are examples of economic instruments. They influence the behaviour of companies and consumers by making it worth while to act differently. Economic instruments are effective if they are used correctly and contribute to cost-effective solutions. Companies and households tend to reduce their use of products on which environmental taxes are imposed because it is in their own financial interest. Economic instruments also encourage restructuring and the development of technology. The OECD recommends greater use of economic instruments.

Administrative instruments

Direct regulation is particularly appropriate in cases where there is a risk of immediate, serious damage to the environment or individuals, or where the environmental pressure is geographically localised. In Norway, the Pollution Control Act can be used to prohibit releases of pollutants or to restrict pollution from companies by setting emission ceilings. Another important administrative instrument is the Planning and Building Act. Through good land-use planning, it is possible to ensure that development patterns reduce the need for transport, help to protect biodiversity and prevent the loss of cultivated land. It is important to make administrative processes more efficient, for example to encourage new renewable energy production.

Research and development

Research is needed to provide a knowledge base for sustainable development. The priorities of the Government's research policy support the sustainable development effort, and the Government allocates substantial funding for relevant R&D. Norway has world-leading research institutions in a number of fields. Norwegian researchers have participated actively in the international cooperation organised by the Intergovernmental Panel on Climate Change (IPCC) to obtain a sound knowledge base on anthropogenic climate change. Norway is also to carry out a separate study of the impacts of anthropogenic climate change on the environment and natural resources in the High North (NorACIA). We have taken on a special responsibility in the field of polar research, particularly environmental research. Moreover, Norway has undertaken to develop carbon capture and storage technology, which can make an important contribution to reducing greenhouse gas emissions internationally. Research on development issues helps to ensure that

Norway can follow a poverty-reduction policy based on the best available knowledge.

Public procurement

The central government administration and the municipalities are consumers, producers, regulators of land use and owners and managers of property, and have an impact on the environment through activities such as procurement, energy use, transport and waste management. Administrative authorities are required to take into account life-cycle costs and environmental impacts and the principles of universal design whenever they plan to purchase goods or services. State and municipal agencies must develop the routines and acquire the expertise they need to incorporate environmental concerns into all procurements.

Impact assessment and licensing procedures

Impact assessments are intended to identify the environmental and other impacts that projects are likely to have. They can be very important in devising a coherent policy for sustainable development. A good example is the assessment that was made of the impacts on the environment, fisheries and society of year-round petroleum activities in the Lofoten Islands–Barents Sea region. The Planning and Building Act includes provisions requiring environmental impact assessment of all major development projects.

Norwegian legislation (Energy Act, Water Resources Act, Watercourse Regulation Act) requires companies to obtain licences for the construction of installations for the production and transmission of electricity. Processing of applications for licences includes an evaluation of all the advantages and disadvantages of the project. Licences that are granted include requirements for measures to mitigate any adverse environmental or social impact. The results of environmental impact assessments are among the factors taken into account when licence applications are being considered. Such assessments typically consider the project's impact on the landscape, areas without infrastructure development, biodiversity, the cultural heritage, outdoor recreation, tourism and reindeer husbandry, and any other significant impacts on the environment, natural resources or society.

Information

If individual people are to take environmental considerations into account, they must have access to environmental information. The authorities have a duty to provide a framework that enables individual producers and consumers to act in an environmentally-friendly way. Norway's Environmental Information Act requires commercial actors to provide information on the environmental impacts of their products.

3.3 Revision of the sustainable development indicator set

The Government has chosen to use a set of indicators of sustainable development to assess whether development trends in different areas are favourable, and this has now been reviewed. There is broad support for the main features, but certain adjustments were needed to link indicators more closely with goals. Some important changes were as follows:

- The number of countries included in the trade-related indicator has been increased, and the two categories are now the “least developed countries” and “all developing countries”.
- The indicator for acidifying substances and other air pollution now focuses more closely on Norway’s commitments under the Gothenburg Protocol.
- The indicator for fish stocks has been extended to include herring as well as cod.
- The indicator for non-petroleum saving has been replaced because it partly overlapped with other indicators and it was difficult to communicate the necessary information,
- An indicator for income disparities in Norway has been introduced.

During the public consultation on the strategy and the indicators, many proposals were received concerning the indicators. The Government intends to incorporate these appropriately as far as possible. Statistics Norway should continue to publish extensive analyses of the indicators with relevant supplementary information.

Several of the respondents suggested including indicators of sustainable consumption. The Government is in the process of developing such an indicator, and considers to include it the next time the set of indicators is revised.

4 Sustainable production and consumption

The level of international poverty is declining as a result of high economic growth in many developing countries with large populations. A number of these countries are enjoying broad social progress and a rapid rise in life expectancy. However, the widespread economic growth is also resulting in growing pressure on the global environment. Effective steps have been taken to deal with depletion of the ozone layer, but there are formidable challenges to be addressed relating to climate change, loss of biodiversity and emissions of hazardous substances. Extensive deforestation in parts of the world is a problem that contributes directly to climate change and the loss of biodiversity.

It is of crucial importance to ensure that future economic growth takes place within the framework of sustainable development. Economic development based on sustainable patterns of production and consumption is therefore one of the overall strategic objectives of sustainable development efforts. To achieve this, the environmental pressure per unit of production must be reduced sufficiently to outweigh the effect of increasing economic output. This is called absolute decoupling of environmental pressure from economic growth, and is a key element in efforts to achieve sustainable development in the UN, the OECD, the EU and the Nordic Council of Ministers.

4.1 The need for changes in production and consumption patterns

Three broad categories of household consumption have a particularly large environmental impact – housing, food and transport. As incomes rise, people buy larger homes and use more energy, a higher proportion of which is electricity. Nevertheless, energy use in housing in Norway has remained relatively stable for the last 15–20 years (i.e. decoupled from economic growth). Energy use is at about the same level as in other Nordic countries, but the proportion of electricity in the energy mix is particularly high, and there is a large potential for improving energy efficiency and for much wider use of heat pumps, bioenergy and district heating. Energy use is likely to rise unless prices are increased. The proportion of animal products in food is rising, which makes food consumption more resource-intensive. In an environmental context, the impacts of food production on the environment and natural resources are more important than the distance food is transported. Transport accounts for a relatively stable proportion of household time and consumption budgets. However, as incomes rise, so does the proportion of more expensive, faster, and more environmentally damaging forms of transport, such as gas-guzzling cars and longer and more frequent plane journeys.

We need to shift demand towards goods and services that put less pressure on the environment, and we should improve resource and energy efficiency, use energy sources that put less pressure on the environment, and develop and use greener technologies. The weak growth of the labour force in developed countries may result in considerably slower economic growth than we have seen in recent decades. A key question is whether the population will make use of rising productivity and prosperity to enjoy leisure activities that increase their consumption of services with a low environmental impact, or whether they will

increase their consumption of forms of travel, transport and material consumption that have an adverse environmental impact. The answer can be influenced both by raising awareness of the problems and through economic instruments.

The environmental pressure caused by household consumption varies from one category of consumption to another. The OECD therefore recommends that policy instruments to promote sustainable production and consumption patterns should be applied as close to the source of environmental impact as possible, and that they should distinguish between different types of consumption, targeting activities that have environmental impacts rather than overall consumption. Products, infrastructure and consumer choices all need to be changed.

Correct pricing of resources and releases of pollutants is essential if we are to reduce the environmental pressure caused by production and consumption. All economic actors should therefore have to pay the full costs of their activities, including costs related to pollution and other environmental impacts.

Changing production and consumption patterns will therefore require more use of environmental and health taxes. Schemes using tradable emission allowances can also be designed to have effects similar to those of taxes.

Instruments such as environmental taxes, eco-labelling and environmental product declarations, green public procurement policy, incorporating environmental considerations into the product design phase, life cycle assessment and environmental management systems can all play an important part in reducing the environmental impacts of production and consumption. To make it possible for governments to set sufficiently ambitious environmental goals and make use of economic and other policy instruments, the general public both in Norway and in other countries must be aware of and informed about environment issues. Without this, there will not be the necessary support for a sufficiently ambitious policy.

4.2 Large variations in the scarcity of natural resources

The Earth's natural resources are limited. As we address the major challenges we are facing relating to the environment and natural resources, we must distinguish between natural resources that are in short supply or under threat and those that can easily be replaced.

Renewable resources, such as biological resources and components of important ecosystems, are most vulnerable, both because they can be irreversibly overexploited and because the current levels of our resources, trends in real prices in recent decades and the outlook for the future suggest that they will become increasingly scarce (see for example the OECD's *Environmental Outlook*). This applies for example to fish resources and the marine environment, tropical forests and many other biotopes, including wetlands such as mangrove forests and coral reefs.

Millennium Development Goal 7 is to ensure environmental sustainability. One of the three targets under this goal is to integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources. One of the indicators of progress towards this target is forested land as a percentage of land area. Widespread conversion of forested land

to agriculture is continuing, and amounts to about 13 million hectares of forest per year. This generates an estimated 18–25% of annual global anthropogenic greenhouse gas emissions. Although large areas are being planted with new forest, this does not support the same level of biodiversity as older forest. In the period 1990–2000, the net loss of forests was 8.9 million hectares per year, and in 2000–2005 it was around 7.3 million hectares per year. This corresponds to about 200 km² per day, or more than the entire area of Norway in the course of five years. Table 1 shows that the rate of loss has been particularly high in Latin America, South-East Asia and Oceania, where the proportion of forested land was initially high.

Table 1 Proportion of land area covered by forests (percentages)

	1990	2005
Northern Africa	1	1
Western Asia	3	3
Southern Asia	14	14
Eastern Asia	17	20
Sub-Saharan Africa	29	26
Developed regions	30	31
CIS	39	39
Latin America and the Caribbean	50	46
South-Eastern Asia	56	47
Oceania	68	63
World	31	30

Source: United Nations The Millennium Development Goals Report 2007.

During the past 15–20 years, the scarcity of resources, environmental policy and better pricing and management have helped to stabilise or even reduce total water consumption in many countries. This has for example happened both in the OECD countries and in China, despite rapid economic growth. Even though water-related problems are primarily national or local management issues, as discussed in the UNDP's *Human Development Report 2006*, they are serious in many areas, and can lead to conflict.

The prices of non-renewable resources such as metals and other minerals have risen in recent years, partly as a result of a sharp rise in demand from China, which is poor in such resources. However, in the longer term prices have fallen by about 1% a year in real terms. There is little evidence that there will be any serious shortage of these resources even in the longer term. Metals such as iron and copper can for example be replaced for some purposes by aluminium, which makes up 8% of the Earth's crust, or by silicon, which accounts for 47% of the Earth's crust and is one of the main resources for modern technologies such as microprocessors, solar cells and optical fibres. Moreover, in many cases it is possible to achieve a high rate of waste recovery for non-renewable resources,

depending on prices and the provision of suitable arrangements. In Norway, recovery rates are now 76% for metal waste and more than 90% for lead batteries, waste electrical and electronic equipment, car tyres and glass packaging.

The world has large reserves of fossil fuels, particularly coal, oil shale and oil sands, and almost unlimited access to solar energy. However, the costs of using many forms of solar energy are still far higher than today's cost of producing fossil fuels. The world faces a major challenge in effecting a switch to carbon-free, environmentally sound energy sources, particularly as a way of mitigating anthropogenic climate change.

In the last 100–150 years, the efficiency of energy use has generally risen by 1–1.5% per year, corresponding to half the rate of economic growth. This shows that there has been substantial decoupling, but not enough to result in a reduction in total energy use. There has been a similar reduction in carbon intensity as a result of the gradual switch from wood and charcoal to coal and then to oil, and more recently to more use of gas, nuclear power and renewable energy sources. The energy mix reflects technological developments and a shift from consumption of goods to consumption of services with rising income levels. Despite strong economic growth in Norway, releases of lead, sulphur dioxide, ozone-depleting substances, local pollutants to air and water and phosphorus and nitrogen to sensitive areas in the North Sea have all been markedly reduced. Releases of several other substances have risen, but not as rapidly as GDP. Greenhouse gas emissions have also been reduced relative to GDP, and since 1990 the reduction in emission intensity has been greater in Norway than in most other developed countries, see table 2. In mainland Norway, there was in fact a reduction in total greenhouse gas emissions between 1990 and 2003.

Table 2 Changes in emission intensities for greenhouse gases. Growth in GDP, percentage change in emissions, and emission intensity in tonnes CO₂ equivalents per million USD in 2005 prices and as a percentage of the level in 1990

	Growth in GDP	Change in emissions	Emission intensity in 2004	
	1990–2004	1990–2004	Level	% of 1990 level
Australia	63.7	25.1	762	78
Canada	51.3	26.6	689	86
USA	56.7	15.8	587	77
Eurozone	33.8	2.7	345	78
Japan	22.4	6.5	304	89
UK	43.0	-14.3	303	61
Denmark	38.3	-1.1	276	74
Sweden	34.9	-3.5	199	73
Norway	60.7	10.3	187	71

Sources: OECD, UNFCCC and Ministry of Finance.

Norwegian value creation and production is not used only for private consumption, but also for public consumption and investment, not least in buildings and other infrastructure with long lifetimes and a substantial environmental impact. A considerable proportion of Norwegian production is exported, and a good deal of Norwegian consumption is based on imports, which put pressure on the environment and natural resources in other countries. In the most recent white paper on the government's environmental policy and the state of the environment in Norway (Report No. 26 (2006–2007) to the Storting), the Government announced that indicators will be developed for the environmental impacts of the most important consumption categories (housing, food and transport) and for the impact of Norwegian consumption on the global environment, or Norway's global "footprint". According to preliminary results from Statistics Norway, using a calculation method that is corrected for exports and imports gives lower figures for both Norwegian energy use and Norwegian greenhouse gas emissions than those obtained by production-based calculations. This is mainly because a proportion of the energy-intensive production of metals and petroleum is exported to meet demand in other countries.

4.3 Climate change

The world's climate is changing as a result of anthropogenic emissions of greenhouse gases. The question is no longer whether human activity is changing the climate, but how great the irreversible damage caused by climate change will be. The global mean temperature has already risen by almost 0.8 °C since the Industrial Revolution, and the sea level has risen by 17 cm. The Intergovernmental Panel on Climate Change (IPCC) forecasts a continued rise in temperature and sea level, and an increase in the frequency of extreme weather events. Climate change will have very serious consequences, and poor people in developing countries will suffer the worst impacts. Mortality from flooding, heat waves, storms and drought is likely to rise.

The IPCC's Fourth Assessment Report

In February 2007, the IPCC published the section of its Fourth Assessment Report dealing with the scientific basis for our understanding of climate change. The report is intended to be an important part of the input to the international climate change negotiations. It shows that the global temperature is rising, and that this trend is largely a result of human activity. Some of its main conclusions are as follows:

- The global temperature has risen by 0.74 °C over the past 100 years. It is very likely (> 90%) that most of the global warming that has been observed in the last 50 years is anthropogenic. The pace of climate change is higher than previously believed. Average Arctic temperatures have been rising at almost twice the global average rate.
- Various scenarios suggest that the global average temperature will rise by between 1.1 and 6.4 °C in the next 100 years. For the next 20 years, a rise of 0.2 °C per decade is expected.

- Sea temperature has risen down to a depth of at least 3000 m, causing expansion of the seawater. Glaciers and snow cover are declining in both hemispheres, thus contributing to the rise in sea level. The sea level is expected to rise by 19–58 cm during this century.
- The ocean has been absorbing more than 80% of the heat added to the global climate system. If the global temperature continues to rise, the capacity of the ocean to absorb carbon will be reduced, thus contributing to a further rise in temperature.

The annual mean temperature in Norway is projected to rise by 2.5–3.5 °C in the next 100 years. A considerable increase in precipitation and in the frequency of extreme weather is also expected. Nevertheless, Norway is one of the countries where the negative impacts of climate change will probably be moderate. An increase in the extent and frequency of flooding, landslides and avalanches, changes in wind conditions and a rise in sea level may require changes in land use. However, higher precipitation will increase inflow to Norwegian hydropower plants, and higher temperatures may have an impact on energy use.

In April 2007, the IPCC published part two of its Fourth Assessment Report, on the impacts of climate change. This shows that climate change will affect poor countries particularly seriously, for example through heat waves, flooding, water shortages and reduced crop yields, and because the rise in sea level may displace several hundred million people. Moreover, the poor countries have the most limited resources available for adaptation to climate change. Agriculture, which is a key industry in developing countries, is particularly vulnerable to climate change.

In April 2007, the IPCC published the third section of its Fourth Assessment Report, on mitigation of climate change. This establishes that if we are to succeed in limiting the global temperature rise to 2–2.4 °C, the atmospheric concentration of greenhouse gases must be stabilised at 445–490 ppm. To achieve this, global greenhouse gas emissions must be reduced by 50–85% from 2000 to 2050, and the reduction must start by 2015. The report estimates that the measures needed to achieve this emission trajectory will reduce the average global GDP growth rate by 0.12 percentage points per year, so that global GDP will be about 3% lower in 2030 and 5–6% lower in 2050 than in the baseline scenario.

The costs of failing to act will be high

Another important report, the *Stern Review on the Economics of Climate Change*, was presented on 30 October 2006 by Sir Nicholas Stern, Head of the UK Government Economic Service and former chief economist at the World Bank. The report was commissioned by the Treasury. It presents essential elements of climate policy at both global and national level, and shows that a broad-based response is needed.

The pre-industrial concentration of greenhouse gases in the atmosphere was 280 ppm. Figures presented in the Stern Review show that the atmospheric concentration of greenhouse gases will continue to rise from the current level of 430 ppm to 550 ppm in 2035 and will reach 635 ppm in 2050 unless new measures are introduced to reduce emissions. According to the report, this would result in

large-scale climate change and substantial economic consequences, equivalent to a permanent reduction in global consumption of between 5 and 20%. At the upper end of this interval, the calculations take into account other factors, including the impacts on human health and more extreme changes in climate as a result of positive feedback mechanisms in the climate system. The economic impacts are expected to increase during this century and become very serious in the next century.

The Stern Review argues that the benefits of strong, early action on climate change will outweigh the costs. It recommends limiting global greenhouse gas emissions so that their concentration in the atmosphere is stabilised at 550 ppm. This is projected to result in a long-term temperature rise of 3 °C relative to the pre-industrial level. The Stern Review also sets out clear recommendations for a policy to achieve this, as described in box 2.

The Stern Review concludes that a global emissions trajectory that would stabilise greenhouse gas concentrations at 550 ppm CO₂ equivalent can be achieved if global emissions peak in the next 10–20 years and then fall at a rate of 1–3% per year to around 25% below current levels in 2050. The annual costs of the measures needed to achieve this are estimated at 1% of global GDP if resources are used reasonably cost effectively. However, unless an ambitious international climate change agreement is concluded within the next 10–15 years, it will not be possible to limit the temperature rise to 3 °C.

According to current knowledge, limiting the temperature rise to 2 °C would require the concentration of greenhouse gases in the atmosphere to be stabilised at less than 450 ppm. According to the Stern Review, this would be very difficult to achieve, because the world has large reserves of fossil fuels with low extraction costs, and many coal-fired power plants that have lifetimes of several decades are still being built. It would therefore be difficult to achieve the deep and rapid cuts in emissions that would be required to achieve the two-degree target. The Stern Review gives an example of an emissions path in which global emissions peak in the next 10 years and then fall to 70% below the current level in 2050.

Box 2 Policy recommendations in the Stern Review

The Stern Review identifies three elements of a policy for mitigating climate change: 1) a common global carbon price, which will contribute to global cost-effectiveness; 2) research on low-carbon technologies to reduce the costs of mitigation measures; and 3) the removal of barriers to behavioural change, including transaction costs and a lack of information.

1) The most important policy element is to establish broad-based international agreements and an international market price for greenhouse gas emissions. This will encourage measures to mitigate climate change in all countries and help to ensure that emission reductions take place where they are cheapest, in other words as cost effectively as possible. This is vitally important, because we must address the challenge of climate change without undermining efforts to reduce poverty and improve standards of living for many people in developing countries.

2) Establishing a price for greenhouse gas emissions is essential as an incentive for companies to develop low-emission technologies. However, even with a market price for these emissions, companies may underinvest in the development of technology, both because of uncertainty about future climate change agreements and because they do not take into account the social payoff from such developments. The Stern Review therefore recommends substantial public funding of research and development, demonstration projects and early-stage deployment of low-emission technologies. Even with strong expansion in the use of renewable energy, fossil fuels may still account for over half of global energy supplies in 2050. Developing technologies for carbon capture from combustion of fossil energy carriers and storing it where it will not harm the environment can therefore be an important element of climate policy.

3) According to the Stern Review, minimum standards for buildings and appliances have proved to be a cost-effective way to improve performance where price signals alone are too muted to have a significant impact. For example, house-buyers tend not to take future energy costs and greenhouse gas emissions sufficiently into account. The long lifetime of buildings and other infrastructure means that it can be difficult and costly to change standards and technological solutions once structures have been built. In cases where investment costs are relatively high, consumers do not appear to respond adequately to environmental taxes relating to running costs.

The Stern Review also emphasises the importance of making use of the large potential for low-cost measures to curb deforestation.

The Kyoto Protocol

The Kyoto Protocol was adopted in December 1997, and is based on the principle of common but differentiated responsibilities, which is set out in the United Nations Framework Convention on Climate Change (UNFCCC). The developed countries have the largest resources and also have the main historical responsibility for generating greenhouse gas emissions, which is why they took on quantitative emission commitments under the protocol. At the same time, countries that took on commitments were allocated emissions quotas, closely related to their historical emissions. These country quotas were expressed as annual averages for the Kyoto commitment period 2008–2012, and varied from 8% below the 1990 level (EU15 and others) to 10% above the 1990 level (Iceland). Norway's quota is 1% higher than its calculated emissions in 1990. To some extent, the results of the negotiations reflected differences in the costs of emission reductions and in income level across developed countries.

The Protocol provides for parties to use the Kyoto mechanisms as a supplement to national measures in fulfilling their emission commitments. The Kyoto mechanisms are emissions trading, Joint Implementation and the Clean

Development Mechanism. The countries that have taken on emission commitments under the Kyoto Protocol only account for just under 30% of global greenhouse gas emissions, and this proportion is dropping. In 2000, the EU25 generated 14% of global emissions, Russia 5.7%, Japan 4.0%, Canada 2.1% and Norway 0.2%. The US, China and India, which do not have emission commitments under the Kyoto Protocol, generated 20.6%, 14.8% and 5.5% respectively.

The Kyoto Protocol has certain weaknesses: it is not sufficiently ambitious and does not include commitments for enough countries. Nor are emissions from international shipping and air traffic included in the quantitative commitments under the protocol. The developing countries in particular have pointed out that climate change agreements should be based on the polluter-pays principle. Various proposals in line with this have been presented during the climate negotiations, including proposals to limit the assigned amounts allocated to rich countries that generate large volumes of greenhouse gas emissions.

There has been much discussion of the fact that Russia and Ukraine were allocated assigned amounts for the commitment period 2008–2012 corresponding to their emissions in 1990, even though their projected emissions for the period are much lower than this. It would therefore be possible for these two countries to sell a large volume of surplus emission units, which could influence the market price for carbon. Whether this in fact happens will depend partly on whether the two countries develop approved registry systems that will allow them to take part in emissions trading, and on the extent to which the EU permits emission units from these countries to be used in the EU Emission Trading Scheme. If clear limits are set for emissions trading with these countries, Western countries will make larger cuts in emissions, and the overall costs will be higher. The Kyoto Protocol permits countries to “save” unused emissions from their quotas, so that “hot air” may also be transferred to the next commitment period. If the surplus emission units from Russia and Ukraine reach the market, the developed countries may not need to make any substantial cuts in their emissions. This could also weaken confidence in the Kyoto mechanisms.

The need for ambitious climate change agreements

In *World Energy Outlook 2006*, the International Energy Agency (IEA) estimated that in a business-as-usual scenario, global CO₂ emissions will rise by 55% from 2004 to 2030. In this scenario, developing countries account for three-quarters of the rise in emissions. Their total emissions are projected to exceed those of the OECD countries from 2012 onwards. From 2004 to 2030, the share of global emissions generated by developing countries is expected to rise from 39% to 59%.

According to this scenario, China alone will be responsible for about 39% of the rise in global emissions. China’s emissions will more than double between 2004 and 2030, driven by strong economic growth and heavy reliance on coal in power generation and industry. China’s emissions are now larger than those from the US. Other countries in Asia, particularly India, will also contribute heavily to the rise in global emissions. If the world community is to succeed in tackling the problem of climate change, it is of crucial importance to put in place new, ambitious international climate change agreements that also include countries such as the US, China and India.

Developing countries are reluctant to carry out costly measures to mitigate climate change because of their low income levels and concerns about their own development. However, most of the growth in emissions from now on will be in these countries. To achieve deep cuts in emissions globally, it may therefore be necessary for developed countries to fund substantial measures in developing countries as well as measures at home.

Climate change poses complex and unpredictable challenges, and dealing with them will require a concerted effort by a large number of countries. To persuade poor countries to take part, the rich countries must show that they are taking the problem seriously and are willing to bear a substantial share of the costs. According to the Stern Review, it is important to establish a common international price for carbon emissions. This will help to ensure that the cheapest measures are carried out first. The way costs are shared between countries will depend on how emission allowances are distributed between them. If a restrictive line is followed in allocating country quotas, the developed countries will have to fund substantial measures both at home and in developing countries.

Various different principles have been proposed for burden-sharing. One is to allocate emissions quotas to countries according to the size of their populations. This would involve large income transfers from countries with high per capita emissions (mainly developed countries) to countries with low per capita emissions (mainly developing countries).

The effect of this can be illustrated as follows. For the world as a whole, average per capita greenhouse gas emissions are about 5 tonnes per year. Given today's pattern of emissions and assuming that each person in the world is allocated an equal share of emissions, the developed countries, with a total population of 1 260 million, would be allocated a total of 6 300 million tonnes. Their actual emissions would be 17 800 million tonnes, meaning that they would have to purchase emission allowances corresponding to 11 500 million tonnes per year. If we assume a price of about NOK 100 per tonne, which is considerably lower than the price obtained in the EU Emissions Trading Scheme in 2008, the developed countries would have to purchase emission allowances for NOK 1 150 billion per year. This is almost twice as much as they provide in development assistance.

A system under which rich countries receive no emission quotas, but must purchase all the allowances they need from poor countries, would result in even larger income transfers. If a rich country is not allocated any emission quota free of charge, but undertakes to purchase all it needs from other countries, it is said to be carbon neutral. Its domestic emissions are fully offset by the emission reductions it funds in other countries.

The Government has proposed that Norway should be carbon neutral by 2050. On 17 January 2008, a broad agreement on climate policy was reached between the Government and opposition parties. The agreement says that as part of an ambitious, global climate agreement, in which other industrialised countries also undertake strong commitments, Norway will become carbon-neutral within 2030. This means that Norway will take on the responsibility of reducing emissions corresponding to our domestic emissions in 2030.

The Stern Review concludes that the developed countries should take the main responsibility for developing low-carbon technologies to reduce the costs of future emission reductions. Norway's initiative to promote carbon capture and storage is likely to have a significance far beyond reduction of the country's own emissions. In addition to encouraging technological developments, the initiative will help to reduce the cost of new technologies and make them more affordable, so that they can be deployed throughout the world.

Developing a long-term climate policy

A growing number of countries and regions are drawing up long-term climate policies and positioning themselves for negotiations on a more ambitious international agreement after the end of the first Kyoto commitment period in 2012.

Over the past few years, the EU has formulated a long-term climate policy target and target for renewable energy. Security of supply, particularly as regards energy imports from Russia, is another very important consideration for the EU in this context. The EU has decided that 20% of energy use in 2020 is to come from renewable sources.

Moreover, the EU has announced that it is ready to cut its greenhouse gas emissions to 30% below 1990 levels by 2020, providing that other developed countries agree to make comparable reductions and advanced developing countries contribute according to their responsibilities and capabilities. Until an international agreement can be concluded, the EU's target is to cut greenhouse gas emissions by at least 20% by 2020. The EU intends to combine domestic instruments, for example expanding the emissions trading scheme and promoting the use of renewable energy, with instruments at the international level, including the Clean Development Mechanism and Joint Implementation.

There was little change in greenhouse gas emissions from the EU15 from 1990 to 2004. Projections indicate that unless new measures are implemented, it is not likely that there will be significant changes by 2010 or 2020 either. However, greenhouse gas emissions from the new member states dropped by more than 30% from 1990 to 2004. As a result, it is estimated that greenhouse gas emissions from the EU27 will be about 6% lower in 2010 than in 1990, close to the level required under the Kyoto Protocol, without the introduction of any further measures.

Norway's National Budget for 2008 presents a corrected reference scenario for domestic greenhouse gas emissions. This has not been completely updated since the 2007 budget, but includes new policy measures that have been adopted. Projected emissions have been revised downwards somewhat from 2007, to 58 million tonnes in 2010 and 57 million tonnes in 2020. The trend in emissions must be seen in the context of the expected reduction in emissions from the petroleum industry after 2012. Emissions from the transport sector are expected to continue to rise sharply up to 2020. The projections show weak growth in aggregate greenhouse gas emissions from manufacturing up to 2020, while emissions from energy intensive industries are expected to drop. Emissions of greenhouse gases other than CO₂ are projected to decrease somewhat during this period. Methane

emissions will decline up to 2020 as a result of a reduction in emissions from oil and gas extraction.

Differences in population trends explain some of the differences between projected greenhouse gas emission trends in Norway and the EU. In the period 1990–2005, the population grew by 9.4% in Norway, but by only 4.1% in the EU27. From 2005 to 2020, Norway's population is expected to grow by a further 9.5% according to UN projections, as compared with only 1.6% in the EU27.

The development of suitable criteria for burden sharing between member states for the period after 2012 has already started. Various member states have also started to develop their own climate policy targets. In the UK, a Climate Change Bill is under consideration which would make the country's targets for a 26 to 32% reduction in emissions by 2020 and a 60% reduction by 2050 legally binding. Emission reductions that the UK funds in other countries would count towards these targets. Sweden has decided on a national process lasting for more than a year to develop long-term climate targets.

In California, Governor Schwarzenegger has drawn up ambitious plans for reducing harmful emissions. The California Global Warming Solutions Act was adopted by the State Assembly in September 2006. It sets out a path for emissions reductions leading to emissions that are 80% below the 1990 level in 2050. In addition, California aims to link its emissions trading market to the EU Emissions Trading Scheme and to the Regional Greenhouse Gas Initiative involving the Northeastern and Mid-Atlantic states of the US.

The European Commission has presented calculations of the costs of meeting different emission targets in 2020. In the reference scenario, global emissions rise by 86% from 1990 to 2050. In another scenario, it was assumed that many countries will introduce measures to reduce emissions; in this scenario, projections show that global emissions will be reduced by 25% from 1990 to 2050. The Commission pointed out that this is not sufficient to limit the rise in global temperature to 2 °C, which is the EU target.

The second scenario also includes the EU commitment to cut its emissions by at least 30% from 1990 to 2020 provided that other developed countries agree to comparable reductions. This means that emissions within the EU will be 21% lower in 2020 than in 1990, and purchases of emission units (CDM units) from outside the EU will correspond to about 10% of EU emissions in 1990. In the calculations, the price of emission allowances in the EU market is assumed to rise gradually to EUR 37 per tonne CO₂ in 2020, or about NOK 300. This is roughly in line with the price trend considered to be compatible with a similar emission path in the Stern Review. In September 2007, the emission allowance price for 2008 was over EUR 20 per tonne.

5 Economic and social development

5.1 Population trends

World population quadrupled during the 20th century, passed 6.6 billion in 2007 and is expected to be over 9 billion in 2050 (see table 3). Population growth is increasing the total pressure on the earth's resources and is one of the main challenges with regard to sustainable development.

The annual growth rate of the world population reached a peak of just over 2% in the late 1960s, and has now dropped to 1.2%. By 2050, the growth rate is expected to be only 0.3%. When growth was highest, the world population was increasing by about 90 million a year; now the figure is 77 million and still declining.

Most of the rise in the population up to 2050 will take place in the developing countries, with the relatively highest growth in the 50 poorest of these, where the population is expected to increase from 0.8 billion in 2005 to 1.7 billion in 2050. The population of Europe has been declining; it fell from about 22% of the world population in 1950 to 11% in 2005, and this trend is expected to continue, reaching 7% in 2050.

Table 3 Population of the world, major development groups and major areas. Medium variant from the UN's 2006 Revision

	Population (millions)			Percentage of total		
	1950	2005	2050	1950	2005	2050
World	2535	6515	9191	100,0	100,0	100,0
More developed regions	814	1216	1245	32.1	18.7	13.5
Less developed regions	1722	5299	7946	67.9	81.3	86.5
- <i>Least developed countries</i>	<i>200</i>	<i>767</i>	<i>1742</i>	<i>7.9</i>	<i>11.8</i>	<i>19.0</i>
Africa	224	922	1998	8.9	14.2	21.7
Asia	1411	3938	5266	55.6	60.4	57.3
Europe	548	731	664	21.6	11.2	7.2
Latin America/Caribbean	168	558	769	6.6	8.6	8.4
North America	172	332	445	6.8	5.1	4.8
Oceania	13	33	49	0.5	0.5	0.5

Source: United Nations World Population Prospects; The 2006 Revision.

According to UN estimates, net migration from developing countries to more developed regions will be just over 2 million a year in the period 2005–2050. Half of these people are expected to migrate to the US, about 200 000 to Germany and Canada, 130 000 to the UK and 120 000 to Italy. The largest numbers of migrants

are expected to come from China and Mexico, with about 300 000 from each, followed by India, the Philippines, Indonesia, Pakistan and Ukraine.

The proportion of people living in urban areas in the OECD countries rose from 67% in 1975 to 75% in 2004. Urbanisation is proceeding rapidly in developing countries, where 42% of the population lived in urban areas in 2004 as against 27% in 1975. Half the world population now lives in urban areas. In general the rapid rise in urbanisation in poor countries largely reflects positive economic and social development trends, for example greater agricultural productivity, but at the same time it poses considerable challenges to the authorities.

In the last 30 years, life expectancy in developing countries has risen by about nine years (see table 4). The corresponding figure for the OECD countries is about seven years. An important reason for the rise in developing countries is that mortality among children under five years old has halved, declining from 16.6% in 1970 to 8.3% in 2000.

Table 4 Important demographic trends

	Population (million)	Annual growth rate (%)		Fertility rate (births per woman)		Life expectancy at birth (yrs)	
		1975- 2004	2004- 2015	1970- 1975	2000- 2005	1970- 1975	2000- 2005
World	6389	1.6	1.1	4.5	2.7	59.9	67.0
Developing countries	5094	1.9	1.3	5.5	2.9	55.6	64.9
- Least developed countries	741	2.5	2.3	6.6	5.0	44.5	52.0
Arab States	311	2.6	2.0	6.7	3.7	52.1	66.9
East Asia and the Pacific	1944	1.4	0.7	5.0	1.9	60.5	70.4
Latin America and the Caribbean	548	1.9	1.2	5.1	2.6	61.1	71.7
South Asia	1528	2.1	1.5	5.6	3.2	50.1	63.2
Sub-Saharan Africa	690	2.7	2.2	6.8	5.5	45.8	46.1
Central and Eastern Europe and the CIS	405	0.3	-0.2	2.5	1.5	69.0	68.1
OECD	1165	0.8	0.5	2.6	1.8	70.3	77.6
US	295.4	1.0	0.9	2.0	2.0	71.5	77.3
Germany	82.6	0.2	0.0	1.6	1.3	71.0	78.7
Norway	4.6	0.5	0.5	2.2	1.8	74.4	79.3

Source: UNDP Human Development Report 2006.

The rise in life expectancy partly reflects improvements in nutrition. From the mid-1960s to the late 1990s, daily per capita intake in the developing countries rose by about 600 kcal, or 30%. In the developed countries, the rise was about 400 kcal, or 15%. Although the proportion of undernourished people in all developing

countries taken together dropped from 37% around 1970 to 17% at the end of the 1990s, the proportion in Sub-Saharan Africa has not changed much and is still over 30%.

The decline in child mortality, a higher level of education for women, and more extensive use of contraception have substantially reduced the number of children born to each woman. As shown in figure 4, fertility in the developing countries, apart from Sub-Saharan Africa, has almost halved during the last 30 years. This has contributed to the decline in population growth and the increase in the proportion of the working age population.

According to UN estimates, if effective measures are taken to combat HIV, life expectancy in the least developed countries will rise to 67 years in 2050 as against 51 years today. On this assumption, life expectancy in the developing countries as a whole is expected to rise from 66 to 76 years. In more developed countries it is expected to rise from 76 to 82 years.

In the developed countries, the proportion of older people in the population will gradually increase. The proportion of people over 60 years old is expected to rise from 20% in 2005 to 32% in 2050, and the increase will be especially great in Europe. This will lead to slower economic growth as well as a steep rise in the proportion of resources used for pensions, nursing and care, and have a major impact on public finances and the labour market. The ageing of the population and the need to maintain a high level of labour force participation and satisfactory government finances are among the most important economic and social challenges facing Norway and other developed countries in the years ahead.

5.2 High global economic growth

Gross per capita income for the world as a whole was about three times as high in 2000 as in 1950. Economic growth has been higher in the developing countries as a group than in the developed countries, but population growth has also been higher. Gross per capita income in developing countries has grown particularly strongly in a number of Asian countries (see table 5).

In the 1980s and 1990s per capita economic growth was weaker in the developing than in the developed countries, but this trend has been reversed and per capita growth is expected to continue to be stronger in the developing countries during the next 10 years. In recent years there have been substantial improvements in governance and economic policy in many developing countries. The higher level of education and the larger proportion of the working age population have raised per capita GDP. Another important factor is that the geographical areas that are integrated with the global economy have increased substantially as a result of political changes and economic reforms in Eastern European and Asian countries. According to the IMF's World Economic Outlook of spring 2007, the effective global labour supply has quadrupled in the last 20 years, due in part to increased trade, migration and relocation of production.

Table 5 Per capita GDP in 2004 and annual growth in per capita GDP in several groups of countries

	Per capita GDP	Annual growth rate (%)			
	2004 ¹	1980s	1990s	2001- 2006	2006- 2015 ²
World	8 833	1.3	1.2	1.5	2.1
<i>High-income countries</i>	31 331	2.5	2.8	1.6	2.4
- OECD	27 571	2.5	1.8	1.6	2.4
- USA	39 676	2.3	2.0	1.8	2.5
- Japan	29 251	3.4	1.1	1.1	1.9
- EU	..	2.1	1.8	1.4	2.3
<i>Non-OECD countries</i>	..	3.5	4.0	2.0	3.5
Developing countries	4 775	0.7	1.5	3.7	3.5
East Asia and the Pacific	5 872	5.8	6.3	6.4	5.3
Latin America	7 964	-0.9	1.6	1.2	2.3
Middle East and North Africa	5 680	-1.1	1.0	2.5	2.6
South Asia	3 072	3.3	3.2	4.5	4.2
Sub-Saharan Africa	1 946	-1.1	-0.5	1.8	1.6

¹ Converted into USD with the help of purchasing power parity.

² Estimated annual growth up to 2015.

Sources: UNDP Human Development Report 2006. World Bank Global Economic Prospects 2006.

According to World Bank estimates, the annual growth rate in the global economy will be 3% for the next 25 years, which means that global GDP will almost double from 2005 to 2030. The Bank expects growth to be 2.4% in high-income and 4.2% in developing countries. The latter countries' share of the world economy will thus increase from about one-fifth to about one-third. By 2030 China, Mexico and Turkey may have achieved a standard of living roughly equivalent to what Spain's is today.

The IMF maintains that the globalisation of the labour market has had net positive effects for developed countries, where it has resulted in increased productivity, higher production and greater access to cheap imports. Emerging economies have also benefited in the form of higher wages. Globalisation and technological advances seem to have resulted in a greater increase in capital returns than in wages. In the view of the IMF, technological advances have contributed most to this development.

The World Bank has pointed out that while globalisation and technological advances taken together have resulted in large gains, this development could also increase income disparities within individual countries, which in turn could have

negative effects on the economy. The Bank also points out that the benefits of growth and globalisation could be undermined by transboundary pollution and greater pressure on resources. With existing trends and technological advances, greenhouse gas emissions will increase by about 50% up to 2030 and will have doubled by 2050.

Weak social and economic development in Sub-Saharan Africa is a particular challenge. It is the result of many factors acting together: poor governance, rapid population growth, high morbidity and a high level of undernourishment, conflicts, high transport costs as a result of poor infrastructure and distance from waterways, and a long-lasting decline in commodity prices. From the early 1980s to well into the 1990s, per capita GDP declined by roughly 1% per year in these countries. However, in the last few years this trend has been reversed, and per capita GDP is now rising. This development is partly a result of better governance in many of these countries, increased development assistance, debt relief (see below) and the fact that strong economic growth in Asian countries with few commodities is raising the prices of African commodities on the world market. The Brundtland Commission pointed out the importance of growth in developed countries for development in poor countries, because weak economic developments in the former adversely affect the volume and price of exports from developing countries.

However, further economic growth that exploits natural resources and puts pressure on ecosystems to the same extent as today will not be sustainable. Resource use and pressure on natural resources must be decoupled from economic growth.

5.3 Development assistance, debt relief and trade

Millennium Development Goal (MDG) 8 is to build global partnerships between developed and developing countries. Particular attention will be paid to addressing the needs of the least developed countries by ensuring free market access for their exports, debt restructuring and increased development assistance.

Development assistance is an important source of income for the least developed countries; for several of these countries official development assistance (ODA) corresponds to 10% of GDP and accounts for about half of government spending. In countries where governance has improved, a larger volume of development assistance can be used more effectively for development and poverty reduction.

A growing number of developing countries are drawing up national poverty reduction strategies, which also serve as strategies for sustainable development. Donor countries are increasingly providing direct budget support in such cases instead of funding individual projects. This enhances ownership and reduces the administrative burden on the projects. Making ODA subject to normal budget priorities enhances financial accountability and efficient use of resources.

The quality of ODA is improving, and a growing share of international development assistance is being targeted at countries that have a high level of poverty and are able and willing to take steps to reduce it. Until the 1990s, countries with good governance and a sound economic policy, but a high level of

poverty, received no more ODA than countries with poor governance. The distribution of bilateral development assistance largely reflected strategic interests, priorities governed by the Cold War and ties with former colonies. The Nordic countries, however, have long been an exception to this rule in that their development assistance policy has targeted poor countries.

The MDGs have a focus on the special needs of least developed countries. International development assistance to these countries declined by 7% in the 1990s, although UN figures show that ODA to developing countries has been increasing steadily since 1997, reaching USD 106 billion in 2005. At the end of the 1990s it was USD 60 billion in corresponding constant prices. Debt relief has accounted for half this increase. ODA from developed countries was around 0.3% of GNI in 2006, which is about the same figure as in the first half of the 1990s.

Five countries, Denmark, Luxembourg, the Netherlands, Norway and Sweden, have reached the target set by the UN of 0.7% of GNI, and another 11 EU countries have pledged themselves to reach this target by 2015. If all these promises are kept, ODA is expected to rise to USD 130 billion by 2010. The 50 least developed countries now receive about one-third of all ODA and the donor countries have promised to double their assistance to Africa, where most of these countries are located, by 2010.

UN figures show that since 1998 debt relief has reduced future debt servicing for 29 debt-burdened countries by about USD 60 billion. Debt servicing now accounts for under 6% of exports from these countries. Debt cancellation under the Heavily Indebted Poor Countries (HIPC) initiative and the Multilateral Debt Relief Initiative (MDRI) has liberated substantial sums for investment in health and education. However, there is a need for further debt relief for a number of countries that do not yet qualify for HIPC or MDRI. For countries that are qualified, these schemes will solve a large part of their debt problems. In these cases the main challenge lies in avoiding a situation where the country in question reverts to its previous imprudent borrowing practices, and lending countries must avoid becoming involved in a new round of unwise borrowing, so that they prevent new debt problems from arising in these countries.

There is growing international awareness, which is reflected in MDG 8 and the current Doha round in the WTO, that greater participation in international trade is necessary for economic growth, development and welfare in the poorest countries. International trade provides developing countries with new markets for their goods and services that will increase their income. Increased export earnings are an important source of business investment and of tax revenues that can be used for public investment, and they decrease dependence on aid. However, trade does not exist in a vacuum, and promotes development more effectively if it is accompanied by the development of human capital and sound economic policies.

The agenda of the Doha round in the WTO is comprehensive and focuses on development. Improved market access, updating rules to take account of developing countries' situation and effective trade-related development cooperation are all necessary if the agenda is to be implemented. If agreement is reached on improved market access, this will mean not only that developing countries have access to markets in rich countries, it will also improve

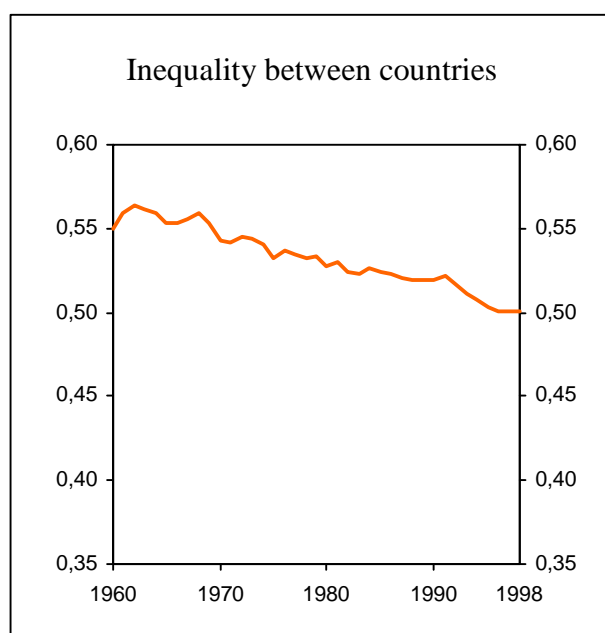
opportunities for South–South trade within and across regions. It is often simpler to trade with a neighbouring country than with one on another continent.

5.4 International trends in inequality of income

World income inequality has two components: inequality of per capita income between countries, and inequality within a country. Inequality between countries accounts for about two-thirds of the disparities at the global level; the remaining one-third is found within countries. While average income in a number of large developing countries is rising steeply, inequality is increasing in many of them. Most reports indicate that income disparities in the world population as a whole are growing. The five to six hundred million people with the highest incomes in developing countries have approximately the same standard of living as the population of developed countries.

Differences in average income between countries

The income distribution of the world population can be ranked according to the average income in the countries. A usual method for measuring differences in per capita income between countries is to compare the 20% of the world's population living in the countries ranked as the richest with the 20% living in the poorest. This measure shows that over the last 40 years there has been a trend towards reduced income disparities in the world. However, the 20% of the world population living in the countries with highest average income are 12 to 13 times richer than the 20% living in the lowest-income countries. Another statistical measure of inequality of income distribution is the Gini coefficient, which ranges from 0, in cases where everyone has the same income to 1, where one person has all the income. This indicator also demonstrates a long-term trend towards reduced inequality of income distribution between rich and poor countries (figure 1).



Source: Milanovic, Branko (2005): *Worlds Apart. Measuring International and Global Inequality*, Princeton University Press.

Figure 1 Inequality of income distribution between countries in the period 1960–1998. Gini coefficient, adjusted for population size

The most important factor behind this trend is that growth in many Asian countries, especially India and China, has reduced the differences in average income between countries. For all the developing countries as a whole, the increase in per capita income has been especially large in the last few years, and many forecasts indicate that this trend will continue.

However, a comparison of the 10% of the world population living in the richest countries ranked by average income with the 10% in the poorest countries, shows an increasing trend towards greater disparity after 1982, following a decreasing trend in the preceding period. This reflects the weak social and economic development in the poorest countries, many of which are located in Sub-Saharan Africa.

Inequality within countries

A comparison of the average income between countries does not take into account the disparities within the individual country. Several of the most densely populated countries, like China and India, show signs of increasing inequality, and disparities have also increased in most of the developed countries. Thus there has been an overall trend towards greater inequality of income within countries in recent decades.

Inequality between all the inhabitants of the world is greater than inequality within almost all the individual countries. In *Human Development Report 2005* the global Gini coefficient is estimated at 0.67. In Norway it is 0.27. The Human Development Report also estimates that the sum of the incomes of the 500 richest people in the world is roughly equivalent to the sum of the incomes of the 416 million poorest people.

5.5 Extreme poverty is declining

Extreme poverty in the world as a whole is declining. This is primarily due to the strong economic growth in Asia, which is also home to two-thirds of the extremely poor. It is estimated that when a country doubles its per capita GDP, the proportion of extremely poor people is reduced by at least half.

In 1990, most of the people living in extreme poverty were in Asia, and less than 20% in Sub-Saharan Africa. Since then, there has been a steep decline in the number and percentage of poor people in Asia, while the proportion in Sub-Saharan Africa has remained the same or increased. This, combined with the continued relatively high population growth, means that by 2015 almost 50% of the extreme poor are expected to be living in this region (table 6).

Table 6 Extreme poverty in the developing countries. People who live on less than USD 1 a day

	Millions				% population			
	1990	2003	2015	2030	1990	2003	2015	2030
East Asia and the Pacific	472	213	57	18	29.6	11.5	2.8	0.8
- China	375	179	50	16	33.0	13.9	3.6	1.1
Europe and Central Asia	2	9	5	3	0.5	1.9	1.0	0.6
Latin America and Caribbean	49	49	38	30	11.3	9.1	6.1	4.1
Middle East and North Africa	6	5	3	1	2.3	1.7	0.7	0.2
South Asia	462	472	273	159	41.3	33.2	16.2	8.1
Sub-Saharan Africa	227	320	345	337	44.6	45.0	37.4	29.9
Total	1218	1068	721	547	27.9	20.2	11.8	7.8

Source: World Bank, Global Economic Prospects 2007.

5.6 Performance in relation to other MDGs

The eight MDGs are listed in Box 1, and a more detailed description of the goals, targets and progress indicators can be found on the UN and World Bank websites.

Proportion of people suffering from hunger

According to UN figures the proportion of people in developing countries who suffer from hunger has dropped from 20% in 1990–92 to 17% in 2001–2003 (see table 7). In 2003, 824 million people in developing countries were chronically hungry. It seems unlikely that we will achieve Target 2, which is to halve the proportion of people who suffer from hunger between 1990 and 2015.

Education

As families become smaller, saving and investment increase, and a decline in the number of children improves the health of women and children and makes it possible to raise the level of education for each individual. Net enrolment in primary schools in developing countries increased from 80% in 1990 to 88% in 2005. The trend has been particularly positive in Sub-Saharan Africa, where the proportion increased from 57% in 1999 to 70% in 2005. Despite this trend, MDG 2, achieving universal primary education, will not be reached by 2015.

Child mortality

Target 5 is to reduce under-five mortality by two-thirds between 1990 and 2015. Child mortality has dropped in all regions, but not nearly enough to make it likely that the target will be reached. If the present trend continues child mortality will be reduced by one-third by 2015. Again, the reduction has been particularly small in Sub-Saharan Africa.

Safe drinking water and basic sanitation

Target 10 is to halve the proportion of people without sustainable access to safe drinking water and basic sanitation by 2015. The proportion of people with access to basic sanitation increased from 35% to 50% between 1990 and 2004 – an increase of 1.2 billion. However, this figure will have to be increased by 300 million if the target is to be reached by 2015. Access to basic sanitation is inseparable from the maintenance of the natural productivity and biodiversity of rivers and lakes in developing countries and their capacity to absorb pollution. The proportion of people with access to safe drinking water in developing countries rose from 71% in 1990 to 80% in 2004. This means that the target can be reached in the world as a whole, but while it will be achieved by a good margin in Asia, Africa will be far behind.

Gender equality

The indicators for this MDG show that progress is being made, especially in the educational field, but there is a long way to go before women and men participate equally in society. A larger proportion of girls than boys still do not attend school. Another target is to reduce maternal mortality by three-quarters between 1990 and 2015. However, maternal mortality has altered little in the regions where it was high to start with, such as Sub-Saharan Africa and South Asia. In both regions only a small proportion of women receive professional help when giving birth.

Table 7 Progress on selected MDG targets

	% population suffering from hunger		% children in primary school		Under-five child mortality (per 1000)		% with access to basic sanitation	
	1990- 1992	2001- 2003	1991	2005	1990	2005	1990	2004
Sub-Saharan Africa	33	31	54	70	185	166	32	37
South Asia	25	21	74	90	126	82	20	38
East Asia	16	12	99	95	48	27	24	45
South East Asia	18	12	94	94	78	41	49	67
Latin America and the Caribbean	13	10	87	97	54	31	68	77
North Africa	4	4	82	95	88	35	65	77
Developing countries as a whole	20	17	80	88	106	83	35	50

Source: United Nations Millennium Development Goals Report 2006 and 2007.

5.7 The Nordic model

Sustainability requires change

Norwegian society adapts well to change. There is a growing interest in the features of Norway and the other Nordic countries that have enabled us to succeed better than most in adapting to changing economic conditions. This can be seen in a number of international comparisons, where the Nordic countries score high (see table 8).

For several years Norway has had the highest score, closely followed by the other Nordic countries, on the UN Human Development Index, which is often used as a measure of the best and worst countries to live in. The Nordic countries also have high scores on a more comprehensive index relating to quality of life. Norway and the other Nordic countries are in the top 10 as regards competitiveness, and the Nordic countries are among the fastest to adopt new products and technology. The time from launch of product to take-off is considerably shorter in the Nordic countries than in the rest of Europe.

The labour market in the Nordic countries is characterised by high labour force participation, low unemployment and a relatively equal income distribution. OECD figures show that the Nordic countries, alongside countries like the Netherlands and Austria, have good performance in the labour market.

One of the main features of the Nordic model is its emphasis on collective solutions, which reflects the value these countries place on social inclusion, solidarity and social and financial security. The model is based on extensive, universal welfare services that are accessible to the whole population. This includes public pension and social security schemes that provide good income security, for example in the event of unemployment, sickness and disability. Broad-based publicly financed welfare services are also provided in important sectors like health, nursing and care, and education. A well-functioning labour market, combined with broad access to day-care, well-established arrangements for maternity leave and rights relating to leave of absence for sick children, make it relatively easy to combine family life with work outside the home. Labour force participation by women is much higher in the Nordic countries than in the rest of Europe.

High labour force participation among women in the Nordic countries is combined with a relatively high fertility rate. The main goal in this area in the Nordic model is to provide a framework that allows both parents to combine work outside the home with family life. The Nordic combination of a high employment rate for women and relatively high fertility is often regarded as a good example of gender equality.

Table 8 Welfare and competitiveness indicators

Per capita GDP	Human Development Index (HDI)	Quality of life index	Global competitiveness	Years from launch of product to take-off Europe
Luxembourg	Norway	Ireland	Finland	1. Denmark (3.8)
Norway	Iceland	Switzerland	USA	2. Norway (4.0)
Switzerland	Australia	Norway	Sweden	3. Sweden (4.3)
Denmark	Luxembourg	Luxembourg	Denmark	4. Finland (4.6)
Ireland	Canada	Sweden	Taiwan	5. Ireland (4.8)
USA	Sweden	Australia	Singapore	10. Germany (6.4)
Iceland	Switzerland	Iceland	Iceland	11. Italy (6.7)
Japan	Ireland	Italy	Switzerland	13. France (7.4)
Sweden	Belgium	Denmark	Norway	14. UK (8.5)
Netherlands	USA	USA	Australia	

Source: UNDP Human Development Report 2005, World Economic Forum Global Competitiveness Report 2005-2006, *Marketing Science* Vol. 22, 2003 and The Economist Intelligence Unit's quality-of-life index.

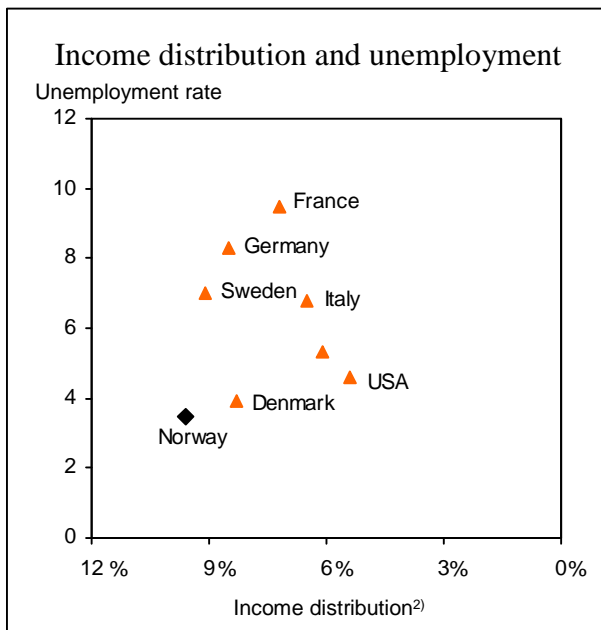
A coordinated wage determination system is also a common feature of these countries. The authorities and the social partners have a number of common goals, especially high employment, low unemployment and international competitiveness. This cooperation on incomes policy has contributed to the fact that over the last 30 years, unemployment in these countries has been lower than in most other OECD countries. Thus while unemployment in Norway was estimated at 3¼% in 2006, it was estimated at 6¼% in the OECD area as a whole.

In June 2006 the OECD presented a revised employment strategy entitled "Boosting Jobs and Incomes". The strategy describes two policy packages that have resulted in good labour market performance. Both have ensured macroeconomic stability, a good incentives structure, strong product market competition and a relatively flexible labour market. However, the two packages differ with regard to the coordination of wage determination and the scope of welfare services.

- The Nordic countries have emphasised coordinated wage determination and a comprehensive welfare system, combined with the requirement of active job-seeking and active labour market programmes. These countries have high employment and low income disparity, but at a high budgetary cost.
- Japan, Korea, Switzerland and many English-speaking countries have low levels of welfare benefits, liberal labour market legislation and a decentralised wage determination system. They have high employment rates and low public expenditure but relatively large income disparities.

The OECD strategy also points out that two groups of countries have not achieved the same success in labour market performance.

- A number of countries in continental and southern Europe have comprehensive welfare systems and strict employment protection legislation for permanent employees. They have lower employment rates and higher unemployment than the OECD average, and larger income disparities than the Nordic countries.
- Some countries in eastern and southern Europe have a low level of welfare benefits and large black economy. Employment rates are considerably lower and unemployment considerably higher than the OECD average, and there are large income disparities.



Sources: OECD and Human Development Report 2006.

Figure 2 Income distribution and unemployment

1) Standardised unemployment in 2006

2) Share of total income or consumption among the 20% with the lowest level.

The demographic trend in the Nordic countries is more favourable than in the rest of Europe, and is made up of a high employment and a low unemployment rate, a narrow income disparity and a surplus in public-sector budgets. Figure 2 shows the unemployment rate and income distribution in the Nordic and certain large developed countries. A well-functioning labour market and low unemployment facilitate change, including changes related to environmental challenges and globalisation. The countries have a high score on sustainability indicators related to labour force participation and life expectancy, and also on indicators of national wealth in the broadest sense, which includes human capital and level of education. The countries also score high on ODA as a percentage of GNI.

These countries have more effective environmental policy instruments because of a larger use of economic instruments than most EU countries, and this has a positive effect on their macroeconomic situation. Finland was the first country to impose a carbon tax, in 1990, followed by Norway and Sweden in 1991 and Denmark in 1993.

6 The Government's policy in the priority areas of the strategy

This chapter describes the main objectives of the Government's policy to promote sustainable development and the measures that will be implemented to achieve them.

6.1 International cooperation on promoting sustainable development and combating poverty

The Government's main objective:

The Government will strengthen international cooperation on the work towards international environment and development goals, which include socially and environmentally sustainable globalisation. We will pursue a poverty-oriented development policy, in line with the UN Millennium Development Goals (MDGs).

Targets and important steps:

- In its policy platform the Government stated that allocations to official development assistance (ODA) will reach 1% of gross national income (GNI) and will thereafter be further increased during the current parliamentary period. The Government assesses each year how much allocations to the development cooperation budget are to be increased in the budget process for that year.
- Norway will play an active part in the international efforts to cancel the debts of poor countries and increase allocations to ODA.
- The Government will work for an international trade regime with a major emphasis on the environment, labour standards and social rights, food security and development in poor countries.
- The Government will seek to ensure that the least developed countries (LDCs) are placed in a position to make the best possible use of their trade preferences. We consider that the results of the negotiations in the World Trade Organization should promote poverty reduction and economic and social development.
- Norway will be at the forefront of the efforts to ensure that women are ensured full participation in, jurisdiction over and an equitable share of the benefits from the use of environmental and natural resources.

The Government's policy

Efforts in international forums

We will seek to make the UN a more effective and relevant partner for sustainable development. We are therefore in favour of upgrading the UN Environment Programme into a world environment organisation. In its multilateral development assistance for sustainable development Norway will give high priority to the work of UN agencies. The Government will also seek to ensure that the multilateral development and financial institutions give greater emphasis to promoting public

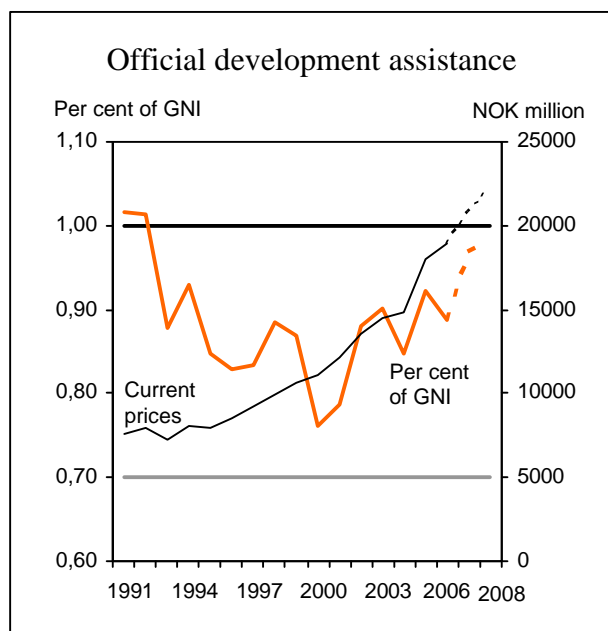
welfare, environment, health and education in their strategies. Norway will give high priority to UN reform and follow up the report of the High-Level Panel.

The Government will make active efforts to ensure that the WTO Agreement provides developing countries with a basis for greater welfare, increased growth and higher employment, and to enhance mutual supportiveness between WTO rules and multilateral environmental agreements. In the WTO negotiations the Government will promote trade in environmental goods and services.

The Government thinks that the WTO agreements must not deprive poor countries of the autonomy and means that have been important in the development of our own welfare society.

Official development assistance and debt relief

Sustainability indicator 1 is *Norwegian official development assistance, in NOK, as percentage of gross national income (GNI)* (figure 3). In the 2008 budget proposal, ODA is increased to NOK 22 290 million, or 0.98% of estimated GNI. This means a nominal increase of NOK 1 540 million in relation to 2007.



Sources: Norad and Statistics Norway.

Figure 3 Norwegian official development assistance, in NOK, as percentage of gross national income

In the 2007 budget, ODA came to 0.97% of estimated GNI. This signified a reduction in this indicator from 2005 to 2006, despite the nominal increase in ODA, due to strong growth in GNI.

Norway will play a leading role in integrating environmental issues into development cooperation by giving high priority to its action plan for environment in development cooperation. We will also be a prime mover to integrate environment and development into international agreements in various forums.

The Government will intensify its efforts to promote good governance and combat corruption in cooperation with recipient countries.

We will also continue to take part in the international discussion on new and innovative financial mechanisms to reorganise and strengthen the United Nations institutions, and to impose a carbon tax, a currency transaction development levy, and internationally coordinated but nationally implemented solidarity levies on air travel. Although we will uphold the principle of not earmarking taxes for specific purposes, we have decided to use part of the revenues from the carbon tax on fuel for domestic flights for development purposes.

In order to increase developing countries' access to affordable essential medicines, the Government will commit Norway to financial contributions to UNITAID, an international drug purchase facility, and to the pilot Advance Market Commitment for developing a pneumococcal vaccine. Norway will contribute NOK 1.5 billion and NOK 350 million respectively to these two initiatives over the period 2008–2017.

The Government will continue its efforts to make development assistance more effective, strengthen national ownership of development aid and improve coordination with other donors.

In most cases, Norway does not report bilateral debt cancellation as part of ODA, and is the only OECD country to follow this line. Unlike other countries, which provide debt cancellation at the expense of other development assistance, Norway does not take its allocations to debt cancellation from the development assistance budget. The Norwegian model is attracting increasing interest, and the Government intends to continue this practice, which has broad support in the Storting.

The Norwegian Action Plan for Environment in Development

In 2004, the Government presented a white paper entitled *Fighting Poverty Together: A coherent policy for development* (Report No. 35 (2003-2004) to the Storting). The Storting subsequently requested the Government to develop an action plan for Norway's overall environmental development cooperation. This was presented in June 2006 as the Norwegian Action Plan for Environment in Development. Norway's aim is to be a leading nation in this area, and our efforts are based on recognition of the close link between the living conditions of the poor and local and global environmental factors.

In line with the Action Plan, Norway will concentrate on four thematic priority areas:

- sustainable management of biological diversity and natural resources
- water resources management, water and sanitation
- climate change and access to clean energy
- hazardous substances

The plan gives priority to sustainable management of biodiversity and natural resources, and the aim is to contribute to the work on the Millennium Development Goals (MDGs) and make it possible for the poor to improve their living conditions and health, and to reduce their vulnerability. Competence- and capacity-building in environmental and other fields in developing countries is considered to be an essential tool for achieving these goals.

In the budget proposal for 2008 the Government is increasing the allocations to environment in development cooperation by an additional NOK 400 million for climate-related measures. An increase of NOK 75 million in the funding for the other priority areas in the action plan is also proposed.

Management of natural resources

Forty years of petroleum production has given Norway considerable experience of converting petroleum reserves into financial assets and of efficient management of large petroleum revenues. Many developing countries are anxious to avail themselves of this experience, and in autumn 2005 Norway launched the Oil for Development Initiative. The aim is to enable developing countries to manage their petroleum resources in a way that promotes lasting poverty alleviation through transfers of Norwegian expertise. The initiative takes a broad approach and includes resource management, revenue management, taxation and environmental protection. The goal is for natural resource management in developing countries to contribute to sustainable economic and social development.

As a result of its experience and expertise in the management of fisheries and other marine resources, Norway has a long tradition of assisting developing countries in managing their marine resources. In many developing countries, the fisheries sector is important for economic development, and sustainable management of these resources is essential if stocks are to be maintained.

Sound management of resources is an important factor in improving the living conditions of the poorest, since they are the most directly dependent on resources and ecosystem services such as water purification and pollination of food plants by insects.

Trade

Sustainability indicator 2 is *Trade with least developed countries and with all developing countries* (figure 4).

Many developing countries have had strong growth in exports in recent years, which is partly a reflection of their improved market access. About 75% of developing countries' exports to developed countries are duty-free, and for the least developed countries (LDCs) the figure is almost 80%. Norway's imports from developing countries have also risen substantially and amounted to around NOK 52.2 billion in 2006, almost 13% of the country's total imports, of which China alone accounted for almost 45%. In 2006 imports from LDCs accounted for about NOK 1 290 million, or 0.3% of all imports, 35% of which were imports of clothes and textiles from Bangladesh. Imports from African LDCs, 34 in all, accounted for only NOK 748 million. All African countries together, including middle-income countries in northern and southern Africa, accounted for about 1% of all Norwegian imports.

A strong, binding multilateral trade regime with clear rules is becoming increasingly important for meeting the challenges of globalisation. This applies particularly to small countries. The WTO plays a central role in this connection. Binding cooperation involving predictability and the possibility of sanctions impedes corruption and arbitrary practices and promotes good governance, which is fundamental for sustainable development. Norway is therefore concerned to

strengthen the multilateral trade regime and will make efforts to ensure the success of the negotiations in the Doha Round.

The Government is promoting an international trade regime that stresses environmental considerations, labour standards, social rights, food security and development in LDCs. This means that for example in the WTO negotiations the Government will promote the prohibition of all export subsidies. We will seek to ensure that poor countries can assert national interests in the WTO negotiations and pursue a development assistance policy that enables the countries of the South to participate in the development of international trade.

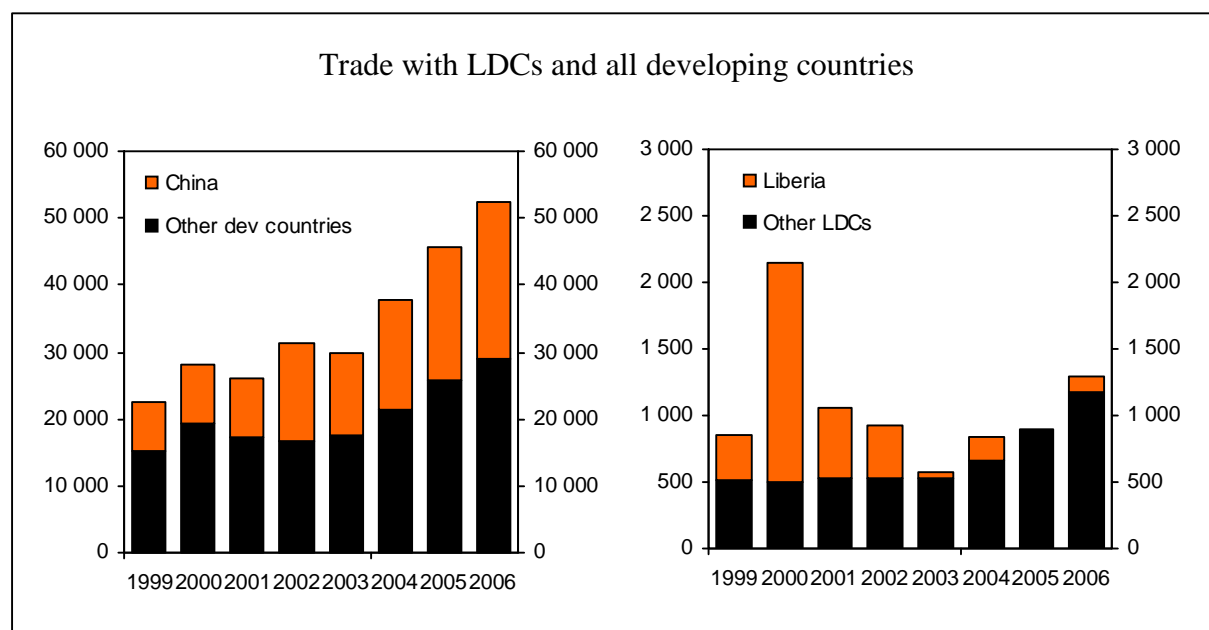


Figure 4 Trade with least developed countries (LDCs) and with all developing countries.¹ Imports in NOK million

1) Countries defined by the OECD as qualified to receive development assistance.
Source: Statistics Norway.

The Government will work towards a differentiated trade policy that will enhance opportunities for Norwegian imports from LDCs. Norway's Generalised System of Preferences (GSP) scheme has been reviewed and in April 2007 an inter-ministerial working group submitted a report with proposals for improvements. The scheme of duty- and quota-free market access for all imports from the 50 LDCs was established in its current form in 2002. One of the working group's proposals is to expand the scheme to include duty- and quota-free imports from 14 low-income countries that are not LDCs. The Government has considered the report and the comments it received during the subsequent public consultation, and will follow up all the report's recommendations. This means that Norway will be the first country to give duty- and quota-free market access to a larger number of countries than the 50 LDCs on the grounds of general, objective criteria, such as per capita national income. The recommendations include increasing tariff reductions on agricultural products within the quotas for developing countries that are not included in the zero tariffs scheme.

As part of improving the GSP scheme, the Government will use targeted development assistance to enable LDCs to take advantage of their preferential market access.

The Government has continued its development efforts related to trade through both multilateral and bilateral channels. Norway has provided support for the production of certain agricultural products in some African LDCs to facilitate their export to Norway. Measures targeted at Norwegian importers, for example making goods from developing countries more available in Norwegian supermarkets, are also being continued.

Through EFTA Norway has negotiated with SACU (the Southern African Customs Union, which consists of South Africa, Botswana, Lesotho, Namibia and Swaziland) on a free trade agreement, which has been signed by all the SACU countries and is expected to enter into force in 2007. Of the SACU countries only Lesotho is an LDC, while the other four are middle-income countries. In spite of this, the Government is giving priority to developing trade and cooperation with all of them. Norway and EFTA have concluded free trade agreements, or are intending to do so, with a number of other developing countries, several of which include trade-related development assistance and competence-building.

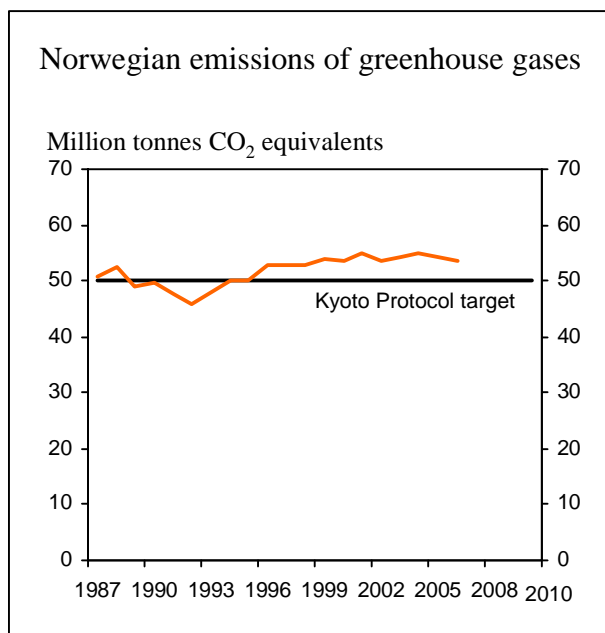
6.2. Climate change, the ozone layer and long-range air pollution

The Government's main objectives

The rise in global mean temperature will be limited to no more than 2°C above the pre-industrial level. Norway will comply with its commitments under the Montreal Protocol and meet its commitments under the Gothenburg Protocol both effectively and cost-effectively.

Targets and important steps:

- Norway will be carbon neutral by 2050. As part of an ambitious, global agreement, in which other industrialised countries also undertake strong commitments, Norway will become carbon-neutral within 2030.
- Norway will undertake to reduce global greenhouse gas emissions by the equivalent of 30% of its own 1990 emissions by 2020.
- Norway will strengthen its Kyoto commitment by 10 percentage points, corresponding to 9% below the 1990 level.
- Norway will work towards a more comprehensive and ambitious climate agreement after the first commitment period under the Kyoto Protocol. It is important that it includes as many countries as possible, covers international air traffic and shipping, and includes an annex on climate problems in the Arctic.
- Norway will contribute to the development of technology that can lower the costs of measures to reduce greenhouse gas emissions. Carbon capture and storage is important in this context.



Source: Statistics Norway and Norwegian Pollution Control Authority.

Figure 5 Norwegian emissions of greenhouse gases compared with the Kyoto Protocol target.

The Government's policy

Sustainability indicator 3 is *Norwegian emissions of greenhouse gases compared with the Kyoto Protocol target* (figure 5). Preliminary figures show that Norway's emissions declined by 0.8% from 2005 to 2006, to 53.7 million tonnes CO₂ equivalents. Nevertheless, these emissions have risen by about 8% since 1990. This is mainly a result of higher emissions from the petroleum industry and transport.

The developed countries have a special responsibility for acting to reduce greenhouse gas emissions, both because they are responsible for the largest proportion of emissions until now, and because they are in a better economic position to do so. On this basis, Norway should take on a particular responsibility for contributing to global emission reductions.

The Government is pursuing a three-pronged strategy to achieve its targets. The first and most important approach is to work towards a more ambitious international climate agreement. The second is for Norway to contribute to emission reductions in developing countries and in rapidly growing economies such as China and India. The third is to intensify efforts to reduce emissions in Norway.

It is not possible at present to obtain reliable figures for the emission reductions that will be achieved through existing and new measures in the next 10–15 years. Nor do we know which emission reduction measures will be implemented in Norway in the period up to 2020. This will depend among other things on technological advances and trends in carbon prices. Developments on the Norwegian continental shelf will also be very important for emission levels in Norway in 2020. In 1990, emissions from Norwegian territory totalled about 50

million tonnes CO₂ equivalents. In the 2007 National Budget, the projected volume of greenhouse gas emissions in 2020 was about 59 million tonnes CO₂ equivalents. This estimate is based on uncertain figures and on the assumption that policy instruments remain unchanged. On the basis of a mitigation analysis drawn up by the Norwegian Pollution Control Authority, sectoral climate action plans and current policy instruments, the Government considers that a realistic target is to reduce Norwegian emissions by 13-16 million tonnes CO₂ equivalents relative to the reference scenario presented in the 2007 National Budget, when CO₂ uptake by forests is included. In this case, from about half and up to two-thirds of the cuts in total emissions by 2020 would be made in Norway. The adoption of a new international climate agreement will make it necessary to revise national targets and instruments. If emission trends indicate that Norway will not achieve its targets, the Government will consider further measures.

Norway will undertake to reduce global greenhouse gas emissions by the equivalent of 100% of its own emissions by 2050. This will make the country carbon neutral. As part of an ambitious, global agreement, in which other industrialised countries also undertake strong commitments, Norway will become carbon-neutral within 2030. If other developed countries follow Norway's example, this will be an important means of preventing damaging climate change.

General policy instruments are a central element of the Government's domestic climate policy. Cross-sectoral economic instruments form the basis for decentralised, cost-effective and well-informed measures to ensure that the polluter pays. Certain sources of emissions cannot be incorporated into the emissions trading scheme or made subject to the carbon tax. In such cases, the authorities must use other instruments to reduce greenhouse gas emissions. The Government's view is that further regulation should as a general rule be avoided in areas that are already regulated by means of general policy instruments. However, the Government wishes to retain the possibility of using other policy instruments in addition to emissions trading and taxes in these sectors too.

International agreements

Developing countries and economies in transition will account for three-quarters of the growth in CO₂ emissions in the coming years. Aggregate greenhouse gas emissions from these countries are expected to overtake those from today's developed countries by 2030. It is therefore of crucial importance that large-scale emission reduction measures are carried out in these countries.

An international response is needed to deal with the problem of climate change. The Government will therefore work towards an ambitious international climate agreement that includes as many countries as possible. A concerted international effort to reduce greenhouse gas emissions will over time raise the price of emissions. An anticipated rise in carbon prices will have an immediate influence on investment decisions by the business sector. It is therefore important to establish the credibility of broad-based international efforts to reduce emissions. Political decisions too must be based on the assumption that carbon prices will rise.

When considering emission reductions outside Norway that are to be funded by the Norwegian Government, the Government will concentrate on measures and

projects that will maximise the positive effect of its climate policy on economic development and poverty reduction in developing countries. In addition to being more cost-effective, climate-related measures in developing countries can have a substantial positive development effect, since they contribute to sustainable development in the host country through capital transfers. Norway's position in the international negotiations is based on the Government's target of limiting the rise in global mean temperature to no more than 2°C above the pre-industrial level.

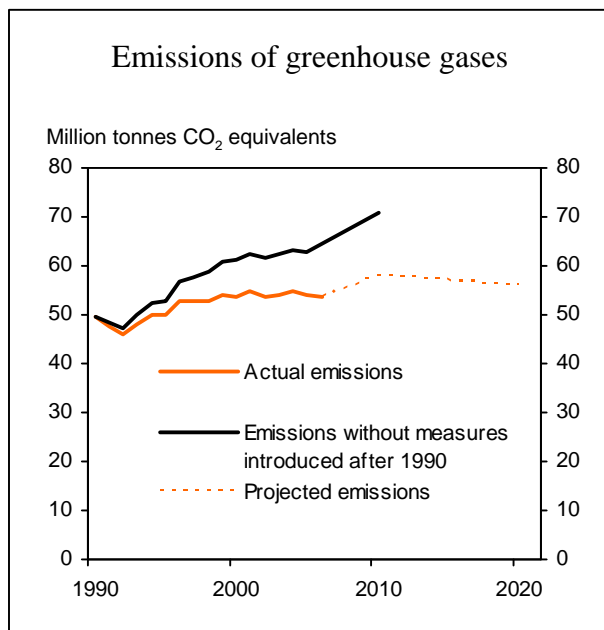
Norway's main objective for 2007 is for a negotiation process under the Climate Change Convention to be established at the Bali conference; its aim should be to develop a new climate change regime with the participation of all countries. The time frame for the negotiations should be two years, and they should be concluded at the 2009 Conference of the Parties in Copenhagen. The new regime should include regulation of emissions from international shipping and air traffic and from deforestation in developing countries, and cooperation on adaptation to climate change and the development of new technology. It should be based on the same principles as the Kyoto Protocol, and the developed countries should bear a substantial proportion of the costs of implementation. This means that funding will be one of the key issues in the negotiations. A regime that can ensure that the 2°C target is achieved will have to include emission commitments for all the large emitters. Norway will work towards a global climate change regime with a market where the aim is to establish a common price for greenhouse gas emissions. Principles for sharing the financial burdens of an ambitious international agreement equitably must be considered.

National measures to reduce greenhouse gas emissions

In the 2007 white paper *Norwegian climate policy* (Report No. 34 (2006–2007) to the Storting) the Government presented action plans for the following sectors: petroleum and energy, transport, the manufacturing industries, primary industries and waste management, the municipalities, and functions in the state sector. The main purpose of such action plans is to identify measures that will result in cost-effective emissions reductions that are not currently being implemented in the sector concerned. In addition, the Government has set targets for the emission reductions that are to be achieved in each sector by 2020. Sector targets are based on estimates, and will have to be reviewed in response to any changes in projections, costs, technological advances and other relevant factors.

For each sector, the currently estimated technical emission reduction potential is presented, together with measures the Government proposes to initiate.

The Ministry of the Environment commissioned the Norwegian Pollution Control Authority to analyse mitigation options for period up to 2020. The analysis mainly considers technical mitigation measures. It does not include options involving major social change, changes in production levels or changes in behaviour to any great extent. The Government will in particular consider implementing measures that will be cost effective with a projected rise in carbon prices over the lifetime of the investments, and that will not necessarily be implemented in response to current policy instruments. In this connection, priority will be given to measures that promote technological developments.



Sources: Norwegian Pollution Control Authority, Statistics Norway and Ministry of Finance.

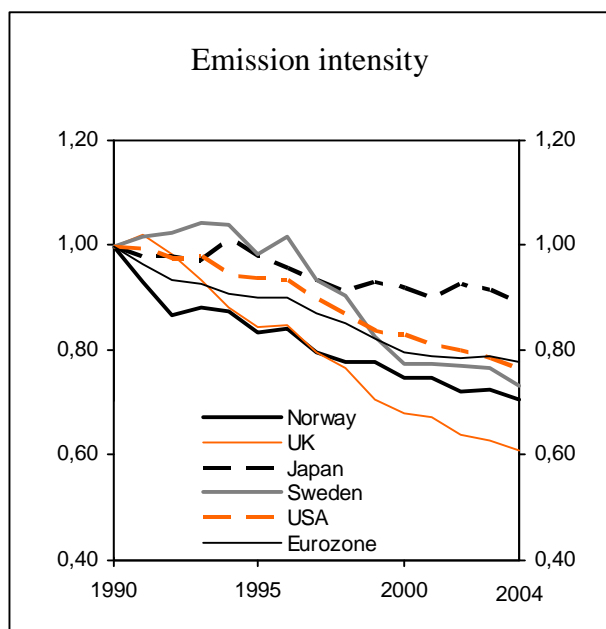
Figure 6 Trends in Norwegian greenhouse gas emissions. Mill. tonnes CO₂ eq.

The Government intends to make five-yearly reviews of progress and how the use of policy instruments at national level should be further developed. As part of the review process, the Government will commission independent expert analyses of Norwegian climate policy from institutions and people with wide experience and knowledge of the development and implementation of climate policy. The Government has also proposed that an evaluation of climate policy and how policy instruments should be modified should be submitted to the Storting midway through the first Kyoto period (in 2010).

Norway has already implemented substantial domestic measures. The policy instruments introduced in the early 1990s were relatively effective seen in an international context. It is estimated that as a result of the carbon tax, measures in the waste sector, and improvements in aluminium production processes, greenhouse gas emissions in 2010 will be approximately 8.5–11 million tonnes lower than would otherwise have been the case, see figure 6.

Figure 7 shows that emission intensity has dropped more in Norway than in many other developed countries since 1990, which indicates that Norway's policy instruments have been more effective.

The Government has proposed important climate-related measures in recent budget documents. In the 2007 budget proposal, the basis for calculating the purchase tax on motor vehicles was changed from stroke volume to the level of CO₂ emissions. This was a step in the restructuring of vehicle taxes to improve their environmental profile. Bioethanol blends have been partly exempted from the carbon tax depending on the proportion of bioethanol they contain. The target for renewable energy and energy efficiency has been raised to 30 TWh for the period 2001–2016 (funding provided through Enova is described in more detail later in this chapter). In addition, investments in the railways have been increased.



Sources: Statistics Norway and Ministry of Finance.

Figure 7 Emission intensity (greenhouse gas emissions per unit GDP) in selected countries. Index=1 in 1990

The revised 2007 budget also included guidelines for purchases of emission allowances, and the Government decided to purchase allowances to offset carbon emissions from international air travel by government employees. This can help to focus attention on the need to extend a future climate agreement to include international air traffic and shipping. A support scheme for vehicles that can run on E85 fuel was proposed, in the form of a deduction of NOK 10 000 from the purchase tax for each vehicle of this kind. The Government also presented a strategy for increasing the use of biofuels in Norway. This includes a requirement for biofuels to account for at least 2% by volume of annual sales of road traffic fuels from 2008, rising to 5% by volume from 2009. The Government will work towards the goal that biofuels should account for 7% by volume of sales from 2010.

As mentioned earlier, the Stern Review considers the introduction of stricter requirements for energy efficiency in buildings to be a key element of policy, because house-buyers are not sufficiently aware of the energy costs and greenhouse gas emissions associated with buildings. In line with this, the Government has laid down new building regulations containing considerably stricter energy efficiency requirements. The Government will follow this up with a labelling scheme for energy use in buildings, in order to raise awareness of energy needs and energy use in connection with sales, purchases and rental of housing and commercial buildings.

In the 2008 budget, the Government has proposed raising the basic tax on fuel oil to the same level as the electricity tax, and raising the carbon tax on mineral oil by NOK 0.10 per litre. In addition, it has proposed a rise of NOK 0.20 per litre in the tax on autodiesel after adjustment for inflation.

The Government has put forward a proposal for the Norwegian emissions trading scheme for the period 2008–2012. According to this, the scheme will be expanded to include more sectors than in the period 2005–2007, so that it will cover more than 40% of Norway's total domestic greenhouse gas emissions.

The International Maritime Organization (IMO) is establishing a regime for the reduction of greenhouse gas emissions from international shipping, and Norway is playing a leading role in this work. In 2005, IMO adopted a CO₂ Emission Indexing Scheme as a voluntary pilot scheme for the period up to 2008.

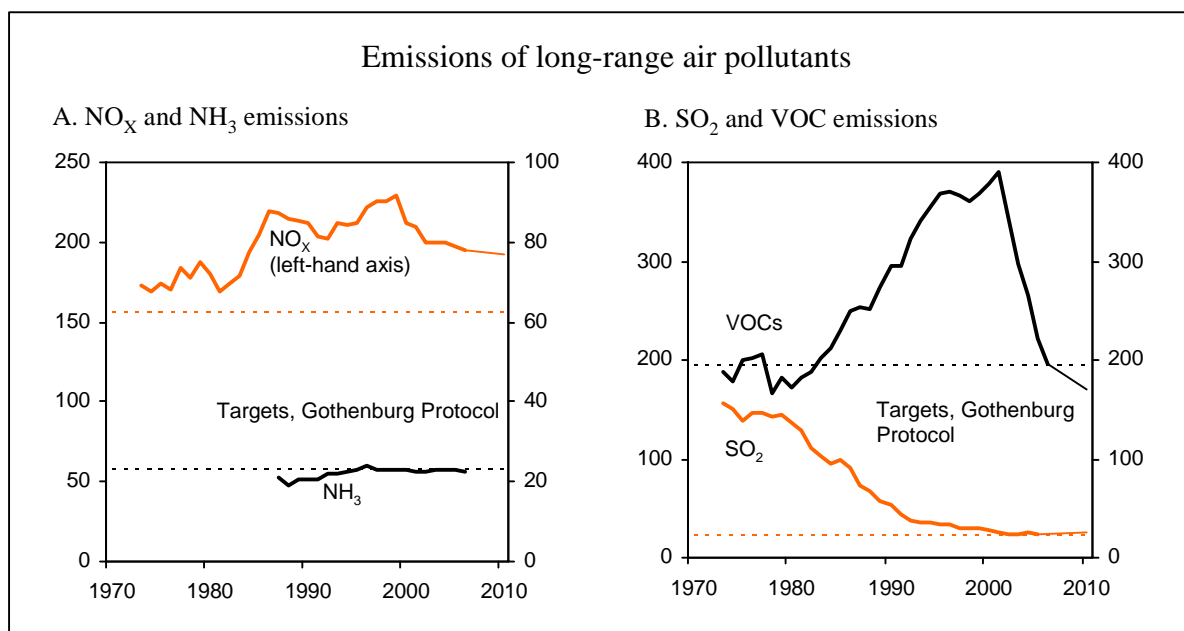


Figure 8 Emissions of long-range air pollutants and commitments under the Gothenburg Protocol. 1000 tonnes)

Source: Statistics Norway and Norwegian Pollution Control Authority.

Ozone and long-range air pollution

Sustainability indicator 3 is *Emissions of long-range air pollutants and commitments under the Gothenburg Protocol* (figure 8).

Norway has undertaken to reduce its annual NO_x emissions to no more than 156 000 tonnes. According to preliminary figures, these emissions totalled 194 500 tonnes in 2006, which is 8.5% lower than in 1990. However, NO_x emissions must be reduced by a further 20% by 2010 to ensure that Norway meets its commitment under the Gothenburg Protocol, and this is a major environmental challenge that Norway needs to address in the near future.

Emissions of acidifying gases in Europe have been considerably reduced. Since 1980, the proportion of Norway's land area where critical loads for acidification are exceeded has dropped from 30% to 13%. If all countries meet their commitments under the Gothenburg Protocol, this will gradually decrease to 7%. The Gothenburg Protocol sets emission ceilings for four long-range air pollutants to be reached by 2010. Inputs of sulphur and nitrogen to Norway dropped by 65% and 40% respectively from 1980 to 2003.

The 2006 UN Millennium Development Goals Report states that:

“Protection of the ozone layer is a global success story. The 1987 Montreal Protocol catalysed global action to reduce use of chemicals damaging to the ozone layer that shields the earth from ultraviolet radiation. Since that

agreement, developed countries have virtually eliminated ozone-depleting substances, and the developing world is not far behind. Without these reductions, ozone depletion would have increased tenfold by 2050 compared to current levels, resulting in millions more cases of melanoma, other cancers and eye cataracts.”

Norway has been at the forefront of efforts to develop binding international agreements on reductions in long-range air pollution because of the problems acid rain has caused in the country.

A tax on NO_x emissions came into effect on 1 January 2007, combined with compensation schemes for certain affected industries. The purpose is to reduce emissions from fishing vessels, other ships and the petroleum industry, both through the use of pollution abatement technology and through a switch to gas-powered vessels. The Government will strengthen the general NO_xRED scheme, which provides investment grants for measures to reduce NO_x emissions from shipping, and will establish a NO_xRED scheme specifically for fishing vessels. Work is in progress on environmental agreements: companies can obtain exemption from the NO_x tax if they conclude agreements with the authorities on specific emission reductions that will over time have at least the same environmental effect as the tax and that have a clear time frame.

The Norwegian Pollution Control Authority is drawing up emission limits for industry in accordance with the EU directive concerning integrated pollution prevention and control (the IPPC Directive). However, in the case of emissions that are subject to the NO_x tax, it will be the tax level that determines which emission reduction measures are implemented.

Norway has taken the initiative within the IMO for revision of Annex VI to the International Convention for the Prevention of Pollution from Ships (MARPOL). The amendments will make it possible to achieve further reductions in emissions to air (NO_x, SO_x, PM and VOCs) from international shipping.

6.3. Biodiversity and cultural heritage

The Government's main 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. The cultural heritage will be given effective protection.

Targets and important steps:

- The Government aims to halt the loss of biodiversity by 2010.
- The Government will intensify efforts to deal with alien species.
- The Government will improve the management of protected areas and the protection of threatened species.
- The Government will continue the process of obtaining an overview of the standard of maintenance of protected buildings, so that the cultural heritage can be protected more effectively.

Box 3 Losses of biodiversity

The links between key environmental issues such as natural resource management, climate change, the use of natural resources and production and consumption patterns are becoming increasingly apparent. In response, management regimes for biological diversity will focus more and more on ecosystem services and sustainable development. The European Environment Agency has decided that a European Ecosystem Assessment (EURECA) is to be carried out by 2012 to evaluate natural capital and ecosystem services. Furthermore, the G8+5 countries have decided to initiate a "Stern Review" of biodiversity to analyse the global economic benefit of biological diversity and the costs of the loss of biodiversity. Norway will give active support to these initiatives.

Widespread losses of biological diversity are occurring throughout the world. There are various reasons for this, including loss of habitats, deforestation, overexploitation of species, acidification, emissions of hazardous chemicals, changes in land use and the introduction of alien species. Greater variability in the weather as a result of climate change will intensify the problem and may result in more harm to people and the environment in the future. In combination, these environmental pressures affect the capacity of ecosystems to provide services such as food, water purification, flood control and pollination of trees and other plants.

These developments represent a serious challenge to the management of natural resources. Species have become extinct in Norway too. Red Lists contain overviews of species that have become extinct or are threatened or vulnerable. The 2006 Norwegian Red List, drawn up by the Norwegian Biodiversity Information Centre, includes 3 886 species occurring on the Norwegian mainland, in Svalbard and in Norwegian waters that satisfy the criteria for inclusion in these categories. Of these, 285 are considered to be critically endangered. The species on the Red List make up roughly one-fifth of the 18 500 species that have been assessed. Since 1800, 84 of these have become extinct in Norway, including two mammals, four birds, 17 vascular plants and 41 beetles.

The Government's policy

Biodiversity

Protecting biodiversity and the environment is one of the most important tasks for Norway in the environmental field, see box 3. To achieve the Government's goal of maintaining biodiversity, efforts in this area will have to be stepped up. This is also in accordance with the recommendations of the report from the peer review group that evaluated Norway's sustainable development efforts. In order to achieve the target of halting the loss of biodiversity by 2010, a number of measures have been implemented, and the Government is preparing a new Act on the protection of the natural environment, landscape and biological diversity. Some important policy instruments and measures are listed below:

- Ensure that the new Act on the protection of the natural environment, landscape and biological diversity provides an overall legal framework for sound management of biodiversity.
- Step up programmes for surveying, monitoring and reporting on the status of species and habitats.
- Develop indicators of the state of the environment (to provide a biodiversity index) to provide a useful tool for measuring changes in biodiversity in Norway.
- Ensure that Norwegian data can be used in joint European evaluations of species and habitats, so that we can compare our efforts with those of other countries.

- Step up conservation efforts.
- Take steps to protect threatened species and increase the focus on habitats.
- Step up efforts to maintain genetic diversity in agriculture.
- Ensure that biodiversity is protected as a basis for sustained harvesting.
- Continue to follow a restrictive line as regards the release of genetically modified organisms to the environment in Norway.

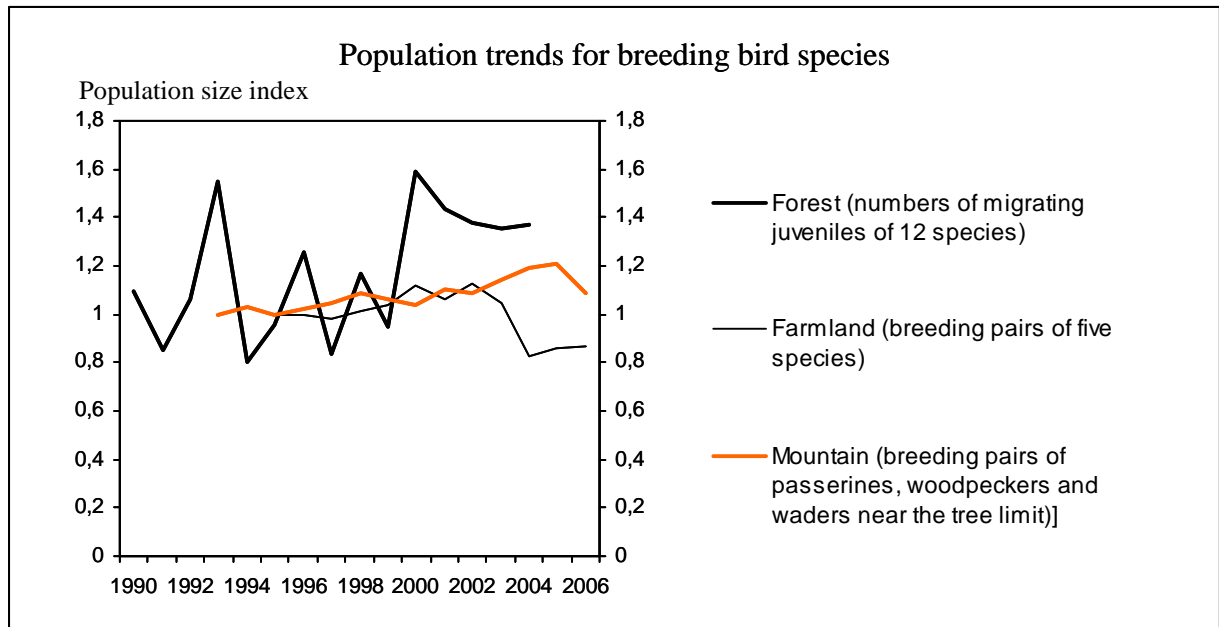


Figure 9 Bird population index – population trends for breeding bird species¹ in Norway

¹ The index is based on preliminary and incomplete data.

Source: Directorate for Nature Management.

Sustainability index 5 is *Bird population index – population trends for breeding bird species in terrestrial ecosystems* (figure 9). Trends in bird populations are considered to give a good indication of the state of their habitats, since birds represent different levels in food chains. In mountain areas, breeding populations are increasing. In forest areas, there are large variations from year to year and no clear trend. The three data series are all based on incomplete data and are not representative of the country as a whole. A monitoring system that is intended to provide representative data from the whole country is being developed.

Results from the national monitoring programme for seabirds show that there has been a disturbing decline in populations of several species along the Norwegian coast. To improve our knowledge of seabirds, the Ministry of the Environment and the Ministry of Petroleum and Energy started the SEAPOP programme in 2005.

A national programme to survey and monitor biodiversity has been established, and the most important data on biodiversity will be made available on the Internet. Data from monitoring of habitats and of areas of importance for threatened species will give an indication of whether Norway is managing to halt the loss of

biodiversity. Further development of surveys and monitoring programmes will provide a basis for developing a better set of indicators and an index of the state of the environment and biodiversity in Norway.

In 2006, the Ministry of Agriculture and Food established the Norwegian Genetic Resource Centre at the Norwegian Forest and Landscape Institute. The Centre promotes the conservation and sustainable use of national genetic resources in farm animals, crop plants and forest trees. The Svalbard Global Seed Vault will be opened in spring 2008.

In the period 2005–2010, action plans for selected habitats, groups of species and species will be drawn up in accordance with the 2005 white paper on the Government’s environmental policy and the state of the environment in Norway (Report No. 21 (2004–2005) to the Storting) and the updated target set out in the 2007 white paper (Report No. 26 (2006–2007) to the Storting).

Norway is the only country in Europe where there are intact high-mountain ecosystems with populations of wild reindeer. The key role of wild reindeer in the Norwegian mountain fauna must continue to be safeguarded in the future. The species is under great pressure, and its habitat must therefore be protected.

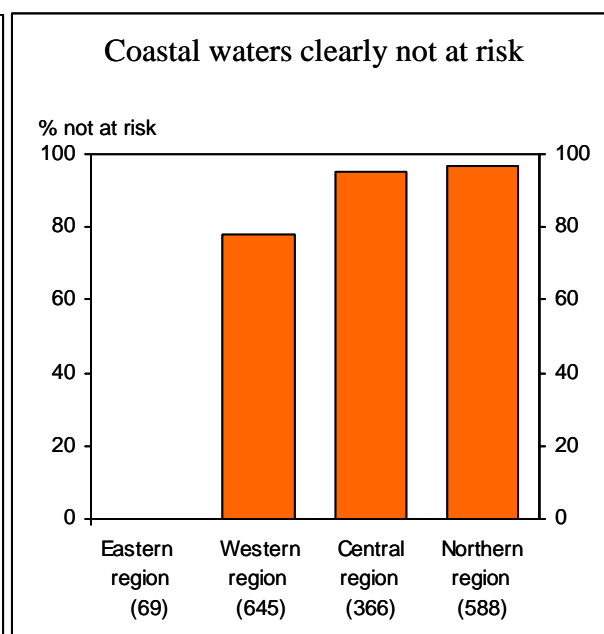
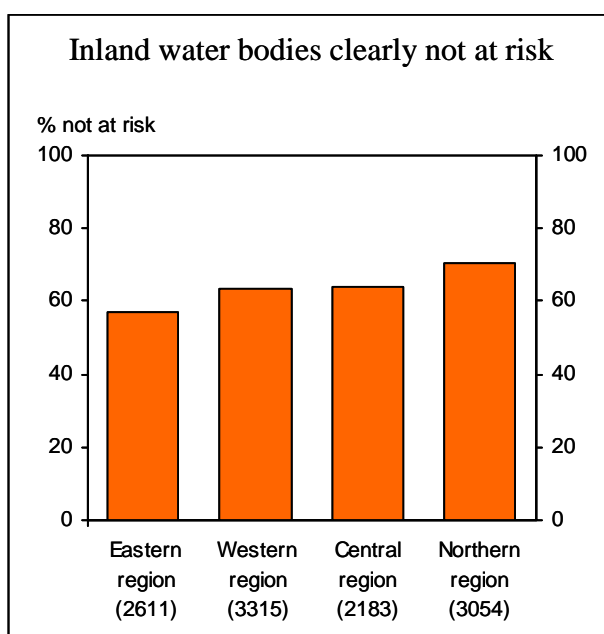


Figure 10 Percentage of inland water bodies in Norway classified as clearly not at risk, by region. 2004 ¹⁾

1) Number of localities investigated in parentheses. Sources: Directorate for Nature Management and Norwegian Pollution Control Authority.

Figure 11 Percentage of coastal waters in Norway classified as clearly not at risk, by region. 2004 ¹⁾

1) Number of localities investigated in parentheses. Sources: Directorate for Nature Management and Norwegian Pollution Control Authority.

Sustainability indicators 6 and 7 are *Proportion of inland water bodies classified as “clearly not at risk”* and *Proportion of coastal waters classified as “clearly not at risk”*, by region, see (figures 10 and 11). A comprehensive survey of the status

of Norwegian water bodies is currently being carried out. This will provide a basis for reporting on the two indicators.

The quality of the biological community is one of the elements that determines the ecological status of a water body. According to Statistics Norway, the situation appears to be less satisfactory in the eastern part of Norway than elsewhere, especially in coastal waters. However, many of the water bodies whose ecological status is uncertain will probably be classified as “good” after further assessment.

In its policy platform, the Government announced that Norwegian water resource management must become more integrated and ecosystem-based. Regulations relating to a framework for water management entered into force on 1 January 2007, and will be an important tool for achieving this goal. The regulations implement the EU Water Framework Directive in Norwegian legislation. The main objective is to achieve “good status” for all waters, both as regards pollution (good chemical status) and as regards biodiversity (good ecological status).

In 2006, the Government presented Proposition No. 32 (2006–2007) to the Storting on the protection of wild Atlantic salmon and completion of a system of national salmon rivers and fjords.

Today, the introduction of alien species is considered to be one of the most serious threats to biodiversity in marine ecosystems, together with over-exploitation, habitat degradation, anthropogenic climate change and pollution. Vessels from other parts of the world where the climate and ecological conditions are similar to those in Norwegian waters represent the greatest risk of the introduction of alien species.

In 2004, IMO adopted the International Convention for the Control and Management of Ships’ Ballast Water and Sediments (Ballast Water Convention). The Convention requires ballast water exchange to be conducted in open waters during a transitional period. Requirements for ballast water treatment will be introduced over a period of time from 2009 to 2016, depending on the size of the ship and the year of construction. The Convention has not yet entered into force. International agreements on ballast water exchange and treatment, and the general increase in awareness of the problems associated with ballast water, are nevertheless expected to reduce the risk of negative impacts.

The introduction of alien species is also one of the most serious threats to biodiversity in non-marine ecosystems. A cross-sectoral Norwegian strategy on invasive alien species was presented in May 2007.

Negotiations are in progress on an international regime for the equitable distribution of benefits from the use of genetic material under the UN Convention on Biological Diversity. Norway has advocated the development of a legally binding protocol to safeguard the rights of developing countries as countries of origin when genetic material is used for commercial purposes.

We still lack basic knowledge of the long-term effects of the use of genetically modified organisms on health and the environment. We should therefore continue to follow a restrictive approach in this area. To add to our knowledge, the Government has decided to make the Centre for Biosafety into a national centre of expertise in this field.

The new Norwegian legislation for genetically modified products, which entered into force in autumn 2005, is in line with EU legislation. The Government is negotiating with the EU on the incorporation into the EEA Agreement of EU legislation on the deliberate release of genetically modified organisms (GMOs) into the environment and on genetically modified food and feed. The goal is to ensure that Norway can ban individual products even if they are approved by the EU, if the Norwegian authorities consider that there is a serious risk of harm to health or the environment.

The Cartagena Protocol on Biosafety seeks to ensure that trade in and use of living modified organisms does not have adverse effects on biodiversity or health. The Conferences of the Parties have strengthened the rules on labelling and identification of GMOs that are transported across national borders. Norway and the EU are playing an active role in further strengthening the protocol, particularly as regards labelling and identification of GMOs and rules on liability and redress.

The agricultural landscape is very important for biodiversity, and a clearly focused maintenance and management regime is therefore essential. General developments in society, including such things as road construction and the expansion of urban areas, have resulted in the fragmentation of valuable areas of cultural landscape and their development for other purposes. Productive agricultural land near towns and built-up areas is also under pressure.

A decision on protection of the Trillemarka-Rollag Østfjell area in Buskerud county was made in 2007. Cooperation with the Norwegian Forest Owners' Federation on voluntary forest protection will be continued, and there are plans for protection of other areas, for example areas of coastal spruce forest.

The most recent white paper on the Government's environmental policy and the state of the environment in Norway (Report No. 26 (2006-2007) to the Storting) sets out further goals, policy instruments and measures for the protection and sustainable use of biodiversity.

Cultural heritage

Sustainability indicator 8 is *Standards of maintenance of protected buildings* (figure 12). Maintaining and re-using buildings rather than demolishing and rebuilding them results in a more varied built environment. One of the national targets of Norway's cultural heritage policy is for all cultural monuments, sites and environments protected under the Cultural Heritage Act to be safeguarded, and a standard requiring only normal maintenance to be achieved by 2020. Protected buildings are divided into four categories according to the standard of maintenance and the need for maintenance and repairs. More than half of all protected buildings have not yet been classified. Of the buildings that have been assessed, more than 60% need moderate or extensive repairs to achieve a standard where only normal maintenance is required. The Directorate for Cultural Heritage plans to complete the surveys of standards of maintenance for all counties in 2008. In addition, the Directorate is developing a method of calculating the total costs of necessary repairs to protected buildings.

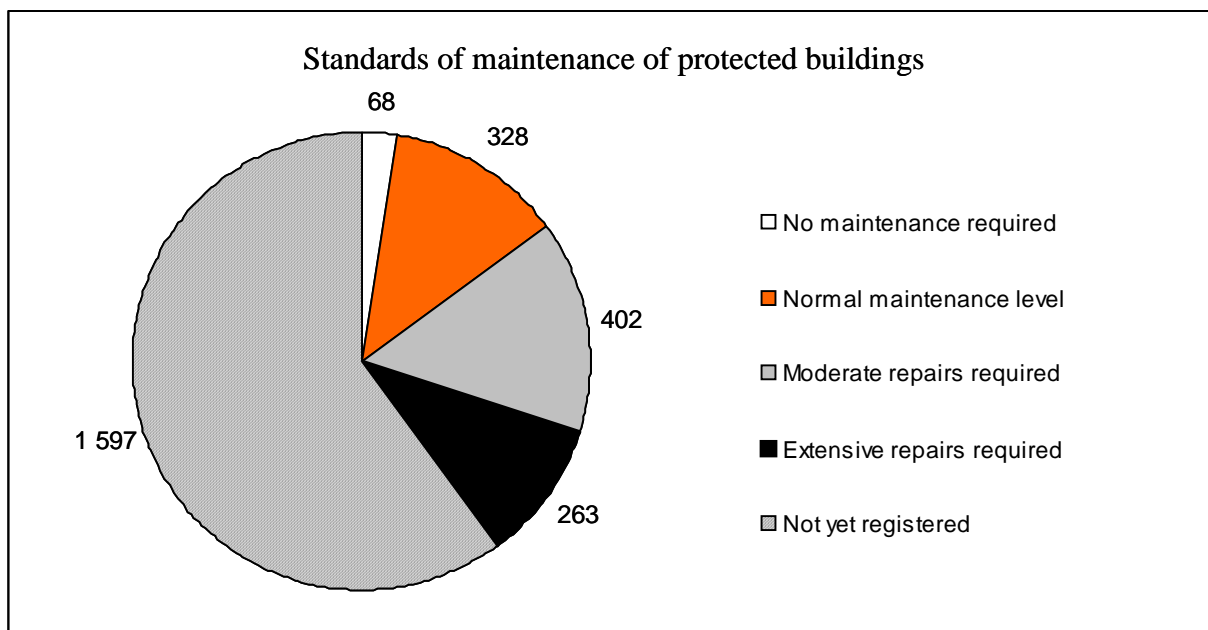


Figure 12 Standards of maintenance of protected buildings in private ownership, May 2007. Number of buildings

Source: Directorate for Cultural Heritage.

Cultural monuments, sites and environments are vulnerable to decay, demolition and damage. Climate change exacerbates this problem. Ten conservation programmes are to be carried out for cultural monuments, sites and environments that are protected under the Cultural Heritage Act. These will include surveys of standards of maintenance and identifying what needs to be done in terms of protection, repair and maintenance. The 10 programmes will deal with:

- privately-owned protected buildings and sites
- the Sami cultural heritage
- stave churches
- Norway's World Heritage sites
- technical and industrial monuments and sites
- fire prevention in historical wooden buildings
- vessels
- ruins
- rock art
- selected archaeological monuments and sites of particular local or regional importance.

Cultural monuments, sites and environments will be used to contribute to value creation in local communities and regions. Steps will be taken to encourage cooperation between these programmes and government initiatives and measures

to promote local and regional interests. The capital of the Norwegian Cultural Heritage Fund was increased to NOK 1 000 million in 2007.

It is vital to keep up and enhance knowledge of the traditional materials, techniques and skills that are needed to maintain the cultural heritage. The Government has therefore initiated a review of traditional crafts and trades, which will provide a basis for considering measures to develop and maintain traditional crafts and trades in Norway.

6.4 Natural resources

The Government's main objectives

Norway's rich natural resources will be managed sustainably and in accordance with the precautionary principle. The Government will seek to ensure that Norway is an environmentally sound energy producer and plays a leading role in the development of green energy.

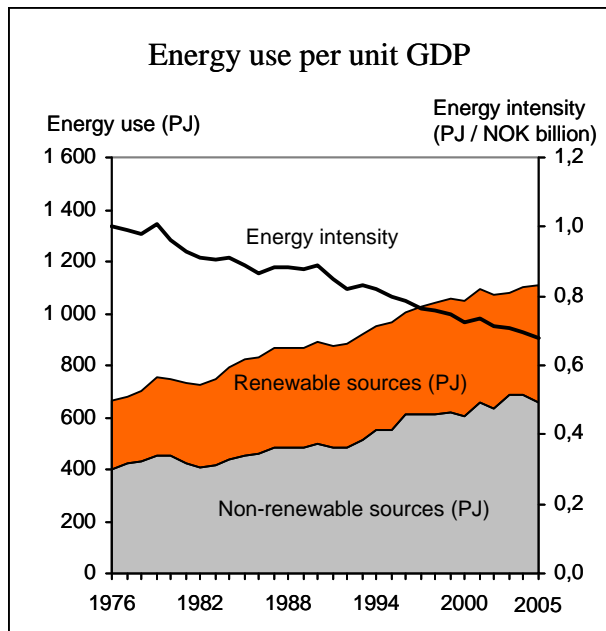
Goals and important steps:

- The Government will pursue an integrated energy policy based on effective use of energy resources, and will promote the use of renewable energy.
- The extraction of oil and gas will be managed in a way that takes account of its effect on the national wealth and is environmentally sound.
- Norway's marine resources will be managed with a view to maintaining the highest possible long-term yield within an environmentally sustainable framework.
- The Government will safeguard valuable agricultural land and cultural landscapes and promote sustainable agriculture.

The Government's policy

Energy production and use

Sustainability indicator 9 is *Energy use per unit of GDP*, also called energy intensity, see figure 13. This indicator shows changes over time in how efficiently society uses its energy resources, but is also influenced by changes in industrial structure. Except for brief periods, domestic energy use in Norway has grown more weakly than GDP over the past 30 years, although energy use has risen substantially. From 1976 to 2005, GDP rose by 147%, whereas overall energy use only rose by 68%. Renewable energy use increased somewhat more than non-renewable energy use.



Source: Statistics Norway.

Figur 13 Energy use per unit GDP¹ and energy use split between renewable and non-renewable energy sources

¹ GDP at constant 2002 prices.

The Government will seek to ensure that Norway is an environmentally sound energy producer and plays a leading role in the development of green energy. Initiatives to promote carbon capture and storage, energy efficiency, heating based on renewable sources and renewable electricity are key elements of this policy. For environmental reasons, it is important to reduce the energy intensity of the economy and promote greater use of renewable energy.

Hydropower does not contribute to greenhouse gas emissions, but further development of Norwegian river systems will have an impact on the natural environment and perhaps on biological diversity. The Government will ensure sustainable management of river ecosystems. To protect valuable river ecosystems, steps will be taken to make better use of the existing hydropower infrastructure and to establish new power plants that make good use of resources but do not cause the loss of biodiversity, landscape values, or opportunities for outdoor recreation. The planning and licensing system is an important tool for the water resource authorities when evaluating different interests. Guidelines for small hydropower plants were laid down by the Ministry of Petroleum and Energy in June 2007. The master plan for water resources is to be reviewed with a view to completion in 2008.

The Government is reviewing the question of whether to protect the Vefsna river system against hydropower developments. Assessments will also be made of whether the following river systems should be protected: Øystesevassdraget, Langvella, and Tovdalsvassdraget below lake Heresfossfjorden.

Carbon capture and storage (CCS)

The Government intends Norway to become a world leader in environmentally-friendly use of gas. It is therefore promoting research, development and demonstration of environmentally sound forms of gas power production. The Government intends to facilitate the implementation of innovative and effective carbon capture and storage technologies.

New licences for gas-fired power plants are to be based on carbon capture and storage. The Government and Statoil have concluded an agreement on the establishment of a full-scale carbon capture and storage facility at the combined heat and power plant at Mongstad. Under the terms of this agreement and the discharge permit for the plant, the full-scale facility is to be developed in parallel with the construction of the power plant. To reduce the technical and economic risks, the project is divided into two phases. The first phase is to be completed by the time that the power plant starts operations in 2010. In the second phase, full-scale carbon capture and storage is to be implemented by the end of 2014. A technology company has been established at Mongstad, and will be responsible for testing, qualifying and further developing various carbon capture technologies.

With the Mongstad project, we are moving from the development phase to the construction of facilities for carbon capture. The purpose is to ensure a wide international application of technological developments achieved in Norway, so that they do not become specific to a project or to Norway alone. In this way, Norway can ensure the deployment of technology with a large potential for reducing CO₂ emissions throughout the world.

The Norwegian Water Resources and Energy Directorate submitted a report on carbon capture at the gas-fired power plant at Kårstø to the Ministry of Petroleum and Energy in December 2006. The Ministry has established a company to run the project, which will follow up the Directorate's recommendations. External quality assurance of cost estimates and steering documents will probably be needed before an investment decision can be submitted to the Storting.

The Government has given high priority to efforts to develop technologies and solutions for reducing greenhouse gas emissions, and has taken steps to facilitate carbon capture and storage projects. A new state-owned enterprise has been established to safeguard the state's business interests related to participation in carbon capture and storage projects. It will provide advisory services and assistance in achieving Government targets and policy as regards carbon capture and storage. In cooperation with the Research Council of Norway, it will continue activities within the framework of the Natural Gas Power programme, CLIMIT. In the short term, the priorities are to qualify technologies for carbon capture from gas-fired power plants and reduce their costs, and to establish geologically secure methods of carbon storage. In the longer term, it will be important to develop technologies with a potential for significantly improving the efficiency level and profitability of electricity production from gas with carbon capture and storage. Norway's contribution to these technological developments should focus as far as possible on reduction of greenhouse gas emissions.

Measures to reduce emissions on the continental shelf

Oil and gas activities generate emissions of CO₂ and NO_x to air. The industry is regulated by various policy instruments, including the carbon tax and the NO_x tax. From 2008, it will also be covered by the Greenhouse Gas Emission Trading Act. As a result of strict restrictions on emissions to air, the Norwegian oil and gas industry is at the forefront of the development of energy-efficient solutions offshore. For example, CO₂ emissions per unit of oil produced are only one third of the average level internationally. The Norwegian Petroleum Directorate, the Norwegian Water Resources and Energy Directorate, the Norwegian Pollution Control Authority and the Petroleum Safety Authority have been commissioned to produce an updated analysis of electricity generated onshore for the petroleum industry in the course of 2007.

Zero-discharge targets for releases of environmentally hazardous substances to the sea from petroleum activities were first set out in a white paper on environmental policy (Report No. 58 (1996–1997) to the Storting). They are based on the precautionary principle and are intended to ensure that there are no discharges to the sea of oil or other environmentally hazardous substances that will cause unacceptable damage to health or the environment. For each field development project, an overall evaluation of measures to reduce discharges is required, including environmental, technical, safety and economic considerations. The oil and gas industry is carrying out measures to reduce discharges from both existing and new fields in order to meet the zero-discharge targets.

The Barents Sea–Lofoten area is considered to be particularly vulnerable. Strict requirements have therefore been laid down for discharges from oil and gas activities in this area. There is a general requirement to achieve zero discharges of produced water, drill cuttings and drilling mud during normal operations.

Promotion of renewable energy

The Government is building on investment through Enova and the Energy Fund to step up efforts to develop environmentally sound forms of energy. To ensure that this is a long-term, stable level of funding, the Government has established a new fund for the promotion of renewable energy and energy efficiency measures. The initial capital in 2007 was NOK 10 billion, and the Government is proposing to inject a further NOK 10 billion in 2009. It is estimated that the total annual return on the fund will be about NOK 930 million once the capital has been increased to NOK 20 billion. In its recent white paper on climate policy (Report No. 34 (2006–2007) to the Storting), the Government announced that it will propose another increase of up to NOK 10 billion in the fund's capital by 2012.

Enova's activities are currently financed by the revenue from a levy on the electricity distribution tariff of NOK 0.01 per kWh. This is expected to amount to about NOK 820 million in 2008, including interest from previous years. In addition, it has been given a commitment authorisation of NOK 400 million for 2008. The establishment of the new fund means that funding for the promotion of renewable energy and energy efficiency measures will be more than doubled by 2010.

According to plan, the fund will start to provide grants in 2008. They will be of the following types:

- Hydropower plants will be granted NOK 0.04 per kWh for production corresponding to the first 3 MW of their installed capacity.
- Wind power plants will be granted NOK 0.08 per kWh of electricity generated.
- Immature technologies and electricity generation based on bioenergy will be granted NOK 0.10 per kWh. Grants for immature technologies will also be made available through Enova's technology programme.

There have been several local conflicts concerning the siting of wind farms in recent years. The Government will take steps to make licensing procedures more effective and predictable and to ensure that if there are several proposed development projects in one region, their overall impacts are evaluated together. In selected regions, the processing of applications for licences will be coordinated and considered in the context of plans to improve the transmission grid. Guidelines for the planning and siting of wind farms were issued by the Ministry of the Environment and the Ministry of Petroleum and Energy in June 2007. The Government's grant scheme for renewable energy will apply to all new wind power plants.

The impact on vulnerable bird species will be an important consideration during licensing procedures, for example when deciding where to site wind farms.

According to its policy platform, one of the Government's goals is to ensure that people are not entirely dependent on electricity for heating in the future. The Government also announced that it would promote the use of new renewable energy sources and ensure that low-energy buildings become the standard. New building regulations that entered into force on 1 February 2007 have tightened up the limits on energy use by about 25%. One important aim of the new rules is to ensure that new buildings can increasingly be heated using alternative energy sources instead of fossil fuels such as oil and gas. The Ministry of Local Government and Regional Development has calculated that the new energy requirements will result in savings of 400–450 million kilowatt hours from the first year they are in effect, which corresponds to annual energy use by about 20 000 homes.

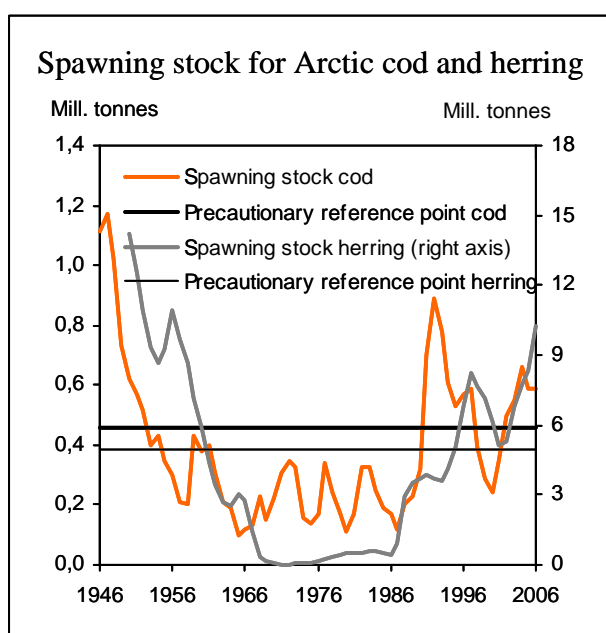
The Norwegian State Housing Bank and Enova are promoting low-energy homes. As a result, at least 3 000 homes with heating demand of about 100 kWh/m²/year have been built in the last few years. Interest in low-energy housing is growing strongly.

Marine resources

Sustainability indicator 10 is *Calculated spawning stock biomass for Northeast Arctic cod and Norwegian spring-spawning herring, compared with the precautionary (Bpa) reference points* (figure 14). It gives information on whether these stocks are being managed sustainably. Norwegian spring-spawning herring and Northeast Arctic cod are the most important of Norway's fish stocks, and the management regime followed in recent years has maintained a spawning stock of both species that is above the precautionary reference point, so that they are considered to be within safe biological limits.

Almost all the fish stocks Norway harvests are joint stocks, managed and harvested jointly by several countries. The indicator therefore reflects both the international and the Norwegian management regime for these stocks.

Many of the world's fish stocks are overexploited, and the state of certain Norwegian fish stocks is also giving cause for concern. Overfishing has previously led to the collapse of stocks of Norwegian spring-spawning herring, North Sea herring and North Sea mackerel. The collapse of the Norwegian spring-spawning herring stock in the late 1960s resulted in a change in its migration patterns, so that the stock was not available in sufficient quantities to support a fishery for 20 years. However, persistent efforts to rebuild the stock have given good results, and it can now support a profitable fishery.



Sources: Institute of Marine Research and ICES.

Figure 14 Calculated spawning stock biomass for Northeast Arctic cod and Norwegian spring-spawning herring, compared with the precautionary (B_{pa}) reference points¹

¹ The precautionary reference points in the figure are 460 000 tonnes for cod and five million tonnes for herring.

Norway's marine resources must be managed with a view to maintaining the highest possible long-term yield within an environmentally sustainable framework, and a yield that is as stable as possible from one year to the next. Sustainable management of living marine resources in Norwegian waters must be based on reliable knowledge. As far as possible and appropriate, management of each species and stock must also be based on long-term management plans. We particularly need more knowledge about the links between the physical, chemical and biological elements of the marine environment, biological diversity, and interactions between different marine species.

To ensure sustainable management of fish resources, we must ensure that the harvest does not exceed a level that allows each spawning stock to remain within safe biological limits. Calculations of the precautionary reference point seek to

take into account all factors that can affect recruitment to a fish stock. Management of fish stocks is based on scientific advice and quality assurance through the work of the International Council for the Exploration of the Sea (ICES).

In spring 2006, the Government presented a white paper on an integrated management plan for the Barents Sea–Lofoten area (Report No. 8 (2005–2006) to the Storting). The purpose of the management plan is to provide a framework for the sustainable use of natural resources and goods derived from the Barents Sea–Lofoten area and at the same time maintain the structure, functioning and productivity of the ecosystems of the area. It emphasises the importance of continuing and intensifying efforts to develop an ecosystem-based management regime. Experience gained from the preparation and implementation of this management plan will form the basis for the preparation of similar management plans for other Norwegian sea areas. In the 2007 white paper on environmental policy and the state of the environment in Norway (Report No. 26 (2006–2007) to the Storting), the Government announced its intention of drawing up an integrated management plan for the North Sea, to be presented in a white paper in 2009.

In 2002, the Joint Norwegian-Russian Fisheries Commission agreed on new rules for calculating the annual total allowable catches (TACs) for cod, which were first used to set the TAC for 2004. ICES has now evaluated these rules and found that they are in agreement with the precautionary approach.

The scale of illegal, unreported and unregulated (IUU) fishing means that there is considerable uncertainty about stock trends. A considerable effort has been made to bring IUU fishing to a halt. Allocations to the Directorate of Fisheries and the Norwegian Coast Guard have been increased to enable them to intensify their efforts in this area. Improvements have been made in electronic surveillance systems, information exchange and joint inspections with other countries, and cooperation between various agencies (police, tax authorities, customs authorities, Coast Guard, Directorate of Fisheries) has been expanded and the quality of inspections has been improved.

Environmentally sound agriculture

Soil resources are vulnerable at both the global and the national level. As part of a sustainable management regime, cultivated and cultivable areas should be safeguarded so as to maintain opportunities for food production for future generations, both globally and nationally. The results of the current WTO negotiations will be of crucial importance for further developments in the agricultural sector.

The Government considers safeguarding valuable agricultural areas and cultural landscapes to be a priority task. Its target is to halve the annual conversion of the most valuable soil resources for purposes other than agriculture. The Norwegian Agricultural Authority has therefore been authorised to submit formal objections to municipal planning decisions that will involve the loss of agricultural areas. Sustainability indicator 11, which is still being developed, is *Irreversible losses of biologically productive areas*.

The Government is seeking to obtain good documentation of particularly valuable cultural landscapes, put in place sound management regimes for them by 2010, and ensure that areas that are becoming overgrown with trees and scrub are managed with a view to using them for commercial activities or outdoor recreation.

The increase in the growing stock in Norwegian forests (the annual increment) is currently far larger than roundwood removals, so that it is possible to increase the utilisation rate within a sustainable framework. Using wood to replace more energy-intensive materials will bring environmental benefits. Wood is a source of climate-neutral energy. Thus, steps taken by the Governments to increase roundwood removals can also help Norway to achieve its environmental goals.

Forests and rough grazing, together with forest tracks and footpaths, are part of the cultural landscape and important for outdoor recreation in Norway. The Ministry of Agriculture and Food has developed a strategy for agriculture-based economic development in Norway for the period 2007–2009, which gives high priority to developing viable rural communities and up to date and robust agriculture. In the Government's view, one important reason for establishing protected areas is to continue to provide opportunities to enjoy natural surroundings through low-impact recreation. The Government also sees the unique natural and cultural landscape resources in the Norwegian mountains as offering a large potential for employment and settlement in rural areas. In a white paper on rural and regional policy (Report No. 21 (2005–2006) to the Storting), the Government announced its intention of developing special development strategies for mountain areas.

The Ministry of Agriculture and Food has developed a strategy for research and research-based innovation for the period 2007–2012, which specifies priorities for ecological farming, bioenergy, soil conservation and biodiversity. The Government's goal is for 15% of all food production and consumption in Norway to be ecological by 2015.

6.5. Hazardous substances

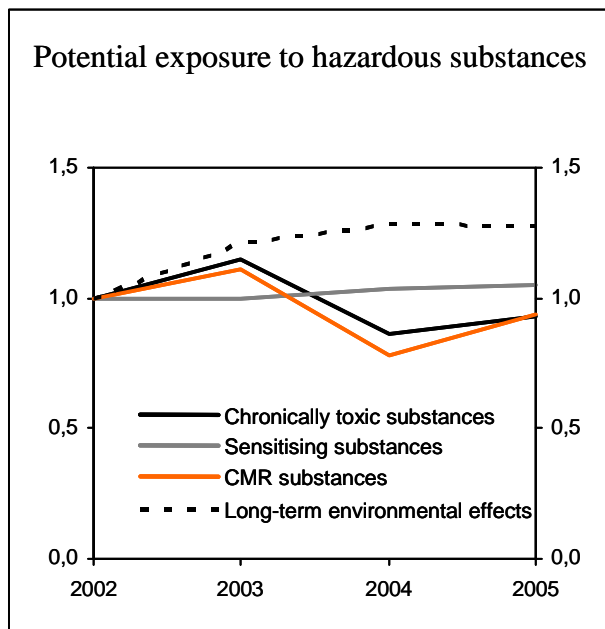
The Government's main objectives:

Emissions and use of hazardous chemicals 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.

Delmål og viktige handlinger:

- Releases of certain ecological toxins (a priority list and a set of criteria have been drawn up) will be eliminated or substantially reduced.
- 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.
- The risk that releases and use of chemicals will cause injury to health or environmental damage will be minimised.

- 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.
- Contamination of sediments with substances that are hazardous to health or the environment will not give rise to serious pollution problems.



Sources: Statistics Norway and Norwegian Pollution Control Authority.

Figure 15 Potential exposure to hazardous substances. 2002–2005. Index=1 in 2002

The Government's policy

Sustainability indicator 12 is *Potential exposure to hazardous substances* (see figure 15). The level of potential exposure depends on the quantity of hazardous substances released to the environment in a particular year, and that people can therefore be exposed to and harmed by. There are marked differences in trends for different categories of substances in the period 2002–2005. There was a clear rise in potential exposure to substances that are classified as dangerous for the environment and that may have long-term effects, whereas exposure to CMR (carcinogenic, mutagenic or reprotoxic) substances and chronically toxic substances was reduced. There has been a marginal rise in potential exposure to sensitising substances (which can trigger allergies). The results must be interpreted with care, since improvements and adjustments are still being made to elements in the model used to calculate the results.

Hazardous substances may cause diseases such as cancer or allergies, have adverse effects on reproduction or damage the genetic material of plants and animals. A number of chemicals break down very slowly in the environment and can therefore accumulate in food chains, where they represent a serious threat to biological diversity, food supplies and the health of future generations. Others may have irreversible long-term impacts on people and the environment. The most dangerous substances, including persistent organic pollutants (POPs) such as PCBs and dioxins, can cause damage even at very low concentrations. The Arctic

Monitoring and Assessment Programme (AMAP), under the Arctic Council, has shown that there are relatively high concentrations of POPs in animals that are used for food in the Arctic region. Most of them can be transported for long distances in the environment.

Even though emissions of some of the most dangerous chemicals have been reduced, overall use of chemicals has been increasing. The use of chemicals is closely linked to production and consumption patterns. There has been a considerable rise in the quantities and numbers of chemicals used and an expansion in areas of use in recent years. An estimated 50 000 chemicals are used today within the European Economic Area (EEA). We have little information on the health and environmental impacts of many of these. With the new chemicals legislation REACH, the EU is introducing a new common policy on chemicals. Work on the REACH regulation is described in more detail in the white paper *Working together towards a non-toxic environment and a safer future – Norway's chemicals policy* (Report No. 14 (2006–2007) to the Storting).

In the same white paper, the Government set out policy instruments for achieving its targets related to ecological toxins and other chemicals. There will be a special focus on priority ecological toxins, and releases of these substances are to be substantially reduced by 2010 and eliminated by 2020. The criteria for identifying priority ecological toxins substances are as follows:

1. Substances that are persistent and bioaccumulative, and that either a) have serious long-term health effects, or b) show high ecotoxicity.
2. Substances that are very persistent and very bioaccumulative (no requirement for known toxic effects).
3. Substances found in the food chain in levels that give rise to an equivalent level of concern.
4. Other substances that give rise to an equivalent level of concern, such as endocrine disruptors and heavy metals.

The white paper also made it clear that Norway will take the initiative for a global ban on the use of two new substances, endosulfan (used as a pesticide) and hexabromocyclododecane. Norway will also work actively towards a new global instrument to eliminate releases of mercury and other heavy metals. A non-toxic environment can only be achieved by means of good international solutions, and Norway will play a leading role in ensuring stricter international regulation of hazardous substances.

6.6 Sustainable economic and social development

The Government's main objective:

The Government will further develop the economic and social features of our society that facilitate a sustainable development. We will strengthen the collective solutions and seek to pass on the total wealth of our society to the next generation in the same or in a better condition than it is at present.

Goals and important steps:

- The Government will pursue an economic policy that promotes value creation and combats unemployment and exclusion from society and working life.
- The Government will ensure that the national wealth benefits future generations by increasing Norway's total wealth and pursuing a sound budget policy that will allow future generations to meet their needs.
- It is the Government's wish that poverty should be eradicated and the economic disparities in Norwegian society reduced.
- The Government will take steps to combat socioeconomic health disparities.
- The Government will seek to ensure that as many people as possible have access to relevant higher education, and promote Norway's development as a sustainable knowledge-based society.
- The Government will seek to ensure that products and the physical environment are as far as possible developed according to the principles of universal design.
- The Government Pension Fund – Global will be managed with a view to ensuring high returns at moderate risk. We have an ethical responsibility to ensure that future generations are able to benefit from our petroleum wealth. We also have an ethical responsibility to persuade companies in which the Pension Fund has invested to respect fundamental ethical norms through the exercise of ownership rights

The Government's sustainable development policy

Together with global environmental issues, international solidarity and equitable distribution are key areas of the Government's sustainable development policy. Sustainable development also has a social and economic dimension that is purely national: it includes a national responsibility to ensure fairness between generations. This means that we must seek to ensure that the natural assets and resource capital of our society are passed on to the next generation in the same or in a better condition than it is at present.

Conserving national wealth for future generations

National wealth is an expression of the total national resource base, which consists of human capital, natural capital, real capital and net foreign assets. Net national income may be regarded as the market-based return on national wealth. Sustainability indicator 13 is the *Net national income per capita by sources of income* (figure 16). The indicator shows that human capital and natural capital are of the utmost importance for our economic welfare. In the period 2001–2006 income from all sources has risen compared with the previous five-year period. The exploitation of non-renewable natural resources has become considerably more important since 1985.

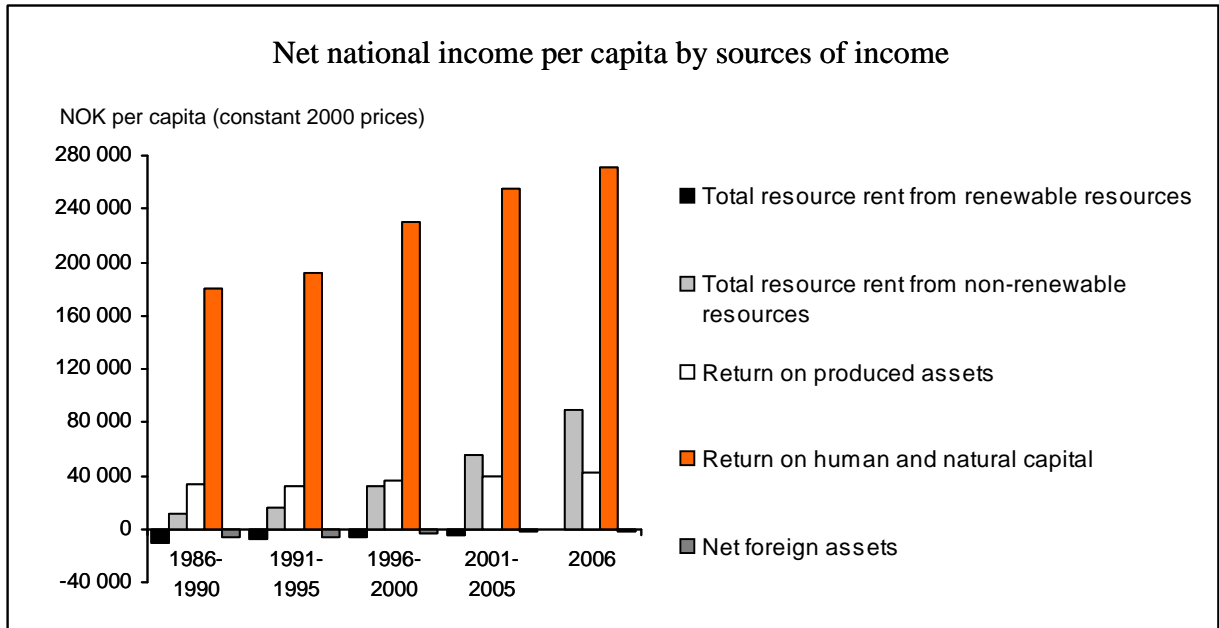
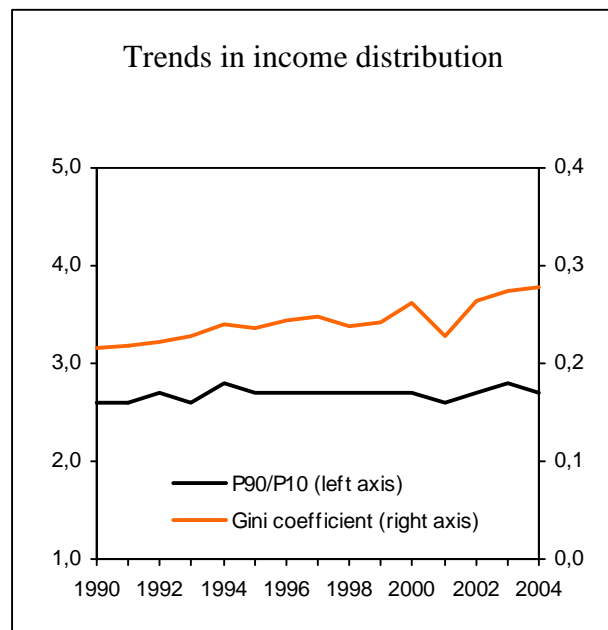


Figure 16 Net national income¹ per capita, by sources of income

¹ Net national income at constant 2000 prices.

Source: Statistics Norway

The Government will follow the guidelines for a gradual phasing in of the petroleum revenues into the economy, according to which the Government's net cash flow from petroleum activities as a whole will be transferred to the Government Pension Fund – Global, while the use of petroleum revenues over time will correspond to the expected real return on the fund, which is estimated at 4%. This will enable future generations to benefit from our petroleum wealth.



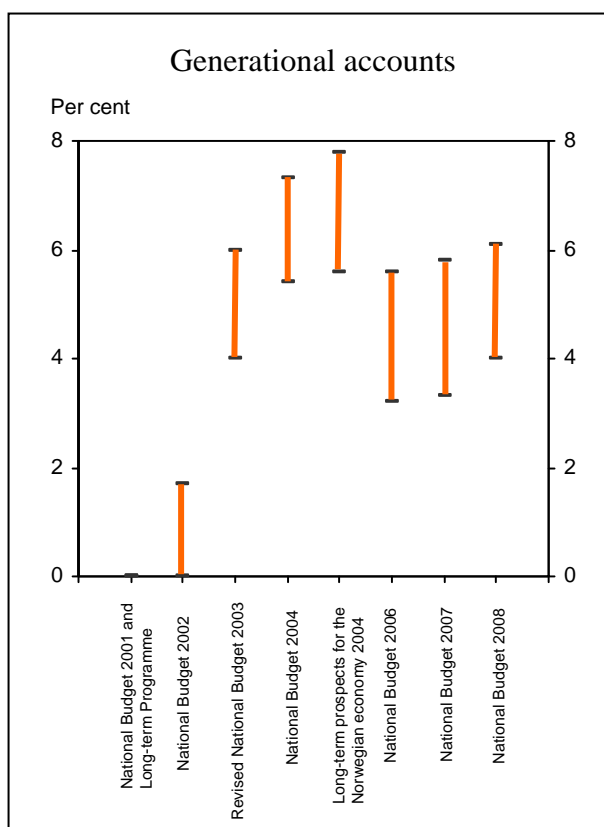
Sources: Statistics Norway and the income distribution survey

Figure 17 Distribution of household equivalent income after taxes, between persons.

The Government is seeking to reduce economic inequalities in Norwegian society. Sustainability indicator 14 is *Trends in income distribution* (figure 17), which has replaced the previous indicator 14, *Non-petroleum saving*. Two different measures for relative income differences between households are used for this indicator: the Gini coefficient and the ratio of the wealthiest 10% of households to the poorest 10% of households (P90/P10).

Income distribution as measured by the P90/P10 ratio changed little from 1990 to 2004, but as measured by the Gini coefficient it showed a certain trend towards greater income disparity. A large part of the disparity measured by this method is related to the increase in income for the wealthiest 10% of households, since some of the fluctuations and the increase in the Gini coefficient are accounted for by large tax-motivated changes in the dividend payments to these households. The increase in the proportion of immigrants from non-western countries, who are clearly overrepresented in the category low-income households, has also contributed to the increased disparity.

If the Nordic welfare model is to be continued, relatively small income disparities, together with the necessary flexibility, must be maintained. The budget policy guidelines provide for a gradual increase in the use of petroleum revenues, approximately in line with the growth in the Fund's capital. The return on a growing fund will make it easier to meet the increasing government expenditure on pensions, and health and care services that will result from the ageing of the population after 2010. However, further measures are necessary to ensure that public finances are sustainable (National Budget 2008). In March 2007 the Storting reached agreement on a new old-age pension scheme, which will ensure long-term security and predictability independently of changing governments.



Source: Ministry of Finance

Figure 18 Need to tighten public sector finances as a share of GDP. Generational accounts published in selected steering documents in the period 2001–2007.

Sustainability indicator 15 is *Generational accounts* (see figure 18). Generational accounts are designed to show the inter-generational distribution effects of continuing today’s budget policy, taking into account demographic trends and the commitments contained in today’s national insurance scheme. If the current fiscal policy is to be sustainable in the long term, the present value of public sector resources must correspond to the present value of public sector disbursements. This indicator is addressed in more detail in the National Budget 2008, where the sustainability of public finances is discussed in a broader perspective.

Figure 18 shows that the need to tighten public finances as estimated in the generational accounts has increased from the 2001 National Budget to the 2004 Long-term Programme. New population projections by Statistics Norway, together with an increase in the use of petroleum revenues over the government budget, weakened the generational accounts by approximately NOK 25 to 30 billion from the National Budget of 2002 to that of 2003. Since the publication of the 2004 white paper on the long-term prospects for the Norwegian economy, the upward adjustment of the petroleum wealth has enhanced the generational accounts, and for the 2007 National Budget the difference to be covered was estimated at between NOK 50 and NOK 90 billion. The estimate of the Government’s petroleum wealth in the 2008 National Budget is lower than the estimate for the 2007 budget. Together with an increase in the use of petroleum revenues, this means that according to the generational accounts, public finances need to be

tightened by an estimated NOK 70 to 110 billion, corresponding to 4 to 6% of GDP for mainland Norway.

Management of the Government Pension Fund – Global

The Ethical Guidelines for the Fund were laid down in November 2004. According to these, the Fund is to be managed with a view to achieving a high return over time that will enable future generations to benefit from the country's petroleum wealth. Companies in which the fund has invested should also be persuaded to exercise corporate environmental and social responsibility. If all else fails, the Government will exclude companies from the fund's investment universe to avoid contributing to serious violations of ethical norms. The Government has decided that the guidelines are to be evaluated during the present parliamentary period with a view to determining whether they function as intended. The Ministry of Finance plans to begin the evaluation process at the beginning of 2008. The evaluation will cover a broad area and as many bodies as possible will be consulted. The evaluation report will be presented to the Storting in spring 2009.

The Ministry of Finance has delegated the authority to exercise ownership rights to Norges Bank (the central bank of Norway). The overall objective of the bank's corporate governance activities is to safeguard the fund's financial interests, based on a long-term horizon for the Fund's investments and broad investment diversification in the markets included in the investment universe. The aim of long-term returns will often accord with ethical considerations. Thus in order to attain the objective of a solid return over the long term, it is logical to use corporate governance to persuade companies in which the fund has invested to respect fundamental ethical norms. Norges Bank has drawn up a four-year strategy which focuses on good corporate governance, children's rights and environmental considerations. The Government has responded positively to the Bank's emphasis on these factors.

If there is an unacceptable risk of the fund's contributing to the production of inhumane weapons or to unethical acts or omissions such as violations of fundamental humanitarian principles, serious or systematic human rights violations, gross corruption or serious environmental damage, it would be appropriate to sell ownership interests in the company in question, in accordance with the Ethical Guidelines. An independent Council on Ethics has been appointed, which makes recommendations to the Ministry of Finance on the exclusion of companies on the basis of these criteria. The ministry then makes an independent evaluation of whether or not to exclude the company. The use of corporate governance to promote respect for fundamental ethical norms is one of a set of instruments available to the Fund, in which exclusion of the company from the Fund's investment universe is the last resort. By the end of September 2007, the ministry had excluded 21 companies. The publication of these exclusions on the basis of the Ethical Guidelines has attracted international attention and led to other financial players withdrawing from the company in question.

Higher education and research

Sustainability indicator 16 is *Population by highest level of educational attainment* (see figure 19). The figure shows that the level has risen markedly. The share of the population with tertiary education increased from 7% in 1970 to 24% in 2005. The level of education in the population is an indicator of the supply of qualified labour for the public and private sectors. Education is a significant factor in economic growth and in development of the individual and society, and a high level of education in the population is one of the conditions for sustainable economic development in a knowledge-based society. For the individual, education can prevent exclusion from the labour market. Whether an individual is in or outside the labour market is the most important single factor explaining income disparities in the population. Health is also closely linked with education and income disparities. This was discussed in the white paper on a national strategy for reducing socioeconomic health disparities (Report No. 20 (2006–2007) to the Storting).

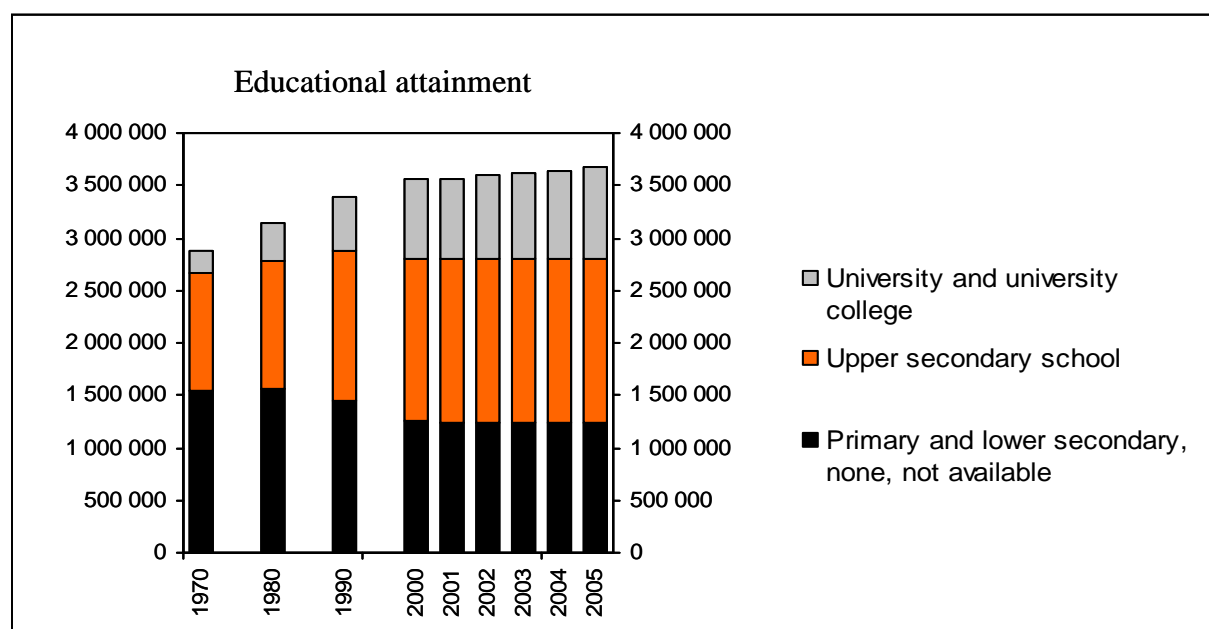


Figure 19 Population (aged 16 years and over) by highest level of educational attainment.

Source: Statistics Norway

Higher education and research play a significant role in building human capital, which is the most important single quantifiable component of our national wealth. Strengthening basic research is a means of enhancing the quality of Norwegian research and putting Norwegian research communities in a position to address the challenges of the future, and this is a fundamental priority for the Government. Climate research, marine research and research on environmentally friendly energy technology were mentioned in the Government's policy platform as especially important areas, and oceans and energy and environment are two of the four thematic priority areas in the white paper *Commitment to Research*. (Report No. 20 (2004–2005) to the Storting). Norway also participates in the development

of satellites for climate and environmental monitoring through the European Space Agency.

Norway participates in the EU Seventh Framework Programme for research, technological development and demonstration activities. Much of the research under this programme is relevant to sustainable development.

Knowledge about climate change and its impacts is essential for the shaping of sustainable development policy at both national and global levels. Norway has a good deal of expertise in the field of climate research and is an active participant in the International Polar Year, which is an intense, internationally coordinated campaign of research running from 2007 to 2009 that will give us valuable information on the polar environment and the impacts of climate change in the polar regions.

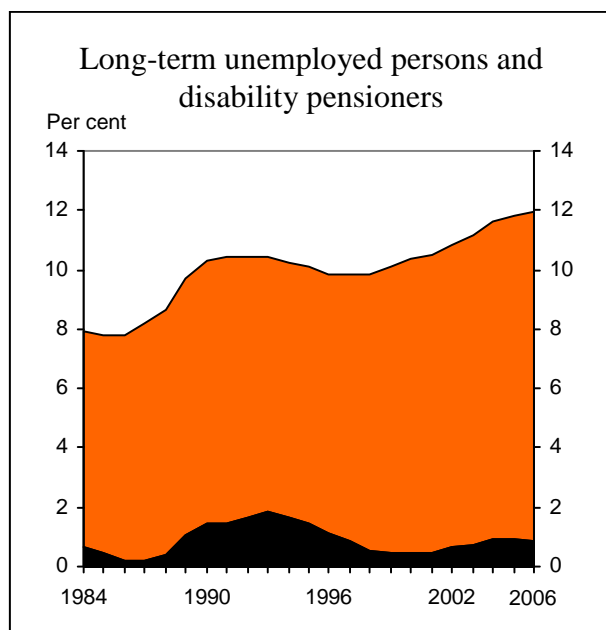
The Government's High North Policy strongly emphasises the importance of developing knowledge in and about the High North. In order to ensure Norwegian research of a high quality in the future, it is also essential to strengthen recruitment. The Government is advocating an increase in the number of doctoral and post-doctoral positions and will give special priority to strengthening recruitment to scientific research.

The Government is preparing a white paper on innovation, in which sustainable development will be one of the main themes.

Inclusive working life

Sustainability indicator 17 is *Long-term unemployed persons and disability pensioners as a percentage of the age group 18-66 years* (see figure 20). Twenty-five thousand long-term unemployed persons and over 328 000 disability pensioners were registered in 2006. Most of the former were men, while most of the latter were women. The number of recipients of time-limited disability benefits rose by approximately 11 500 persons, and the number of disability pensioners fell by 3 400 from the beginning of 2005 to the end of 2006, giving a net increase in disability pensioners of 8 100. The average number of long-term unemployed persons (Labour Force Survey) declined by 2 000 in the same period. Thus the overall trend for this indicator is negative.

For the individual, employment provides income, affiliation and well-being and is an important element of social participation. If a large proportion of the working age population is outside the labour market, this could constitute a serious threat to the maintenance of society's human capital. The proportion of disability pensioners is particularly high in Norway. Over the past two years there has been a considerable drop in unemployment and the employment rate is higher than it has ever been before. Despite this, we are still facing challenges related to inclusion in working life.



Source: Statistics Norway

Figure 20 Long-term unemployed persons and disability pensioners as a percentage of the age group 18–66 years

Almost 9% of the Norwegian population have an immigrant background. This population has a considerable degree of diversity. Some groups have a high proportion of disability pensioners and unemployed. The Government will take steps to provide a framework enabling immigrants to contribute to working life and to society at large as early as possible, and thus prevent the development of a class-based society in which immigrants have poorer living conditions and lower social participation than the rest of the population. In the second quarter of 2007 unemployment among immigrants was around 5%, which was three times as high as in the rest of the population. The Government's goal is to increase employment and reduce unemployment through the action plan for the integration and inclusion of the immigrant population and the mandates of the Labour and Welfare Organisation (NAV) and the Directorate of Integration and Diversity.

The action plan for the integration and inclusion of the immigrant population was presented in connection with the 2007 National Budget, together with an action plan to combat poverty. In the latter the Government proposed a number of measures to strengthen immigrants' links to the labour market and ensure social participation and personal development among all children and young people.

In autumn 2006 the Government also presented a white paper on work, welfare and inclusion, which contained proposals for the design of measures, services and benefits to ensure employment for a larger number of people. The white paper also addresses immigrants' situation and job opportunities.

The Government attaches great importance to reducing the number of disability pensioners and long-term unemployed.

Universal design

In accordance with its policy platform and the UN Convention on the Rights of People with Disabilities, the Government intends to follow up its Plan of Action

for Universal Design (2005–2008) with a new action plan, to be effective from 2009. Indicators for accessibility and universal design are being developed as part of the work on the new plan.

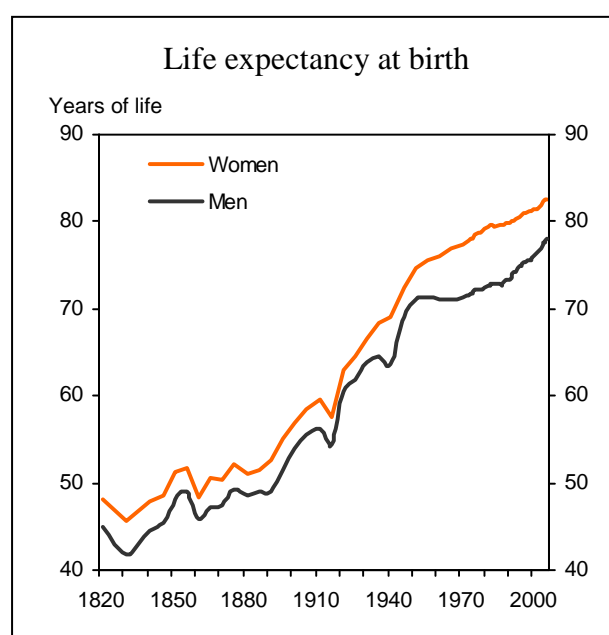
Universal design also involves redesigning workplaces to take account of people with disabilities, and this will reduce their exclusion from working life as measured by Indicator 17.

Reducing socioeconomic health disparities

Sustainability indicator 18 is *Life expectancy at birth* (see figure 21). Life expectancy in Norway has been increasing for nearly two hundred years. Male life expectancy at birth is now 78.1 years, and for women the figure is 82.7 years. Life expectancy is an indicator that captures a number of factors relevant to health and welfare. An important cause of the increase in life expectancy has been declining infant and child mortality, but in the future increased life expectancy will be due mainly to a shift in mortality to higher age groups.

Age-specific mortality in Norway is unevenly distributed between the different socioeconomic groups, and this applies to most causes of death and most of the major groups of diseases.

The Government considers it important to reduce health disparities as far as possible. However, recent figures from the Norwegian Institute of Public Health show that health disparities between educational, occupational and income groups are large and likely to increase.



Source: Statistics Norway

Figure 21 Life expectancy at birth by gender. Norway 1815–2006

The white paper on a national strategy to reduce socioeconomic health disparities sets out goals, measures and indicators for reduction. This is part of the Government's policy for social cohesion, social inclusion and poverty reduction, together with the above-mentioned white paper on work, welfare and inclusion, and the white paper entitled ... *and No Child Was Left Behind – Early Foundation*

for Lifelong Learning.(Report No. 16 (2006–2007) to the Storting). The efforts to reduce socioeconomic health disparities combine measures targeting particularly vulnerable groups and welfare schemes and other measures for the population in general.

In 2004 the European members of the World Health Organization adopted the Children's Environment and Health Action Plan. Norway has also developed a national strategy for children's health, which includes an action plan for a 10-year period. The aim is to gain a better overview of children's health and the environmental factors that influence it.

6.7 Sami perspectives on natural resource management

The Government's main objective:

The Government's aim is to protect the material basis for Sami culture.

Goals and important steps:

- The Government considers that the Sami Parliament should have a real influence in areas that are important for the Sami community.
- The Government will seek to ensure that protection measures for Sami areas strengthen Sami culture, society and industries.

The Government's policy

In its policy platform the Government stated that the Sami Parliament should have a real influence in areas that are important for the Sami community. Traditional Sami industries like duodji (decorative arts), reindeer husbandry, fisheries and commercial activities based on uncultivated land are dependent on the natural environment, and environmental considerations and sustainable development are therefore highly relevant issues. Reindeer husbandry is an integral part of the Sami culture and sense of identity, and is very important both for the Sami community and for other indigenous peoples in the northern areas. The gross area of reindeer grazing in Norway is about 140 000 km², or more than 40% of the country's total area. To ensure that reindeer husbandry is ecologically sustainable, measures are needed to improve social and economic sustainability in certain reindeer husbandry areas.

Norway has certain commitments under international law to protect the material basis for Sami culture, for example under the UN International Covenant on Civil and Political Rights. ILO Convention 169, concerning Indigenous and Tribal Peoples in Independent Countries, states that: "Governments shall take measures, in cooperation with the peoples concerned, to protect and preserve the environment of the territories they inhabit." The convention also obliges Norway to consult the Sami when considering measures that could affect them directly. The Convention on Biological Diversity also contains provisions relating to indigenous peoples. Climate change, overfishing and protection of reindeer husbandry areas are among the environmental issues that are important for Sami culture and industries.

The Government is creating a framework for a close dialogue followed by consultations between the Sami Parliament and the various ministries on the development of goals and measures that take account of the Sami perspective on environmental and natural resource management. The Sami Rights Commission was mandated by a Royal Decree of 1 June 2001 to examine the legal position of the Sami people with regard to the right to and use of land and water in areas used by the Sami people outside Finnmark county. The commission's report was presented in Desember 2007.

An agreement has been concluded on the procedure for consultations between the central authorities and the Sami Parliament. These were set out in a Royal Decree of 1 July 2005, and are based on the following:

- The Sami Parliament must be fully informed of all relevant aspects of the matter in question as early as possible and at every stage of the process.
- The Sami Parliament must be given sufficient time to consider the issues and present its views.
- The consultation process may not be concluded as long as the Sami Parliament and the Government authorities consider that there is a possibility of reaching agreement.

Consultations have been held with the Sami Parliament on a number of matters since the conclusion of the agreement. In February 2007 the Ministry of the Environment and the Sami Parliament drew up detailed guidelines for consultation on matters relating to protection plans within the framework of the general consultation agreement.

7 Broad-based participation and implementation of the strategy

Achieving sustainable development requires participation and contributions by many different parties. The Government will encourage active participation by the business sector, the voluntary sector, the public administration, schools and other educational institutions, and individuals.

7.1 Corporate social responsibility

The business sector's capacity for innovation with regard to more sustainable production processes and the willingness of businesses to exercise corporate social responsibility are important factors in promoting sustainable development. The Government will encourage the public sector to set an example as a responsible consumer and demand goods and services that are produced in accordance with satisfactory environmental and ethical standards. The Government has therefore drawn up a three-year plan of action for environmental and social responsibility in public procurement.

In a recent white paper on active and long-term ownership (Report No. 13 (2006–2007) to the Storting), the Government stated that it expects all companies, whether publicly or privately owned, to exercise corporate social responsibility. The Government Pension Fund – Global seeks to persuade companies in which it has invested to accept environmental and social responsibility, and may exclude companies from its investment universe in order to avoid contributing to serious violations of ethical norms.

The state plays an important role in promoting corporate social responsibility by facilitating arenas for dialogue and initiating information campaigns, and through its own role as owner, investor, legislator, purchaser and prime mover.

In autumn 2007 the Government began preparing a white paper on corporate social responsibility. The work will involve a broad spectrum of actors and include a dialogue with the business and voluntary sectors. The white paper will be an important step in the Government's efforts to promote corporate social responsibility.

The Ministry of the Environment has established a website giving guidance and advice on the environmental aspects of corporate social responsibility, which makes all the relevant information available in one place.

KOMPakt is the Government's Consultative Body on Human Rights and Norwegian Economic Involvement Abroad. It serves as a consultative body on corporate social responsibility and as an arena for the exchange of experience between the business sector and the authorities. The aim is to gain support for corporate social responsibility as expressed in the OECD Guidelines for Multinational Companies and the principles of the United Nations Global Compact (box 4). In order to make the efforts to promote corporate social responsibility

more concrete, the Government recently altered KOMpakt's terms of reference and composition, and appointed several new working groups.

Box 4 Global Compact's 10 principles for corporate social responsibility

In an address to the World Economic Forum in 1999, the then UN Secretary-General Kofi Annan called on business leaders to initiate a global compact together with United Nations agencies and other groups in civil society, which would embrace, support and enact a set of core values in the social and environmental spheres. Today several thousand companies from all over the world, together with social partners and other organisations, are engaged in promoting the following 10 universal principles in the areas of human rights, labour standards, environmental practices and anti-corruption.

Human Rights

- 1: Businesses should support and respect the protection of internationally proclaimed human rights; and
- 2: make sure that they are not complicit in human rights abuses.

Labour Standards

3. Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;
4. the elimination of all forms of forced and compulsory labour;
5. the effective abolition of child labour; and
6. the elimination of discrimination in respect of employment and occupation.

Environment

7. Businesses should support a precautionary approach to environmental challenges;
8. undertake initiatives to promote greater environmental responsibility; and
9. encourage the development and diffusion of environmentally friendly technologies.

Anti-Corruption

10. Businesses should work against corruption in all its forms, including extortion and bribery.

The business sector should make broader use of environmental management systems, eco-labelling schemes and environmental certification, invest in environmentally sound technology and product development, and develop market opportunities for exports of environmental technology. There are a number of valuable aids for such efforts, such as environmental management and certification systems like ISO 14001, the Eco-Management and Audit Scheme (EMAS) and the Eco-Lighthouse Programme; environmental reporting as required by the Accounting Act; and eco-labelling schemes like the Nordic Swan. GRIP – Green in Practice is a Norwegian foundation promoting sustainable consumption and production, which receives government support. The Ethical Trading Initiative Norway is a resource centre and an advocate for ethical trade practices. Several forums like the Green Business Network Norway have been established in the Norwegian business sector, where different aspects of environmental policy are addressed.

In relation to the size of its economy, Norway has a high proportion of companies qualified to be listed on the Dow Jones Sustainability Index and the FTSE4Good index. One Norwegian company, Storebrand, was even on the Global 100 list of

the world's most sustainable companies in 2007. Storebrand has shown that investing in corporate environmental and social responsibility provides excess return. The World Business Council for Sustainable Development (WBCSD) is a particularly important actor, whose members include a good many major international companies, for example Statoil, Norsk Hydro, Det norske Veritas, Storebrand, Norske Skog, Grieg International, Leif Höegh and Statkraft. The Confederation of Norwegian Enterprises is the WBCSD's representative in Norway.

The Government considers that the Norwegian business sector should set a particularly good example of corporate social responsibility by using the best available standards and best practices when operating in other countries, especially in countries which perform poorly in the social, ethical and environmental fields. The Government calls on all countries and businesses to act according to internationally recognised principles and reporting norms like the Global Compact and the Global Reporting Initiative, so that their performance can be assessed. Norway is an active participant in the Global Compact.

7.2 The role of local government

The counties and municipalities exercise authority, provide services and, in their capacity as democratically elected bodies, are responsible for community development. They are therefore important partners in the work on environment and sustainable development. They have the main responsibility for land-use management and play a key role in energy matters, waste management, waste water treatment, efforts to address local air pollution, and wildlife management. Local responsibility for environmental policy is necessary to ensure better performance in relation to national and international targets and to safeguard environmental qualities that are important for people's health and well-being.

Buildings can have a negative impact on the environment in various ways. The choice of areas to be developed can have a major effect on society's transport needs and is one of the important factors determining the environmental challenges related to the transport sector.

The Government considers it important to examine how the local authorities can make more use of the planning tools set out in the Planning and Building Act to facilitate development patterns that reduce the need for transport, and to protect those areas designated as agricultural areas, areas of natural environment and outdoor recreation areas against unnecessary development. Planning for renewable energy use is an important part of these efforts. The Government intends to propose 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.

Municipalities can apply to Enova for grants for energy planning, and 62 municipalities received support in 2006. In 2007 a fund for the promotion of renewable energy and energy efficiency measures was established, with a capital of NOK 10 billion, and the Government is proposing to inject a further NOK 10 billion in 2009. At the current rate of interest this will bring the total annual return

on the fund up to about NOK 930 million as from 2010, a substantial increase in Enova's income. As an extension of energy planning municipalities may apply for funds for investment purposes, and they may also facilitate the efforts of businesses to implement energy reduction measures in commercial buildings.

The Government attaches importance to local democracy, and has strengthened municipal finances considerably in recent years. This means that local governments are in a good position to give priority to environmental measures and promote sustainable development.

The Norwegian Association of Local and Regional Authorities (KS) is an important partner in sustainable development efforts. The Ministry of the Environment and KS have entered into a cooperation agreement for 2006–2010 on “Livable Communities – municipalities working in networks for sustainable community development”, a programme intended to build environmental expertise at the local level. It focuses on issues that are also part of the national efforts to promote sustainable development. Under the programme the local authorities receive help in developing a proactive policy for environmental and community development. There is considerable interest in this field among the municipalities and all of them have been invited to become part of the programme. By August 2007, 128 out of 431 municipalities had accepted the invitation and have formed learning networks. The networks focus on matters such as:

- Climate and energy
- Important land-use policy considerations
- Sustainable production and consumption
- The cultural heritage
- Outdoor recreation, public health and quality of life
- Environmental cooperation with local communities in other countries.

In May 2007 the Ministry of Local Government and Regional Development, the Ministry of Petroleum and Energy, the Ministry of the Environment and KS established an agreement on the Green Energy Communities project. The aim is to persuade municipalities to invest in energy efficiency measures and renewable energy and reduce greenhouse gas emissions. Twenty-two municipalities have been chosen to work with climate and energy issues through cooperation in five networks.

Indicators are important for measuring progress towards goals, and a set of indicators based on the national sustainability indicators is being developed under the Livable Communities project.

The local government sector is a major purchaser of goods and services. The Government is cooperating with KS through the Action Plan for Environmental and Social Responsibility in Public Procurement on persuading counties and municipalities to put greater emphasis on sustainable public procurement in their procurement practices.

Through their efforts to implement Local Agenda 21 and projects like Frontrunner Communities and the Eco-Lighthouse Programme, a number of municipalities are

actively addressing climate change and other global environmental issues, and seeking to increase local engagement and involvement in environmental policy. A number of local authorities have managed to initiate action in this field together with NGOs and the business sector.

The Norwegian Ideas Bank is a private foundation that strengthens global and local cooperation on sustainable development issues and seeks to provide practical examples of how municipalities can stimulate innovation in this area. More use should be made of people-to-people cooperation between North and South to increase the understanding of the problems facing developing countries and the importance of introducing sustainable production and consumption patterns in Norway.

7.3 Non-governmental organisations

Non-governmental organisations (NGOs) play an important role in Norwegian democracy. They increase knowledge about environment and development issues and help place them on the social agenda. They also participate actively in practical environmental efforts at the local level. The Government regards them as key partners in sustainable development efforts and is seeking to ensure that these organisations continue to play their important role.

Norway has been a pioneer and prime mover in efforts to increase participation by NGOs in international environmental cooperation, and has traditionally included representatives of NGOs in its national delegations to major UN conferences. After the Rio conference, a large number of NGOs formed a network called the Norwegian Forum for Environment and Development (ForUM) to follow up the implementation of Agenda 21. About 50 NGOs are associated with ForUM, which is mainly financed by the Ministry of Foreign Affairs and the Ministry of the Environment.

Norwegian NGOs also play an important role in development cooperation, both as partners in a dialogue and in the implementation of specific development projects. These activities help to strengthen civil society in developing countries and to ensure that Norwegian experts provide input to and support for Norway's development cooperation policy.

In regional and bilateral cooperation in the High North and in Eastern Europe, the Ministry of the Environment is cooperating with NGOs that are involved in these regions. The Ministry also provides economic support for the organisations' environmental projects, especially those in northwestern Russia.

The Church of Norway cooperates with other churches and religious organisations on promoting environmental awareness among their members and in the population at large. It stresses the need for individuals to modify their own consumption, encourage development assistance and participate in development efforts in countries in the South.

NGOs have provided constructive input to a number of consultation rounds conducted in connection with the present strategy, and the Government will be inviting these organisations to cooperate further in this area. The Government has

adopted several of the proposals made by NGOs, for example restructuring carbon and vehicle taxes to improve their environmental profile.

7.4 Environmental information, the role of the individual, and sustainable consumption

In its policy platform the Government stated its intention to make it easier for people to behave in an environmentally-friendly way in their everyday lives.

Every individual can contribute to sustainable development by choosing products and services that minimise the pressure on the environment. In many cases it can be difficult and time-consuming to identify the impact of the manufacture and use of a particular product or service. Green taxes are one way of pricing the environmental costs involved in the production and consumption of a particular good or service, and help to make products and services that have adverse effects on the environment more expensive than those with less impact. Economic instruments are therefore a highly suitable means of shifting consumption towards products that have a relatively small environmental impact, since they influence individual consumers who may not be basing their choices on environmental considerations.

Information is essential for enabling consumers to take environmental impacts into account. The right to environmental information is specifically laid down in the Norwegian Constitution and in the Environmental Information Act. Norway ratified the UNECE Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (known as the Aarhus Convention) in May 2003, but in several respects the Environmental Information Act is more far-reaching than is necessary to comply with the Convention. It contains provisions requiring public authorities at all levels to make information on the state of the environment and environmental conditions within their respective spheres of responsibility generally available. Environmental information may only be withheld if there is a “genuine and objective need to do so” or if the document containing the information may be exempted from public disclosure under the Freedom of Information Act. The Ministry of the Environment’s evaluation of the Environmental Information Act has shown that so far it is functioning well, but that it needs to be further publicised.

Eco-labelling is a way of giving consumers the opportunity to choose on the basis of environmental and ethical considerations. Environmental certification is intended to enable service providers and other enterprises to document that they are making systematic efforts to ensure that their services or products satisfy environmental standards. Norway has two eco-labelling schemes, the Nordic Swan and EU Flower, and three certification schemes for environmental management, ISO 14001, EMAS and Eco-Lighthouse. Another label in widespread use in Norway is Fairtrade Max Havelaar, which guarantees that workers and small farmers in developing countries receive a fair price for their work. Debio is a Norwegian auditing and certification scheme that uses the Ø-label for organic products. Grønn hverdag, a Norwegian environmental network, aims to make it easier for consumers to assume responsibility for environment and development through their choice of products and services.

The Government intends to strengthen environmental information efforts and make the eco-labelling schemes better known among the general public. New regulations concerning public procurement, which entered into force at the beginning of 2007, contain provisions for eco-labels to be used to document compliance with the requirements attached to public procurement.

7.5 Environmental and social responsibility in public procurement

The public sector – central government, the counties and the municipalities – has an influence on environmental and social conditions both in Norway and abroad in its capacity as consumer, producer, owner and manager of property, and regulator of land use. In 2005 the public sector purchased goods and services worth around NOK 275 billion, of which the state was responsible for around NOK 100 billion. There is great potential for this sector to reduce the environmental impacts of the goods and services it purchases and uses.

The 2007 white paper on the Government's environmental policy and the state of the environment in Norway presents a number of new measures for encouraging environmental and social responsibility in public procurement, and in June 2007 the Government presented the Action Plan for Environmental and Social Responsibility in Public Procurement. The plan focuses on measures related to climate and energy, hazardous substances and biodiversity, including waste reduction and efficient resource use. Environmental, ethical and social considerations must be incorporated into public procurement practices, and will result in an efficient public sector and a competitive business sector. The Government considers it important that central government agencies should set an example by showing environmental and social responsibility in their procurement and consumption practices. A policy for public procurement will be drawn up specifying goals and requirements for procurement of priority product groups. Central government agencies whose activities have a substantial environmental impact will be encouraged to introduce an environmental management system with third-party certification, such as ISO 14001 and EMAS. All central government agencies will be required to have at least a simple environmental management system. The Government will also facilitate improvements in statistics and reporting with regard to the environmental impacts of public procurement.

A new directorate, the Agency for Public Management and eGovernment, is to be established under the Ministry of Government Administration and Reform on 1 January 2008. The Agency will be responsible for following up the action plan.

The Government will seek to ensure that counties and municipalities give more weight to environmental and social responsibility, and will cooperate with KS on implementing competence-building measures and guidelines. The use of research and development contracts under Innovation Norway will be promoted in order to encourage businesses and their public-sector clients to cooperate on environmental technology.

Public agencies need to build more environmental expertise. In autumn 2005 the Ministry of the Environment therefore established a three-year advisory panel for green public procurement. The members include representatives of the Ministry of Government Administration and Reform, the Norwegian Pollution Control

Authority, the Directorate of Public Construction and Property, the Confederation of Norwegian Enterprises and the Norwegian Confederation of Trades Unions. In 2005 GRIP established the five-year Norwegian National Programme on Green Public Procurement. Together with the panel and the new Agency, GRIP promotes green public procurement in the public sector by for example making it simpler to take environmental considerations into account in procurement processes. The Government will cooperate with other countries through the UN, the EU and the Nordic Council of Ministers on developing criteria, practical tools and indicators in connection with public procurement.

7.6 Education for sustainable development

Knowledge is a vital condition for success in achieving sustainable development, and schools and other educational institutions are key elements in this process. On 14 December 2006 the Ministry of the Environment and the Ministry of Education and Research presented Norway's revised Education for Sustainable Development strategy. Norway is comparing favourably with most countries in this area. The strategy is part of Norway's follow-up to the United Nations Decade of Education for Sustainable Development (2005–2014) and the Strategy for Education for Sustainable Development under the auspices of the United Nations Economic Commission for Europe.

The Norwegian strategy sets out a number of key measures for promoting education for sustainable development among Norwegian children and youth. A measure that has attracted particular interest is the interactive website for the Norwegian Environmental Education Network, www.sustain.no, a network for facilitating cooperation between schools, environmental authorities, research institutions and NGOs all over the world on environmental issues. The network has members in 50 countries. The website offers activities complete with guidelines for how pupils can investigate, discuss and communicate their results. The network also has a website specifically for Norwegian schools (www.miljolare.no).

The Environmental Education Network is linked to the website State of the Environment Norway (www.miljostatus.no). The Directorate for Education and Training cooperates with the Ministry of the Environment, the Ministry of Children and Equality, the Ministry of Agriculture and Food, the Consumer Council, the Ideas Bank, Grønn hverdag and the Norwegian Biodiversity Network (SABIMA). About 3600 Norwegian schools are registered as users of the Norwegian school network.

A number of Norwegian universities and university colleges now offer courses on sustainable development. The Centre for Development and the Environment and the Center for International Climate and Environmental Research – Oslo (CICERO) at the University of Oslo were established in response to the report of the Brundtland Commission, *Our Common Future*, and sustainable development and climate are at the core of the work of both institutions.

The aim of strengthening research, education and training in the field of sustainable development is to build knowledge and increase understanding of causal relationships in this important field. Climate research, marine research and

research on environmentally sound energy technology were particularly emphasised in the Government's policy platform.

A new act relating to day-care institutions, which entered into force on 1 January 2006, states that promoting children's understanding of sustainable development is to be part of the value base of these institutions.

7.7 Implementation

The Government's objective is for Norway to play a leading role in the efforts to promote sustainable development, and the present strategy sets out the main lines for achieving this objective. Follow-up of the strategy is vital, and the Government will seek to ensure that sustainable development is given a permanent place on both the national and the international political agenda. We wish to raise awareness of the need for sustainable development and inspire and mobilise the Norwegian people around this issue.

The Government considers that inviting many different actors to take part in a broad process in the work on the strategy was constructive, and wishes to further develop this cooperation by creating a new meeting-place with an emphasis on the actors' roles and responsibilities in the implementation of the strategy.

The Government has a particular responsibility to implement the strategy in the National Budget and various other white papers. Implementation in the environmental field will be coordinated with more concrete measures specified in white papers on hazardous substances, on climate policy and on the Government's environmental policy and the state of the environment in Norway. In order to ensure that the strategy is coordinated with the main lines of the Government's economic policy, the steps taken by the Government to implement the strategy will be discussed in the annual National Budget and in long-term planning documents. This will ensure that the sustainable development effort is deliberated in the Storting every year, which will ensure that it remains on the political agenda.

It will be important to ensure political coordination of the efforts to promote sustainable development, and this is why it is coordinated by a committee of state secretaries. The Ministry of Finance is responsible for the practical coordination. This solution has received broad support both politically and from Norwegian NGOs.

In the work for sustainable development it is essential to consider economic, social and environmental factors in relation to each other. Economic policy is crucial in this connection. The Ministry of Finance has a particular responsibility for the efficient use of the country's resources. It is responsible for the financial and ethical management of the Government Pension Fund – Global. It evaluates the financial aspects of environmental measures and international obligations. Cross-sectoral, cost-effective instruments are essential in promoting sustainable development, and the Ministry of Finance is responsible for the use of environmental taxes as a cost-effective instrument for improving the environment.

The main emphasis in this strategy is on overriding objectives, principles, use of instruments and analyses. The intention is to achieve better coordination and a more effective policy for sustainable development. The most important aspects of

the strategy are not the individual measures it describes, but its function in promoting a coherent effort and in establishing mechanisms to ensure its implementation.

The strategy builds on, and is coordinated with, existing plans and strategies in the spheres of responsibility of all the ministries, thus contributing to a more coherent policy in the years to come. In accordance with the principle that sustainable development should be an integral part of the ordinary work of the central government administration, each ministry will implement the strategy in its own field. Thus the strategy will be primarily followed up in the form of white papers and legislative proposals from the various ministries putting forward concrete policy proposals in their fields. One important measure in the follow-up will be the appointment of a committee of experts to review how concerns related to sustainable development can be better integrated into public decision-making processes.

Climate policy is a particularly important area. Following the recommendations of the Intergovernmental Panel on Climate Change (IPCC) and the *Stern Review on the Economics of Climate Change*, Norway intends to play a proactive role in promoting a focused international climate policy, and will work towards an ambitious climate agreement. The aims of the Government's international climate policy are to make a substantial contribution to large global cuts in emissions, cost-effective solutions and fair burden-sharing between rich and poor countries. The Government will implement a number of measures in Norway to reduce emissions and encourage the development of low-emission technologies for the future.

Working for sustainable development requires a long-term perspective that takes account of the needs of future generations. The analyses on which our actions are based must therefore have a sufficiently long horizon. It is important to set specific targets with clearly defined time frames. The time horizon will depend on various factors, including international commitments and targets set by the international community. Some of the most important economic and environmental projections on which the strategy is based extend well into the next century.

This strategy includes quantitative national targets and indicators in key policy areas. In order to judge whether we are making progress towards these targets, it is essential not only to have indicators of historical developments, but also to have a sound basis for predicting future developments. Statistics Norway is responsible for updating and analysing the indicators, and this was done for the first time in preparation for the 2007 National Budget.

The strategy covers a number of fields where rapid changes are taking place, and it will therefore be revised in four years' time.

Published by:
Ministry of Finance

Additional copies may be ordered from:
Government Administration Services
Post og distribusjon
www.publikasjoner.dep.no
E-mail: publikasjonsbestilling@dss.dep.no
Fax: + 47 22 24 27 86

ISBN: 978-82-91092-65-2
Publication number: R-0617 E
Frontcover: Slawomir Jastrzebski,
iStock International Inc.

Printed by: Government Administration Service
04/2008 - Impression 200

