MILJØVERNDEPARTEMENTET
Ministry of the Environment

NORWEGIAN IMPLEMENTATION PLAN FOR THE STOCKHOLM CONVENTION ON PERSISTENT ORGANIC POLLUTANTS (POPs)

Norway's implementation plan for the Stockholm Convention was drawn up by the Norwegian Pollution Control Authority and the Norwegian Food Safety Authority, which are the competent authorities for chemicals and pesticides respectively.

The plan has been approved by the Ministry of the Environment.

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Executive Summary

Persistent organic pollutants (POPs) are organic compounds that resist degradation in the environment, have the ability to accumulate in living organisms and have harmful effects on health and the environment. Once released into the environment, such substances remain there for long periods of time and can be transported over long distances by air and ocean currents and migratory species. POPs also have the ability to accumulate in fatty tissues of living organisms, and their concentrations are higher at higher trophic levels in the food chains. If exposure takes place via the food chain, POPs are transferred from mother to offspring.

Today, POPs are found throughout the world and are present in the environment and biota in areas where they never have been used. The prevailing winds and ocean currents in the northern hemisphere transport POPs released at lower latitudes to Arctic areas, where they are deposited. High levels of POPs have been found in humans and animals in the Arctic.

Because of the transboundary movements of POPs released into the environment, global action is needed to address the problem.

The Stockholm Convention on POPs is a global agreement whose objective is to protect human health and the environment from POPs. The Convention entered into force on 17 May 2004, and by March 2006, 120 countries had ratified it. Norway ratified the Convention on 11 July 2002.

The convention obliges governments to take action against 12 POPs or groups of POPs, i.e. aldrin, chlordane, DDT, dieldrin, endrin, heptachlor, mirex, toxaphene, polychlorinated biphenyls (PCBs), dioxins and furans (PCDD/PCDF) and hexachlorobenzene (HCB). Parties to the Convention are required to:

- implement measures to reduce or eliminate releases of intentionally produced POPs
- implement measures to reduce or eliminate releases of unintentionally produced POPs
- implement measures to reduce or eliminate releases of POPs from stockpiles and wastes
- develop and implement a national implementation plan for these measures
- implement other measures:
    - measures to prevent the production and use of new POPs
    - research and development, monitoring, provision of public information, educational programmes etc
    - technical and financial assistance

There is also a mechanism for listing additional substances in the Convention.

Parties may register for specific exemptions.

Article 7 of the Convention requires each Party to develop a National Implementation Plan (NIP) containing information on what it has done and intends to do to meet its obligations under the Convention. The plan must be submitted to the Conference of the Parties within two years of the entry into force of the Convention for that party. In addition, Article 5 of the Convention requires each party to develop a plan designed to reduce or eliminate releases from unintentional production of POPs and subsequently implement this as a part of its national implementation plan.

Norway's national implementation plan
The Norwegian NIP gives an overview of national policy on hazardous chemicals and describes how Norway is meeting its obligations under the Stockholm Convention. It also gives an account of further action that is planned to eliminate and minimise releases of POPs.

National chemicals policy
Emissions of hazardous chemicals represent one of the most serious threats to health and the environment facing the world today, and Norway's strategic objective for hazardous substances is as follows: "Emissions and use of hazardous chemicals shall not cause injury to health or damage the productivity of the natural environment and its capacity for self-renewal. Concentrations of the most hazardous chemicals in the environment shall be reduced towards background values for naturally occurring substances and close to zero concentrations for man-made synthetic substances." More specific national targets have been set as a means of achieving this objective.

One of these is that emissions and use of substances that pose a serious threat to health or the environment are to be continuously reduced with a view to eliminating them by the year 2020. Furthermore, a priority list of chemicals was established in 1997, and the national target is to eliminate or substantially reduce emissions of substances on the list by 2000, 2005 or 2010. The list has been updated several times. To ensure that action is taken when new information on dangerous substances becomes available, the priority list has been supplemented with a set of criteria. Emissions of substances that meet at least one of these criteria are also to be reduced substantially by 2010. The criteria were developed on the basis of the screening criteria set out in the Stockholm Convention. However, the Norwegian criteria are somewhat stricter and cover more substances.

The precautionary principle is another important element of Norway's chemicals policy, and restrictions on specific substances can be introduced if there are strong indications that they may have harmful effects.

On 1 January 2000, the substitution principle was introduced as a statutory requirement in Norwegian legislation. This means that wherever possible, dangerous substances must be replaced with less hazardous alternatives, provided that this does not cause unreasonable cost or inconvenience.

Norway has had a system for authorisation of pesticides since 1964. Pesticides that are not authorised are in effect prohibited. The substitution principle has also been incorporated into the authorisation system for pesticides. On 1 January 2004, a system for authorisation of biocides and biocidal products entered into force.

Norway's geographical position in the far north of Europe means that it receives considerable inputs of POPs via long-range transport. Effective international agreements to regulate substances that are hazardous to health and the environment are vital in efforts to protect human health and the environment at both national and global level, and the Norwegian authorities therefore give high priority to work in international forums.

Status for substances covered by the Stockholm Convention

a) Intentionally produced substances
None of the eight pesticides listed in Annex A, nor DDT, listed in Annex B, has been authorised for use in Norway after 1970. A campaign promoting the delivery of obsolete pesticides was carried out in 1993, and no stockpiles or waste containing these pesticides are known to exist today.
Production and new use of PCBs was prohibited in 1980 and no stockpiles of these substances exist today. The main uses of PCBs were in transformers and large capacitors, and these have been collected and properly disposed of. They were phased out in 1994–95. However, PCBs are still found in old insulating double-glazed glass units, in ballasts in fluorescent light fittings, in high-voltage equipment, in capacitors in old radios and in old building materials (such as paints, sealants etc.). An extensive survey of PCBs in such products has been carried out, and an action plan to reduce releases of PCBs and phase out products that are still in use has been adopted.

b) Unintentionally produced substances (dioxins (PCDD/PCDF), HCB and PCBs)
Dioxins are on the Norwegian priority list of substances whose releases are to be substantially reduced by 2010 and eliminated by 2020. Efforts to reduce dioxin releases have had high priority for a number of years. In 2001–2002, statistics on dioxin emissions to air from all sources were compiled based on emission factors and modelling, and a procedure for annual updating of emission figures was established. Emissions of dioxins from all known sources have been reduced by more than 50 per cent in the period 1995–2003. In 2003, Norway's total dioxin emissions were 33g TEQ. Efforts to reduce dioxin emissions will continue.

Norway's target for PCBs is to reduce releases substantially and seek to eliminate them by 2005. Releases of HCB are to be substantially reduced, at the latest by 2010 at. Like dioxins, PCBs and HCB are formed during thermal processes when carbon and chlorine are present. The sources of HCB and PCB emissions are therefore probably the same as for dioxins, and measures to reduce releases of dioxins are also expected to reduce releases of HCB and PCBs.

During the period 1995–2003, Norway's releases of HCB dropped by approximately 99 per cent, and in 2003 total emissions were estimated at 1 kg/year. Precise information on emissions of PCBs from industry and combustion plants is not available. However, releases of PCBs from these sources are believed to be insignificant compared to those from PCB-containing products still in use or discarded as waste. Releases of PCBs from industry and incineration plants are estimated to be of the same order of magnitude as the releases of dioxins.

c) Stockpiles and waste
There are no stockpiles of substances covered by the Stockholm Convention in Norway.

Waste containing POPs must be treated as hazardous waste. Norway has been focusing on waste containing PCBs for a number of years, as the main problem related to POP-containing waste is linked to the fact that PCBs are found in products and articles still in use. Waste with a PCB content of 50 ppm or more must be handled as hazardous waste. An extensive survey to identify PCB-containing products shows that PCB is still found in old insulating double-glazed glass units, small capacitors in fluorescent light fittings, paints, sealants, high-voltage equipment and capacitors in old radios. A number of steps have been taken to reduce and prevent pollution from waste containing PCBs, and an action plan including a schedule for phasing out such products has been adopted. It is estimated that more than 90 per cent of all remaining PCBs in electrical products were phased out in the course of 2005.

The Norwegian authorities have also focused on dioxins in waste. Filter dust and fly ash from incineration plants must always be treated as hazardous waste. Bottom ash is not classified as hazardous waste if it can be documented that it does not contain hazardous substances. However, there is no limit value indicating what is meant by a "low content" of dioxin in current national legislation.

Limit values for POPs in waste will be introduced in Norwegian legislation when the Conference of the Parties has reached a decision on this.

Remediation of contaminated sites is a national priority task. Norway's targets were to complete work at the most heavily contaminated sites where action was most urgently needed, and to clarify the status of less contaminated sites, both by the end of 2005. These targets have largely been achieved, and a strategy for further work has been drawn up. If removal of soil is necessary, strict rules for handling contaminated soil must be followed. Soil with a PCB content of 50 ppm or more must be treated as hazardous waste. If the PCB content is 0.01–50 ppm, a risk assessment is required before a decision is made on how to deal with the soil. Soil containing less than 0.01 ppm PCBs is considered to be uncontaminated.

A nationwide database on contaminated sites has been established, which includes information on the type of contamination, the degree of contamination, investigations carried out, action taken, and current status. The database is available to the public.

A strategy for contaminated sediments was first developed in 2001. This has three main elements: preventing the spread of hazardous substances from high-risk areas, developing county action plans, and building up knowledge through pilot projects, research and the establishment of a national council. Action plans for 17 areas were completed by 2005. Plans are to be completed for all other coastal areas by 2009.

Actions proposed in the NIP

Intentionally produced substances (Article 3)
Norway will continue to phase out products containing PCBs as set out in the existing action plan.

Unintentionally produced substances (Article 5)
Action to reduce and eliminate emissions of unintentionally produced POPs will continue.

Stockpiles and wastes (Article 6)
- An explicit prohibition against recovery and recycling will be introduced in Norwegian legislation
- Limit values for POPs in hazardous waste will be evaluated or re-evaluated and introduced into Norwegian legislation when the Conference of the Parties under the Convention has reached a decision on this
- The existing action plan to reduce releases of PCBs will be implemented and revised as necessary
- The existing action plan for contaminated sites will be implemented and revised as necessary
- The existing action plan for polluted sediments will be implemented and revised as necessary.

New POPs (Article 8)
Norway will support efforts to obtain more information on new substances that exhibit the characteristics of POPs, and will propose new substances for listing if the information available indicates that they fulfil the criteria of Annex D.

Information exchange (Article 9)
Norway will seek to play an active role in information exchange between the Parties.

Public information (Article 10)
The environmental authorities will seek to ensure that information is available to the general public and is updated as necessary.

Research, development and monitoring (Article 11)
Norway will continue to give high priority to research and development projects and monitoring programmes related to environmentally hazardous substances at both national and international level.

Technical assistance (Article 12)
Norway will in its work on technical assistance focus on capacity and institution building necessary to implement the convention.

Financial mechanism (Article 13)
Norway will continue to support the Global Environment Facility (GEF).

Reporting (Article 15)
Norway will comply with the reporting routines decided by the Conference of the Parties.

Effectiveness evaluation (Article 16)
Norway will play a part in the establishment of a satisfactory system to obtain the necessary data for evaluating the effectiveness of the Convention, and will provide any national monitoring data available that is relevant to this work.

This National Implementation Plan will be reviewed and updated as set out in the Annex to decision SC-1/12 of COP 1.

1. INTRODUCTION

1.1 Background

The Stockholm Convention on persistent organic pollutants (POPs) is a global agreement that entered into force on 17 May 2004. Its objective is to protect human health and the environment from persistent organic pollutants. It contains a number of requirements for measures to reduce or eliminate releases of POPs and to ensure environmentally sound management of stockpiles and waste containing POPs. Norway has ratified the Convention, and is therefore, as a Party, required to develop a national implementation plan (NIP) within two years of the entry into force of the Convention.

The purpose of drawing up a NIP is to inform the Conference of the Parties to the Convention and the general public about what Norway has done and intends to do in order to meet its obligations under the Convention. This plan is to be updated regularly in accordance with decisions of the Conference of the Parties and any changes in Norwegian chemicals policy and legislation.

1.2 What are POPs?

Persistent organic pollutants (POPs) are stable substances that resist degradation and remain intact for a very long time in the environment, accumulate in living organisms (bioaccumulate), and have harmful effects on health and/or the environment. If such substances enter the environment, they remain there for long periods of time. They can be transported over long distances by ocean currents, or in the atmosphere as gases or bound to particulate matter. Because of their tendency to bioaccumulate, they can also be transported over long distances by birds, fish and marine mammals, and their concentrations are higher at higher levels in the food chains. Thus, exposure to these substances may be prolonged and can cause both acute and chronic damage. If exposure takes place via the food chain, POPs are also transferred from mother to offspring, for example through breast milk.

POPs include industrial chemicals such as PCBs, pesticides such as DDT, and by-products of industrial processes and combustion such as polychlorinated dioxins and furans (popularly known as dioxins).

1.3 Why are POPs a global problem?

Because of their properties, POPs that are released to the environment spread globally, and can now be found in areas where they have never been used. Atmospheric currents transport airborne POPs towards the poles, and once they reach areas with a cool climate, they condense and are deposited on the ground or water surface. Ocean currents also transport POPs from lower latitudes towards the poles. Thus, the global atmospheric and ocean current systems tend to concentrate POPs released throughout the northern hemisphere in the Arctic. High levels of POPs have been found in the environment and in living organisms in the Arctic, and harmful effects have been observed, for example in polar bears and seabirds. There is concern about the

high levels of POPs in the Arctic population, and recent research has shown harmful effects on people in certain parts of the Arctic. POPs have been detected in breast milk in women in all parts of the world, including Norway. There is therefore growing concern in many countries about the risks associated with exposure to POPs, and also growing recognition that the problem can only be resolved through regional and global agreements. Because of the transboundary dispersal of POPs, national measures are not sufficient to deal with the problem.

1.4 Brief introduction to the Stockholm Convention

The Stockholm Convention is a global agreement, developed under the auspices of the UN Environment Programme (UNEP), whose objective is to protect human health and the environment from POPs. Negotiations on the Convention began in 1998 and were completed in December 2000, and it was signed by 60 countries on 23 May 2001. The convention entered into force on 17 May 2004, and by March 2006 151 states had signed it and 120 had ratified it. Norway ratified the Convention on 11 July 2002.

The Stockholm Convention establishes measures to reduce or eliminate releases of 12 substances and groups of substances that have been used as pesticides or industrial chemicals or that are unintentional by-products of industrial processes. These substances are listed in Annexes A, B and C of the Convention.
The Convention contains:

- obligations relating to the import, export, production, use, release and waste management of POPs,
- obligations on Parties to require the use of best available techniques (BAT) and best environmental practices (BEP) to reduce and if possible eliminate releases of POPs unintentionally produced during combustion and certain industrial processes,
- an obligation for Parties to take measures to regulate, with the aim of preventing, the production and use of new POPs
- a mechanism for listing more substances in the Convention.

Since the Stockholm Convention contains obligations relating to hazardous waste and the export and import of POPs and waste containing POPs, it has close links to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal and to the Rotterdam Convention on the Prior Informed Consent (PIC) Procedure for Certain Hazardous Chemicals and Pesticides in International Trade.

The Stockholm Convention applies to the following substances: aldrin, chlordane, dieldrin, endrin, heptachlor, hexachlorobenzene (HCB), mirex, toxaphene, polychlorinated biphenyls (PCB), DDT, polychlorinated dioxins and furans, all of which have been identified as requiring global action because they are persistent, bioaccumulative, subject to long-range transport and toxic. Table 1 lists these substances according to category.

Table 1. Substances to which the Stockholm Convention applies

Name	Category of chemical			Listed in Annex
	Pesticide	Industrial chemical	By-product	
Aldrin	X			A
Chlordane	X			A
DDT	X			B
Dieldrin	X			A

Endrin	X			A
Heptachlor	X			A
Mirex	X			A
Toxaphene	X			A
Hexachlorobenzene	X	X	X	A, C
Polychlorinated biphenyls (PCB)		X	X	A, C
Polychlorinated dioxins and furans			X	C

If proposals are made to add further substances to the POPs list, these must be evaluated against the criteria set out in Annex D of the Convention.

2 NORWAY AND POPS

2.1 Geographical situation

Norway is the northernmost country in Europe and borders on Sweden, Finland and Russia. The mainland coastline is 25 148 km long, and the country covers an area of 323 802 km^2. In addition, Norway is administratively responsible for Svalbard (61 020 km^2) and Jan Mayen (377 km^2). In 2005, Norway's population was 4.6 million. Norway has a very open economy, with a high level of exports and imports. In 2004, GDP was NOK 1.7 billion.

2.2 Why a global agreement is important to Norway

Norway's geographical position means that it receives considerable inputs of pollutants via long-range transport with air and ocean currents. This is particularly the case in Arctic areas, where pollutants originating from much lower latitudes condense and are deposited in the environment as a result of the low temperatures. Long-range transport and deposition of POPs can only be halted through binding global agreements.

2.3 Norwegian environmental policy

The development of Norwegian environmental policy has involved several processes: building up knowledge of the functioning of the natural world, the development of broad-based public engagement in environmental issues, the introduction of ambitious national targets and extensive legislation in the environmental field, and the establishment of institutions to draw up and implement strategies and action. It is generally accepted that all sectors of society share a responsibility for avoiding unnecessary pressure on the environment. Environmental considerations must also be integrated into sectoral policies. The precautionary principle must be used as a basis where there is a risk of serious damage to health or the environment. As a rich country, Norway also has a special responsibility to play an active part in efforts to reduce global pressure on the environment and in integrating issues relating to chemicals into international development efforts.

2.4 National organisation of work on POPs

The Norwegian Pollution Control Authority has the main responsibility for following up work on POPs under the Stockholm Convention. However, the Norwegian Food Safety Authority is responsible for work on pesticides in Norway. The Pollution Control Authority is responsible for chemicals otherwise (emissions from industry, use in products, waste management, authorisation of biocidal products).

2.5 National policy for chemicals and pesticides

Our use of hazardous chemicals and emissions of these substances are responsible for one of the most serious environmental threats facing the world today. The Norwegian government's strategic objective for hazardous substances is therefore as follows: "Emissions and use of hazardous chemicals shall not cause injury to health or damage the productivity of the natural environment and its capacity for self-renewal. Concentrations of the most hazardous chemicals in the environment shall be reduced towards background values for naturally occurring substances and close to zero concentrations for man-made synthetic substances." More specific national targets have been set as a means of achieving this objective; for example, there is a priority list of environmentally hazardous substances whose emissions are to be eliminated or substantially reduced by 2000, 2005 or 2010. Another target is for emissions and use of substances that pose a serious threat to health or the environment to be continuously reduced with a view to eliminating them within one generation (by the year 2020). Furthermore, the risk that emissions and use of chemicals will cause injury to health or environmental damage is to be reduced substantially. In order to achieve the strategic objective for hazardous substances, a number of action plans have been drawn up on the basis of the national targets, and regulations have been issued pursuant to existing environmental legislation. Every other year, a white paper on the government's environmental policy and the state of the environment in Norway is published, which describes progress towards environmental goals and evaluates the need for further action.

To ensure that action is taken when new information about dangerous chemicals becomes available, the priority list has been supplemented with a set of criteria. Emissions of any substance that meets at least one of these criteria are also to be reduced substantially by 2010. The criteria were developed on the basis of the screening criteria set out in the Stockholm Convention, but the Norwegian criteria are somewhat stricter and cover more substances.

The precautionary principle is another important element of Norway's chemicals policy, and restrictions on specific substances can be introduced if there are strong indications that they may have harmful effects. On 1 January 2000, the substitution principle was introduced as a statutory requirement in Norwegian legislation. This means that wherever possible, dangerous substances must be replaced with less hazardous alternatives, provided that this does not cause unreasonable cost or inconvenience.

The Ministry of Agriculture and Food has adopted an action plan for the period 2004–2008 to reduce the risks associated with the use of pesticides. One of the main objectives of the action plan is to reduce the risk of damage to health and the environment associated with the use of pesticides by 25 per cent in the period 2004–2008. An indicator of risk level has been developed for this purpose.

2.6 Legislative framework for implementation of the Stockholm Convention in Norway

In Norway, the legislative framework for work relating to chemicals is provided by the Pollution Control Act and the Product Control Act. The purpose of the Pollution Control Act is to protect the outdoor environment against pollution. The act lays down a general prohibition against pollution, and a requirement to hold a permit for any activity that may cause pollution. Discharge permits and other permits for industrial installations are issued pursuant to the Pollution Control

Act. The purpose of the Product Control Act is to prevent products from causing damage to health or disturbance of the environment, and regulations governing individual substances and preparations are issued pursuant to this act. The substitution principle was introduced as a statutory requirement in the Product Control Act from 1 January 2000. This means that wherever possible, dangerous substances must be replaced with less hazardous alternatives. Many regulations on the production, use and placing on the market of individual substances and groups of substances have been issued pursuant to these two acts.

Pesticides are governed by the Regulations relating to Pesticides pursuant to the Act relating to food production and food safety (Food Safety Act). The regulations lay down that all pesticides must be authorised by the Norwegian Food Safety Authority, and that authorisation is valid for a period of five years. Pesticides may only be authorised if they do not cause unacceptable harm to people, livestock, animals and plants, biodiversity, or the environment otherwise, and are thus considered to be acceptable in ecological and toxicological terms. The regulations also incorporate the substitution principle, and provide that authorisation may only be granted if an overall evaluation shows that a product is as suitable as already authorised products or other methods for achieving the same purpose, or has advantages over them.

2.7 International agreements

The Agreement on the European Economic Area (the EEA Agreement) entered into force on 1 January 1994. Most acts of Community legislation dealing with waste management, hazardous substances and releases of pollutants are incorporated into the EEA Agreement and must therefore also be incorporated into Norwegian legislation.

Norway has also ratified a number of international agreements in this field, such as the Convention on Long-Range Transboundary Air Pollution (LRTAP Convention) and the protocols extending it, including the POPs Protocol; the Rotterdam Convention on the Prior Informed Consent (PIC) Procedure for Certain Hazardous Chemicals and Pesticides in International Trade; the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal; and the OSPAR Convention for the Protection of the Marine Environment of the North-East Atlantic.

3 HOW NORWAY IS MEETING ITS OBLIGATIONS UNDER THE STOCKHOLM CONVENTION – MEASURES PLANNED AND IMPLEMENTED

This chapter describes the main requirements of each article of the Stockholm Convention and gives an account of relevant Norwegian legislation and measures that have been implemented or planned to ensure that Norway complies with the requirements.

3.1 Article 3: Measures to reduce or eliminate releases from intentional production and use of chemicals listed in Annex A and B

Obligations

- Eliminate the production and use of the chemicals listed in Annex A (the pesticides aldrin, chlordane, dieldrin, endrin, heptachlor, hexachlorobenzene (HCB), mirex, toxaphene, and PCBs, which are a group of industrial chemicals.) A State Party to the Convention may register for specific exemptions from the requirement to eliminate production and use. Only States that have registered them in the Register of Specific Exemptions may exercise such exemptions.
- For DDT (Annex B), production and use for disease vector control is currently recognised as an acceptable purpose, and a specific exemption is listed for its use as an intermediate in the production of the pesticide dicofol. States that wish to use DDT in these ways must ensure that they are registered in the DDT Register.
- Eliminate the production of PCBs. The use of large transformers and capacitors containing PCBs must be phased out by 2025, and waste is to be managed in accordance with the requirements of the Convention as soon as possible and no later than 2028.
- Endeavour to identify other articles containing more than 0.005 per cent PCBs and manage them in accordance with the waste provisions of the Convention.
- Ensure that chemicals listed in Annex A and B are only exported or imported for the purpose of environmentally sound disposal in accordance with the provisions of the Convention, or if they are to be used for purposes for which the recipient country has registered specific exemptions in the Register of Specific Exemptions.
- Parties that have regulatory and assessment schemes for new pesticides or new industrial chemicals are required to take into consideration the screening criteria for POPs set out in Annex D, with the aim of preventing the use of new substances that exhibit the characteristics of POPs.
- Parties that have regulatory and assessment schemes for pesticides or industrial chemicals are required, where appropriate, to take into consideration the screening criteria for POPs when conducting assessments of pesticides or industrial chemicals currently in use.

Current Norwegian legislation and planned and completed actions

Elimination of the production and use of chemicals listed in Annex A and B of the Convention

Pesticides
None of the pesticides to be phased out under the Convention is authorised for use in Norway today. Pesticides that are not authorised are in effect prohibited. To prevent the use of such pesticides for any other purpose, their production, import, export, placing on the market and use has been totally prohibited. (This prohibition is set out in the Regulations of 1 June 2004 No. 922 relating to restrictions on the manufacture, import, export, sale and use of chemicals and other products that are hazardous to health and the environment (the Product Regulations)). The use of products for analytical and research purposes is as a general rule excepted from the scope of the regulations, but in the case of pesticides, research concerned with a view to future of the listed substances is also prohibited.

Table 2. Regulation of Annex A and B pesticides in Norway

Name	Regulation of	
	Use as pesticide	Chemical as such
Aldrin	Prohibited in 1969	Total prohibition from 2002
Chlordane	Prohibited in 1968	Total prohibition from 2002
DDT	Prohibited in 1970*	Total prohibition from 2002
Dieldrin	Never authorised	Total prohibition from 2002
Endrin	Prohibited in 1966	Total prohibition from 2002
Heptachlor	Never authorised	Total prohibition from 2002
Mirex	Never authorised	Total prohibition from 2002
Toxaphene	Never authorised	Total prohibition from 2002
Hexachlorobenzene	Never authorised	Total prohibition from 2002

*Forest nurseries in Norway were granted an exemption from this prohibition, and used DDT in plant production until 1989.

Industrial chemicals - PCBs
PCBs have never been produced in Norway, but were in widespread use at one stage. Their production and new use have been prohibited in Norway since 1980. The use of transformers and large power capacitors containing PCBs has been prohibited since 1995. The use of ballasts containing PCBs in indoor fluorescent light fixtures has been prohibited since 1 January 2005, and a prohibition on the use of electricity lead-ins containing PCBs will apply from 1 January 2010. The prohibition against using ballasts that contain PCBs in indoor fluorescent light fixtures does not enter into force until 1 January 2008 provided that a survey has been made of the quantity of ballasts containing PCBs in use, and that a plan for phasing out their use and a waste management plan were drawn up before 31 December 2004. These prohibitions and the requirements for phasing out use of products containing PCBs are set out in sections 2-2 and 3-1 of the Product Regulations.

Older insulating double-glazed glass units contain PCBs, as do various older types of building materials; PCBs have for example been used in filling compounds, sealants, cement and paints. An action plan to reduce releases of PCBs was drawn up in 2002 and updated in 2005. In 2004, a duty for producers and importers of insulating double-glazed glass units to participate in approved take-back schemes for discarded glass units was introduced (now part of the Regulations of 1 June 2005 No. 930 relating to the recovery and treatment of waste (Waste Regulations)). Work is in progress on a proposal to introduce a requirement for a waste management plan to be drawn up before restoration or demolition of old buildings may be

started. The purpose of this is to ensure sound management of hazardous waste, such as building materials containing PCBs.

Norway has not registered for any of the specific exemptions listed in Annex A and B for any of the chemicals covered by the Convention.

Export and import of chemicals listed in Annex A and B of the Convention
All the pesticides listed in Annex A and B are prohibited in Norway, and there is no import or export of these substances. To the best of our knowledge, there is no waste containing these pesticides in Norway.

A prohibition on PCBs was introduced in 1980, and transformers and large oil-filled power capacitors containing PCBs were phased out in 1994–95. Norway does not export or import PCBs as chemicals today. The provisions of the Convention are only relevant in connection with discarded products that contain PCBs. Discarded PCBs and products containing PCBs are classified as hazardous waste, as laid down in the Waste Regulations. Some waste containing PCBs is treated within the country (incineration in cement furnaces), and some is exported for destruction. Norway is participating in binding cooperation on waste transport in the UN and the OECD, and within the framework of the EEA Agreement. Transboundary movement of waste is regulated by the Waste Regulations, and a permit from the authorities is required for all import and export of waste. The regulations distinguish between hazardous and non-hazardous waste. If there is an environmentally sound Norwegian alternative, an application to export waste for disposal will normally be refused.

Regulatory and assessment schemes for new pesticides and new industrial chemicals
Norway has adopted regulations relating to notification of new substances, authorisation of pesticides, and authorisation of biocides and biocidal products, and these help to prevent new substances that exhibit the characteristics of POPs from being placed on the market. Until now, only the EU Technical Notes for Guidance that have been published on the assessment of biocidal products refer directly to criteria for identifying substances that are persistent, bioaccumulative and toxic (PBT criteria). Although these criteria are not directly included in existing Norwegian provisions for the authorisation of new pesticides, the guidelines that are followed ensure that the same criteria are taken into account when pesticides are assessed as part of the authorisation procedures.

Assessment of chemicals that are already in use
The same legislation governs the authorisation of new pesticides and renewal of authorisation (every five years). There is a similar system for biocidal products, with renewal of authorisation every 10 years. As mentioned above, the guidelines for authorisation ensure that the parameters persistence, bioaccumulation and toxicity are taken into account in authorisation procedures for these products as well. Norway has implemented the EU rules on the evaluation and control of the risks of existing substances in national legislation (Regulations of 4 May 1995 relating to the evaluation and control of the risks of existing substances, most recently amended on 10 September 2001). These include requirements to evaluate substances against specified criteria relating to persistence, bioaccumulation and toxicity, i.e. PBT criteria. The criteria were based on the screening criteria for POPs set out in the Stockholm Convention. Requirements for evaluation against PBT criteria will be further developed in the guidance documents that are being drawn up for the new EU regulatory framework for chemicals, REACH. When the REACH Regulation is finally adopted, it will become a part of the EEA Agreement and will therefore be implemented in Norwegian legislation.

Further action
Norway does not need to introduce new legislation to meet the requirements of Article 3. Implementation of the action plan to reduce releases of PCBs will be continued.

3.2 Article 4: Register of Specific Exemptions

Obligations
Article 4 establishes a register for the purpose of identifying the Parties that have notified a need for specific exemptions from the provisions of Article 3. Possible exemptions are listed in Annex A and B to the Convention. As a general rule, registered exemptions expire five years after the entry into force of the Convention, but it is possible to apply for an extension before an exemption expires. Parties that have specific exemptions are required to take appropriate measures to ensure that any production or use is carried out in a manner that prevents or minimises human exposure and release into the environment.

Current Norwegian legislation and planned and completed actions
Since the production, import, export, placing on the market and use of all the substances listed in Annex A and B is totally prohibited in Norway, there was no need to request specific exemptions from any of the provisions of Article 3.

3.3 Article 5: Measures to reduce or eliminate releases from unintentional production of chemicals listed in Annex C (polychlorinated dioxins (PCDD), furans (PCDF), HCB and PCBs)

Obligations
All parties are required to make continuing efforts to reduce releases of dioxins (PCDD/PCDF), PCBs and HCB from anthropogenic sources. The long-term goal is to eliminate such emissions if possible.

Each Party must develop an action plan which must be implemented as part of its implementation plan. The action plan must be completed within two years of the date of entry into force of the Convention, and must include the following elements:

- an evaluation of sources and releases for the source categories listed in Annex C, Part II
- an evaluation of the current legislation and policy of the Party relating to such releases
- strategies to meet the obligations set out in Article 5
- steps to promote education and training with regard to, and awareness of, these strategies
- a five-yearly review of the strategies
- a schedule for implementation of the action plan.

Releases are to be reduced by

- promoting the use of substitute or modified materials, products and processes to prevent the formation and release of the substances listed in Annex C
- requiring the use of BAT (best available techniques) and BEP (best environmental practices) to be phased in as soon as practicable for new sources and no later than four years after the entry into force of the Convention, which for Norway means by 2008 (source categories listed in Annex C, Part II)
- promoting the use of BAT and BEP for existing sources within the source categories listed in Annex C, Parts II and III and for new sources within source categories such as those listed in Annex C, Part III.

Current Norwegian legislation and planned and completed actions

Dioxins (PCDD/PCDF)
Dioxins are on Norway's priority list of environmentally hazardous substances, and their releases are to be substantially reduced by 2010 and eliminated by 2020. An analysis of measures to achieve this has been carried out, and an action plan has been drawn up and partly implemented. This is being evaluated at regular intervals. In 2001–2002, Statistics Norway compiled statistics on dioxin emissions to air from all sources, based on emission factors and modelling, and a procedure for annual updating of emission figures was established. There is less information on releases to water, but preliminary figures indicate that they are considerably smaller than releases to air. In the period 1995–2003, Norway's total dioxin emissions, including all known sources, were reduced from 74 g TEQ/year to about 33 g TEQ/year, a reduction of about 56 per cent.

In 1995, the dominant emission source was land-based industry. These emissions have been substantially reduced, and in 2003 accounted for only about 35 per cent of Norway's total emissions. In the same year, fugitive emissions (from households and transport) were the largest category, and accounted for 49 per cent of the total. Dioxin emissions from "other sources" (incineration plants, etc) accounted for 13 per cent of the total. These emissions were cut by more than half in the period 1995–2003. There are no data for releases from the municipal waste water sector and landfills, but emissions from these sources are unlikely to be so large that they make any significant change to the overall picture.

Action already taken
Before 1995, substantial reductions in dioxin releases were brought about by laying down stricter emission limits when new discharge permits were issued for existing waste incineration plants. Since 1996, discharge permits issued to new waste incineration plants have contained stricter emission limit values introduced in accordance with the EU Waste Incineration Directive. These limits are considered to comply with the obligation to require the use of the best available techniques (BAT). Dioxin releases from waste incineration plants were cut by about 80 per cent in the period 1995–2003. The closure of a number of industrial enterprises has also contributed to the substantial reduction in releases from land-based industrial sources.

New building regulations have been adopted that include requirements for the control of emissions from wood-burning stoves. These, combined with information on how to achieve optimal efficiency, should reduce dioxin releases from new housing. The changeover to unleaded petrol has reduced dioxin emissions from motor vehicles. Fugitive emissions of dioxins have nevertheless risen in the period 1995–2003, probably as a result of the rising standard of living, the growing volume of traffic and greater use of biofuels as an energy source.

Planned action

Dioxin releases from some industrial enterprises (e.g. in the steel industry) are relatively high, and measures are being evaluated to reduce these emissions. With the implementation of the EU Directive concerning integrated pollution prevention and control (the IPPC Directive), larger installations must be operated in accordance with the best available techniques (BAT).

In connection with the revision of the international regulations on the prevention of air pollution from ships (MARPOL Annex VI), the Norwegian Maritime Directorate proposed that emissions of particulate matter, NO_x and SO_x should be regulated. Improvements to ships' engines to reduce these emissions may also reduce dioxin emissions.

It is estimated that in 2010, Norway's total dioxin releases will be approximately 30 g TEQ/year. This corresponds to a reduction of 55–60 per cent over the period 1995–2010. In 1990, total dioxin releases were approximately 500–600 g TEQ, giving a reduction of more than 90 per cent in the period 1990–2010.

HCB and PCBs
Norway's target is to reduce releases of PCBs substantially and seek to eliminate them by 2005. Releases of HCB are also to be substantially reduced, at the latest by 2010. Like dioxins, PCBs and HCB are formed during thermal processes if chlorine and carbon are present, but relatively little data is available on process emissions. However, the sources of process emissions of PCBs and HCB are probably the same as for dioxins, and measures to reduce releases of dioxins are therefore also expected to reduce releases of PCBs and HCB.

HCB
Norway's total HCB emissions in 2003 were estimated to be about 1 kg/year. A similar level of emissions is expected in 2010. In the period 1995-2003, Norway's total emissions were reduced by about 99 per cent. The factor that contributed most to this reduction was the closure of Norsk Hydro's magnesium plant. However, the introduction of stricter emission limits for waste incineration plants (in the Waste Regulations) and requirements for the control of emissions from wood-burning stoves (in the building regulations), and the provision of information to households on how to achieve optimal combustion efficiency, have probably also contributed to the drop in emissions of organochlorine compounds such as HCB in the period 1995-2003.

PCBs
The most important sources of PCB releases are products containing these substances that are still in use or have been discarded. PCB releases from other sources (industrial sources, incineration plants, fugitive emissions, etc.) are believed to be insignificant by comparison. Releases of PCBs with process emissions from land-based industry are estimated to be of the same order of magnitude as dioxin emissions, i.e. about 10–20 g, since they are formed in a similar way. Emissions of PCBs from incineration plants are estimated at about 1–10 g. The PCB content of process emissions from the offshore oil and gas industry is estimated to be about 1 g. Fugitive emissions of PCBs (traffic, heating of houses, etc) are estimated at about 10–20 g. All figures are for 2003.

Action already taken
Conditions laid down in discharge permits have helped to reduce releases of POPs from land-based industry since 1995. The provisions on waste incineration in the Waste Regulations have been updated in accordance with the Waste Incineration Directive (Directive 2000/76/EC). Implementation of these provisions will be completed in 2006. These steps have reduced releases

of HCB and PCBs from waste incineration plants to the same degree as dioxin emissions. The closure of certain industrial installations has also helped to reduce emissions.

The Norwegian Pollution Control Authority has published a status report updated to 2003 on releases of dioxins (PCDD/PCDF), HCB and PCBs, which includes detailed emission inventories (TA-2127/2005 *Prioriterte miljøgifter. Status i 2003 og utslippsprognoser* ("Priority hazardous substances. Status in 2003 and emission projections". In Norwegian only).

Further action
The implementation of planned measures to reduce releases of dioxins will continue. No new measures are planned that are specifically designed to reduce releases of HCB and PCBs from industrial sources, incineration plants or other sources of process emissions. However, planned measures to reduce releases of dioxins are also expected to reduce PCB and HCB releases from the same sources.

3.4 Article 6: Measures to reduce or eliminate releases from stockpiles and wastes

Obligations

- Develop and implement a strategy for identifying stockpiles consisting of or containing chemicals listed in Annex A or B, and products and articles in use and wastes consisting of, containing or contaminated with a chemical listed in Annex A, B or C.
- Take measures to ensure that wastes containing POPs, including products and articles containing chemicals listed in Annex A, B or C, are managed in an environmentally sound manner.
- Ensure that waste containing POPs is not recovered or recycled.
- Ensure that any transboundary transport of such waste is in accordance with international rules.
- Ensure that disposal of waste containing POPs is in accordance with the provisions of the Convention and harmonised with work under the Basel Convention to establish what is meant by a low content of POPs and destruction or irreversible transformation so that waste no longer exhibits the characteristics of POPs.
- Endeavour to develop a strategy for identifying sites contaminated by POPs. If remediation of such sites is necessary, this must be performed in an environmentally sound manner.

Current Norwegian legislation and planned and completed actions

- Develop and implement a strategy for identifying stockpiles consisting of or containing chemicals listed in Annex A or B, and products and articles in use and wastes consisting of, containing or contaminated with a chemical listed in Annex A, B or C.

Pesticides
None of the nine pesticides listed in Annex A and B has ever been produced in Norway. Aldrin, chlordane, DDT and endrin have previously been authorised for use in Norway, but these authorisations were withdrawn many years ago (see table 2). In 1993, the agricultural authorities

carried out a campaign to encourage the delivery of obsolete pesticides, and there are not believed to be any stockpiles of these four pesticides in Norway today. To ensure that delivery of obsolete pesticides to approved facilities continues, the Norwegian Food Safety Authority commissioned Waste Management Norway to carry out a pilot project in 2006. Its purpose was to involve relevant actors and produce a report making recommendations for a permanent and predictable scheme for the return of obsolete pesticides, financed by the existing environmental tax on pesticides or in some other way. The report from the pilot project was published in summer 2006.

PCBs
PCBs have never been produced in Norway, but were in widespread use at one stage. Their production and new use have been prohibited since 1980, and there are no stockpiles of these substances in Norway today. The main areas of use were in large oil-filled capacitors and transformers. These have been collected and destroyed in an environmentally sound manner and were phased out in 1994–95. However, there are still PCBs in various electrical products and building materials that are still in use. An extensive survey has been carried out of PCBs in electrical equipment and older building materials. Norway has drawn up an action plan to reduce releases of PCBs from products and waste, and a plan for phasing out electrical equipment that is still in use and contains PCBs.

- Take measures to ensure that wastes containing POPs, including products and articles containing chemicals listed in Annex A, B or C, are managed in an environmentally sound manner.
Waste that contains hazardous substances must be managed as hazardous waste in accordance with the Waste Regulations. This means that discarded products containing PCBs (ballasts in light fittings, insulating double-glazed glass units, filling compounds, etc) must also be treated as hazardous waste if their PCB content is 50 mg/kg or more. Hazardous waste must be delivered to approved facilities, and a permit from the environmental authorities is required to treat hazardous waste. If waste contains between 0.01 ppm and 50 ppm PCBs, a risk assessment is required before re-use can be authorised. Waste (e.g. soil or construction waste) that contains <0.01 ppm PCBs is considered to be uncontaminated.

Take-back companies have been set up in Norway to manage waste electrical and electronic equipment (WEEE). Whole light fittings and other electrical equipment containing PCBs can also be delivered to these companies. A take-back scheme has also been established for discarded insulating double-glazed glass units containing PCBs. In cooperation with the construction industry, the environmental authorities have produced information material on the identification of PCBs in buildings and materials to ensure that construction waste containing PCBs is dealt with in an environmentally sound manner. Work is in progress on a proposal to introduce a requirement for a waste management plan to be drawn up before restoration or demolition of old buildings may be started. It is estimated that 83 per cent of all remaining PCBs in products were phased out in 2005. For electrical products, it is estimated that 93 per cent of the remaining PCBs were phased out in the course of 2005.

No limit values for dioxin contamination have been laid down in Norwegian legislation to determine the levels of contamination at which waste must be treated as hazardous. However, filter dust and fly ash from waste incineration plans must always be treated as hazardous waste and must be disposed of at approved facilities. Bottom ash is not classified as hazardous waste if it can be documented by means of analyses that it does not contain hazardous substances.

Forest nurseries in Norway were granted an exemption from the prohibition against the use of DDT, and used DDT in plant production up to 1989. Waste sludge contaminated with DDT was generally deposited on the nurseries' own land, where it could result in DDT pollution of the environment. The environmental and agricultural authorities have cooperated on surveying the presence and extent of DDT pollution at forest nurseries in Norway. Surveys and risk assessments were made for about 50 nurseries, and 40 of them were required to take steps to deal with the pollution. This was done in 2004, and in all 1693 tonnes of soil were removed and disposed of at sites that are authorised to accept polluted soil.

- Ensure that waste containing POPs is not recovered or recycled
Waste containing POPs must be dealt with as hazardous waste under the Waste Regulations. However, these regulations do not contain an explicit prohibition against the recovery of waste POPs or waste containing POPs. A proposal will be made to include such a prohibition in Norwegian legislation.

- Ensure that any transboundary transport of such waste is in accordance with international rules
Norway participates in binding international cooperation on waste transport in the UN and the OECD, and within the framework of the EEA Agreement. Transboundary transport of hazardous waste is governed by the Waste Regulations, and permits from the authorities in both the importing and the exporting country are required for import and export of waste. The regulations distinguish between hazardous and non-hazardous waste. If there is an environmentally sound Norwegian alternative, an application to export waste for disposal will normally be refused.

- Ensure that disposal of waste containing POPs is in accordance with the provisions of the Convention and harmonised with work under the Basel Convention to establish what is meant by a low content of POPs and destruction or irreversible transformation so that waste no longer exhibits the characteristics of POPs
Under the Basel Convention, work is in progress on the environmentally sound management of waste POPs and waste containing POPs. Norway is following this closely, and once the work has been completed and the Stockholm Convention has endorsed the decisions made, will evaluate whether current Norwegian legislation meets the necessary standards. At present, Norwegian legislation requires waste containing PCBs to be dealt with as hazardous waste if the PCB content exceeds 50 ppm. If the PCB content is between 0.01 ppm and 50 ppm, a risk assessment is required before permission to re-use the waste can be granted. Waste that contains <0.01 ppm PCBs is considered to be uncontaminated. Norwegian waste legislation does not currently specify a limit for the level of dioxin contamination above which waste must be treated as hazardous.

- Endeavour to develop a strategy for identifying sites contaminated by POPs. If remediation of such sites is necessary, this must be performed in an environmentally sound manner
Up to the end of 2005, there were two main elements in Norway's strategy for dealing with contaminated sites (contaminated by hazardous substances, but not necessarily POPs). These were set out in a white paper on the Government's environmental policy and the state of the environment (Report No. 8 (1999-2000) to the Storting):
- Environmental problems at the sites where investigations and clean-up operations were urgently needed were to be solved by the end of 2005.

- The status of sites where further investigation was needed to determine whether action was necessary was to be clarified by the end of 2005, provided that it was possible to determine who was responsible under the Pollution Control Act.

These targets were largely achieved by the end of 2005. Clean-up operations have been completed at 87 of the 93 most heavily polluted sites in the country, which were in the high-priority category. At one site in Raufoss (Oppland county) and five sites in the Herøya Industrial Park in Porsgrunn (Telemark), difficult conditions have caused delays, and some work remains to be done. There were 510 sites in the second category: the status of 508 of these has been clarified, and clean-up operations have been carried out at some of them. Strict rules have been laid down for how contaminated soil is to be dealt with and disposed of at sites where excavation and removal of soil is necessary.

A new strategy for contaminated sites was described in the most recent 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 in the budget proposal for 2006. According to this, the Government will give highest priority to sites where pollution constitutes a risk to human health or where environmentally hazardous substances are being leached from the soil to areas where clean-up of contaminated sediments is being given priority. In addition, priority is being given to the interests of particularly vulnerable groups such as children. The Government aims to provide children with a non-toxic environment by means of clean-up operations in day care centres, playgrounds and schools.

A nationwide database on contaminated sites has been established, which includes data on all contaminated sites that are known to the pollution control authorities. The database is updated as new information becomes available and is reported. The database contains information on which properties are contaminated (by property registration number), the type of contamination, the type of polluting activity that has taken place on the property, whether the pollution control authorities have issued orders for any investigations or action, investigations and clean-up operations that have been carried out, and the current level of pollution. The localities can also be shown on a map. The database is available to the public (in Norwegian only).

Polluted sediments
A strategy for polluted sediments was presented in the white paper *Protecting the Riches of the Sea* (Report No. 12 (2001-2002) to the Storting). This has three main elements: preventing the spread of environmentally hazardous substances from high-risk areas and harbours; developing county action plans; and building up knowledge through pilot projects, research and the establishment of a national council. The first phase in the development of county action plans involved 29 selected areas. Action plans were drawn up for 17 of these in 2005. These are now being implemented. Plans are to be completed for all other coastal areas by 2009.

Further action

- An explicit prohibition against recovery and recycling of waste containing POPs will be introduced in Norwegian legislation.
- Limit values for POPs in hazardous waste will be evaluated or re-evaluated and introduced into Norwegian legislation when the Conference of the Parties under the Convention has reached a decision on this.
- The existing action plan to reduce releases of PCBs will be implemented and revised as necessary.

- The existing action plan for contaminated sites will be implemented and revised as necessary.
- The existing action plan for polluted sediments will be implemented and revised as necessary.

3.5 Article 8: Listing of chemicals in Annexes A, B and C

Obligations
A Party to the Convention may submit a proposal for listing a new chemical in Annex A, B or C. The Persistent Organic Pollutants Review Committee evaluates such proposals against the screening criteria listed in Annex D. Article 8 lays down detailed provisions on the further procedures to be followed by the committee if it decides that a substance fulfils the screening criteria. The Conference of the Parties is responsible for making final decisions on whether to list new substances in Annex A, B or C.

Current Norwegian legislation and planned and completed actions
Norway will work actively towards listing of new substances under the Convention by supporting research and monitoring to gather information on possible candidate POPs and by proposing new chemicals for listing if sufficient information is available. In 2005, Norway proposed that the brominated flame retardant penta-brominated diphenyl ether (pentaBDE) should be listed in Annex A of the Convention. This proposal is now being considered by the POPS Review Committee.

Norway has a representative in the Review Committee for the two-year period from November 2005, and is heading the work of drawing up a risk profile for pentaBDE.

Further action
Norway will support efforts to obtain more information on new substances that exhibit the characteristics of POPs, and will propose new substances for listing if the information available indicates that they fulfil the criteria of Annex D.

3.6 Article 9: Information exchange

Obligations
Each Party is required to facilitate or undertake the exchange of information relevant to the reduction or elimination of the production and use of POPs, and of alternatives to POPs, including information relating to their risks and their economic and social costs. Information may be exchanged directly between the Parties or through the Secretariat. Each Party is required to designate a national focal point for information exchanges. Article 9 specifies that confidential information must be protected, but lays down that information on health and safety of humans and the environment is not to be regarded as confidential.

Current Norwegian legislation and planned and completed actions
The Norwegian Pollution Control Authority is Norway's national focal point for the POPs Secretariat, and will also function as the national focal point for information exchange with other Parties. Information on the health and environmental effects, areas of use and releases of specific

substances is available on the environmental authorities' website www.miljostatus.no. The information available on the English version of the website, State of the Environment Norway (www.environment.no), is more limited, but includes an account of the substitution principle and the criteria for undesirable properties of chemicals, information on the Norwegian list of priority substances and the observation list, and a step-by-step description of the substitution process.

Further action
Norway will seek to play an active role in information exchange between the Parties.

3.7 Article 10: Public information, awareness and education

Obligations
Each Party is required, within its capabilities, to promote and facilitate awareness and educational programmes with regard to POPs and ensure that the public is provided with updated information on POPs, their health and environmental effects, and on alternatives to POPs. Each Party is also required to consider the establishment of mechanisms for the collection and dissemination of information on the annual quantities of the chemicals listed in Annex A, B and C that are released or disposed of.

Current Norwegian legislation and planned and completed actions
On 1 January 2004, the Environmental Information Act entered into force in Norway. This entitles the public to information of relevance to the environment from both public authorities and private undertakings. Information shall be made available as soon as possible and no later than one month after a request is received.

The environmental authorities' website www.miljostatus.no provides information on a number of environmentally hazardous substances, including several POPs, their presence in the environment, properties, effects, and action to deal with them. There is also information on sources and their presence in products. Some of this information is also available in English. A general brochure about the website was distributed to all municipal authorities, public libraries and important environmental organisations in autumn 2005. Another brochure has been published describing how schools can make use of this website in combination with www.miljolare.no (an educational tool for sustainable development: some information available in English at http://sustain.no/).

Information on annual releases of substances on the Norwegian priority list (including POPs such as PCBs, HCB, dioxins and furans) split by source is published by the Norwegian Pollution Control Authority in the report *Prioriterte miljøgifter. Status og utslippsprognoser* ("Priority Substances. Status and projections of releases"), which is updated every year. Information on releases of certain POPs from industrial processes and waste incineration can be found for individual enterprises in the Norwegian Pollutant Release and Transfer Register, which is accessible on the Internet (www.sft.no/bmi, in Norwegian only).

Statistics Norway compiles annual statistics on hazardous waste handled at approved facilities, split by type of treatment and material. However, the statistics do not include specific information on the quantity of waste delivered for final disposal that contains POPs listed in the Stockholm Convention.

A nationwide database on contaminated sites has been established, which includes data on all contaminated sites that are known to the pollution control authorities. The database is updated as new information becomes available and is reported. The database contains information on which properties are contaminated (by property registration number), the type of contamination, the type of polluting activity that has taken place on the property, whether the pollution control authorities have issued orders for any investigations or action, investigations and clean-up operations that have been carried out, and the current level of pollution. The localities can also be shown on a map. The database is available to the public (in Norwegian only).

Further action
The environmental authorities will seek to ensure that information is available to the general public and is updated as necessary.

3.8 Article 11: Research, development and monitoring

Obligations
This Article requires the Parties, within their capabilities at the national and international levels, to encourage and/or undertake appropriate research, development, monitoring and cooperation pertaining to POPs, including on their

- sources and releases into the environment
- presence, levels and trends in humans and the environment
- environmental transport, fate and transformation
- effects on human health and the environment
- socio-economic and cultural impacts
- release, reduction and/or elimination
- harmonised methodologies for making inventories of sources and measuring releases.

Through these activities, the Parties are also required, within their capabilities, to support and further develop international programmes, networks and organisations aimed at defining, conducting, assessing and financing research, data collection and monitoring, taking into account the need to minimise duplication of effort. Support is to be given to strengthening research capabilities in developing countries and countries with economies in transition.

Current Norwegian legislation and planned and completed actions
Norway runs several national monitoring programmes that include routine monitoring of concentrations of various POPs in air, water and the marine environment. Norway also submits data to the Cooperative Programme for Monitoring and Evaluation of the Long-range Transmissions of Air Pollutants in Europe (EMEP) under the LRTAP Convention, and to the OSPAR Joint Assessment and Monitoring Programme (JAMP). Both of these programmes include monitoring of several known POPs. Furthermore, Norway is taking part in the global programme for biomonitoring of human milk for POPs under the auspices of WHO.

The Nordic countries are carrying out joint screening studies of the occurrence and fate of selected new POPs in the environment at the initiative of the Nordic Council of Ministers. The Nordic screening studies have so far focused mainly on brominated flame retardants and PFOS-related substances. Norway's nomination of the flame retardant penta-brominated diphenyl ether

(pentaBDE) for inclusion both in the POPs Protocol under the LRTAP Convention and in the Stockholm Convention is based on a Nordic report on the substance.

Norway is also taking an active part in research and monitoring within the framework of Nordic cooperation and in cooperation in the Arctic Council. The Arctic Monitoring and Assessment Programme (AMAP) under the Arctic Council is particularly important. The programme has provided extremely valuable data on levels of POPs in people and the environment in the Arctic, and has revealed serious adverse effects on people, mammals and birds. AMAP's work is particularly important because the presence of POPs in predators and people in Arctic areas where there are no local sources of these substances is evidence of their persistence in the environment, their long-range transport and their bioaccumulation potential. AMAP will continue to be important in revealing new chemicals with the characteristics of POPs and in efforts to evaluate the efficiency of existing international agreements.

Studies have been carried out of PCBs, brominated flame retardants and dioxins in human blood and breast milk in the Norwegian population. In 2004, a Norwegian screening study of selected substances (POPs and substances that exhibit the characteristics of POPs such as brominated flame retardants and PFAS) in a population group in North Norway (Bodø) and in indigenous peoples in northern Russia was carried out under the auspices of AMAP. This was followed up by a further study of these population groups focusing on "new" substances of very high concern in 2005.

Norway is also taking part in the Arctic Council Action Plan to Eliminate Pollution of the Arctic (ACAP). Projects under this plan include identifying and surveying releases of priority substances from various sources in the Arctic states, and measures to reduce releases of these substances. Several projects, for example on PCBs, pesticides and dioxins/furans, are being carried out in Russia. Norway is chairing the steering group of a project concerning the reduction of releases of brominated flame retardants in all the Arctic countries.

The Norwegian Pollution Control Authority monitors environmentally hazardous substances in sediments and marine organisms in a number of fjords and harbours along the coast. Samples are taken mainly in areas where there are one or more important pollution sources. If there are excessive levels of these substances in fish and shellfish, the authorities may recommend that people limit their intake of certain types of seafood from the areas in question, or prohibit sales of seafood. In some fjords, the areas where advisories are in force have been reduced over the years as industrial pollution has been reduced. In other areas, there has only been a very slow decrease in levels of pollutants in fish and shellfish despite large cuts in releases of pollutants.

The Norwegian Food Safety Authority runs a national monitoring programme for pesticide residues in foodstuffs. About 2500 products are analysed every year, and 65 per cent of these are imported products. Norway also runs an annual programme to monitor residues of medicines, hormones and other growth-stimulating substances, pesticides, heavy metals, environmentally hazardous substances and mycotoxins in meat, milk, eggs and honey produced in Norway.

Pesticide residues in water are monitored as part of the agricultural environmental monitoring programme (JOVA). The Soil and Environment Division of the Norwegian Institute for Agricultural and Environmental Research runs the programme in cooperation with other divisions of the Institute, several county departments of agriculture and environmental affairs, the Norwegian Institute of Water Research and the International Research Institute of Stavanger. The Norwegian Agricultural Authority initiated the programme and is represented on the board,

together with the Norwegian Pollution Control Authority and the Norwegian Food Safety Authority.

Further action
Norway will continue to give high priority to research and development projects and monitoring programmes related to environmentally hazardous substances at both national and international level.

3.9 Article 12: Technical assistance

Obligations
Parties are required to provide timely and appropriate technical assistance in response to requests from developing country Parties and Parties with economies in transition. This is essential to the successful implementation of the Convention. Assistance should include technical assistance for capacity-building relating to implementation of the convention. The Parties are also required to establish regional and subregional centres for capacity-building and transfer of technology.

Current Norwegian legislation and planned and completed actions
According to the Government's action plan for environment in development cooperation, one of Norway's thematic priorities in the development field is hazardous substances. Norway intends to support competence- and capacity-building in the field of hazardous chemicals in order to put partner countries in a better position to fulfil their international obligations and follow up the SAICM, and assist partner countries in developing and effectively enforcing national legislation. Furthermore, Norway will cooperate on and support measures for reducing the use and emissions of environmentally hazardous substances that have serious adverse impacts, including clean-up measures targeted at activities that are harmful to human health and the environment. Environmental concerns must be taken into consideration in all Norwegian development cooperation. Norway has an obligation to ensure that assessments of environmental and social impacts are carried out in connection with the use of Norwegian development cooperation funds.

Norway is taking part in the ACAP action plan, which includes projects on PCBs, pesticides and dioxins/furans in Russia.

3.10 Article 13: Financial resources and mechanisms

Obligations
This article establishes a mechanism for the provision of financial support to developing countries and countries with economies in transition that are Parties to the Convention, to assist in their implementation of the Convention. Developed country Parties are obliged to contribute financial resources to the mechanism. The first Conference of the Parties under the Convention decided that the Global Environment Facility (GEF) is to be the main entity responsible for the financial mechanism under the Convention.

Current Norwegian legislation and planned and completed actions
Norway makes regular contributions to GEF funding and will continue to do so.

3.11 Article 15: Reporting

Obligations
Parties are required to report on measures taken to implement the provisions of the Convention and the effectiveness of such measures. They are also required to provide data on the production, import and export of the chemicals listed in Annex A and B, and to provide a list of states such chemicals have been imported from or exported to. The Convention provides for the Conference of the Parties to decide on the intervals and format for such reports at its first meeting.

Current Norwegian legislation and planned and completed actions
Norway has prohibited the production, use, export and import of all substances in Annex A and B, and thus has nothing to report in this respect. Existing national reporting routines are considered to be adequate to meet the other requirements set out in this Article.

Further action
Norway will comply with the reporting routines decided by the Conference of the Parties.

3.12 Article 16 Effectiveness evaluation

Obligations
The Conference of the Parties is required to evaluate the effectiveness of the Convention, commencing four years after its entry into force. At its first meeting, the COP was therefore required to establish arrangements to provide itself with comparable monitoring data on the presence of the chemicals listed in Annexes A, B og C as well as their regional and global environmental transport. The Parties are required to implement these arrangements, when appropriate using existing monitoring programmes and mechanisms, and to promote harmonisation of approaches.

Current Norwegian legislation and planned and completed actions
Norway runs several monitoring programmes that have been in operation for many years and that routinely include various POPs. In addition, shorter-term ad hoc programmes may be organised. Norway considers it important to establish a practical system for evaluation of the Convention.

Further action
Norway will play a part in the establishment of a satisfactory system to obtain the necessary data for evaluating the effectiveness of the Convention, and will provide any national monitoring data available that is relevant to this work.