Adopted by the Cabinet of Ministers
of the Republic of Latvia
on 31 March 2005

PERSISTENT ORGANIC POLLUTANTS: NATIONAL IMPLEMENTATION PLAN

for 2005 – 2020

Riga, 2005

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Abbreviations

CLEEN	Chemical Legislation European Enforcement Network
CM	Cabinet of Ministers
COMBINE	HELCOM Cooperative Monitoring in the Baltic Marine Environment
Convention	Stockholm Convention on Persistent Organic Pollutants
COP	Conference of the Parties
DANCEE	Danish Cooperation for the Environment in Eastern Europe
EC	European Community
EC	European Commission
EFSA	European Food Safety Authority
EIONET	European Environment Information and Observation Network
EMEP	Co-operative program for the monitoring and evaluation of the long-range transmission of air pollutants in Europe
EU	European Union
EUROLAB	The European Federation of National Associations of Measurement, Testing and Analytical Laboratories
FVS	Food and Veterinary Service
GDP	Gross domestic product
GEF	Global Environmental Facility
HCB	Hexachlorobenzene
HCH	Hexachlorocyclohexane
HELCOM	Baltic Marine Environment Protection Commission - Helsinki Committee
IC	Inhibiting concentration
ILO	International Labour Organization
I-TEQ	International Dioxin Toxicity Equivalent
JSC	Joint stock company
LEGMA	Latvian Environmental, Geological and Meteorological Agency
LFC	Latvian Food Centre
LFRI	Latvian Fisheries Research Institute
LIOS	Latvian Organic Synthesis Institute
LU HEI	University of Latvia, Hydro-Ecology Institute
MA	Ministry of Agriculture
MD	Ministry of Defence
ME	Ministry of Environment
MF	Ministry of Finance
MH	Ministry of Health
MoE	Ministry of Education and Science
MW	Ministry of Welfare
NES	State Environmental Service
NEMP	National Environment Monitoring Program

NGO	Non-governmental organizations
NIP	National Implementation Plan on Persistent Organic Pollutants for 2005 – 2020
NP SJSC	Non-profit organization state joint stock company with limited liability
PAHs	Polycyclic Aromatic Hydrocarbons
PCBs	Polychlorinated biphenyls
PCDD	Polychlorinated dibenzo-p-dioxins
PCDF	Polychlorinated dibenzo-p-furans
PHA	Public Health Agency
PHARE	Poland and Hungary Action for the Restructuring of the Economy
POPs	Persistent organic pollutants
PPM	Plant protection substances
Protocol	The Geneva Convention on Long-range Transboundary Air Pollution Aarhus Protocol On Persistent Organic Pollutants
RSU	Riga Stradiņs University
RSU IOEH	Riga Stradiņs University Institute of Occupational Environment and Health
SARC	BO VSIA "State Agro-Chemical Research Centre"
SBI	Sanitary Border Inspectorate
SFRS	State Firefighting and Rescue Service
SLI	State Labour Inspectorate
SPPS	State Plant Protection Service
SSI	State Sanitary Inspection
UN	United Nations
UNDP	United Nations Development Program
USSR	Union of Soviet Socialist Republics
Vides Projekti	"Vides Projekti" Ltd
WHO	World Health Organization

Summary

Persistent organic pollutants (POPs) are halogen containing carcinogenic, toxic and mutagenic substances that can travel long distances through the air and water and accumulate in land and aquatic ecosystems. POPs include the previously widely used chlorinated organic pesticides and industrial chemicals, however, POPs can also be generated in the form of byproducts as a result of combustion and industrial manufacturing processes.

As a result of a priority setting consultation, the national significance priority status between the various POPs categories is given to PCB containing equipment and waste that should be eliminated by 2010 according to the requirements of legislation. Currently, 4282 PCB containing (gross weight of 139 343 kg) capacitors and 34 PCB containing transformers (gross weight of 231 634 kg) are still used in Latvia. Since the inventory of this equipment still needs to be completed, experts are forecasting that the actual overall number may be much larger.

The second priority status of national significance is given to POPs emissions. According to quantitative assessments, dioxin and furan emissions reached ~ 27 g I–TEQ/year in 2002-2003, and PAH emissions were up to 12 – 16 t/year in Latvia. Partly due to a lack of public awareness, the main source of dioxins and furans is uncontrolled combustion processes (71% of the total), while the main source of PAH emissions is the domestic combustion of wood (68% of the total volume).

The third national priority status is given to POPs pesticides since the majority of problems in this area in Latvia have already been eliminated. POPs pesticides are not produced, sold or used in Latvia. The majority of POPs pesticides stockpiles and temporary storage sites are located in the Kņava non-marketable chemical storage facility and in the Gardene hazardous waste disposal site (~200 t DDT; ~5 t Toxaphene; ~170 t Lindane; ~ 200 t Lindane and DDT mixture).

The Persistent Organic Pollutants National Implementation Plan for 2005 – 2020 (NIP) is a comprehensive, strategic policy document whose aim is to develop and improve the optimal and most effective POPs management system through the implementation of a sustainable policy while securing human health and environmental protection.

The National objectives for POPs are as follows:

1. Develop an integrated and transparent legislative framework and institutional system, including a business assistance plan, to decrease and prevent the impact of POPs on human health and environment.
2. Ensure a significant decrease in the global pollution generated by POPs in accordance with the Convention, Protocol and other international treaties.
3. Develop and implement national and global-level preventative measures to prevent the formation of new sources of POPs.

Tasks and measures included in the NIP are aimed at solving particular problems related to POPs. The total NIP implementation costs for the period 2005 – 2020 are around LVL 3.2 million. The main NIP cost categories are as follows:

- legislative measures,
- control and supervision measures,
- organizational measures,
- technological measures (incl. remediation pilot projects),
- information measures,
- monitoring and research,
- data collection and summarization, reporting.

I Introduction

Over the past decades the understanding of the nature and causes of the impact of various chemical substances on human health has changed significantly, and in the past years increasing attention has been paid to the cumulative effects of lasting and relatively small exposures.

Persistent organic pollutants (POPs) are halogen containing carcinogenic, toxic and mutagenic substances that can travel long distances through the air and water and accumulate in land and aquatic ecosystems. POPs can cause cancer, may cause genetic defects, fertility problems, increase the sensitivity to diseases, as well as affect nervous systems and can cause mental development problems.

POPs are components of formerly widely used chlorinated organic pesticides and chemicals used by industry (substances containing polychlorinated biphenyls (PCBs)); however, POPs may be generated as byproducts of combustion and industrial manufacturing processes (dioxins, furans, polycyclic aromatic hydrocarbons (PAHs)). Thus in cases of accidents or fires anyone present in their vicinity or located in the direction of prevailing winds can be subjected to the impact of POPs.

The Persistent Organic Pollutants National Implementation Plan for 2005 – 2020 (NIP) is a comprehensive, strategic policy document whose objective is to develop and improve the optimal and most effective POPs management system through the implemention of a sustainable policy while securing human health and environmental protection. The implementation of the NIP will permit Latvia to fulfill its obligations under both the Stockholm Convention on Persistent Organic Pollutants (the Stockholm Convention) signed 22 May 2001 and the Aarhus Protocol "On Persistent Organic Pollutants" of the Geneva Convention *On Long-Range Transboundary Air Pollution* signed on 24 June 1998 (the Aarhus Protocol). The NIP will also ensure the implementation of the requirements of the European Parliament and Council Regulation No. 850/2004/EC of 29 April 2004 on persistent organic pollutants, and it will assist in minimizing the potential threats of POPs both on a national and global level.

The NIP has been elaborated for the period 2005 – 2020 and will be updated according to the special NIP revision and amendment procedure.

The NIP structure has been elaborated in accordance with Article 14 of the Cabinet of Ministers (CM) Regulation No. 111 of the *Rules of Procedure of the Cabinet of Ministers* (March 12, 2002) and the requirements of the Stockholm Convention, as well as in compliance with the UNEP guidelines for the development of the NIP.

The three main sections of the NIP are as follows:

I Current situation (Comprehensive information on environmental management in Latvia, as well as POPs present in Latvia, i.e., their type, quantity, monitoring, utilization, etc.).

II Strategy (Overview of actual and priority problems related to POPs located in Latvia, the main NIP tasks, costs for the implementation of the NIP and timelines, etc.).

III Action Program (14 inter-coordinated action plans, each containing several tasks and measures for solving a group of POPs related problems).

The NIP development was conducted within the framework of UNDP and Global Environmental Facility (GEF) project *Preparation of the POPs National Implementation Plan under the Stockholm Convention*.

Materials provided by the ministries and their subordinate agencies, information provided by international organizations and institutions, reports of national and international projects, Latvian regulations, data collected by Central Statistical Bureau of Latvia, as well as analyses and reports by experts prepared under UNDP/GEF project *Preparation of the POPs National Implementation Plan under the Stockholm Convention,* have been the main sources of information while developing the NIP.

Within the framework of the UNDP/GEF project the national goals related to POPs were formulated and the priorities were set in a seminar conducted on 22-23 January 2004. Representatives of the Ministry of Environment, Minstry of Agriculture and Ministry of Health and their subordinate institutions, as well as representatives of science and higher education institutions, professional associations and non-governmental organizations participated in discussions on the NIP action plan in seminars conducted on 13, 16 and 20 April 2004 and 8 June 2004.

II Current Situation

1. Basic Information on Latvia

The Republic of Latvia was founded on November 18, 1918. During the period between 1940 and 1941, as well as from 1945 up to 1991 Latvia was occupied by the USSR, and between 1941 and 1945 Latvia was occupied by Germany. Latvia regained its independence in 1991.

1.1. Geography and Population

Latvia is one of the three Baltic States (Lithuania, Latvia, Estonia) and is located in the NE part of Europe, on the Eastern shore of the Baltic Sea (see Figure 1).

Figure 1. Map of Northern Europe

Latvia borders with Estonia to the North, Lithuania to the South and Southwest, the Russian Federation to the East and Belarus to the Southeast.

Latvia's territory covers 64 589 km^2, consisting of ~ 62 046 km^2 of mainland, and ~ 2 543 km^2 of inland waterways. The characteristic landscape of Latvia is composed of plains and hills. More than ½ (57%) of Latvia's territory is less than 100 m above sea level. The highest peak of Latvia (Gaiziņkalns) is a mere 311,6 m high.

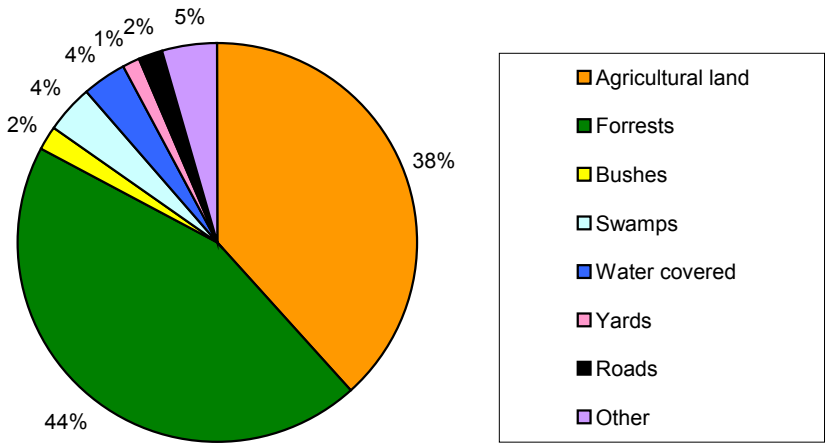

Figure 2. Types of land use, % (for January 1, 2003)

Approximately 44% of the territory of Latvia is covered by forests, 38% of the overall territory is agricultural land (26% Figure 2- Types of Land Use, % (for January 1, 2003) is arable), and 4.0 % of the territory of Latvia is covered by swamps (see).

Latvia has more than 3000 lakes larger than 1 ha (1,56% of the overall area) and slightly fewer than 12 000 rivers, with 777 longer than 10 km. The largest lake by area is Lubāns (80 km^2), while the deepest is Drīdzis (65,1 m). The longest river in the state territory is the Gauja (452 km), the largest Daugava (total area of the river basin is 87,9 thousand km^2 (incl. 24,7 thousand km^2 within the territory of Latvia)).

The conditions of Latvian nature and diversity are mainly the result of its geographic location and closeness of the Baltic Sea, as well as various terrain and hydrological conditions.

The major natural resources extracted and used in Latvia are:

- forests (timber resources fully cover the internal consumption and form a large percentage of exports, thus contributing greatly to the economy of Latvia);
- minerals, i.e. sand and gravel, clay, peat and freshwater lime, as well as gypsum, limestone, dolomite, sapropel, quartz sand and devon clay (Minerals extracted in the territory of Latvia are used in general as construction materials and in the chemical industries. Peat is extensively used for energy production).

Latvia has a mild coastal climate characterized by generous rainfalls and pronounced cyclone activities. Summer usually lasts from June to August (the average air temperature is +15.8°C, the average rainfall 195 mm), and winter from December to February (average air temperature – 4,5°C, average rainfall 116 mm).

The population of Latvia exceeds 2.3 million inhabitants (46% are male and 54% female). Around 68% of total population lives in cities and 32% in rural areas. The average age of the Latvian population is 39.1 years and the average life expectancy for males is 65.4 years, while it is 76.8 years for females. 62.4% of the population is able to work.

The natural population increase in 2003 was negative: – 11 431 inhabitants.

The official state language is Latvian and the major nationality is Latvian (58.5%). The largest ethnic groups are: Russians (29.0%), Ukrainians (2.6%) and Poles (2.5%).

1.2. Political and Government system

Based on the Constitution of the Republic of Latvia, the state territory consists of four historical regions, i.e., Vidzeme, Latgale, Kurzeme and Zemgale; however, according to the administrative – territorial division, Latvia is divided into 26 regions (see Figure 3), which are further broken down into 461 parishes (the smallest administrative-territorial unit in Latvia).

In total, Latvia has 77 towns and cities, and 7 of these are major cities. The capital of Latvia is Riga.

Figure 3. Administrative division of Latvia into regions

Latvia is a parliamentary republic. The Parliament (Saeima) is composed of 100 members elected by general, equal, direct, secret and proportional elections for a four-year term. The Parliament approves the Cabinet of Ministers (CM), consisting of the Prime Minister and 16 other ministers. Parliament also votes for the State President (elected for a 4-year term), responsible for representing the state at the international level, nominating candidates to the Cabinet of Ministers, the adoption of Parliamentary approved legislation, etc.

The Government functions are carried out by 15 ministries and 1 secretariat, as well as state government institutions subordinated to the ministries. The following ministries are represented in the Republic of Latvia: Ministry of Defence, Ministry of Foreign Affairs, Ministry of the Economy, Ministry of Finance, Ministry of the Interior, Ministry of

Education and Science, Ministry of Culture, Welfare Ministry, Regional Development and Local Governments Ministry, Ministry of Transport, Ministry of Justice, Ministry of Health, Ministry of the Environment, Ministry of Agriculture, Ministry for Children and Family Affairs, Ministerial Secretariat for Special Assignments for the Integration of Society.

Foreign relations and the active participation in various international organizations are important to Latvia. Latvia became a member of the United Nations (UN) organization in 1991. In 1999, Latvia joined the World Trade Organization (WTO). In 2004, Latvia entered the North Atlantic Treaty Organization (NATO) and on May 1, 2004 became a full-fledged member of the European Union (EU).

According to Constitution of the republic of Latvia the legal document hierarchy is as follows:

1. Constitution of the Republic of Latvia;
2. International agreements approved by Parliament;
3. Laws;
4. CM Regulations having the force of the law;
5. Other normative acts issued by CM;
6. Municipal regulations.

The continental legal system is in effect in Latvia and legislation for the major areas (Criminal Law, Civil Law, Labour Law, Administrative Law) is codified. Environmental legislation, however, consists of regulations at various levels, including laws and CM regulations of Republic of Latvia, EU regulations and Directives.

1.3. Economy

The objective of Latvia's economic policy is to ensure sustainable and balanced economic and social development. In order to reach this objective, Latvia maintains a stable macroeconomic environment while structural reforms are implemented. These reforms are aimed towards growth and a better integration into the EU.

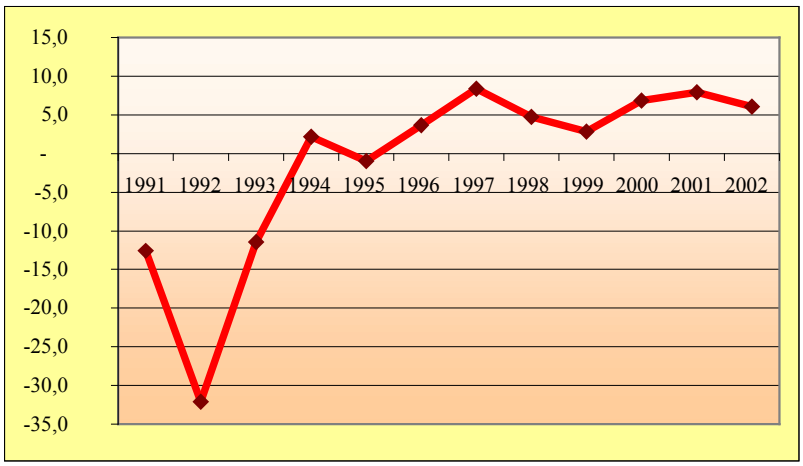

Figure 4. GDP Growth Rate vs. Average Prices in 2000 (% versus the Previous Year)

The long-term economic strategy objectives that were accepted on July 17, 2001 aim to ensure the transition from a labour intensive economy to a knowledge-based economy thus attaining within a 20-30 year period the average gross domestic product[1] (GDP) ratio per capita of the EU countries.

1.3.1. Main Macroeconomic Indicators

Latvia has enjoyed a constant growth of economic activities, an improvement in the quality of life and a decrease of the unemployment rate since the mid 90-ies. During the period of

[1] **Gross domestic product** – Aggregate value of finished goods and services produced in the territory of the state within one year.

1996 – 2002 Latvia's GDP increased at an average rate of 5.8% a year (see Figure 4). The key factor to this success is a high internal demand and the ability to adapt to changing external economic and political conditions.

During the past four years the average inflation rate in Latvia has been in the 2–3% range, while in 2003 it was 2.9%; compared to other countries in transition, the inflation rate in Latvia is one of the lowest.

Since 1996, except for 1999, the state budget fiscal deficit has been around 3% of the GDP.

Latvia has a relatively high current account deficit, which is based on the internal demand (especially the rapid growth in the amount of investments), however, since this deficit is largely covered by direct foreign investments and long-term loans, its size cannot be considered critical.

The gross fixed capital increased for at an average rate of 17.9% a year during the period 1996 - 2002. Very rapid growth was experienced during 1996 – 1998, when the country underwent a privatization process. Most of the foreign investments are channeled into the internal market (retail trade, financial services and communications), however, each year increasing investments are made into manufacturing sector as well.

The main external trade partner of Latvia is the EU. Since the reestablishment of independence external trade volumes with EU memberstates have been increasing and at present reach almost 80%.

The employment rate in Latvia is slightly lower than in the EU countries (60.5% in 2002), and it varies significantly in different regions due to unequal economic and social development. The highest employment rate is in the Riga region (64%) and the lowest in the Latgale region (52%).

Although the wage and pension income levels have been increasing over the past few years, the rate increase of the income level of the inhabitants is still very uneven and the polarization of wealth distribution is still increasing.

1.3.2. Structure of the Latvian Industries

When evaluating GDP division by industry (see Table 1) it can be concluded that the largest contribution to the annual GDP rate comes from the service industry, including trade (19.9% in 2002), transport and communications (14.5% in 2002), as well as commercial services (11.1% in 2002). The service industry employment figure for 2002 was 581 thousand or 58.8 % of the total employment rate.

Table 1. GDP and Employment Rate per Sector of the Economy in 2002

Industry	Actual prices (mln Lats[1])	% of the total value added	Average annual employment rate (thousands)	Average annual employment rate (% of the total)
Total	5194.7	–	988	100.0
▪ Aggregate value-added	4621.2	–	–	
Agriculture, hunting and forestry	205.4	4.5	147	14.9
Fishing industry	11.2	0.2	6	0.6
Mining industry and quarry dredging	6.9	0.2	4	0.4
Manufacturing	686.1	14.8	167	16.9
Electricity, gas and water supply	167.2	3.6	23	2.3
Construction	283.1	6.1	60	6.1
Services	3261.3	70.6	581	58.8
▪ Production taxes (minus subsidies)	573.5	–	–	

[1] **Lat** (LVL) – Official currency of the Republic of Latvia

The share of agriculture in Latvia's GDP is quite significant. The value-added of the aggregate agriculture, hunting and forestry industry was 4.5% of the GDP in 2002 and the value-added for agriculture alone generated 2.9% of the GDP. Nevertheless, the importance of agriculture, hunting and forestry in Latvia's economy is still substantial, since these sectors employed around 147 thousand persons (14.9 % of the total employment rate in Latvia) in 2002.

The industry share, including mining and manufacturing, represented 15.0% of the GDP in 2002. The average annual employment rate for the sector was 171 thousand persons (17.3% of the total employment rate in Latvia).

Most Latvian enterprises employ fewer than 49 persons (95.29%), thus the share of small and medium enterprises (SMEs) is rather notable.

More than half of the economically active companies (67.12%) are located in Riga (see Table 2), and in other regions the number of such enterprises is quite similar, ranging from 3069 companies (Latgale) to 4243 companies (Kurzeme). At the beginning of 2003, the number of economically active companies and enterprises per 1000 inhabitants was 2.1 times higher in the Riga region (28.4 companies) than in the Kurzeme region (13.4 companies).

Table 2. Economically Active Enterprises per Number of Employees in 2002

Region	Number of companies and enterprises	%	of which, %		
			<= 49	50 – 249	>=250
Total	42534	100.00	95.29	4.05	0.66
Riga	28547	67.12	64.10	2.58	0.44
Vidzeme	3079	7.24	6.87	0.33	0.04
Kurzeme	4243	9.98	9.51	0.41	0.06
Zemgale	3069	7.22	6.80	0.36	0.06
Latgale	3596	8.45	8.02	0.37	0.07

Industry

The most important industry in Latvia is the manufacturing industry, generating 14.8% of the value-added GDP, whereas the mining industry was responsible for 0.1% and the electricity production, gas and water supply generated 3.7%.

Production volumes for the manufacturing industry grew by an average of 4.3% during the period 1998 to 2002, and during the last 3 years the average annual growth rate reached 8%, which is significantly higher than the average total economic growth. The dominant sectors of the manufacturing industry are those involving cheap labour and the use of natural resources, i.e. low value-added industries (see Table 3).

Table 3. Structure of the Manufacturing Industry by Sector in 2002

	Value-added	
	structure	volume changes
Total, processing industry	100	7.2
Food processing	28.3	5.8
Light industry	10.5	–1.2
Wood processing	17.0	5.8
Pulp and paper industry	7.5	–3.1
Chemical industry	5.1	15.4
Production of remaining non-metallic minerals	3.5	15.3
Production of metals and metal products	10.7	2.0
Production of machinery and equipment	12.0	10.0
Other industry branches	5.4	6.0

Food, light industry and wood processing generated value-added created more than half of the total industry value-added. Metalworking and machinery/equipment production amounted to almost 1/5 of the total industry generated value-added. Moreover, this sector

has experienced one of the fastest growth rates, which can be explained by the rapid development of the construction industry and the rising demand for finished metal products.

An evaluation of industry development in various regions of Latvia (see Table 4) allows one to conclude that the majority of industrial goods are manufactured in Riga. Riga produces almost 44% of the mining and quarry dredging volumes, 67% of the manufacturing industry output and 83% of the electricity,water and gas supply production. Kurzeme is the next most developed region after Riga.

Table 4. Total Regional Industrial Production Quantities for Latvia in 2002

Region	Overall production volume (actual prices, thousand LVL)		
	Mining and quarry dredging	Manufacturing industry	Electricity production, gas and water supply
Total	25063	2034104	337059
Riga	11072	1348953	281177
Vidzeme	4031	152305	12111
Kurzeme	1913	257201	17381
Zemgale	6925	145734	10241
Latgale	1122	129911	16149

Agriculture

Agricultural production volumes decreased until to 1999. However, starting in 2000 the situation has stabilized and volumes have even increased (mainly due to the development of crop farming). The value-added generated by agriculture, hunting and forestry amounted to 205.4 million lats in 2002.

The main agricultural branches are dairy, grain cultivation and meat production.

The major livestock farming products are meat, milk, eggs and wool (see Table 5).

Table 5. Principal Livestock Farming Product Quantities by Farm Type

	1995	2000	2001	2002
Meat, thsd. of tons	122.8	61.7	60.3	63.3
Milk, thsd. of tons	947.7	825.0	848.0	813.7
Eggs, million Units	421.0	437.1	452.5	508.6
Wool, tons	166.3	71.6	61.3	73.3

The most commom agricultural products are cereals (34%), however, a comparatively large percentage belongs also to animal feed (29%) and perennial grasslands (28%). The division of cultivated agricultural areas in the various regions of Latvia is irregular (see Table 6). The largest cultivated agricultural areas can be found the Kurzeme region (27%) and the Zemgale region (24%), with the smallest in Riga region (7%).

Table 6. Cultivated Areas for the Principal Regional Agricultural Products of Latvia in 2002, ha

Region	Area of the fields, ha						
	Crops (legumes not included)	Potatoes	Vegetables	Animal feed root-crops	Technical crops	Animal feed crops	Perennial grasslands
Total	414 970	53 592	12 538	7 493	38 040	350 981	335 088
Riga	56 909	85 13	2 343	700	459	14 456	14 086
Vidzeme	60 531	10 452	1 621	1 183	3 282	10 9712	105 182
Kurzeme	90 009	8 178	1 705	1 194	2 917	54 474	52 090
Zemgale	139 707	11 913	4 655	1 957	27 269	73 574	68 128
Latgale	67 814	14 536	2 214	2 459	4 113	98 765	95 602

The majority or 54.5% of the fields are owned by farms (see Table 7). Around 1/3 or 31.4% of the total area of fields are domestic farms and individual hobby farms, while state farm and incorporated company cultivated areas are comparatively small (14.1%).

Table 7. Cultivated Areas for the Principal Agricultural Products by Farm Type in 2002

	Total area of cornfields	Crops (legumes not included)	Potatoes	Vegetables	Animal feed crops
All types of farms	100.0	100.0	100.0	100.0	100.0
State farms or limited companies	14.1	17.6	2.1	1.4	10.4
Farms	54.5	61.7	39.3	38.7	47.4
Domestic farms and hobby farms	31.4	20.7	58.6	59.9	42.2

The main objective of the state agricultural policy in this transition phase is to develop the sector to produce goods in accordance to the requirements of the global marketplace and at the same time fully satisfy the internal market demand as well as provide integration into the common EU market.

1.4. Overview of the State of the Environment

The state of the environment in Latvia is very dependent on the geographic location of the country, various terrain and hydrological conditions, as well as human economic activity.

The most significant environmental protection problems in Latvia are the decrease of biodiversity, the degradation of rural landscapes, as well as ill-advised and non-sustainable uses of natural resources. The identified problems are being solved, however, and during 2000 to 2003 LVL 101 million were invested for environmental protection measures under the State Investment Program. Moreover, the investment share for environmental protection was 18.8% in 2003 thus becoming the second largest (after the transportation sector, which received 31.9% of all investments).

Air pollution

Latvia's air quality is affected by stationary and mobile sources of pollutant emissions, as well as the long range (transboundary) transport of air borne pollutants, which in terms of quantities is comparable to the amounts of pollution generated in Latvia. Observations conducted from 1998 to 2002 indicated that periodically air pollution limit values are exceeded (especially in the cities), but the major problem is the high concentration of ground level ozone.

As a result of the program: " *Withdrawal from Circulation of Substances Depleting the Ozone Layer"* ozone layer depleting substances used in the production of spray and foam materials have been gradually withdrawn from circulation along with the development of a freon-12 collection and re-use system. However, substances depleting the ozone layer are still used in the operation of freezing equipment (freon-22); laboratory needs (tetrachlorcarbon), pharmaceuticals production, grain processing, cargo pre-dispatch processing and quarantine (metylbromide). The withdrawal of substances depleting the ozone layer in Latvia is planned in conformity to the Montreal Protocol and the scheduled requirements of EU regulations.

Climate Changes

Greenhouse effect gas emissions decreased significantly due to the economic decline of the 90-ies, and the total volume in 2000 was a mere 34.4 % of the 1990 amount. It is forecast that within the next 20 years the greenhouse gas effect emissions not shall reach the level of 1990.

Latvia has elaborated a Climate Change Reduction Policy Plan.

Water Quality

Latvia's aquatic resources are sufficient to provide the population with good quality drinking water. The underground fresh water resources amount to 1.4 million m^3/day; this amount is four times higher than what is needed for current needs.

Artesian waters are used for the centralized water supply, while groundwater is widely used in farms and smaller settlements. The Riga water supply is secured through the delivery of infiltrated water originating from Baltezers and the water treatment facility *Daugava* using water from the Daugava River collected in the storage pond of the Riga hydroelectric power station.

Transboundary water pollution is a large problem, since more than 56% of Latvian river waters along with the corresponding pollution flow from Lithuania, Belarus and Russia. For instance, in 2000 transboundary pollution generated 73% of nitrogen inflows from the Daugava basin into the sea, 56% in the Lielupe basin and 90% in the Venta basin.

Centralized sewage systems serve 77% of the population in the cities (in Riga over 90%) and settlements, where the population exceeds 2000. Overall wastewater volumes have decreased by more than two times over the past decade and the untreated sewerage water volume has decreased four times.

Latvia's jurisdiction covers a territory that is 12 nautical miles wide in the Baltic Sea, the economic zone outside the territorial waters and the continental shelf of Latvia's marine territory for an area around 28 000 km^2 .

Due to an increasing navigation intensity in the Baltic Sea, the spillage of hazardous substances has become a problem issue along with illegal discharges from vessels, shipwrecks, the propagation of foreign species distributed through vessel ballast waters and the use of paints containing toxic compounds that prevent the adherence of various sea organisms to vessel hulls. Latvian ports have been equipped with vessel waste collection systems, and possess the necessary equipment for use in emergencies involving petroleum products and hazardous materials.

Waste Management

Latvia annually generates 600 000 – 700 000 tons of domestic waste, and at least half of this amount can be considered to be waste that can disintegrate biologically.

Waste collection service is available to only 60% of the population and this is the reason why some of waste is disposed illegally in forests, roadsides, the vicinity of water and in other places. Around 40 % of the collected waste is disposed in the Riga region, at the Getliņi waste management facility.

The State Waste Management Plan for 2003 – 2012 envisages the establishment of 10 – 12 new regional domestic waste management facilities and the installation of the appropriate waste processing facilities, as well as closing the existing landfills and their recultivation.

Latvia imports around 700 000 tons of petroleum products per year for internal consumption. Most of the petroleum product residues are incinerated at the Brocēni Concrete Plant (capacity for the recycling of petroleum product residues is ~ 1000 t/month).

Assessment and Remediation of Contaminated Sites

There are still seriously polluted sites in Latvia, with the pollution migrating to groundwater, surface water, food chains while posing a threat to human health. Although the regulations do exist, the assessment of polluted and potentially polluted sites has not been accomplished and remediation measures have been applied to only some of these sites.

Biodiversity

It has been observed that Latvia has 18 047 animal, 5396 plant and around 4000 fungi species. Scientists have estimated that around 907 species (3.3 % of total number) are rare and endangered.

The size of protected areas in Latvia has increased by approximately 1/3 since the beginning of the 90-ies. In 2000 , 572 700 ha (8,9% of the total area of Latvia) were included in the list of protected areas.

2. Environmental Management – Policies, Legislation and Institutions

Since regaining its independence Latvia has prepared an up-to-date environmental policy corresponding to EU and UN requirements and instruments for its implementation, including cooperation mechanisms with other mninstries in a similar fashion as with the development of the NIP for POPs which affects the interests of the ministries of Agriculture, Defense, Economy, Education, Environment, Finance, Health, Interior, Regional Development and Local Governments, Transportation and Welfare.

2.1. Environmental Protection and Sustainable Development Policy

The environmental policy of Latvia is defined by the **National Environmental Policy Plan for 2004-2008** approved by the Cabinet of Ministers on February 4, 2004, and together with other similar level planning documents in the areas of the economy, agriculture and health these create a common foundation for the development and implementation of the sustainable development policy.

The National Environmental Policy Plan preparation was based on an assessment of the results of the previous environmental plan (approved by the CM in 1995). The National Environmental Policy Plan for the years 2004-2008 abides by EU regulations and political planning documents, including the 6th European Environment Action Program *Environment 2010: our future, our choice*, as well as binding documents of the UN and other international institutions.

The sustainable development directions for Latvia have been defined by Latvia's Sustainable Development Guidelines that were approved by the Cabinet of Ministers on August 15, 2002. Sustainable development elements as defined by the guidelines are internal and external stability, the confident belief of society in development perspectives, civic integration (harmony) and cooperation for achieving common objectives.

2.2. Legislative Basis of Environmental Protection

The general environmental protection requirements concerning POPs are incorporated in five laws of the Republic of Latvia (see Table 8), namely, in the laws *On Environmental Impact Assessment*, *On Chemical Substances and Products*, *On Pollution*, *On Waste Management* and *On Plant Protection*. All of the aforementioned laws are based on the law *On Environmental Protection*. POPs, however, are regulated in greater detail by regulations issued by the CM on the basis of this legislation.

The law On Environmental Protection includes legal norms which come from Council Directive 90/313/EEC of 7 June 1990 on the freedom of access to information on the environment, Directive 2003/4/EC of the European Parliament and of the Council of 28 January 2003 on public access to environmental information and repealing Council Directive 90/313/EEC, Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy, and Directive 2003/35/EC of the European Parliament and of the Council of 26 May 2003 providing for public participation in respect of the drawing up of certain plans and programmes relating to the environment and amending with regard to public participation and access to justice Council Directives 85/337/EEC and 96/61/EC, which ensure that the requirements set in the EU are observed.

Similar to the environmental legislation of other countries, Latvian legislation does not include the defintion of the term "persistent organic pollutants" as used in the Stockholm Convention and the Aarhus Protocol. Both in national legislation and in EU legislation the

use of, and other activities related to, these chemical substances are not regulated in integrated legislation, but in individual legislative acts which relate to the specific characteristics and use of the concrete chemical substance in question.

Table 8. Objectives, Requirements and Corresponding EU Regulations for the Principal Legislative Acts Regulating the General requirements for POPs

Title, date of approval	Objectives	Requirements regarding POPs	Corresponding EU regulations
On Environmental Impact Assessment (14.10.1998.)	Prevent or reduce the negative implementation impact on the environment caused by an individual's or entity's planned activities or planning documents.	Regulates the requirement to perform environmental impact assessment to activities that are connected with POPs production, as well as POPs-containing waste disposal and incineration.	85/337/EEC 97/11/EC 92/43/EEC 2001/42/EC 2003/35/EC 92/43/EEC
On Pollution (15.03.2001.)	Prevent or decrease the impact of damage caused to human health, property and the environment by pollution.	Regulates pollution prevention and control procedures, as well as the necessary requirements for the operator to prevent and control pollution, also in regard to POPs.	96/61/EC 2003/35/EC 91/676/EEC 2002/49/EC 2003/87/EC
On Waste Management (14.12.2000.)	▪ Regulates waste management procedures to protect human life and health, the environment, as well as property; ▪ Promotes waste management, re-use and recycling of waste to decrease the quantity of waste.	Regulates the general principles of waste management, the responsibilities of the institutions involved and the obligations of the waste generators.	75/439/EEC 75/442/EEC 78/176/EEC 82/883/EEC 91/157/EEC 91/689/EEC 96/59/EC 1999/31/EC 2000/76/EC 2002/96/EC
On Chemical Substances and Products (1.04.1998.)	Disallow, prevent and reduce the possibility of damage to the environment, human health or property caused by chemical substances and products due to their characteristics.	Regulates activities with chemical substances and products, including POPs (except POP pesticides).	67/548/EEC 92/32/EEC 91/155/EEC 1999/45/EC 2001/58/EC

On Plant Protection (17.12.1998.)	Regulates individual and entity activities for the protection of plants, disallows the import, propagation and spreading of harmful organisms in the territory of the country and EU, as well as ensures that plant protection measures and plant protection activities and measures (PPM) do not cause harm to human health, the animal species bred or eaten by humans and the environment, and prevents the higher than normal level PPM residue accumulation in produced goods, soil and water.	Regulates the general requirements for PPM sales, use and storage.	91/414/EEC 95/44/EEC 2000/29/EC 93/71/EEC 92/90/EEC 92/105/EEC 92/76/EEC 94/3/EC 93/51/EEC 98/22/EEC 79/117/EEC 2001/60/EC 2002/89/EC 2003/82/EC
On Persistent organic Pollutants which amends Directive 79/117/EEC	This regulation sets general obligations and is to be applied directly in EU member states	Protects human health and environment from POPs, prohibiting, gradually reducing as early as possible or restricting the manufacturing, marketing and use of substances which pertain to the Stockholm Convention or Aarhus Protocol and to establishes procedures for the management of waste that contains, or which is polluted with, any of the given substances.	850/2004/EC
Council Decision 2004/259/EC of 19 February 2004 concerning the conclusion, on behalf of the European Community, of the Protocol to the 1979 Convention on Long Range Transboundary Air Pollution on Persistent Organic Pollutants		The aim of the Aarhus Protocol is to control, reduce and liquidate POPs leakage, emission or loss of POPs, the transmission of which may significantly influence human health or the environment.	2004/259/EC
Council Decision on behalf of the EU to sign the Stockholm Convention on POPs		The aim of the Stockholm Convention is to protect human health and environment from POPs	COM(2003) 332 final

2.3. Institutional Structure

The main institution involved in the management of chemical substances (including POPs) is Ministry of Environment (see Figure 5). The Ministry of Agriculture controls pesticide use, trade and storage issues, and performs the control of pesticides in food products. The Ministry of Health is responsible for issues connected to drinking water and food control, while the Ministry of Welfare is responsible for the supervision of risks associated with occupational health.

Institutions are cooperating mainly via working groups, preparing positions on the further implementation of EU legislation and the UNDP/GEF project *Preparation of the POPs National Implementation Plan under the Stockholm Convention.*

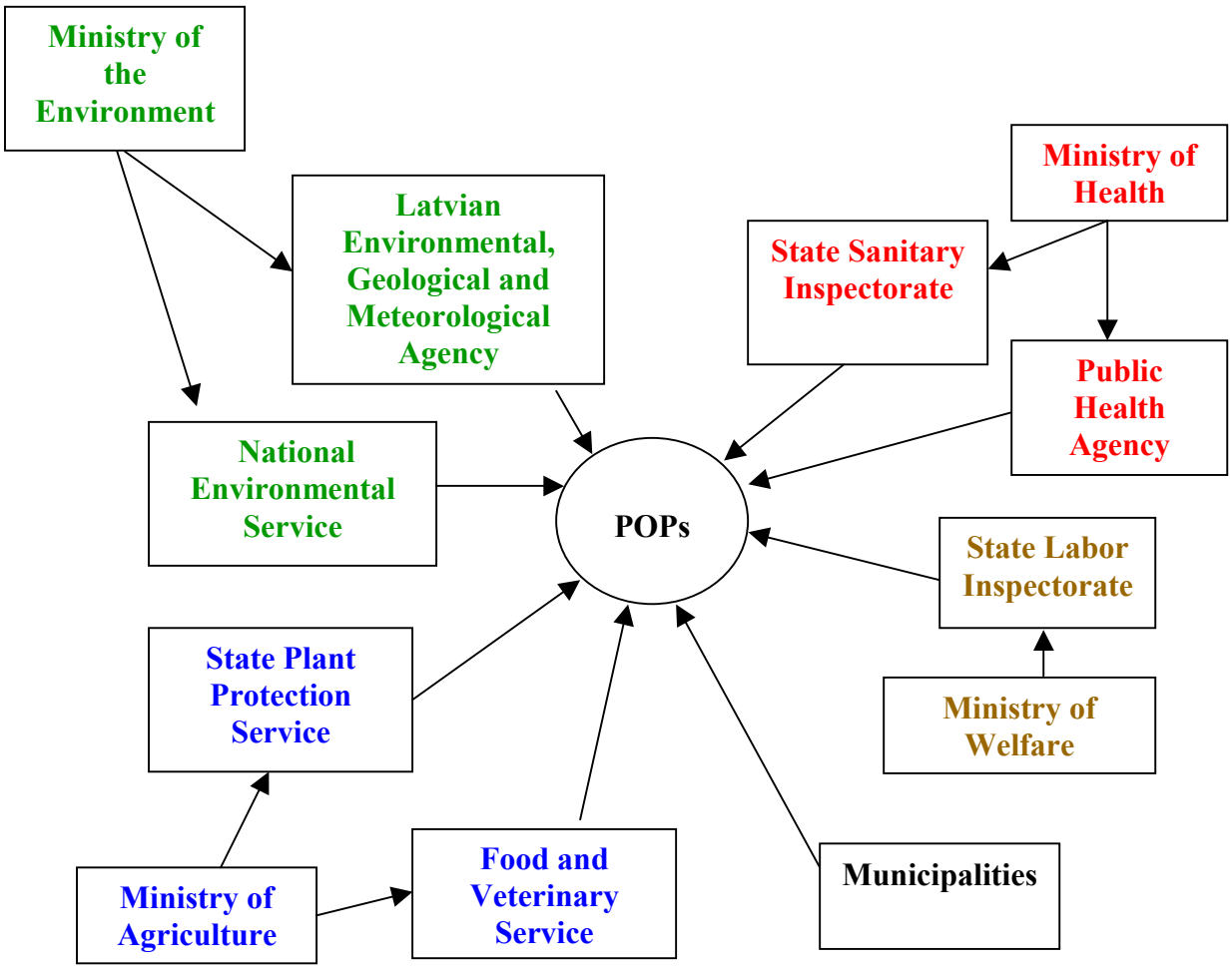

Figure 5. Latvian Institutions Responsible for the Introduction and Control of Legal Requirements Related to POPs

MINISTRY OF ENVIRONMENT

The ME is the leading state institution for environmental issues, responsible for environmental protection, nature preservation, the preservation of natural resources and their rational use, hydrometeorology and the sectors associated with minerals utilization.

The ME and its structural units are responsible for the supervision and control of activities involving chemical substances and products in manufacturing and professional use, as well as for supervising the compliance of these activities with environmental protection laws and regulations.

State Environmental Service

The State Environmental Service (SES) was established on 1 January 2005 by joining several state administrative establishments which are subordinate to the Ministry of Environment and which implement national environmental protection policies, by exercising state control and supervision in the sphere of environmental protection and in the use of natural resources. The Service will allow for a more qualitative and integrated approach in resolving issues related to the reduction and control of pollution, including the management of hazardous chemical substances and POPs.

The State Environmental Service and its regional units perform essential tasks related to the management of POPs:

- Issuing of permits for A and B category polluting activities (incl. PCB or PCB containing waste or equipment disposal).
- Issuing of permits for the collection, transshipment, sorting and storage of waste.
- Control over activities involving chemical substances, chemical products and biocides present in manufacturing and professional use, as well as the supervision of the compliance of these activities with environmental protection laws and regulations.
- Collection of information on PCB containing equipment and submission of this information to the Latvian Environmental, Geological and Meteorological Agency annually.
- Registration of polluted and potentially polluted sites (military pollution sites are registered as a result of an assessment by the Ministry of Defence).
- Supervision and control of the assessment and remediation of polluted or potentially polluted sites, except for polluted or potentially polluted sites administered by the Ministry of Defence.
- Control over activities involving chemical substances, products and biocides present in manufacturing and professional use, as well as the supervision of compliance of these activities with environmental protection legislation.
- Control over special restrictions and limitations of activities involving specific hazardous chemical substances (incl. PCBs) and products or materials that contain hazardous chemical substances or products, or are treated with these substances or products.

Latvian Environmental, Geological and Meteorological Agency

The Latvian Environmental, Geological and Meteorological Agency (LEGMA) was established in accordance with the law *On Public Agencies* on 1 January 2005 by joining several state administrative establishments subordinate to the Ministry of Environment. The LEGMA will allow for a better inventory of the possible sources of POPs and the monitoring of POPs in the air, water and soil. The main functions of LEGMA in relation to POPs management are:

- Creation and maintenance of a chemical substance and product database.
- Evaluation of the hazardous chemical substances or products that might be imported or produced, accordingly informing the State Environmental Service, State Sanitary Inspectorate, the State Labour Inspectorate or the State Fire-fighting and Rescue Service.
- Collating the information on PCB containing equipment and ensuring the availability of this information to the general public.
- Collating the information on polluted or potentially polluted sites throughout the country.
- Issue of administrative statements on the registration, temporary registration or issued permits for chemical substances or products and biocides.
- Maintenance of the air quality database, which is an integral part of the common environmental data information system.
- Observation of air quality and its impact on ecosystems in cooperation with several environmental protection institutions, and provision of this evaluation within the framework of international, national and regional projects and programs.

- Warning about hazardous and catastrophic phenomena connected with air quality changes that may cause extreme situations, destruction and emergencies.

THE MINISTRY OF AGRICULTURE

The Ministry of Agriculture (MA) is a government body that together other government institutions is mainly responsible for the development and implementation of the state agricultural policy in the areas of agriculture, forestry and fishing, as well as the coordination of these activities.

The MA is responsible for the development of sectoral regulations and draft political documents, incl. Plant Protection Measures (PPM), as well as for organizing state supervision and control of food distribution.

State Plant Protection Service

State Plant Protection Service (SPPS) is a state institution subordinated to the Ministry of Agriculture and is responsible for organizing and implementing the state supervision in the area of plant protection.

The main functions of SPPS in relation to POPs management:

- Assessment and registration of PPM, including POP pesticides, as well as the maintenance of the PPM register.
- Provision of distribution control of PPM in Latvia.
- Issue of certificates to allow the performance of tests to verify the effectiveness of PPM.

Food and Veterinary Service

The Food and Veterinary Service (FVS) is a state institution subordinated to the MA, and it is responsible for state supervision and control functions as regulated by legislation.

The main functions of FVS in relation to POPs management are:

- Control of pesticides (including POPs pesticides), pesticide residue quantities in food products of plant origin, as well as the quantities of pesticide and PCB residues in food products of plant and animal origin.

MINISTRY OF WELFARE

The Ministry of Welfare (MW) is the leading government body in the areas of employment, social protection and gender equality.

The MW is responsible for the development of sectoral regulations and draft policy planning documents, including the labour and social protection sectors.

State Labour Inspectorate

The State Labour Inspection (SLI) is a state institution subordinated to the Ministry of Welfare and is responsible for the implementation of measures that ensure the efficient implementation of state policy in the areas of employment, labour protection and the monitoring of dangerous equipment.

The main function of SLI in relation to POPs management:

- Verifying the compliance with special limitations and restrictions regarding activities involving several hazardous chemical substances (incl. PCBs) and products or materials that contain or are treated with hazardous chemical substances or products.

THE MINISTRY OF HEALTH

The Ministry of Health is the leading government body in the area of health ; it includes public health, health care, pharmacy and legal narcotic substance distribution sub-sectors.

The Ministry of Health is responsible for the development of sectoral regulations and draft politicy planning documents, participates in the development of chemical substance and product distribution policy, ensures state control and supervision in the area of drinking water, chemical substances and chemical product trade and use.

State Sanitary Inspectorate

The State Sanitary Inspectorate (SSI) is a state institution subordinated to the Ministry of Health and is responsible for the protection of public health and the state supervision and verification of compliance with the regulations for consumer rights in Latvia, including the safety of drinking water, the trade and consumption of chemical substances and chemical products.

The main function of SSI in relation to POPs management is:

- verification of compliance with the special limitations and restrictions for activities involving specific hazardous chemical substances (incl. PCBs) and products or materials that contain or are treated with hazardous chemical substances or products.

The Public Health Agency

The Public Health Agency (PHA) is a state institution subordinated to the Ministry of Health and was created in accordance with to law *On the Establishment of Public Agencies*, the law *On Epidemiologic Safety*, as well as other regulations. PHA is responsible for the implementation of the state public health policy in Latvia.

The main functions of PHA in relation to POPs management are:

- Development of programs and projects aimed at improving public health and participating in their implementation, as well as implementating the public health action plan within its area of responsibility.
- Cooperation with the Ministry of the Environment in the evaluation of the correlation between environment and public health and the development of proposals for the improvement of the public health.
- Provision of laboratory testing of chemical samples.
- Management of emergency situations in accordance with the procedures regulated by legislation.
- Drinking water quality monitoring.
- Organizing and undertaking research in the area of public health.

The Latvian Food Centre

The Latvian Food Centre (LFC) is a state institution subordinated to the Ministry of Health and is responsible for several undertakings in the area of food distribution.

The main functions of the LFC in relation to POPs management are:

- Coordination of state supervision and control of food distribution;
- Informing the public on the current innocuousness of food and nutrition issues;
- Organizing, coordinating and drafting food distribution legislation within the scope of LFC responsibilities.

MUNICIPALITIES

The main functions of municipalities in relation to POPs management are[1]:

- In cooperation with the regional unit of the State Environmental Service, organization of polluted and potentially polluted site assessments and initial evaluations in their respective administrative territory;

[1] Covers administrative territory of each municipality.

- Organization of domestic waste management, including hazardous domestic waste management;
- Decision-making regarding the location of new domestic waste recycling facilities and disposal sites;
- Issuing binding legislation regulating domestic waste management, as well as the renumeration procedure for the management of the domestic waste;
- Decision-making on the location of new hazardous waste incinerators and disposal sites.

OTHER INSTITUTIONS INVOLVED IN POP MANAGEMENT

- **Ministry of Defence** (MD) – government institution, providing proposals for restrictions on military pollution sites that are not administered by the MD, as well as defining the limitations in the territories that are administered by the Ministry. The Ministry of Defence supervises and controls the assessment and remediation of the polluted and potentially polluted sites within its administrative jurisdiction.
- **Sanitary Border Inspection** (SBI) – Food and Veterinary Service unit, responsible for control of the import, transit and export of food products, as well as non-food products including PPM, across the Latvian border.
- **State Fire-fighting and Rescue Service** (SFRS) – institution subordinated to the Ministry of Interior, responsible for organizing rescue operations, the prevention of emergencies and accidents (also involving chemicals). SFRS also takes part in the assessment of industrial facilities and the definition of risk reduction measures, and conducts inspections of high risk facilities.

2.4. International Obligations and Liabilities

Due to the impact caused by globalization, environmental issues can no longer be resolved within the confines of the territory of a single country and thus multi-partner agreements, including those on the global, or UN regional level become even more important. Latvia has actively participated in several international processes and thus gained not only valuable experience, but has also contributed to more rapid and efficient solutions to global problems, including through the mobilisation of funds from the Global Environmental Facility and other financial instruments. As a member state of the EU, Latvia follows the EU position in its obligations to international agreements which usually calls for the fulfillment of obligations at earlier dates than those set in international agreements.

2.4.1. Conventions

The Latvian government has signed and ratified many international conventions, some of which are connected to POPs (see Table 9).

Table 9. Conventions Signed by Latvia Related to POPs

Title	Signed by Latvia	Ratified/ associated by Latvia
Protocol *On Long-term financing of the Common Program for Observation and Assessment of Long-range Air Pollution in Europe* to the Convention *On Long-range Transboundary Air Pollution*, Geneva, 1984	–	17.01.1997
Convention *On Transboundary Effects of Industrial Accidents* , Helsinki, 1992	17.03.1992.	07.04.2004

Convention *On Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade*, Rotterdam, 1998	–	13.03.2003
Convention *On the Protection of the Marine Environment of the Baltic Sea Area*, Helsinki, 1992	09.04.1992	03.03.1994
Convention *On Border Crossing Transportation and Removal of Harmful Wastes*, Basel, 1989	18.12.1991	18.12.1991
Convention *On Long-range Transboundary Air Pollution,* Geneva, 1979	07.06.1994	07.06.1994
Protocol *On Persistent Organic Pollutants* to the Convention *On Long-range Transboundary Pollution*, Aarhus, 1998	24.06.1998	–
Convention *On Persistent Organic Pollutants*, Stockholm, 2001	22.05.2002	–
Amendments to the Basel Convention *On Border Crossing Transportation and Removal of Harmful Wastes*, 1995	12.02.2003	12.02.2003

2.4.2. International Organizations and Programs

Latvia became the member state of the United Nations (UN) in 1991 and has established a close cooperation with several UN units since then. In Latvia, the UN system is represented by various funds, programs and agencies.

- Latvia joined the *Food and Agriculture Organization of the United Nations* (FAO) in 1991;
- The *United Nations Children's Fund* (UNICEF) Latvian National Committee was established in 1993;
- The *United Nations Development Program* (UNDP) bureau was established in Latvia in 1993. UNDP coordinates the work of all UN agencies and programs in Latvia, and represents UN agencies that do not have branch offices in Latvia;
- Latvia joined the *World Health Organization* (WHO) in 1991;
- Latvia became a member state of the *Global Environment Facility* (GEF) in 1994. The GEF national coordinator is the Ministry of the Environment, coordinating cooperation with specific GEF projects in Latvia.

Latvia became the member of the *International Labour Organization* (ILO) in 1919 and was one of the organization's founding countries (Latvia reestablished its status in ILO in 1991). The ILO national coordinator is the Ministry of Welfare.

Latvia also participates in a number of EU institutions that are directly connected with POPs:

- Latvia is an official member state of the *European Environment Agency* (EEA)and the *European Environment Information and Observation Network* (EIONET) since 2000. The EIONET national coordinator is the Latvian Environmental, Geological and Meteorological Agency (LEGMA). The principal responsibilities of LEGMA in regard to EIONET involve data and information compilation and the submission of European Environmental Reports;
- Latvia is a participant of the *Intergovernmental Forum on Chemicals Safety* since 2002. The National IFCS coordinator is LEGMA, responsible for developing, maintening and updating the chemical substance and products registers according to EU requirements;

- The *Chemical Legislation European Enforcement Network* (CLEEN) began its activities in Latvia in 2003. The CLEEN national coordinator is the Ministry of the Environment;
- Latvia has been participating in the *European Network for the Implementation and Enforcement of Environment Law* (IMPEL) since 1997;
- Latvia is a member of the Consulting Council of the *European Food Safety Authority* (EFSA) since 2004. The EFSA national coordinator is the Food and Veterinary Service.

2.7. Registration of New Chemical Substances

The registration of new chemical substances in Latvia is regulated by the CM Regulation No. 340 *Procedure for the Import, Notification and Risk Assessment of New Chemical Substances*, adopted on August 6, 2004. The Regulations include the legal requirements set out by Council Directive 67/584/EEC of 27 June 1967 *on the approximation of the laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances* and its Annexes, in particular Council Directive 92/32/EEC of 30 April 1992 amending for the seventh time Directive 67/548/EEC on the approximation of the laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances, and Commission Directive 2001/59/EC of 6 August 2001 adapting to technical progress for the 28th time Council Directive 67/548/EEC on the approximation of the laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances, as well as Commission Directive 93/67/EEC of 20 July 1993 laying down the principles for assessment of risks to man and the environment of substances notified in accordance with Council Directive 67/548/EEC.

The CM Regulations No. 340 define the notification procedure for new chemical substances and the procedure for human health risk assessment. The Regulations do not apply to new chemical substances that are used solely as the active ingredients of pharmaceuticals (except intermediate products), biocides or PPM. Registration of these substances is the subject of other regulations.

Legal entities planning to import new chemical substances for experimental manufacturing purposes must submit a written application containing all the required information to LEGMA. The Director of LEGMA then appoints a commission for the evaluation of the application and an assessment of the risk to the environment and human health. The Commission consists of at least one LEGMA and Public Health Agency representative, as well as toxicology and ecotoxicology experts.

LEGMA is responsible for the registration and accounting of new chemical substances. However, LEGMA is not entitled to reject the registration of the new chemical substance on the basis of an international convention, for instance.

3. Overview of the Current POPs Situation

Systematic measures for the prevention of the risk caused by POPs were first undertaken only a decade ago. Although much has been accomplished, there still remain significant problems in relation to POPs.

3.1. POPs

POPs are halogen containing carcinogenic, toxic and mutagenic substances and can travel long distances through the air and water and can accumulate in land and aquatic ecosystems. POPs may be found in the air, food and water. POPs may cause cancer, the development of genetic defects, fertility problems, increase the vulnerability to diseases, affect the nervous system and cause mental development impairments. Fetuses and children are especially vulnerable to the impact of POPs caused by receiving nourishment through the placenta, from mother's milk or utilizing products that have comparatively large POPs concentrations.

3.1.1. POPs Pesticides

POPs pesticides are persistent chlorinated organic compounds capable of bioaccumulation and bioconcentration. Pesticides are among the first group of substances widely used for plant pest and disease suppression. The most common and widely used POP pesticide is DDT, but the Convention and Protocol also include chlordane, dieldrin, endrin, heptachlor, mirex, toxaphene, aldrin and lindane.

PAST, CURRENT, FUTURE PRODUCTION, USE, IMPORT, AND EXPORT AMOUNTS OF POPS PESTICIDES

Information on POPs pesticide production, use, import and export in the past is incomplete. Data collected under the UNDP/GEF project *Development of a National Implementation Plan for the Stockholm Convention on Persistent Organic Pollutants* indicate that none of the POPs pesticides have ever been produced in Latvia, and only DDT, lindane and toxaphene have been imported into the country in the past.

❑ **DDT.** Information on the total amounts of DDT imported into Latvia is incomplete. According to NES and SPPS data 367 tons of DDT were utilized in Latvia between 1961 and 1967 (see Figure 6). The main usage types of DDT were: as an insecticide for the treatment of sugar beets, potatoes, animal feed, fruit and vegetables; as a biocide to suppress livestock parasites. The use of DDT has been banned in Latvia since 1968.

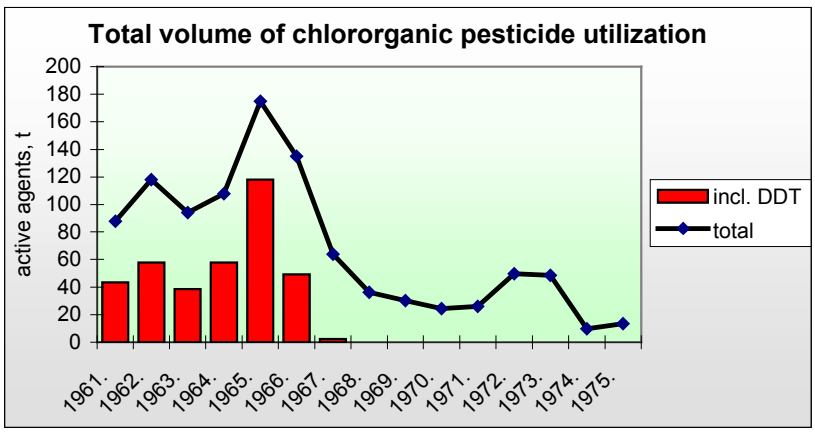

Figure 6. Total quantities of Chlorinated Organic Pesticides and DDT Utilized in Latvia

❑ **Toxaphene**. There is no data on the amounts of toxaphene imported into Latvia in the past, but there is information on toxaphene use between 1966 and 1993 (see Figure 7). The main type of toxaphene use was as an insecticide to control the potato leaf-cutting beetle and beet fly. Toxaphene use in Latvia has been banned since 1993.

❑ **Lindane**. There is incomplete information on the total quantities of lindane imported and utilized in Latvia. According to the LEGMA and SPPS databases, 49 tons of lindane were imported into Latvia from 1995-99. The use of lindane has been banned in Latvia since 1999. The main types of lindane applications were: as a multiple-effect insecticide used to control forest pests and non-productive fruit garden, crop and beet pests.

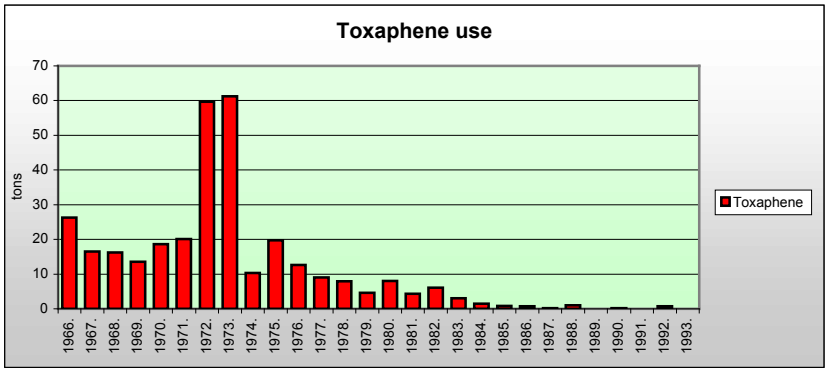

Figure 7. Total Quantities of the Pesticide Toxaphene Utilized in Latvia

CURRENT POPS PESTICIDE STOCKPILES

An evaluation of POPs pesticide storage sites was initiated in 1996. Practically all unusable pesticide waste (from more than 600 substances) has been collected, re-packaged and transported for temporary storage Kņava non-liquid chemical disposal site and the Gardene hazardous waste facility managed by the stock company "BAO". These measures were implemented under the *Poland and Hungary Action for the Restructuring of the Economy* (PHARE) and state investment programs for the period 1997 – 1999.

Currently more than 1860 tons of hazardous waste are stored at the Kņava and Gardene hazardous waste disposal sites:

- ~ 200 t DDT;
- ~ 5 t toxaphene;
- ~170 t lindane;
- over 200 t of pesticide mixture containing lindane and DDT.

POPS PESTICIDE MANAGEMENT

POPs pesticide use, import and export is regulated by the legislation that regulates the use, import and export of PPM, as well as the legislation regulating hazardous chemical substance and product use and trade (see Table 10).

Table 10. Principal Legislation Regulating PPM Production, Use, Import and Export

TITLE	DATE OF ADOPTION
Law *On Plant Protection*	December 17, 1998
CM Regulations No. 470 *Procedure for issuing special permits (licenses) for the distribution of plant protection products*	April 29, 2004
CM Regulations No. 463 *Plant protection products distribution, storage and use*	April 29, 2004
CM Regulations No. 217 *On forbidden plant protection products*	March 30, 2004
CM Regulations No. 156 *Procedure for the registration of plant protection products*	March 23, 2004
CM Regulations No. 158 *On the restrictions and bans for the use and trade of hazardous chemical substances and products*	April 25, 2000

Restrictions on the import, distribution and use of pesticides is regulated by the law *On Plant Protection.*

None of the existing regulations forbid the production of POPs pesticides.

New plant protections measures are verified and evaluated by an independent expert commission and decisions on registration are taken by the SPPS.

POPs pesticide waste management is regulated by legislation on waste and hazardous waste management (see Table 11).

Table 11. Principal Legislation Regulating Hazardous Waste Management

TITLE	DATE OF ADOPTION
Law *On Waste Management*	December 14, 2000
CM Regulations No. 316 *Procedure for the import of waste for processing into the state and the procedure for the export and transit of waste*	April 15, 2004
CM Regulations No. 319 *Procedure for the registration, identification, storage, packaging, labeling and the accounting of transported cargo*	July 23, 2002
CM Regulations No. 432 *Issue of waste management permits, their prolongation and termination*	October 9, 2001
CM Regulations No. 323 *Requirements for the incineration of waste and the operation of waste incinerators*	July 17, 2001
CM Regulations No. 258 *On waste classification and the characteristics that make waste hazardous*	June 19, 2001
CM Regulations No. 294 *Procedure for the application to perform A, B and C category polluting activities and procedure for the issue of permits for A and B category polluting activities*	July 9, 2002

According to the hazardous waste management legislation, POPs pesticide waste is classified as hazardous; activities with this waste require State Environmental Service issued permits for their collection, storage and transportation, or A, B category permits. The accounting, packaging, storage and recycling of POPs pesticide waste must be conducted in accordance with the regulations of the Cabinet of Ministers to ensure no harm is done to the environment, human health and life.

POPs pesticide management is the responsibility of four ministries (MA, MH, ME, MW) and their subordinate units. The central institution is SPPS, responsible for the development of the sector legislation and the coordination for its implementation, the evaluation and registration of PPMs, as well as the organization of training programs for PPM users and consultants. The FVS is responsible for the control of pesticide residues in products of plant and animal origin, and PHA is responsible for the control of pesticide residues in drinking water. Other institutions involved in POPs pesticide management are: SSI, SLI, LEGMA, NES and the municipalities.

3.1.2. Polychlorinated Biphenyls

PCBs are chlorinated biphenyls with varying degrees of chlorination. In Latvia, PCBs are found in transformers manufactured in the former USSR marked ТНЗ, as well as in КС type capacitors. Research indicated that КМ and КЭ type capacitors may also contain PCB concentrations more than 50 ppm. Transformers used for military purposes might also contain PCBs; however, information in this regard is scarce.

Capacitors and transformers used in Latvia were mainly produced in the former USSR (now Kazakhstan, Uzbekistan and the Russian Federation). Capacitors installed in Latvia after 1991 do not contain PCBs.

The main sectors of industry in Latvia still using PCB containing equipment include power production and transmission, the chemical and petrochemical industry, ferrous metallurgy, wood processing and the pulp and paper industry. Large volumes of PCBs are used in the security area in electric installations, as well as additives to hydraulic oils.

PAST, CURRENT AND FUTURE PRODUCTION, USE, IMPORT AND EXPORT QUANTITIES OF PCBS AND PCB CONTAINING EQUIPMENT

PCBs or PCB containing equipment were never manufactured or exported from Latvia, but they have been used and are still used as thermo insulating materials in transformers and as dielectrics in capacitors.

There is no information regarding the quantities of imported and used PCBs or PCB containing equipment in the past.

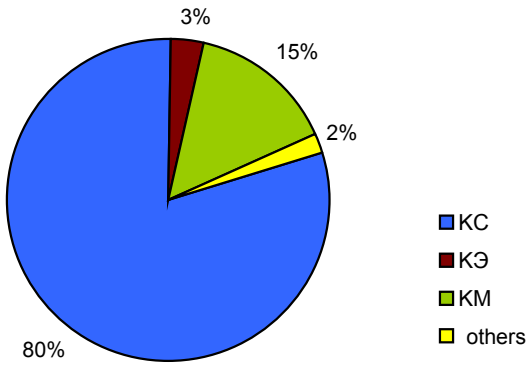

Figure 8. Division of PCB Containing Capacitors Identified in Latvia by Type

The inventory conducted under the UNDP/GEF project *Preparation of a National Implementation Plan for the Stockholm Convention on POPs* allowed for an identification of the quantities of PCB containing equipment currently in use, as well as the quantities of PCB waste. According to the inventory data 4265 capacitors (gross weight 139 343 kg) and 34 transformers (gross weight 231 634 kg) are still in use in Latvia. The inventory is still being completed, however, and the data will be updated.

The Majority (3519 or 83%) of the identified capacitors are of the KC type (see Figure 8), and these are filled with synthetic oils. These capacitors were manufactured in the Serpuhova and Ustykamenogorsk plants of the former USSR. Capacitors of other types (KM, КЭ) contain mineral oils or electrolytes containing PCB additives.

PCB containing capacitors are mainly used by large enterprises that need to ensure a constant current voltage (reactive capacity) for the operations of various installations and equipment, as well as by companies experiencing conditions of high fire hazard or explosiveness. 40 companies in Latvia use around 80% of the identified PCB containing capacitors. The location of the PCB containing capacitors in Latvia by region is directly related to the location of the major industrial companies (see Figure 9). The majority (3546 or 83% of the total) of identified capacitors are located in Lielrīga region – including the Rīga and Ogre districts.

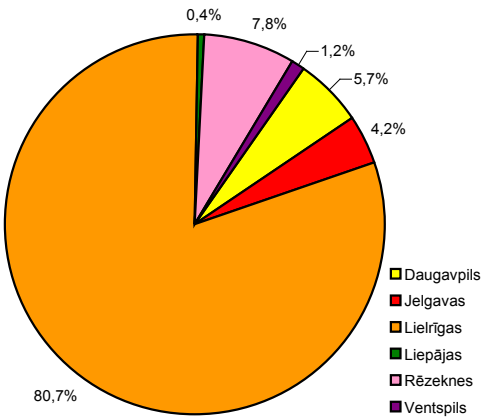

Figure 9. Location of PCB Containing Capacitors Identified in Latvia by Region

Over 85% no of the identified PCB containing capacitors were produced prior to 1980 (see Figure 10). A large number (2980) of identified capacitors were manufactured in 1978 and 1979.

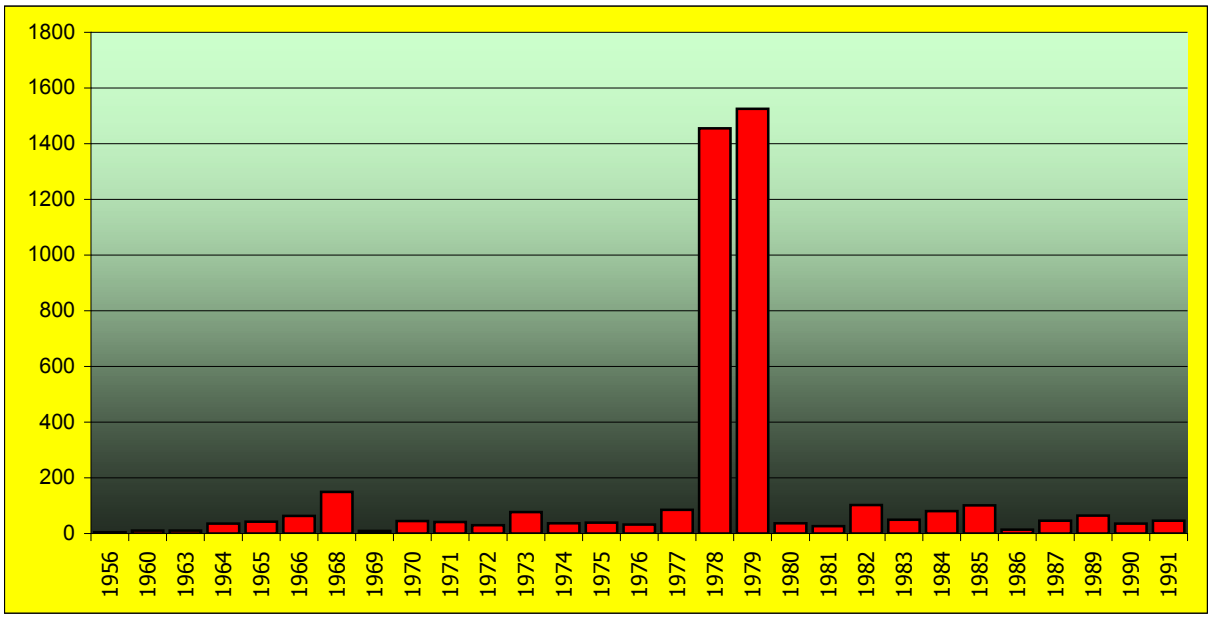

Figure 10. Division of PCB Containing Capacitors Identified in Latvia by Production Year

Almost all the PCB containing transformers identified in Latvia are located in Liepāja region (see Figure 11) and are the property of a metallurgy company; substituting the equipment would impact on the operation of the enterprise.

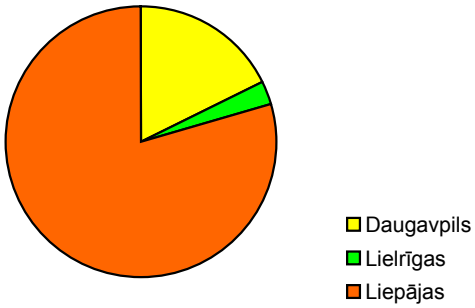

Figure 11. Location of PCB Containing Transformers in Latvia by Region

CURRENT STOCK OF PCBS AND PCB CONTAINING EQUIPMENT

According to estimates devised by experts under the UNDP/GEF project *Preparation of a National Implementation Plan for the Stockholm Convention on POPs* the use of ~ 750 capacitors (approximately 30 tonnes) might have been discontinued.

Equipment that is no longer operational is stored within the territory of the companies. Some companies have built dedicated storage facilities for this purpose, however, in the majority of the cases non-serviceable capacitors are, for instance, sometimes located next to the batteries of capacitors still in use.

PCB MANAGEMENT

The use, import and export of PCBs is regulated by the legislation that also regulates the use and trade of hazardous chemical substances and products; the management of PCB containing waste is regulated by legislation on hazardous waste management (see Table 12). There are no regulations banning or restricting the manufacture of PCBs or PCB containing equipment.

Table 12. Principal Legislation Regulating Hazardous Chemical Substances and Hazardous Waste (incl. PCBs) Management

TITLE	DATE OF ADOPTION	REQUIREMENTS RELATED TO POPS
CM Regulations No. 117 *Requirements for the use and labeling of specific equipment and products containing hazardous substances and list of environmentally hazardous substances*	March 12, 2002	Regulate the use and labeling of PCB containing equipment, the procedure for the treatment and disposal of PCB containing equipment and the manner in which the PCBs contained therein should be incinerated or destroyed before January 1, 2010. The regulations stipulate that if the PCB content of the equipment exceeds 5 cm^3, the owner or operator of the equipment shall inform the NES. The NES, in turn, compiles the received information annually and submits it to LEGMA. The equipment shall have clearly engraved or specially carved labeling prior to the treatment, incineration or disposal of the contained PCBs.
CM Regulations No .529 *Procedure for the management of several types of hazardous waste*	December 18, 2001	Regulate the procedure for the management of PCB waste.
CM Regulations No. 158 *Restrictions and bans on the use and trade of hazardous chemical substances and products*	April 25, 2000	Ban the use of PCB containing equipment (with some exceptions). According to the regulations, in some exceptional cases the equipment may be used until the expiry of its validity, if an NES issued permit has been received and there exists appropriate labeling on the equipment.

Control over the adherence to the provisions of the legislation mentioned in Table 12 is exercised by NES, SLI and SSI.

PCB management is the responsibility of three ministries (MH, ME, MW), and their subordinate units. There is, however, no central controlling institution. Several other institutions are also involved in PCB management: LEGMA, NES, SLI, SSI, PHA and the municipalities.

3.1.3. POPs Emissions

POPs emissions are leakages of POPs into air, water or soil from stationary or diffusive pollution sources generated as a result of polluting activities. For the purpose of this document the definition of POPs emissions shall mean dioxin, furan and PAH emissions into the air.

ASSESSMENT OF PAST, PRESENT AND FUTURE EMMISSIONS OF POPS

Systematic measurements of POPs emissions have not been conducted in Latvia so far.

Furan and dioxin emissions were first assessed in Latvia in 2002 within the framework of the *Danish Cooperation for Environment in Eastern Europe* (DANCEE) project *Inventory of Dioxin and Furan Releases in Latvia*, and in 2004 assessment of emissions (incl. PAH emissions) conducted under the UNDP/GEF project *Preparation of a National Implementation Plan for the Stockholm Convention on POPs*.

The DANCEE project assessment was conducted on the basis of data on emissions of dioxins and furans in other countries. The assessment indicates that the overall annual dioxin and furan emissions in Latvia are 23.0 g I-TEQ (dioxin toxicity equivalent) with an accuracy limit of 2.8 – 63.0 g I-TEQ. The main reason behind the relatively low accuracy limit is the imprecise data on uncontrolled POPs emissions.

According to the UNDP/GEF project results, annual dioxin and furan emissions in Latvia are 27.23 g I-TEQ (see Table 13) with an accuracy limit of 21.45 – 40.26 g I-TEQ (data reflect 2002 and 2003 volumes). The main sources of dioxin and furan emissions are uncontrolled combustion processes (71.26%), and moreover, around a third (34.52%) of furan and dioxin emissions are generated by accidents involving fires at waste disposal sites. The main emission sources (18.33%) in the area of power production and heating supply are biomass power-plants, heating and food processing.

Table 13. Assessment of Dioxin and Furan Emissions into the Air

Source of emission	Potential emissions (g I-TEQ/year)		% of the average emissions
	Average emissions	Amplitude	
Waste incineration	0.60	0.389 – 0.812	2.19
Hazardous waste incineration	0.03	0.020 – 0.046	0.11
Medical waste incineration	0.57	0.369 – 0.766	2.09
Power production and centralized heating supply	4.99	4 – 6	18.33
Transport	0.05*	0.02 – 0.07*	0.18
Uncontrolled combustion processes (accidental fires)	19.40	16.37 – 22.43	71.26
– incl. accidental fires in waste disposal sites	9.40	–	34.52
– incl. accidental fires in ind. premises, plants	5.56	–	20.42
– incl. uncontrolled waste burning	3.55	–	13.04
– incl. others (forests, bogs, old grass)	0.89	–	3.28
Metalworking	1.5*	0.24 – 10*	5.51
Mineral material production	0.035	0.015 – 0.056	0.13
Concrete production	0.035	0.015 – 0.055	0.13
Glass production	0.00004*	0.00001 – 0.0002*	0.0001
Various (crematoria, smoking, etc.)	0.02*	0.008 – 0.03	0.07
Total	**27.23**	**21.45 – 40.26**	**100 $_{-21}^{+48}$**

- Industrial sectors where POPs emissions have not been specified under the UNDP/GEF project *Preparation of the POPs National Implementation Plan under the Stockholm Convention* (data from DANCEE)

The amount of dioxin and furan emissions in water is calculated in the area of 0.08-0.32 g I-TEQ. An average of 27 g I-TEQ remains as waste from various processes (sediments, ash and such).

The first PAH (benzo(a)pyrene, benzo[b]fluoranthene, benzo[k] fluoranthene and indeno[1,2,3c,d]pyrene) emission assessment was conducted in 2004 under the UNDP/GEF project *Preparation of a National Implementation Plan for the Stockholm Convention on POPs*. According to the results of the 2002-2003 assessment, the PAH emission level in Latvia was 12.1 – 15.6 t/year (see Table 14).

Table 14. Annual Quantities of PAH Emissions within the Main Emission Sources

Source of emission	Emission Qunatities, t/year	Percentage of emissions (%)
Domestic – coal combustion – wood combustion	8.25–10.54 ≈ 9.4 0.05–0.14 ≈ 0.10 8.2–10.4 ≈ 9.3	68.1 0.7 67.4
Energy production and industry – coal combustion – wood combustion	2.23–2.64 ≈2.4 0.03–0.04 ≈ 0.035 2.2–2.6 ≈ 2.4	17.7 0.3 17.4
Road transportation emissions	0.05–0.07 ≈ 0.06	0.4
Uncontrolled biomass combustion	1.52–2.36 ≈ 1.9	13.8
TOTAL:	12.1–15.6 ≈ 13.8	100 ± 2

The largest source of PAH emissions in Latvia is the domestic combustion of wood (8.25 – 10.54 t or ~ 68 % of the total volume). Energy production and the industry sector emit 2.23 – 2.64 t or ~ 17 –18% of the total volume, and uncontrolled biomass combustion processes generate 1.52 – 2.36 t or ~ 13 –15% of all emissions. Road transportation generates a comparatively small level of PAH emissions and reaches a mere ~ 0.5% of the overall annual quantity of emissions.

POPs EMISSION MANAGEMENT

POPs emission management is based on the law *On Pollution* and the law *On Waste Management*, as well as the CM Regulations issued on the basis of the aforesaid legislation (see Table 15). None of the regulations stipulate the annual maximum allowable dioxin and furan emission quantities that can be released into the air.

Table 15. Principal Legislation Regulating POPs Emissions

TITLE	DATE OF ADOPTION	REQUIREMENTS RELATED TO POPS
Law *On Pollution*	March 15, 2001	Stipulates that the operator of polluting activities should receive an A or B category permit at the NES. The operator shall be responsible for the regular control of the quantity of emissions, shall perform monitoring and provide information. Control over compliance with the permit requirements is exercised by the NES inspectors.
Law *On Waste Management*	December 14, 2000	

CM Regulations No. 162 *On the environmental monitoring and register of pollutants*	April 8, 2003	Indicate the highly hazardous water and air polluting substances, as well as regulate: • the procedures for environmental monitoring and their requirements; • the procedures for monitoring when conducted by an operator; • the procedures for the reporting of environmental monitoring results by operators; • the procedures for establishing the LEGMA pollutants register and ensuring the availability of this information to the general public. The list of air polluting and hazardous substances includes: hexachlorobenzene, hexachlorocyclohexane, PAH (benzopyrene, benzofluoranthene, indopyrene), polychlorinated dioxins and polychlorinated furans. The list of water polluting and hazardous substances includes: aldrin, dieldrin, endrin, hexachlorobenzene, hexachlorocyclohexane, PAH (benzopyrene, benzofluoranthene , indopyrene) and PCBs.
CM Regulations No. 294 *Procedure for the application to perform A, B and C category polluting activities and procedure for the issue of permits for A and B category polluting activities*	July 9, 2002	Regulates the procedure by which permits for A and B category permits for polluting activities are to be issued.
CM Regulations No. 34 *On pollutant emissions into the water*	January 22, 2002	Regulate the emission limit values that sould be observed by operators discharging substances into water. The regulations define the following highly hazardous pollutants: aldrin, DDT, dieldrin, endrin, hexachlorobenzene, hexachlorocyclohexane. The regulations also define the water polluting PAHs: benzopyrene, benzofluoranthene, indopyrene and PCBs.
CM Regulations No. 323 *Requirements for waste incineration and the operation of waste incinerators*	July 17, 2001	Stipulate POPs emission limit values for dioxins and furans emitted into the air and water as a result of waste incineration. The regulations also stipulate that maximum limit values for dioxin and furan concentrations into the air after the treatment of gases should not exceed 0.1 ng/m^3 (the total concentration calculated according to I-TEQ of the gas), and should not exceed 0.3 ng/l into the wastewaters generated from the treatment of the gases.

POPs emission management is carried out by three ministries (MH, ME, MW), and their subordinate units, however, there is no centralized controlling institution. Other institutions involved in POPs emission management are : LEGMA, NES and PHA.

3.2. POPs Polluted and Potentially Polluted Sites

The management of POPs polluted and potentially polluted sites is not specially separated from the management of polluted and potentially polluted sites in general.

The assessment and evaluation of polluted and potentially polluted sites in Latvia began in the 1980-ies. Special attention was paid to the sites that were used for the storage of hazardous industrial waste. The most notable of these sites were Olaine, Inčukalns, Jelgava, Daugavpils and Getliņi. Admittedly, the technical equipment was different in each one of sites. The construction quality was low and the initial design was not reflected in the final product. Only the Olaine chemical waste disposal facility was equipped with anti-infiltration measures and a concrete barrier, while the Jelgava waste ponds were built on stratified clay soil. The following list indicates the composition of the waste stored at the aforementioned disposal facilities:

- Olaine – liquid, solid and paste-like industrial waste from the Olaine Chemical-Pharmaceutical Plant;
- Daugavpils – Daugavpils Chemical Fiber Plant waste;
- Getliņi – industrial waste;
- Inčukalns – industrial waste from the Riga Petroleum Refinery (tar);
- Jelgava – industrial waste from industrial enterprises of the city of Jelgava.

There is a lack of information regarding the presence of POPs in the available soil and groundwater analyses, except for the evaluations performed during different periods since 1996, when the waste disposal sites of other cities were also assessed.

Notable organizational and practical work was initiated after the adoption of the CM Regulations No. 483 *Procedure for the assessment and registration of polluted and potentially polluted sites, adopted* on November 20, 2001, (POPs are not especially separated in the Regulations). The CM Regulations No. 483 regulate the conditions and methods for assessment, financing, registration of polluted and potentially polluted sites, as well as the procedures for the collection and use of information from these sites. Municipalities and the NES are the main stakeholders in the assessment and registration of polluted and potentially polluted sites. Some tasks, however, are also assigned to LEGMA, MD and ME (see Table 16).

Table 16. Principal Institutions Responsible for the Assessment and Registration of Polluted and Potentially Polluted Sites

Institution	Functions in regard to polluted and potentially polluted sites
LEGMA	▪ Coordination of a common methodology for the assessment of polluted and potentially polluted sites. ▪ Development of a database on polluted and potentially polluted sites based on information submitted by the NES. ▪ Provision of a mutual information exchange with the State Land Service. ▪ Publication of information on polluted and potentially polluted sites in Latvian Environment Reports at least once every two years.
Municipalities	▪ Compilation of information (general information about facilities) on potentially polluted sites based on information provided in registration forms. ▪ Evaluation of compiled information on potentially polluted sites according to CM Regulations No. 483. ▪ Submission of results of the assessment and evaluation of potentially polluted sites to

	the NES. ▪ Based on the NES decision concerning the necessity for the additional assessment of potentially polluted sites within their administrative territory, the municipalities evaluate the results of the assessment and submit the results to the NES.
NES	▪ Registration of polluted and potentially polluted sites within their area of responsibility. ▪ Establishment of working groups on the registration of polluted and potentially polluted sites, inviting representatives of municipalities and MH, ME, MD and their subordinate units. ▪ Based on the recommendations of the working group, take decisions for additional assessments. ▪ Based on the priorities of the working group, take decisions on the performance of remediation.
MD	▪ Assesses polluted and potentially polluted sites within its administered areas.

POPs Contaminated Sites

POPs pesticide polluted and potentially polluted site assessments and evaluations have been conducted under the UNDP/GEF project *Preparation of a National Implementation Plan for the Stockholm Convention on the POPs*. The basic criteria for choosing a site were the quantities of POPs in a particular storage site, as well as the extent of use of POPs. Two soil samples were taken from each site (0 – 30 cm depth). In 7 out of 13 sample sites, the DDT and its metabolite concentration exceeded 1 mg/kg (according to the guidelines used by Denmark, the Netherlands, Norway and Sweden the soil is considered polluted), but none of the sample sites exhibited lindane or toxaphene pollution. In general, the results of the sampling show that some sites have local POPs pesticide pollution and that the level of pollution is low.

PCB Contaminated Sites

PCB polluted and potentially polluted site assessment and evaluation was also conducted under the UNDP/GEF project *Preparation of a National Implementation Plan for the Stockholm Convention on POPs*. The basic criteria for choosing the sites was the location of the major communications centres in the former USSR army bases; to define the pollution in internal surface waters, sediment sample sites in the Daugava were also taken. From each chosen site, one sample was taken to analize the quantities of PCBs and in the case of former Soviet army bases, the number of samples taken was increased to two. PCB pollution was discovered in 21 out of 30 sample taking sites. In 8 cases, PCB concentrations exceeding 20 μg/kg were discovered (according to guidelines used by Denmark, the Netherlands, Norway and Sweden the soil would be considered to be polluted). Since the PCB concentration was below 10 mg/kg, however, based on the recommendations made earlier, remediation was not considered to be necessary as the found PCB pollution has the characteristics of localized pollution.

3.3. POPs Monitoring and the Evaluation of Problems Associated with POPs

Monitoring is a comprehensive long-term observation, control, analysis and forecast process created to gather information on the state of the environment and the changes that have occurred as a result of human activity or from natural processes.

3.3.1. Capacity of the Institutions Involved in POPs Monitoring and Evaluation of Problems Associated with POPs

POPs related analyses in Latvia are mainly conducted by LEGMA, PHA and FVS, but various other institutions also have some experience in the performance of POPs analyses,

namely the Hydroecology Intitute of the University of Latvia (LU HEI), NPO SJSC State Agrochemical Research Centre (SARC), the Occupational Environmental and Health Institute of Riga Stradins University (RSU OEHI) and the Latvian Institute of Organic Synthesis (LIOS). Each of the aforementioned institutions specializes in specific analyses, thus it is difficult to indicate a central institution for POPs monitoring (see Table 17).

Table 17. Accredited Laboratories in Latvia Involved in POPs Related Areas

Title	Principal area of laboratory analyses	Information on accreditation
FVS, Food Control Laboratory of the State Veterinary Medicine Diagnostic Centre	Physical, chemical, microbiologic, radiochemical and spectrometric testing of food products and animal feed; microbiologic testing of surface washings, estimation of pesticides and toxic substances; parasitologic testing of meat and meat products, fish and fish products.	Accredited according to the requirements of the LVS EN ISO/IEC 17025 standard ; GOSTSTANDART ROSSII requirements; DAP (Germany) standard requirements.
PHA, Chemical laboratory	Testing of the quality and hazard indicators in food, water, the environment and consumer goods.	Accredited according to the requirements of the LVS EN ISO/IEC 17025 standard.
LEGMA, Laboratory Department	Environmental samples (waste waters, surface waters, rainfall, air, air emissions, soil, plants, sludge) and materials (construction materials) testing (inorganic, organic and biochemical indicators).	Accredited according to the requirements of the LVS EN ISO/IEC 17025 standard.
RSU OEHI, Hygiene and Occupational Health Laboratory	Assessment of the pollution in the working environment, early diagnosis of occupational diseases, toxicologic evaluation of chemical substances and products.	Accredited according to the requirements of the LVS EN ISO/IEC 17025 standard.
LU HEI, Marine Monitoring Department	Measurement of marine hydro chemical parameters, measurement of hydro biologic indicators, measurement of heavy metals and PAH in soil, PCB analysis in fish and mollusks.	Accredited according to the requirements of the LVS EN ISO/IEC 17025 standard.
SARC, Toxicology Laboratory	Agrochemical examination of soil.	Accredited according to the requirements of the LVS EN ISO/IEC 17025 standard. (until 2002).
LIOS, Laboratory for Analysis of Biologically Active Compounds	Chemical, physicochemical and mechanical testing of pharmaceutical products.	Accredited according to the requirements of the LVS EN ISO/IEC 17025 standard.

Based on an evaluation of the technical and financial capabilities of the aforementioned laboratories, and the size and qualifications of the staff, it can be concluded that these laboratories are capable of providing POPs pesticide and PCB analyses of environmental and food samples. These laboratories, however, require resources for the replacement of equipment, the purchase and maintenance of new equipment and they need to attract skilled personnel.

Although dioxin pollution control in the environment and in food products is an emerging issue, none of Latvia's laboratories currently performs dioxin analyses. Environment and food product dioxin analysis are currently performed indirectly (by the measurement of PCB concentrations) or by conducting dioxin analyses in the laboratories of other countries.

3.3.1.1. State Institutions

The main state institutions that are responsible for POPs measurements and monitoring are LEGMA (Laboratory department), PHA (Chemical Laboratory) and FVS (Food Control Laboratory of State Veterinary Medicine Diagnostic Centre).

The main objectives of the state laboratories:

- Laboratory and diagnostic analyses and testing;
- reference laboratory function.

THE LATVIAN ENVIRONMENTAL, GEOLOGICAL AND METEOROLOGICAL AGENCY

The LEGMA is the leading institution for the testing of environmental samples using chemical, physical, radiological, biological and microbiological methods.

The laboratory is accredited according to the requirements of LVS EN ISO/IEC 17025 standard. The laboratory personnel consists of 43 specialists.

The laboratory is equipped with a gas chromatograph with an electron capture detector and a gas chromatograph mass spectrophotometer, as well as chromatographic columns and the equipment necessary for other POPs analyses.

LEGMA has the equipment for POPs pesticide, PCB and PAH quantitative and qualitative analyses in drinking water, surface waters, waste waters, soil, sludge, sediments and oils.

THE PUBLIC HEALTH AGENCY

The PHA chemical laboratory largely conducts drinking water, surface water and groundwater quality control, and ensures the quality control of food products and their raw materials.

The laboratory is accredited according to the requirements of the LVS EN ISO/IEC 17025 standard. The overall number of employees is 35.

The agency has several gas chromatographs with electron capture detectors and gas chromatograph mass spectrometers, two liquid chromatographs (with fluorometric, refractometer, diode matrix detectors), a liquid chromatograph mass spectrometer (with micromass ZQ detector), a UV spectrophotometer and four atomic absorption spectrometers.

The equipment and standard methods available to the laboratory are sufficient to conduct POPs pesticide (DDT, aldrin, dieldrin, heptachlore, HCB, HCH), PAH, as well as PCB analyses in water.

FOOD AND VETERINARY SERVICE

The FVS Food Control Laboratory of the State Veterinary Medicine Diagnostic Centre is the leading laboratory in Latvia in terms of food distribution control and animal health.

The laboratory is accredited according to the requirements of the LVS EN ISO/IEC 17025 standard (since 1995), as well as the GOSTSTANDART ROSSII (since 2000) and the DAP (since 2001). The staff consists of 70 members.

The laboratory owns two gas chromatographs with low resolution mass spectrometers, permitting analyses in a negative ionization mode and the detection of large dioxin concentrations in water and soil. The laboratory is also equipped with the facilities and receptacles required for the necessary preparatory procedures in the analysis of dioxin samples, and possesses the high quality solvents and reagents needed for pesticide residue detection.

The laboratory has the technical capability to perform POPs pesticide analyses in products of animal origin, as well as PAH analyses in food products. In 2002, there were 181 accredited analytic analysis methods operational in the laboratory. The sensitivity of several pesticide residue detection methods used by FVS, however, is insufficient to evaluate the results according to the requirements of the CM regulations. Thus the evaluation of the results is largely dependent on the error rate of the results submitted by FVS.

3.3.1.2. Scientific Research Institutions

HYDRO ECOLOGY INSTITUTE OF THE UNIVERSITY OF LATVIA

The LU HEI marine monitoring department laboratory is the largest accredited laboratory among Latvia's research institutions, with its principal directions of work being marine hydro chemical, hydro biologic, geochemical and bio geochemical research.

The laboratory is equipped with a gas chromatograph and mass spectrometer, and is capable of performing accredited US EPA modified methods for the detection of POPs in sediments and animals.

The majority of the performed analyses are for inorganic substances, but PAH (soil) and PCB (fish and mollusks) analyses are also conducted in the laboratory.

From the ~ 5000 analyses performed annually, about 150 are analyses of organic substances (PAHs in soil and PCBs in fish/mollusks).

NPO SJSC *STATE AGROCHEMICAL RESEARCH CENTRE*

The SARC toxicology laboratory is mainly involved in the agrochemical analysis of soil and in the research of fertilizer effectiveness.

The laboratory is equipped with a gas chromatograph, detectors and columns that allow detection of pesticides (DDT, aldrin, dieldrin, heptachlor, HCB, HCH) and PCBs. The detection limit for PCBs and POPs pesticides is 0.0025 mg.

THE LATVIAN INSTITUTE OF ORGANIC SYNTHESIS (LIOS)

The LIOS laboratory for the analysis of biologically active compounds is involved in the chemical, physical and mechanic testing of pharmaceutical products.

The laboratory has significant experience in the analysis of POPs pesticides – it has participated in the identification of non-liquid pesticides (including POPs) under the PHARE financed project *Development of Hazardous Waste Management System*. The laboratory has performed several thousands of analyses within the framework of the project.

RIGA STRADINS UNIVERSITY INSTITUTE OF OCCUPATIONAL ENVIRONMENT AND HEALTH

RSU IOEH Hygiene and Occupational Disease Laboratory performs assessments of the occupational environment pollution and the preliminary diagnosis of occupational diseases**.**

The laboratory is equipped with a gas chromatograph with electron capture detectors and columns. Certified methods allow for the analyses of PCBs, POPs pesticides and PAHs in bio environmental samples.

The majority (80%) of analyses are conducted to detect the concentration of chemical substances in air samples. The institute is the only establishment in Latvia, however, that conducts chemical analyses of bioenvironmental (blood, tissue, hair) samples. Bioenvironmental chemical analyses amount to 15% of all analyses.

3.3.1.3. Personnel Education and Training

Personnel education and training in the area of chemical substance analytic control is mainly available abroad or as a result of events organized with the assistance of foreign experts locally. From 1999 to 2004, specialists from the Ministry of Environment, Latvian Environmental, Geological and Meteorological Agency, Food and Veterinary Service, State Environmental Service, Public Health Agency, as well as scientific institutions and universities have participated in more than 20 training programs to raise qualifications in the control of POPs.

3.3.2. Current POPs Monitoring within the Framework of State Monitoring Programs

POPs monitoring is conducted under four state monitoring programs, as well as sub-programs (see Table 18).

Table 18. State Monitoring Programs Involving the Performance of POPs Monitoring

Monitoring program	Monitoring institution	Coordinating institution	Description in relation to POPs
Animal and animal origin product pesticide residue control program	FVS Food Control Laboratory of the State Veterinary Medicine Diagnostic Centre	FVS	Detection of veterinary pharmaceuticals, mycotoxins, heavy metals and PCBs in animals and food products of animal origin.
State supervision program on Dioxins	FVS Food Control Laboratory of the State Veterinary Medicine Diagnostic Centre	FVS	Analyses of dioxins in fish from the Baltic Sea (analyses conducted in foreign laboratories).
Drinking water monitoring sub-program of the National environmental monitoring program	PHA Chemical laboratory	LEGMA	Analyses of ~ 74 indicators, incl. benzo(a)pyrene, POPs pesticides, PCBs, PAHs.
Marine monitoring sub-program of the National environmental monitoring program	LU HEI	LEGMA	Analysis of PAH concentrations in sediments, as well as PCB and DDT concentrations in porgy, herring and mussels.
Pesticide residue control program for products of plant origin.	FVS Food Control Laboratory of the State Veterinary Medicine Diagnostic Centre	FVS	Monitoring of the pesticide content for products of plant origin (chlorinated organic pesticides, phosphororganic pesticides, pyrethroids, carbamates, dithiocarbamates, etc).

NATIONAL ENVIRONMENTAL MONITORING PROGRAM

The objective of the National Environment Monitoring Program (NEMP) is to develop an environmental monitoring system that would provide society, decision makers, national and international level experts with authentic, objective and quality environmental information based on the requirements of EU legislation, international conventions and Latvian legislation.

The data collected within the framework of NEMP are necessary for Latvia to provide the timely recognition and prevention of air and water pollution. POPs monitoring is conducted in four sub-programs of the NEMP: Air pollution emissions monitoring sub-program; Drinking water quality monitoring sub-program; Marine monitoring sub-program; and Wastewater emission monitoring sub-program.

Within several sub-programs POPs are not monitored separately but are measured as components of an organically extractable fraction that can be measured by analyzing for extractable organohalogens (AOX), such as: Groundwater monitoring sub-program; Agricultural groundwater monitoring sub-program; Heavily polluted territory groundwater monitoring sub-program.

The Air Pollution Emissions Monitoring is compiled from the operator-conducted emission inventory – monitoring of the intensity of air polluting substance emissions, volumes (t/year) and concentrations, as well as the systematic control of the appropriatness

of the situation in conformity with initial inventory data. Operators must provide information on polluting emissions into the air by completing the State Statistic Report form *No.2 – Air* and submit it to the NES.

Drinking Water Monitoring includes regular laboratory tests of drinking water to obtain information on its innocuousness and quality. Drinking water monitoring is divided into regular and audit monitoring. Audit monitoring is a verification of the drinking water quality correspondence to the prescribed quality and innocuousnes standards. Verification in this case, is conducted less frequently and it comprises a wide inspection program (incl. POPs pesticides and PAHs). The audit monitoring of water supplied to consumers is carried out by PHA, while in the case of food production companies the monitoring is organized and secured by the company manager or owner at their own expense.

Marine monitoring in Gulf of Riga is carried out in compliance with HELCOM the Baltic Sea monitoring program (*Cooperative Monitoring in the Baltic Marine Environment* (COMBINE)) and the requirements of EU Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for the Community action in the field of water policy and Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora. Together with hydrological and meteorological observations, the program also includes sea water hydro biologic and hydro chemical observations. Coastal fish monitoring is performed according to the requirements of HELCOM. Monitoring is conducted at the biocenosis, population, individual and tissue level. Systematic chlorinated organic compound and heavy metal concentration observations were launched in 2002.

The Wastewater Emission Monitoring sub-program requires operators discharging wastewater into surface waters or the sewerage system to carry out wastewater emissions monitoring. The monitoring requirements (frequency, sample taking location parameters) and wastewater discharge limits are defined by the water usage permits for polluting activities (according to law *On Pollution*). The operators must provide information on the polluting emissions by completing the State Statistic Report form *No.2 – Air* and submit it to the NES.

ANIMAL AND ANIMAL ORIGIN PESTICIDE RESIDUE CONTROL PROGRAM

The objective of the program is to control pesticide residue (pharmaceutic products used in veterinary medicine, including restricted pharmaceuticals and growth stimulators as well as the residue from environmental pollution) use in animals and in products of animal origin, supervise and detect the causes for the origin of the pesticide residues in products of animal origin, farms, slaughterhouses, dairy farms, fish processing plants, egg collection and grading companies, thus securing Latvia's right to export products of animal origin to the EU countries.

Beef, pork, poultry, lamb, rabbit, fish, wild game, milk, eggs and honey are examined within the framework of the program. The number of samples necessary for the implementation of the program is calculated on the basis of previous year's production amounts in accordance with EC Directive 96/23/EC of 29 April 1996 on measures to monitor certain substances and residues thereof in live animals and animal products and repealing Directives 85/358/EEC and 86/469/EEC and Decisions 89/187/EEC and 91/664/EEC in accordance with Council Directive 97/747/EC of October 27, 1997 fixing the levels and frequencies of sampling provided for by Council Directive 96/23/EC for the monitoring of certain substances and residues thereof in certain animal products and in accordance with Commission Decision 98/179/EC of 23 February 1998 laying down detailed rules on official sampling for the monitoring of certain substances and residues thereof in live animals and animal products.

Only product samples of Latvian origin are taken within the framework of the program.

PESTICIDE RESIDUE OF PLANT ORIGIN CONTROL PROGRAM

The aim of the program is to determine the contamination present in plants and products of plant origin resulting from pesticide usage, as well as to implement a common state pesticide monitoring program for products of plant origin and to become involved in the EU coordinated pesticide control program in accordance with the requirements set out by the March 23, EC Regulations 645/2000 which sets detailed implementation measures necessary in order that the measures of article 7 of Directive 86/362/EEC and article 4 of Directive 90/642/EEC work properly as control mechanisms in relation to the requirements of pesticide residue at the maximal level in and on grain, in and on products of plant origin, including in and on fruit and vegetables.

The program defines the pesticide residues to be measured, as well as the number of samples and types of plants or products of plant origin that need to be sampled. Samples from both Latvian and imported products are taken within the framework of the program.

DIOXIN CONTROL PROGRAM

The aim of the dioxin control program is to secure information on the dioxin contents of fish products from the Baltic Sea in the export production.

The dioxin control program was developed in accordance with the EC Recommendation 2002/201 of March 4, 2002, regulating the development and implementation of dioxin monitoring program for each member state.

3.3.3. POPs Monitoring Legislation

The maximum allowable POPs concentrations and the monitoring procedures in Latvia are stipulated by state monitoring programs and regulated by legislation (see Table 19). Moreover, the POPs to be detected within the monitoring programs are defined in a number of CM regulations (see Table 20).

Table 19. Principal Legislation Regulating the Monitoring of POPs

TITLE	DATE ADOPTED	DESCRIPTION IN RELATION TO POPS
Law *On Pollution*	March 15, 2001	Regulates the requirements for the operators (dischargers) of polluting substances to regularly control the quantities of emitted substances, monitor and submit information to the environmental monitoring coordinating institution (LEGMA) according to procedures of the CM regulations. LEGMA coordinates the environmental quality of monitoring activities, collects and publishes the results of monitoring .

Law *On Food Distribution*	March 6, 1996	Assigns the state supervision and control for the distribution of food to FVS; it is responsible for the supervision and control of food products and bottled drinking water according to the quality requirements of the legislation. The FVS prepares, and the Minister of Agriculture together with the Minister of Welfare approve the monitoring program for the coming year before May 1 of each year. The Monitoring program is a component of the residue control program, indicating the residues and products to be controlled, as well as the type and frequency of such inspections.
Law *On Plant Protection*	December 19, 1998	Regulates pesticide (also POPs pesticides) residue control in food products. Indicates the requirements for pesticide monitoring in food products.
CM Regulations No. 162 *On environmental monitoring and register of polluting substances*	April 4, 2004	Determines that POPs monitoring is organized or conducted by the ME, MH and MA subordinate institutions within the scope of their responsibility and the financial resources allocated to them by the state budget, and by companies at their own expense. The monitoring of polluting substances is carried out by operators in accordance with environmental protection legislation, as well as the requirements of A or B category polluting activity permits. The legislation sets the procedure for the performace of monitoring and the provision of information on the monitoring results by operators, indicates the type of information to be included in the polluting substance register and the procedure for the recording of emission data.
CM Regulations No. 323 *On requirements for the incineration of waste and operation of waste incinerators*	July 17, 2003	
CM Regulations No. 34 *On pollutant emission into the water*	January 22, 2002	
CM Regulations No. 476 *On pesticide residue control in products of plant origin*	August 26, 2003	Regulates the maximum allowable pesticide residue concentration in products of plant origin and the procedure for pesticide residue control to be carried out from the moment the product is included into food distribution.
CM Regulations No. 165 *On pesticide residue control in products of animal origin*	March 25, 2004	Regulates the maximum allowable pesticide residue (also PPM residue) concentration in food products of animal origin and products that will be included in the production of animal feed, as well as the procedure for pesticide residue control.

CM Regulations No. 235 *On mandatory requirements for innocuousness and quality of drinking water and procedures for monitoring and control*	April 29, 2003	Regulates quality requirements for water used for drinking, food preparation, economic activities, and for the purposes of trade and food production. The legislation also regulates the procedure for the control and monitoring of the drinking water quality. The drinking water quality for the water supplied through the piped water supply for the population is controlled by SSI, with FVS verifying the quality of the drinking water used by the food processing industry.

Table 20. Legislation Regulating the Monitoring of Particular POPs

TITLE	POPS TO BE DETECTED
CM Regulations No. 162 *On environmental monitoring and registration of polluting substances* (08.04.2003)	Air – HCB, HCH, PAHs, dioxins, furans Water – endrin, HCB, HCH, PAHs, PCBs
CM Regulations No. 323 *On training in work safety issues* (17.06.2003)	Air, water – dioxins and furans
CM Regulations No. 34 *On pollutant emission into the water* (22.01.2002)	Water – aldrin, dieldrin, endrin, HCB, HCH, PAHs (benzopyrene, benzofluoranthene, indenopyrene), PCBs
CM Regulations No. 476 *On pesticide residue control in products of plant origin* (26.08.2003)	DDT, aldrin, dieldrin, heptachlor, HCH, lindane
CM Regulations No. 165 *On pesticide residue control in products of animal origin* (25.03.2004)	Aldrin, dieldrin, DDT, endrin, heptachlor, HCB, HCH
CM Regulations No. 235 *On mandatory equirements for innocuousness and quality of drinking water and procedures for monitoring and control* (29.04.2003)	Benzo(a)pyrene, PAHs (aggregate)*, pesticides**

* benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(ghi)perylene, indeno(1,2,3–cd)pyrene

** Only most of the pesticides that can be detected in water are monitored. If aldrin, dieldrin, heptachlor and heptachlor epoxides are discovered, the indicator standard is 0.030 µg/l. In the case of pesticides, the aggregate amount of analyzed pesticides is indicated.

Monitoring of POPs in Food

EU Regulation 2375/2001 of November 29, 2001 which amends Regulation 466/2001 and which regulates the maximum concentration of various pollutants permitted in food products (the text applies to the European economic zone) determines the maxiumum allowable dioxin concentration in fish, fish products, milk and dairy products. After July 1, 2002, the country that exports fish and milk products to EU countries shall indicate the concentration level of dioxins in these products.

Monitoring of POPs in Humans

Although there is scarce data on the POPs concentration in the body fluids of the Latvian population, for example in blood and mother's milk, at present there is no human POPs monitoring in Latvia.

3.3.4. POPs Data Acquired from State Monitoring Programs

POPs monitoring in Latvia has a short history, thus the collected data is insufficient to evaluate the POPs contamination of the environment and the POPs loading in the environment. However, a growing number of annual monitoring programs will include more POPs parameters; therefore the data will become more complete.

Marine Monitoring Sub-Program of the NEMP Water Monitoring Section

Since 2001, PAH analyses in soil and PCB analyses in fish and shellfish have been carried out under the NEMP marine monitoring sub-program.

It was found that in 2002, the PAH concentration in soil was significantly lower than in the 2001 data, and this could be within the typical concentration levels in the open part of the Baltic Sea. The PAH contamination is considered to be low (characteristic of least polluted areas of the Baltic Sea).

In 2002, the PCB analyses for Baltic herring and shell-fish indicate that the concentrations were within characteristic Baltic Sea levels. PCBs were found in greater concentrations in shell-fish. A comparison of the data does not indicate any correlation between various locations of the pollution.

The PAH concentrations discovered in sediments in 2003 by the LU HEI were extremely high, exceeding even the maximum levels for previous years. It has been established in reports that changes in PAH concentrations in all parts of the Bay of Riga are similar and that the reciprocal concentration distribution remains constant, i.e. the territorial origin of the pollution remains the same compared to previous years. In conclusion it can be stated that the pollution source that is located in the vicinity of Riga is either new, or has been growing rapidly since 2003. The substances that appear in the environment are stable and they distribute easily across the bay area.

NEMP Air and Climate Change Monitoring Section, Sub-Program on the Monitoring of Air Polluting Substance Emissions

In 2002, POPs air emission monitoring in Latvia was carried out by three companies. These companies measured benzo(a)pyrene and (3,4–benzo(a)pyrene) emissions into the air. The total emission quantity was 0.007 t in 2002.

There is no commercial enterprise in Latvia that can provide an overview of POPs emissions in water; for this reason, there is no data on emission quantities in water.

NEMP Water monitoring section sub-program on Drinking Water Monitoring

In 2003 and 2004, approximately 600 analyses were conducted for the purpose of audit monitoring. The analyses also included POPs pesticides and PAHs (benzo(a)pyrene) analyses. The results of the analyses indicate that POPs pesticide and benzo(a)pyrene concentrations in water are insignificant, in some cases even non-detectable by the available instruments.

Pesticide Residue Control Program for Animal and Animal Origin Products

In 2002, 15 PCB and 15 POPs pesticide analyses were conducted for animal fat, together with 13 analyses of POPs pesticides in food sub-products, 8 analyses in fish products and 70 inspections of infant and child food . The total number of analyses conducted on food products of animal origin amounted to 15 PCB and 106 POPs pesticide analyses.

None of the samples revealed increased POPs pesticide or PCB concentrations.

Pesticide Residue Control Program for Products of Plant Origin

100 pesticide analyses in plant origin food products were conducted in 2002, in 2003 – 166 analyses were performed, and there are plans to conduct 155 analyses in 2004. Moreover, samples are taken from food products of Latvian origin, as well as from imported food products.

It must be noted that the number of inspected pesticides varies – in 2002 the program included 8 POPs pesticides, in 2003 the program included no POPs pesticides, and in 2004 only DDT will be included in the program.

None of the analyses indicated increased POPs pesticide concentrations.

Dioxin State Monitoring Program

Within the 2002 program, 24 samples were sent to the *Central Science Laboratory* (UK). Out of these samples, 6 (sprat and Baltic Baltic herring) contained slightly higher dioxin concentrations.

In 2003, the research were redirected towards herring, Baltic herring and salmon analyses. 40 samples collected from different locations in Latvia were analyzed in 2003.

In 2004, it was envisaged to collect 16 milk and dairy product samples, as well as 34 fish (sprat, Baltic herring, salmon and salmon roe) samples.

3.3.3. POPs Related Research

One of the main research topics for environmental pollution studies in Latvia relates to POPs pesticides (DDT and its metabolites) and PCBs. Moreover, the majority of the research was completed as a result of the close cooperation between Swedish and Latvian scientists working within the framework of international projects.

The results of this research indicate that DDT and PCB pollution in Latvia is not significant, but the concentrations of the discovered pollution cover a wide range of areas. There are very scarce data on the concentration of POPs in humans and background concentrations in the atmosphere. There is incomplete information about POPs concentrations in food products. Despite the fact that the research does not indicate high POPs concentrations, based on the estimates and the results of single experiments conducted by scientists, several food products could contain elevated concentrations of POPs.

3.4. Distribution of Information on POPs

In order to make timely decisions that would ensure a decrease in the risks created by POPs, both physical persons and legal entities need to have access to the appropriate information.

The procedure for physical persons and legal entities to acquire and use information from state institutions and municipalities in Latvia is regulated by the law *On Information Accessibility* issued on November 6, 1998. The objective of the law is to make available to the public the information regulated by legislation that public authorities and municipalities need to exercise their the functions.

3.4.1. Information Systems and Databases

A large body of information is accumulated from the implementation of state monitoring programs and the compilation of self-monitoring data from business. Various state

information systems[1] have been created and developed to ensure the versatile use of the information. The procedure for the establishment, registration, maintenance, use, reconstruction or closure of state information systems is regulated by the law *On State Information Systems* adopted on May 2, 2002.

LEGMA is responsible for the development, maintenance and update of environmental information systems.

Databases directly or indirectly related to POPs are maintained by LEGMA, FVS, PHA, LU HEI and the LU Institute of Biology. The contents, however, and the applicability of these databases vary significantly. LEGMA collects and analyzes environment data of state significance. Data on food and drinking water quality are compiled by FVS, and data on non-bottled drinking water and the quality of recreational water are collected by PHA.

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The LEGMA database presents information on environment loading and environmental conditions. All LEGMA databases are accessible in electronic format on the Internet. The most significant LEGMA databases related to POPs are:

- State Statistic Report No. 2 – Water (database on the use and contamination of water and water use permits in Latvia);
- State Statistic on Air Protection, Report No. 2 – Air (database on emissions into the air, technical description of boiler-houses and used fuel, etc.);
- State Statistic Report No. 3 – Waste (database for the accounting of domestic and hazardous waste);
- Register of chemical substances and products (database on chemical substances and products produced in Latvia and imported into Latvia);
- Information system on *Persistent Organic Pollutants* (the database contains compiled information on POPs pesticide and PCB pollution, as well as information collected during the inventory on PCB containing equipment and potentially POPs polluted sites.
- Surface water quality monitoring database (database contains compiled data on surface water monitoring results);
- Information system on polluted and potentially polluted sites (database contains compiled information on polluted and potentially polluted sites)

In the State Statistic report *No. 2 – Water* and *No. 2 – Air* the data are compiled and stored for the period from 1991, and *No. 3 – Waste* contains information from two other databases, i.e. *No. 3 – HW* (report on hazardous waste) where data has been compiled since 1997, and *No. 3 - DW* (report on domestic waste) where data has been collected since 2001.

The Register of chemical substances and products was completed in 2003, and data contained in the register is currently available to NES, SLI, SSI and SFRS. Database *4 – CP* (information for the period 1995 - 2001) was used for collection of data on the use of chemical substances and products before 2001.

The Information system *POPs* was established in 2003 – 2004 under the UNDP/GEF project *Preparation of a National Implementation Plan for the Stockholm Convention on POPs*.

[1] State Information System – structured collection of IT and telecommunication equipment and databases; its use allows the state to investigate, create, maintain, collect, process, use and terminate information in fulfillment of its functions.

FOOD AND VETERINARY SERVICE

The results of the Food control monitoring programmes are compiled by the FVS and stored in the electronic database. The database contains information about the enterprises, sample description, the results of analyses and conclusions. The information in the electronic database has been compiled since 2003 and includes food distribution control data starting from 2001. In relation to POPs, the database contains information on 165 chlorinated organic pesticide analyses and 42 PCB analyses in food products of plant and animal origin.

The results of food control inspections undertaken by the Sanitary Border Inspection are compiled and stored in a separate database which is very similar to the database maintained by the Food and Veterinary Service.

PUBLIC HEALTH AGENCY

PHA databases contain compiled information on drinking water and recreational water quality. Recreational water data are presently only collected at the regional level, while at the national level this data collection is being projected in the future plans of PHA. Data on drinking water monitoring has been compiled and has been made available to the general public since 2000. The drinking water database contains the results of current and audit monitoring. The information for the drinking water database has been collected since 1997. In 2003, the database contained compiled information on the analyses of 2500 chemical and microbiologic samples.

3.4.2. Awareness and Knowledge of POPs among Various Groups

Until now, the only raising of awareness and knowledge of POPs among various social groups in Latvia has been conducted under the UNDP/GEF project *Preparation of a National Implementation Plan for the Stockholm Convention on POPs*. During the project implementation, awareness about POPs among various target groups was defined and seminars were conducted for several target groups in order to train specialists and to inform the general public, including students and school children.

Under the UNDP/GEF project, a public awareness campaign "STOP POPs!" was conducted. It included the development and printing of brochures on POPs (20 000 copies), organization of workshops for national and regional mass media, educational research projects for schools on POPs subjects and discussions in four municipalities in Latvia, as well as preparation of thematic inserts on POPs for the newspapers *Latvijas Avīze* (printing of 68 500 units) and *Vesti Segodnya* (printing of 27 000 units). During the campaign, 70 publications and 20 electronic media stories appeared in regional and national mass media.

3.5. Non Governmental Organizations (NGOs) Working in the Areas Associated with POPs Problems.

Considering the complexity of the POPs issues, a decrease in the risks associated with POPs can only occur through the close cooperation between the state, the private sector and NGOs[1].

None of Latvia's NGOs are directly involved in the POPs issues, but there are several NGOs working with issues related to POPs and these NGOs could be invited to participate in the provision of solutions to POPs related problems, for instance, the Latvian Waste Management Association; The Latvian Chemical and Pharmaceutical Industry Association; the Latvian Energy Construction Association; the Latvian Association of Testing Laboratories and others.

[1] In Latvia NGO is defined as a public organization, an association of public organizations, a society or a foundation.

3.6. Long-term and General Impact of POPs

Based on the cumulative effects assessments, particular attention is now being paid to substances capable of showing bioconcentration effects as these substances could impact health, since the distribution of these substances in the environment can significantly affect human and animal health even after they have been banned, including POPs.

More than 90% of the POPs background exposure originates from animal food products. Dioxins and furans are emitted from different sources (for example, waste incineration) into soil and water; these substances subsequently undergo bioaccumulation processes and eventually accumulate in food. Thus POPs sources that can endanger human health may also occur in contaminated animal or bird feed, fish grown at fish-farms, mismanaged wastewater, the flooding of pastures, various food processing methods, etc. In Latvia's case, the most important threats to the environment and health result from the combustion (also fire accidents) of domestic and industrial waste, reed and old grass, representing more than 60% of the total volume of uncontrolled dioxin and furan emissions.

The impact of POPs may affect everyone, as the greatest intake of POPs occurs during childhood and the period of growth (up to the age of 20). Breast fed children, for example, take in twice as many dioxins than adults (per kg of body weight). This might be explained by the greater dioxin concentrations found in mother's milk and the relatively larger significance of milk as a food at an early age.

From the health point of view the groups in Latvia that can be termed affected by POPs are: workers operating PCB containing equipment; hazardous waste storage facility and hazardous waste incinerator workers; inhabitants of coastal areas, consuming large quantities of fatty Baltic Sea fish; pregnant women, mothers breast-feeding infants, and infants; inhabitants who burn waste and inhale the smoke; inhabitants living by or in the vicinity of polluted sites;in case of fire or other accidents – inhabitants located near the accident site or in the direction of the prevailing winds.

From the economic viewpoint losses can be incurred by owners of polluted sites, owners of enterprises operating PCB-containing equipment, as well as municipalities with polluted sites in their administrative territories.

If the actions mentioned in relation to the Stockholm Convention and Aarhus Protocol would not be implemented to prevent risks associated with POPs: the risks of occupational hazards and accidents might increase in enterprises using PCB containing equipment; with no centralized PCB waste collection and management system, these processes shall become more time-consuming and expensive, thus increasing the probability that some of this equipment will not be liquidated; the property value of POPs polluted sites shall be lower on account of limitations to economic activities, thus the income of local inhabitants and land owners will be correspondingly less; the population will continue to burn waste and use fatty Baltic Sea fish in their diets; a gradual increase of POPs emissions and spills will result in greater concentrations of POPs in the bodies of animals, etc.

These main reasons mentioned above in the long term may decrease the number of animal species thus disrupting the balance between the ecologic niches of various species and an increase in the concentration of POPs ingested through food products, human health (which already is below the average EU indicators for diseases and death rate) will not improve as rapidly as in the countries that have implemented a purposeful policy in this area.

III Strategy

1. General Policy Approaches

1.1. Objectives of the NIP

By implementing a sustainable policy, ensure the protection of human health and the environment from the impact of POPs by developing and regularly improving the most effective and optimal POPs management system.

1.2. Guiding Principles of the Policy

- Obtain a thorough image of the risk caused by POPs to Latvia's population and environment by identifying the location of the sites, their scale and their urgency;
- Protect human health and the environment from the harmful impact of POPs by reducing and decreasing POPs emissions and leakages, as well as gradually ceasing the use of POPs or POP-containing equipment;
- Promote the cooperation between individuals and entities that are directly or indirectly involved in POPs created problems or are capable of solving these problems;
- Attract investments, including from the Global Environmental Facility, for measures that could promote a decrease or elimination of the risk caused by POPs to human health or the environment.

1.3. National Objectives for POPs

1. Develop an integrated and transparent legislative basis and institutional system, including a business assistance plan, to decrease and prevent the impact of POPs on human health and the environment.
2. Ensure a significant decrease of the global pollution generated by POPs in accordance with the Convention, Protocol and other international treaties.
3. Develop and implement national and global level preventative measures to prevent the formation of new POPs sources.

1.4. Priorities of National Significance

The priorities of national significance between the various POPs categories were defined at a workshop held on January 22-23, 2004 on *Defining of the national priorities on POPs*. The workshop was attended by participants from 30 different state institutions, NGOs, scientific research institutions and enterprises.

Within the priority setting process discussions were held on various POPs issues, including the significance and potential impact of POPs polluted sites on human health in Latvia; the quantity of PCB waste and equipment, management and potential spills; POPs emissions, their toxicity and instances of limit exceedance; legislative requirements regulated by Latvian and EU legislation, etc. As a result of the discussions, it was agreed to define the following priorities among POPs categories:

Priority 1 – PCB containing waste and equipment;
Priority 2 – POPs emissions;
Priority 3 – POPs pesticides.

1.5. Actions to be Undertaken to Realize the National Objectives for POPs

To attain the state objectives for the protection of human health and the environment from POPs in the short-term, medium-term or long-term period, the following tasks should be undertaken:

◆ **by 2010:**

- Ensure the compliance of Latvian legislation with the requirements of the Convention and Protocol;
- Resolve the waste management problems related to past pesticide usage;
- Develop the necessary institutional and technological basis for the safe waste management of PCB containing equipment and PCB containing waste, as well as implement the timely and safe collection and elimination of PCB containing waste;
- Improve the current monitoring of POPs emissions and implement preventive measures to decrease POPs emissions resulting from accidental fires and the combustion of wastes;
- Complete the planned POPs polluted site assessments and management;
- Create a system for the exchange of focused information and experience among local, regional and international institutions, as well as effectively attract and use international financing;
- Inform specific target groups of the requirements arising from the Convention and Protocol, as well as educate the target groups most affected by POPs about the potential harm from these substances and the possibilities for reducing their quantity;
- Continue the initiated POPs monitoring and evaluate the necessity for new monitoring, as well as integrate it into the existing monitoring activities;
- In order to facilitate future planning, collect data on POPs concentrations in humans and food products.
- ◆ **by 2015:**
- Continue to reduce POPs emissions while emphasizing POPs point-source emissions;
- Ensure the efficient control of POPs distribution and optimize the monitoring of POPs polluted sites;
- Develop an efficient cooperation between stakeholders and concerned state institutions, NGOs and scientific research institutions, thus promoting the successful solution of POPs related problems;
- Inform and educate enterprises and the population on POPs emission sources, thus promoting a reduction in POPs emissions and improve public awareness about the choice of alternative materials versus POP-containing materials and the benefits of this use;
- Evaluate the obtained experience and optimize POPs monitoring in the environment, food and humans.

◆ **by 2020:**

- Promote active public involvement in solving POPs related issues;
- Reduce the quantities of POPS generated by human activity and promote the sustainable use of natural resources, foster public awareness of the hazardous impact of POPs on human health and the environment, as well as gradually develop a sense of responsibility among the population for the reduction of POPs emissions.

2. NIP Realization Cost Estimates

Table 21. Costs by Action Plans and Years (LVL) for the Implementation of the NIP

No.	Action plan	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total
1.	Strengthening of the institutional system and improvement of the legislative basis	0	2 100	2 700	11 897	11 297	550	0	0	0	0	0	0	0	0	0	0	0	**28 544**
2.	POPs pesticide production, import, and export, use, stockpiles, and POPs pesticide waste management	26 800	249 700	153 950	27 600	0	0	0	0	0	0	0	0	0	0	0	0	0	**458 050**
3.	PCB and PCB containing equipment production, import and export, use, identification, labeling, elimination and utilization, aa well as the management of PCB containing waste	2 400	3 000	114 060	112 900	112 600	116 800	116 800	0	0	0	0	0	0	0	0	0	0	**578 560**
4.	Reduction of POPs emissions	0	11 080	13 780	14 000	11 300	7 300	9 100	8 020	8 020	8 020	9 820	8 740	8 740	8 740	10 540	9 460	9 460	**156 120**
5.	Identification and management of POPs polluted sites	0	980	5 100	25 000	70 000	72 510	66 600	28 200	40 765	2 040	1 440	1 440	1 440	1 440	1 440	1 440	1 440	**321 275**
6.	Information exchange and involvement of major social groups and institutions	0	700	5 900	5 200	5 200	5 200	5 200	4 600	4 600	4 600	4 600	4 600	4 600	4 600	4 600	4 600	4 600	**73 400**
7.	Improvement of Public awareness, knowledge and information on POPs	0	3 370	10 200	11 950	5 680	1 430	1 430	1 670	1 310	1 310	1 310	1 310	600	600	600	600	600	**43 970**
8.	Monitoring	30 345	35 145	44 570	144 970	136 445	117 945	118 845	42 945	42 945	36 945	37 845	36 945	36 945	36 945	37 845	36 945	36 945	**1 011 515**
9.	Research	10 000	20 000	120 000	144 450	32 000	0	0	0	0	0	0	0	0	0	0	0	0	**326 450**
10.	Reports and statements	0	4 200	4 200	5 340	4 200	4 200	4 200	5 340	4 200	4 200	4 200	5 340	4 200	4 200	4 200	5 340	4 200	**71 760**
11.	Inclusion of chemical substances in the Convention annex lists	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
12.	Registering and reporting to the Convention register of specific exceptions	0	0	0	40	40	40	40	40	40	40	40	8 160	2 640	9 055	40	40	40	**20 295**
13.	Evaluation of the effectiveness of the Convention	1 600	1 600	1 600	1 600	1 600	1 600	1 600	1 600	1 600	1 600	1 600	1 600	1 600	1 600	1 600	1 600	1 600	**27 200**
14.	Technical and financial assistance	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Total for the action plans		**71 145**	**331 875**	**476 060**	**504 947**	**390 362**	**327 575**	**323 815**	**92 415**	**103 480**	**58 755**	**60 855**	**68 135**	**60 765**	**67 180**	**60 865**	**60 025**	**58 885**	**3 117 139**

Table 22. Costs for the Implementation of the NIP by Divided by Financing Sources and Years, LVL

Source of financing	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total
SB	12 580	44 330	68 415	86 182	66 947	28 950	31 400	29 780	39 405	28 280	8 580	6 940	29 570	35 985	27 870	28 110	26 970	650 294
SB+PF	1 800	55 400	53 450			2 510	2 000		1 440	1 440	1 440	1 440	1 440	1 440	1 440	1 440	1 440	128 120
SB+MB		3 500	2 000					600	600									6 700
MB				12 500	12 500	12 500												37 500
MB+PF				12 500	12 500	12 500												37 500
PF		11 380	15 680	45 200	17 600	17 600	19 400	14 020	14 020	8 020	9 820	8 740	8 740	8 740	10 540	9 460	9 460	228 420
SB+IFF	56 765	217 265	229 015	241 065	173 153	141 015	141 015	21 015	21 015	21 015	21 015	21 015	21 015	21 015	21 015	21 015	21 015	1 409 605
SB+PF+IFF			62 500	62 500	62 500	62 500	80 000	27 000	27 000									384 000
PF+IFF			45 000	45 000	45 000	50 000	50 000											235 000
Total	71 145	331 875	476 060	504 947	90 362	327 575	323 815	92 415	103 480	58 755	60 855	68 135	60 765	67 180	60 865	60 025	58 885	**3 117 139**

Abbreviations: PF – private financing
SB – state budget
MB – municipal budget
IFF – international fund financing

3. NIP Implementation

The implementation of the NIP is coordinated by the Ministry of Environment.

No later than two years after the Stockholm Convention takes effect, the NIP must be sent to the Conference of the Parties of the Convention (Conference of the Parties – COP) and the European Commission (EC).

The Ministry of Environment represents Latvia in the COP and submits the following information via the Convention Secretariat (Secretariat):

- information on measures undertaken to comply with the requirements of the Stockholm Convention;
- an evaluation of effectiveness of the measures used to achieve the objectives of the Stockholm Convention;
- statistical data on the total production, import and export quantities or reasonable estimates for each one of the substances[1] listed in Annex A and Annex B;
- list of the recipient countries to which each of these substances was exported or imported from;
- report on the progress achieved in implementing the strategy process for the requirements of the 5th paragraph of the Stockholm Convention;
- reports and other information on monitoring for the presence of chemical substances and their global movement listed in Annexes A, B and C to the Stockholm Convention;
- information on violations of Article 17 of the Stockholm Convention

The Ministry of Environment represents Latvia at the Executive Body of the Geneva Convention (Executive Body) meetings. LEGMA regularly provides the following information to the Executive Body via the European Economic Commission Executive Secretariat (Executive Secretariat) :

- measures undertaken for the implementation of the Aarhus Protocol;
- POPs[2] emission levels;
- POPs sediments and long-range transport.

If Latvia is subject to preferential conditions as provided by Article 4 of the Aarhus Protocol, the following information shall also be submitted to the Executive Secretariat:

- chemical name of the substance;
- objective for the preferential status;
- conditions for the preferential status;
- period for the preferential status;
- applicability of the preferential status to individuals or organizations;
- an assessment of the substance emissions and an assessment of the share of emissions relative to the total emissions from the member states of the Aarhus Protocol.

The NIP must be regularly reviewed based on to the requirements of the Stockholm Convention, as well as the amendments that need to be introduced according to COP requirements. It is useful to review the NIP within the task schedule for the implementation of

[1] Substances listed in Annex A and Annex B to the Convention: POPs-containing pesticides, PCBs and DDT.
[2] POP and POP-containing pesticides, as defined by the Protocol, are PCBs, PAHs, dioxins, furans and HHB.

the state objectives, i.e. in 2010, 2015 and 2020, and make the necessary amendments to ensure compliance with the terms of the NIP tasks.

There may be additional cases, where the NIP should be reviewed and expanded. These cases are as follows:

- New CCP requirements that are not included in the existing NIP;
- Addition of new substances to the annex of the Stockholm Convention and Aarhus Protocol;
- Proposals raised by interested national stakeholders;
- Other changes that directly affect the implementation of the NIP and its contents.

In addition to the situations mentioned above, the NIP may also be amended in cases where there are national conditions affecting the implementation or contents of the NIP, for example, a change of the current institutional system, amendments to the legislation, the pre-term completion of NIP tasks and other cases where it may be necessary to review and amend the NIP to reflect the actual situation.

Any amendments to the NIP need to be reported to the Secretariat.

The obligations arising directly from the Stockholm Convention and Aarhus Protocol relate to the Republic of Latvia as an international legal entity and state institutions are responsible for the discharge of these obligations. The NIP review and amendments are developed by the Ministry of Environment, while the Cabinet of Ministers approves changes to the NIP.

The main stakeholders must be consulted prior to the review and amendments to the NIP, including:

– global, regional and sub-regional organizations (for example, GEF, UNDP, EC);
– national stakeholders (for example, LEGMA, stakeholders, PHA);
– NGOs working with women's groups and with children's health protection issues.

IV Action Program

Action Plan 1. Strengthening of the Institutional System and Improvement of the Legislative Basis

Objective of the Action Plan

Ensure the compliance of Latvian legislation to the requirements of the Convention and Protocol and develop an effective mechanism for for the fulfillment of these requirements, as well as maintain control over the compliance with these requirements.

Summary of tasks, measures, anticipated results, responsible institutions, financing sources and terms for achieving of objective of the Action Plan

Tasks	Measures	Anticipated results	Responsible institutions	Financing sources	Terms
Conceptually change Latvian legislation related to POPs.	1.1. Prepare the POPs substances list and integrate it into regulations.	Amendments to the legislation are prepared and approved.	ME, MH, MA	State budget (approved in the budget 0,2 thousand LVL)	2005 – 2006
Introduce amendments to Latvian legislation on POPs pesticides.	1.2. Supplement the CM Regulations No. 217 *On Restricted Plant Protection Measures* (March 30, 2004) with the restriction for the production of substances included in the restricted pesticide list. Include all of the Convention and Protocol list pesticides in the prohibited pesticide list.	Amendments to the legislation are prepared and approved.	MA, MH	State budget (approved in the budget 0,2 thousand LVL)	2005 – 2006
Introduce amendments to Latvian legislation on PCB containing equipment and materials.	1.3. Supplement the CM Regulations No. 158 *On the Restrictions and Prohibitions on the Use and Trade of Hazardous Chemical Substances* (April 25, 2000) with the restriction on PCBs production.	Amendments to the legislation are prepared and approved.	ME	State budget (approved in the budget 0,2 thousand LVL)	2005 – 2006

	1.4. Supplement the CM Regulations No. 259 *Procedure for the Risk Assessment of Industrial Accidents and Risk Reduction Measures* (June 19, 2001) by adding PCBs to the Annex 1 list of hazardous substances.	Amendments to the legislation are prepared and approved.	ME	State budget (approved in the budget 0,2 thousand LVL)	2005 – 2006
Introduce amendments to Latvian legislation on POPs emissions.	1.5. Incorporate into the national legislation the total maximum allowable annual dioxin and furan emission quantities for the state.	Amendments to the legislation are prepared and approved.	ME	State budget (approved in the budget 0,2 thousand LVL)	2005 – 2006
	1.6. Incorporate in the legislation the limit values for dioxin and furan emissions from stationary sources as listed in the Protocol.	Amendments to the legislation are prepared and approved.	ME	State budget (approved in the budget 0,3 thousand LVL)	2005 – 2006
Introduce amendments to Latvian legislation on POPs polluted sites.	1.7. Incorporate in the legislation the limit values for POPs substances for the remaining contamination in polluted sites according to the type of land use.	Amendments to the legislation are prepared and approved.	ME	State budget (approved in the budget 0,3 thousand LVL)	2005 – 2006
Promote the use of best available technologies and improve the control over the use of these technologies.	1.8. Develop the POPs emissions management handbook.	Handbook developed.	ME, MH, NES, LEGMA	GEF, State budget (additional financing of 16 thousand LVL needed)	2007 – 2008
Increase the expertise of environmental inspectors responsible for the control of POPs sources.	1.9. Develop methodical guidelines for POPs reporting and control.	Methodical materials developed.	NES	GEF, State budget (approved in the budget 1,2 thousand LVL)	2006 – 2007
	1.10. Implement the training of regional environmental inspectors on POPs source control.	Each region would have at least one inspector with expertise in the control of POPs sources.	NES	GEF, State budget (additional financing of 1,6 thousand LVL needed)	2007 – 2009
Improve the knowledge of municipal employees on polluted site (incl. POPs polluted) management.	1.11. Organize workshops for solving problems (site inventory and remediation) associated with polluted sites (incl. POPs polluted sites) for municipal employees.	Improve the knowledge of municipal employees and promote their involvement in the management of POPs polluted sites.	NES	GEF, State budget (additional financing of 5,5 thousand LVL needed)	2007 – 2008

Promote the replacement of PCB-containing equipment, thus promoting the timely collection and destruction of PCB-containing waste.	1.12. Develop proposals for obtaining the financial instruments necessary to replace PCB equipment in a timely fashion and to promote its appropriate utilization.	Foster the management of PCB containing equipment and waste in compliance with the legislation.	ME	GEF, State budget (approved in the budget 2,4 thousand LVL)	2005 – 2006

Action Plan 2. POPs Pesticide Production, Import and Export, Use, Stockpiles and POPs Pesticide Waste Management

Objective of the Action Plan

Significantly decrease the risk caused by POPs pesticides to the health of the Latvian population and the environment.

Summary of tasks, measures, anticipated results, responsible institutions, financing sources and terms for achieving the objective of the Action Plan

Tasks	Measures	Anticipated results	Responsible institutions	Financing sources	Terms
POPs pesticides collected at Gardene and Kņava hazardous waste disposals shall be destroyed in an environmentally sound manner.	2.1. At the Olaine hazardous waste incinerator, realize the thermo-degradation of POPs pesticides collected at the Gardene and Kņava hazardous waste facilities.	Minimized storage risk of POPs pesticides and reduction of their quantities.	ME, stock company "BAO"	Technical assistance from Denmark, State budget, (approved in the budget 2 875 thousand LVL), private financing	By 2006
	2.2. Create a POPs pesticide waste preparation site at the Gardene hazardous waste disposal.	Achievment of the planned capacity for the equipment and technological processes.	ME, stock company "BAO"	State budget (approved in the budget 100 thousand LVL), private financing	2005 – 2006

	2.3. Thermo-degradation process slag and ashes shall be temporarily stored at the Gardene hazardous waste facility.	Safe management of hazardous waste.	ME, stock company "BAO"	State budget (approved in the budget 10 thousand LVL), private financing	By 2006
Dispose the slag from the thermo-degradation of POPs pesticides in an environmentally sound manner.	2.4. Relocate the slag from the thermo-degradation of POPs pesticides at the Gardene hazardous waste facility to the Zebrene hazardous waste facility for disposal.	POPs pesticide utilization problem resolved.	ME, stock company "BAO"	State budget (additional financing of 28 thousand LVL needed), private financing	2006 – 2007
Implement the management of the remaining POPs pesticides according to the legislation.	2.5. Collect information on potential, not yet investigated POPs pesticides sites in the LEGMA database "*Information system – POPs*".	POPs polluted sites recorded in the LEGMA database register "*Information system – POPs*".	LEGMA, SPPS	GEF, State budget (approved in the budget 0,6 thousand LVL)	2005 – 2006
	2.6. Perform an assessment of the discovered potential POPs pesticide storage sites.	Results of the assessment – basis for further actions.	municipalities	State budget (approved in the budget 2 thousand LVL)	By 2006
	2.7. Ensure the collection of the discovered POPs pesticides and their temporary storage at the Gardene hazardous waste facility.	Prevent the potential pollution of the environment.	ME, stock company "BAO"	State budget (approved in the budget 5 thousand LVL), private financing	2005 – 2006
	2.8. Destroy the collected pesticide waste at the Olaine hazardous waste incinerator.	Potential harmful effects to human health and the environment are prevented.	ME, stock company "BAO"	State budget (approved in the budget 25 thousand LVL), private financing	2005 – 2006

Action Plan 3. Production, Export and Import, Use, Identification, Labeling, Withdrawal from Use and Utilization of PCBs and PCB Containing Equipment, as well as the Management of PCB Containing Waste

Objective of the Action Plan

Develop and implement the sustainable management of PCB containing equipment and waste in a manner sustainable to the environment and harmless to human health.

Summary of tasks, measures, anticipated results, responsible institutions, financing sources and terms for achieving the objective of the Action Plan

Tasks	Measures	Anticipated results	Responsible institutions	Financing sources	Terms
Decrease the risk to human health and the environment caused by PCBs.	3.1. Ensure compliance with the requirements of legislation for the management of PCB containing equipment and wastes.	Decreased risk caused by the storage of PCB equipment and waste.	Owners and operators of equipment and waste.	Private financing	By 2010
Obtain a full evaluation of the quantities of PCB containing equipment and waste present in Latvia.	3.2. Develop and introduce measures for improving the inventory data on PCBs.	Optimized and updated inventory system.	NES	GEF, State budget (approved in the budget 0,3 thousand LVL)	By 2005
	3.3. Finish the inventory of PCB containing transformers and capacitors and their waste.	All PCB containing capacitors and transformers in Latvia inspected.	NES	GEF, State budget (approved in the budget 4 thousand LVL)	By 2006

	3.4. Regular update of the database: " *Information system – POPs"* .	Updated database on PCB containing capacitors and transformers.	LEGMA	GEF, State budget (approved in the budget 0,9 thousand LVL)	By 2006
Create a centralized state system for the collection of PCB containing waste according to the Stockholm Convention and Aarhus Protocol requirements.	3.5. Develop a system for the collection of PCB containing waste and a financing mechanism.	National system developed for the collection of PCB containing waste.	ME, MF	GEF, State budget (approved in the budget 1,5 thousand LVL)	By 2005
	3.6. Creation of PCB containing waste storage sites.	Temporary PCB containing waste storage sites created.	ME	GEF, State budget (approved in the budget 0,9 thousand LVL)	2006 – 2007
	3.7. Choose by tender the company that will be responsible for the collection of PCB containing waste.	The collector of PCB containing waste is chosen.	ME	State budget (approved in the budget 1 thousand LVL)	2006 – 2007
Collection of PCB containing waste.	3.8. Ensure the collection of industry owned PCB containing waste according to the PCB containing waste collection system.	PCB containing waste collected.	companies	Private financing	2006 – 2010
Ensure the timely and safe destruction of PCB containing waste.	3.9. Organize consultations with the involved legal entities for the most effective and optimal solution for the destruction of PCB containing waste.	Main requirements for choosing a PCB containing waste destruction method are defined.	ME	State budget (approved in the budget 1,0 thousand LVL)	2005 – 2006
	3.10. Organize a tender and select the best method and company, which would ensure the destruction of PCB containing waste discovered in Latvia within set terms.	Method and company for the destruction of PCB containing waste are selected.	ME	State budget (approved in the budget 1,0 thousand LVL)	2005 – 2006

	3.11. Implement the destruction of PCB containing waste after defined quantities of PCB containing waste have been stored in PCB waste storage facilities.	PCB containing waste destroyed.	companies	Within the framework of the established financial mechanism (costs estimated at 400 thousand LVL from international finance sources)	2006 – 2010
Replace PCB containing equipment without interrupting the technological processes.	3.12. Replace collected and destroyed PCB containing equipment with new equipment in accordance with legislative requirements.	PCB containing equipment is replaced with new equipment in accordance with legislative requirements.	Companies using or owning PCB containing equipment.	Private financing	2006 – 2010
Ensure the management of PCB containing waste from orphan sites according to legislation.	3.13. Identify through the inventory exercise the quantities of PCB waste found at orphan sites.		NES	State budget (finances included from 3.2 Identified volume of PCB containing waste without owner)	By 2006
	3.14. Collection of PCB containing waste at storage sites.	PCB containing waste collected from orphan sites.	Company	Within the framework of the established financial mechanism (expenses not known because they are dependent on the results of action 3.13)	2006.– 2008

	3.15. Provide for the timely elimination of PCB containing equipment.	PCB containing waste from orphan sites destroyed.	Company	Within the framework of established financial mechanism (expenses not known because they are dependent on the results of action 3.13)	2008 – 2010

Action Plan 4. Reduction of POPs Emissions

Objective of the Action Plan

Reduce POPs emissions into the environment and significantly decrease or prevent the risk of POPs to the health of the Latvian population and the environment.

Summary of tasks, measures, anticipated results, responsible institutions, financing sources and terms for achieving the objective of the Action Plan

Tasks	Measures	Anticipated results	Responsible institutions	Financing sources	Terms
Reduce POPs emissions from fires in waste disposal sites	4.1. Ensure compliance with the requirements of legislation and provide for the implementation of measures for the management of waste disposal facilities.	The sources for waste ignition are eliminated and the possibility of fire dissemination is reduced by 90%.	Waste disposal companies	Private financing	Regularly from 2005
Promote the recycling of each type of waste according to appropriate technological processes.	4.2. Assess the capacities of the current biological waste recycling equipment and the necessity for additional capacities.	An assessment is performed on the existing and newly built waste biological recycling equipment.	ME	State budget (approved in the budget 1,8 thousand LVL)	2005 – 2006

	4.3. Assess the current capacities of physical and chemical waste recycling equipment and the necessity for additional capacities.	An assessment is performed on the existing and newly built waste physical and chemical recycling equipment.	ME	State budget (approved in the budget 1,8 thousand LVL)	2005 – 2006
	4.4. Assess the capacities of waste thermal recycling equipment (incl. polluted (impregnated) wood processing equipment) and the necessity for additional capacities.	An assessment is performed on the existing and newly built waste thermal recycling equipment.	GEF, ME	State budget (approved in the budget 1,8 thousand LVL)	2005 – 2006
	4.5. Develop a program to facilitate an increase in the capacities of waste recycling equipment.	Development of a program for focused waste recycling, thus decreasing the potential of POPs emission risk.	ME	State budget (additional financing needed of 2,7 thousand LVL)	2006 – 2007
Promote the use of chemical and thermal waste recycling equipment in accordance with legislative requirements and operational regulations.	4.6. Supplement university programs with couses on the chemical and the thermal recycling of waste.	Specialists trained for work with waste recycling technologies and equipment.	MoE, ME	State budget (additional financing needed of 8 thousand LVL)	2006 – 2007
	4.7. Ensure adequate chemical and thermal waste recycling equipment operations, by developing internal audit.	Misuse of equipment and POPs emissions prevented.	Companies	Private financing	Regularly from 2005
Introduction of best available technologies at POPs emission stationary sources.	4.8. Ensure the preparation and treatment of incineration materials in accordance with the technical and technological requirements.	Potential of risks from POPs emissions arising from the burning of inappropriately prepared or treated materials is prevented.	Companies	GEF, Private financing	Regularly from 2005
	4.9. Implement the modifications of technological processes.	Total incineration of materials secured.	Companies	GEF, Private financing	Regularly from 2005
	4.10. Ensure the control of the physical parameters and treatment of exhaust gases.	POPs emissions from stationary sources reduced.	Companies	Private financing	Regularly from 2005
	4.11. Ensure the processing and disposal of residues generated during the treatment of exhaust gases.	POPs emmissions from residues generated during treatment processes reduced.	Companies	Private financing	Regularly from 2005

Action Plan 5. Identification and Management of POPs Polluted Sites

Objective of the Action Plan

Ensure the sustainable and rational management of natural resources and improve the situation regarding POPs polluted sites by introducing a focused monitoring and management system.

Summary of tasks, measures, anticipated results, responsible institutions, financing sources and terms for achieving the objective of the Action Plan

Tasks	Measures	Anticipated results	Responsible institutions	Financing sources	Terms
Conduct planned assessments of POPs polluted sites.	5.1. Update database: "*Information system – Polluted and potentially polluted sites"*.	Database containing information on POPs polluted sites and their management completed.	LEGMA, *Vides projekti*	GEF, state budget (approved in the budget 0,5 thousand LVL)	By 2005
	5.2. Prepare an initial evaluation of POPs polluted sites included in the database.	POPs polluted sites prioritized	*Vides projekti*	GEF, state budget (approved in the budget 0,5 thousand LVL)	By 2005
	5.3. Define parameters for the assessment of POPs polluted sites	Assessment program developed and recommendations made for monitoring.	LEGMA, users of territories, municipalities	State budget (approved in the budget 0,3 thousand LVL), private financing	2005 – 2006
	5.4. Make corrections to the territorial planning of municipalities by defining the borders of POPs polluted sites.	Planning documents updated, public and enterprises informed.	Municipalities	Municipal budgets	2006 – 2009
	5.5. Impose limitations to economic activities for POPs polluted sites.	Economic use of POPs polluted sites limited.	Municipalities, users of territories	Municipal budgets, (additional financing of 37 thousand LVL needed), private financing	2006 – 2009

Develop the State Program for the management of POPs polluted sites.	5.6. Use the initial assessment and evaluation results from the database on POPs polluted sites to develop a priority list of POPs polluted sites.	POPs polluted site database established and instrumental in attracting further financing.	LEGMA, *Vides projekti*	State budget (additional financing of 135,0 thousand LVL needed)	2006 – 2009
	5.7. Compare remediation technologies.	Economic assessment and availability of remediation technologies and results conducted.	ME, LEGMA, *Vides projekti*	State budget (approved in the budget 4,0 thousand LVL)	2006 – 2008
	5.8. Develop the State Program for the remediation of POPs polluted sites.	Justification for planning financing resources for remediation.	ME, LEGMA, *Vides projekti*	State budget (approved in the budget 1,5 thousand LVL)	2008 – 2009
	5.9. Start POPs polluted site remediation pilot projects.	Decrease of contaminant quantities in the territory, experience in planning and management of remediation projects.	ME, *Vides projekti*, users of the territories	State budget, (additional financing of 25,0 thousand LVL needed), private financing, co-financing from international funds	2008 – 2009
Ensure a recording system for POPs generating contaminants.	5.10. Develop a recording system for POPs generating contaminants.	Database on contaminants generating POPs pollution is completed.	ME, LEGMA	State budget (additional financing needed of 11,5 thousand LVL)	2010 – 2012
	5.11. Ensure the regular update of information on POPs management in the recording system.	Controlled use and utilization of POPs, information made available.	NES, LEGMA, companies	State budget, (additional financing needed of 13,0 thousand LVL), private financing	Regularly from 2012
Optimize the monitoring of POPs polluted sites.	5.12. Evaluate the experience obtained in the remediation of POPs polluted sites.	Economically effective planning measures justified.	ME, LEGMA	State budget (approved in the budget 1,2 thousand LVL)	2010 – 2012
	5.13. Evaluate the results of long-term monitoring.	Remediation measures to plan activities for POPs polluted sites prioritized.	LEGMA	State budget (approved in the budget 1,2 thousand LVL)	2010 – 2011

	5.14. Develop and implement a program for the remediation of priority POPs polluted sites.	Basis for planning the financing of remediation measures.	ME, municipalities	State budget (approved in the budget 1,2 thousand LVL), co-financing from international funds	2010 – 2020

Action Plan 6. Information Exchange and Involvement of Major Social Groups

Objective of the Action Plan

Develop an efficient information exchange at the national, regional and international levels, and create mechanisms for the involvement of the major social groups in problem solving and implementation of measures related to POPs.

Summary of tasks, measures, anticipated results, responsible institutions, financing sources and terms for achieving the objective of the Action Plan

Tasks	Measures	Anticipated results	Responsible institutions	Financing sources	Terms
Create an institution for the coordination of POPs related information	6.1. Establish the National Information Exchange Coordinating Centre (NCC).	NCC established, the concept and its statutes developed.	ME	State budget (approved in the budget 0,3 thousand LVL)	2005 – 2006
Ensure a constant information exchange on POPs with the Convention Secretariat and the EC Coordinating Centre.	6.2. Compile information on POPs and submit it to the Convention Secretariat and the indicated EC Coordinating Centre.	The information on POPs is updated regularly and the latest information is distributed.	LEGMA, ME, NCC	State budget (approved in the budget 0,2 thousand LVL)	Regularly from 2006
	6.3. Receive information from the Convention Secretariat and the EC Coordinating Centre and coordinate the activities of involved and concerned parties.	Coordinated use and distribution of received POPs information is ensured.	NCC	State budget (approved in the budget 0,6 thousand LVL)	Regularly from 2006

Ensure the availability and transparency of POPs information, and the efficient resolution of POPs related problems in Latvia.	6.4. Identify all information holders and users in Latvia, including state institutions, NGOs and scientific research establishments.	A list of information holders and users is created and updated regularly.	NCC	State budget (approved in the budget 0,4 thousand LVL)	Regularly from 2006
	6.5. Develop the exchange of information among identified institutions, NGOs and scientific research establishments.	Mechanism for the exchange of information created and regularly updated.	NCC	State budget (approved in the budget 0,6 thousand LVL)	Regularly from 2006
Promote public involvement in the resolution of POPs related problems.	6.6. Ensure cooperation between NGOs of various sectors in the management of PCB containing waste.	Timely and safe collection and destruction of PCB containing waste ensured.	NCC	State budget (approved in the budget 0,6 thousand LVL)	2006 – 2010
	6.7. Ensure cooperation with scientific research institutions to conduct research on POPs.	Timely POPs – related research conducted.	NCC, FVS, Ministry of Education and Science	State budget (approved in the budget 0,6 thousand LVL)	Regularly from 2006
	6.8. Ensure cooperation with GPs and gynecologists to inform population of the harmful effects of POPs.	Efficient system for public information and protection on the impact of POPs developed.	NCC, MH	State budget (approved in the budget 0,6 thousand LVL)	Regularly from 2006
Promote the development and implementation of projects on POPs related problems.	6.9. Use international and EU scientific research and project possibilities to find co-financing opportunities for projects on POPs.	Interested parties informed on accessible financing programmes.	NCC	State budget (approved in the budget 0,8 thousand LVL)	Regularly from 2006
	6.10. Provide consulting to above-mentioned stakeholders on the preparation of proposals related to POPs.	Preparation of quality proposals and capability of securing financing for POPs related projects is provided.	NCC	State budget (approved in the budget 0,8 thousand LVL)	Regularly from 2006

Action Plan 7. Improvement of Public Awareness, Knowledge and Information on POPs

Objective of the Action Plan

Improve the knowledge of the Latvian population of POPs and their impact on human health and the environment, thus decreasing pollution caused by human activity and promote environmentally sound activities.

Summary of tasks, measures, anticipated results, responsible institutions, financing sources and terms for achieving the objective of the Action Plan

Tasks	Measures	Anticipated results	Responsible institutions	Financing sources	Terms
Improve the knowledge on the impact of PCBs on human health and the environment for the social groups most affected by PCBs.	7.1. Prepare informative materials on the impact of PCBs on human health and the environment for those persons working near PCB containing equipment and waste, as well as provide information on the correct labeling, maintenance and destruction of PCB containing equipment.	Informative material on PCBs is developed and printed.	ME,NES, SLI, PHA	GEF, State budget (approved in the budget 5 thousand LVL)	2005 – 2006
	7.2. Distribute the prepared materials to medical doctors specializing in occupational diseases, owners of enterprises possessing PCB containing equipment and waste, enterprises where this equipment could potentially be located and enterprises that provide the maintenance of PCB containing equipment.	Company employees are informed on the appropriate management of PCB containing equipment and waste.	NES, SLI	GEF, State budget (approved in the budget 0,3 thousand LVL)	2006 – 2007

Improve the knowledge of GPs and gynecologists of the impact of POPs on human health.	7.3. Prepare informative material on POPs for distribution to pregnant women and young mothers.	Informative material on the impact of POPs on fetus and child development is developed and printed.	MH, ME, PHA, Ministry of Children and Family Affairs	GEF, State budget (approved in the budget 2 thousand LVL)	2006 – 2007
	7.4. Distribute prepared materials on POPs to GPs and gynecologists.	GPs and gynecologists are informed about the impact of POPs on fetus and child development.	ME, PHA, Ministry of Children and Family Affairs	GEF, State budget (approved in the budget 0,4 thousand LVL)	2007 – 2008
	7.5. Give presentations on the impact of POPs on human health and up-to-date information on POPs to Latvian General Practitioners and at the Latvian Gynecologist Association's annual events.	GPs and gynecologists are informed about the impact of POPs on fetus and child development, and pregnant women are informed about the potential harm from consuming fatty Baltic Sea fish during pregnancy.	ME, PHA, Ministry of Children and Family Affairs	GEF, State budget (approved in the budget 0,4 thousand LVL)	2006 – 2015, systematically
Ensure that industry using PCB containing equipment or waste is informed about the regulations for the destruction of all PCB containing equipment by 2010, as well as the mechanism for the fulfillment of the requirement.	7.6. Prepare a fact sheet on PCB containing equipment and waste collection and destruction.	Informative material on the CM requirements for PCB containing equipment is developed for industry.	ME, NES	GEF, State budget (approved in the budget 133 thousand LVL)	2005 – 2006
	7.7. Send out the fact sheet to industry using PCB containing equipment or waste, as well as to the NGOs concerned.	Industry using PCB containing equipment or waste is informed about the necessity and the possibilities for the destruction of PCBs.	ME, NES	GEF, State budget (approved in the budget 0,1 thousand LVL)	2006 – 2007
	7.8. Organize seminars on the national collection and destruction system for PCB containing equipment and waste.	Industry with PCB containing equipment or waste is aware of the necessity to destroy PCBs, and the process of collection and destruction.	ME, NES	GEF, State budget (approved in the budget 1,2 thousand LVL)	2006 – 2007

Promote the management of the remaining POPs pesticides according to environmental requirements.	7.9. Inform farmers and the rural population of the harmful effects of POPs pesticides and the necessity to destroy POPs pesticides as soon as possible.	Farmers, the rural population and the Latvian population in general are informed about the harmful effects of POPs pesticides thus promoting the identification of the remaining POPs pesticide sites and the collection of POPs pesticides.	SPPS, NES	State budget	By 2006
Inform industry, where POPs are generated as a by-product, about the harmful effects of these substances.	7.10. Develop informative material on the generation of POPs in the manufacturing process.	Informative material on the generation of POPs in the manufacturing process is developed.	NES, LEGMA	GEF, State budget (approved in the budget 6 thousand LVL)	2007 – 2008
	7.11. Distribute informative material to industry where POPs are generated as a by-product.	Industry where POPs are generated as a by-product is informed about the the harmful effects of these substances and the reasons for the generation of POPs.	NES, LEGMA	GEF, State budget (approved in the budget 4 thousand LVL)	2008 – 2015, systematically
Improve public awareness and knowledge of POPs, its harmful effects on human health and the reasons for the generation of POPs.	7.12. Supplement the annual campaigns against the burning of dead grass with information on the generation of POPs in the burning process.	Informative campaigns against the burning of dead grass contain information on the harmful effects of POPs emissions.	ME	State budget (approved in the budget 0,5 thousand LVL)	By 2010 and beyond – when necessary
	7.13. Prepare informative material on the impact of POPs and their incidence, paying special attention to the POPs generated by the burning of dead grass and domestic waste, as well as the necessity to destroy the POPs collected in Latvia.	Informative material on the harmful effects of POPs and their incidence is developed.	ME, PHA	GEF, State budget (approved in the budget 2,6 thousand LVL)	2006 – 2007

	7.14. Distribute developed materials to municipalities, environmental protection and industrial sector NGOs and the mass media.	The population is informed about the harmful effects of POPs, the reasons for the generation of POPs emissions and the possibilities for their reduction.	ME	GEF, state budget (approved in the budget 3,0 thousand LVL)	2006 – 2015, systematically
	7.15. Include material on POPs in the study programs of general education schools.	Latvian youth is informed about the impact of POPs in the environment and human health, as well as the reasons for the generation of POPs.	Ministry of Education and Science, ME	State budget (approved in the budget 0,4 thousand LVL)	2010 – 2011
	7.16. Suggest to Latvian universities that their Environmental study programs include information on POPs.	Young specialists are informed about POPs.	Ministry of Education and Science, Council of Higher Education, ME	State budget (approved in the budget 0,4 thousand LVL)	2010 – 2011
	7.17. Regularly inform the mass media and environmental NGOs about the latest developments on POPs in Latvia.	The Latvian media, NGOs and the population are provided with information on POPs.	LEGMA, ME	State budget (approved in the budget 0,6-10 thousand LVL)	Regularly from 2005
	7.18. Create a section on POPs in the Ministry of the Environment web-page and include all the available information on POPs in Latvia.	The Latvian mass media, NGOs and the population are provided with access to information on POPs.	ME	State budget (approved in the budget 0,3 thousand LVL)	2005 – 2006
	7.19. Regularly update information on POPs in the Ministry of the Environment web-page.	The Latvian mass media, NGOs and the population are provided with access to information on POPs.	ME	State budget	2006 – 2020, systematically

Action Plan 8. Monitoring

Objective of the Action Plan

Provide environmental protection and health care state institutions with data on POPs concentrations in the environment, food and humans , thus promoting the effective protection of the environment and human health against the harmful effects of POPs.

Summary of tasks, measures, anticipated results, responsible institutions, financing sources and terms for achieving the objective of the Action Plan

Tasks	Measures	Anticipated results	Responsible institutions	Financing sources	Terms
Conduct periodic POPs monitoring of workers with exposure to these substances over a longer period of time.	8.1. Conduct periodic PCB monitoring in workers (also blood) that have had exposure to PCB containing equipment or waste.	Data are obtained on the PCB concentrations in workers that have been involved in the management of PCB containing equipment and waste.	PCB containing waste collection and storage companies	Private financing	2007 – 2012
	8.2. Conduct periodic POPs pesticide monitoring in workers (also blood) that have had exposure to POPs pesticides.	Data are obtained on POPs concentrations in workers that have been involved in the management of POPs pesticides.	POPs pesticide managers	Private financing	2005 – 2007 and beyond – when necessary
Assess the long range transport of POPs air pollutants and their impact on ecosystems.	8.3. Use EMEP to conduct periodic research on the long range transport of POPs air pollutants.	Data on the long range transport of POPs air pollutants obtained and an evaluation of the impact of POPs on the environment performed.	ME	State budget (additional financing of 30 thousand LVL needed)	Regularly from 2007
Evaluate the necessity of regular or periodic POPs monitoring.	8.4. Evaluate the necessity to conduct POPs monitoring in POPs polluted sites on the basis of the available information.	Preparation of an evaluation to assist in the further planning of POPs polluted site monitoring.	ME, owners of polluted territories	State budget (approved in the budget 0,6 thousand LVL), private financing	2005 – 2006
	8.5. Evaluate the necessity to perform dioxin and PCB analyses in soil where wastewater sludge has been discharged, as well as in the sediments, sludge and discharges from the wastewater systems of Latvia's largest cities.	An evaluation is prepared to further plan PCB analyses in sediments, sludge and discharges from wastewater treatment facilities.	ME	State budget (additional financing needed of 37 thousand LVL)	2007 — 2008

Integrate PCB analyses into the drinking water monitoring program.	8.6. Compare the location of polluted sites included in the LEGMA database *Information system – POPs* against the location for drinking water well sampling procedures and determine the sites requiring PCB monitoring.	Proposals for the comparative monitoring of PCBs in drinking water are prepared.	ME, MH	State budget (approved in the budget 2 thousand LVL)	2005 – 2006
	8.7. Conduct comparative PCB monitoring at determined sites.	Data necessary for the further planning of PCB analyses in drinking water are acquired.	ME, MH	State budget (approved in the budget 5 thousand LVL)	2006 – 2007
	8.8. Based on the results of comparative monitoring, determine the priority sites that require constant PCB monitoring and expand the drinking water monitoring program.	Proposals for the expansion of the drinking water monitoring program are prepared.	ME, MH	State budget (approved in the budget 0,3 thousand LVL)	2006 – 2007
	8.9. Conduct regular PCB monitoring in drinking water samples according to the drinking water monitoring program.	Data on PCB concentrations in drinking water are acquired.	ME, MH	State budget (expenses depending on the results of the comparative monitoring)	Regularly from 2008
Ensure the systematic monitoring of POPs in food products.	8.10. In accordance with the State Food Monitoring Program conduct POPs monitoring in food products as required by the legislation.	Comprehensive information on the POPs pesticide residue concentrations in imported and local food products of plant and animal origin is obtained.	MA, FVS	State budget (approved in the budget 30 thousand LVL)	In accordance with the annual State Food Monitoring Program
	8.11. In accordance with the State Food Monitoring Program conduct dioxin, furan and PCB monitoring in food products of animal origin.	Comprehensive information on dioxin, furan and PCB concentrations in food products of animal origin is acquired.	MA, FVS	State budget (approved in the budget 63 thousand LVL)	Set since 2002 in accordance with the annual State Food Monitoring Program

Ensure the systematic update of the information on POPs emissions.	8.12. As described by UNEP methodology, specify the emission factors for POPs in accordance with the conditions found in Latvia	POPs emission factors specified and the precision of the evaluations increased.	ME	State budget (additional financing of 50 thousand LVL needed), co-financing from international sources	2007 – 2010
	8.13. Improve the statistical data collection and division of fuel (coal) quantities depending on their quality (contents) and the division of vehicles according to annual usage and design characteristics.	Precision of the data necessary for the evaluation of POPs emission quantities and assessment increased.	ME	State budget (approved in the budget 3,5 thousand LVL)	2006 – 2007
	8.14. Periodically conduct quantitative evaluations for POPs emissions using the specified POPs emission factors.	Information on POPs emissions updated.	ME, LEGMA	State budget (approved in the budget 0,9 thousand LVL)	Every 4 years from 2006
Promote the acquisition and use of the POPs monitoring experience from other countries.	8.15. Acquire and use the POPs monitoring and research methodology from other countries as well as the results.	Information on the experience of other countries in the monitoring of POPis acquired along with the monitoring and research data from other countries.	ME, MH, FVS	State budget (approved in the budget 0,6 thousand LVL)	Regularly from 2005
	8.16. Keep current with international programs involving POPs monitoring or research and participate in these to the extent possible.	Projects on POPs monitoring realized within an international program framework.	ME, MH, FVS	State budget (approved in the budget 0,6 thousand LVL)	Regularly from 2005
Ensure the systematic collection and distribution of data on POPs concentrations in the environment, food and humans.	8.17. Regularly compile the results of POPs monitoring conducted in Latvia.	Results of POPs monitoring conducted in Latvia compiled.	LEGMA	State budget	Constantly from 2005
	8.18. Include the compiled information on POPs concentrations in the environment, food and humans in the: “Report on Latvia’s sustainable development indicators”.	Distribution of information on POPs monitoring results promoted.	LEGMA	State budget	Constantly each year from 2005

Action Plan 9. Research

Objective of the Action Plan

Ensure the implementation of a research program on POPs concentrations in the environment, food and humans in Latvia and by acquiring data for decision-making and the planning of additional activities related to the constant or periodic monitoring of POPs, and decrease the potential risk from POPs.

Summary of tasks, measures, anticipated results, responsible institutions, financing sources and terms for achieving the objective of the Action Plan

Tasks	Measures	Anticipated results	Responsible institutions	Financing sources	Terms
Acquire data on POPs concentrations in mother's milk.	9.1. Conduct a one time evaluation of PCBs concentrations in mother's milk.	Information on the PCB concentrations in mother's milk acquired for further planning.	MH, PHA, RSU	State budget, (approved in the budget together with co-financing from international funds 40,0 thousand LVL)	By 2006
	9.2. Conduct a one time evaluation of dioxin concentrations in mother's milk.	Information for further planning. acquired on dioxin concentrations in mother's milk.	ME	State budget, co-financing from international funds (approved in the budget together with co-financing from international funds 62,0 thousand LVL)	2005 – 2006

Acquire data on PCB, dioxin and furan concentrations in food products used in Latvia.	9.3. Conduct comprehensive research on PCB, dioxin and furan concentrations in marine fish.	Information for further planning acquired on dioxin concentrations in marine fish.	MA, FVS, LFRI	State budget (additional financing of 160,0 thousand LVL needed), co-financing from international funds	2006 – 2008 and in other periods
	9.4. Conduct comprehensive research on PCB, dioxin and furan concentrations in dairy products and eggs.	Information for further planning acquired on dioxin concentrations in dairy products and eggs.	MA, FVS	State budget (additional financing of 40,0 thousand LVL needed), co-financing from international funds	2007 – 2008 and in other periods
Acquire data on PCB and dioxin concentrations in the local animal feed of animal origin.	9.5. Conduct a one time evaluation of dioxin and PCB concentrations in fish oil and fishmeal used as animal feed.	Information acquired on PCB and dioxin concentrations in animal feed produced in Latvia.	MA, FVS	State budget (additional financing of 40,0 thousand LVL needed), co-financing from international funds	2007 – 2008 and in other periods

Action Plan 10. Reports and Statements

Objective of the Action Plan

Ensure the regular preparation of reports and reporting measures conducted in compliance with the requirements of the Convention, Protocol, and EU regulations on POPs.

Summary of tasks, measures, anticipated results, responsible institutions, financing sources and terms for achieving the objective of the Action Plan

Tasks	Measures	Anticipated results	Responsible institutions	Financing sources	Terms
Ensure the preparation of communications and reports to the Executive body.	10.1. Compile information on the activities conducted to discharge the obligations of the Protocol.	Data on the activities undertaken are collected for reporting purposes.	ME	State budget (approved in the budget 0,8 thousand LVL)	According to the stated terms and intervals as defined by the Executive body
	10.2. Compile information on the levels of POPs emissions (compilation of emission data, air and rainfall quality measurements, modeling of air pollutant long-range transport and accumulated pollutant formation, integrated evaluation and modeling of air pollution).	Necessary data on POPs emissions, air and rainfall quality collected for reporting. Completion of the modeling of air pollutant long-range transport and accumulated pollutant formation , as well as the integrated evaluation of air pollution.	LEGMA	State budget (approved in the budget 0,4 thousand LVL)	
	10.3. Compile information on POPs emissions in the base year (1990).	Acquisition of information on POPs emissions in the base year.	LEGMA	State budget (approved in the budget 1,2 thousand LVL)	
	10.4. Collect information on POPs concentrations in sediments, as well as the long-range transport of POPs.	Collection of information on POPs concentrations in sediments, as well as POPs long-range transport.	LEGMA	State budget (approved in the budget 0,8 thousand LVL)	

	10.5. Compile the collected information.	Collected information compiled and processed.	LEGMA	State budget (approved in the budget 0,4 thousand LVL)	
	10.6. Prepare and submit the report to the Executive Body.	Report prepared and submitted to the executive according to the required terms.	ME	State budget (approved in the budget 0,4 thousand LVL)	
Ensure the preparation of overviews and reports to COP.	10.7. Collect the information on activities undertaken to comply with the requirements of the Convention.	Data on conducted activities compiled for reporting purposes.	LEGMA	State budget (approved in the budget 0,6 thousand LVL)	According to the terms and intervals defined by COP
	10.8. Compile the information and assess the efficiency for fulfilling the objectives of the Convention.	The efficiency of activities evaluated according to proposals of the CCP.	ME, MH, MA	State budget (approved in the budget 1,2 thousand LVL)	
	10.9. Compile statistical data on the total production, import and export quantities or reasonable estimates of the quantities for the substances listed in Annexes A and B.	Statistical data on the production, import and export quantities for the substances listed in the Convention annexes are collected and compiled.	LEGMA, Head Customs Office	State budget (approved in the budget 0,8 thousand LVL)	
	10.10. Prepare a list of countries importing or exporting the substances listed in Annexes A and B.	Preparation of a list of countries importing or exporting substances included in the annexes to the Convention.	Head Customs Office	State budget (approved in the budget 0,4 thousand LVL)	
	10.11. Compile the collected information	All the above-mentioned information is compiled according to the recommendations of the CCP .	LEGMA	State budget (approved in the budget 0,4 thousand LVL)	
	10.12. Prepare and submit a report to the Conference of the Parties.	Report prepared and submitted to the Secretariat within the required terms.	ME	State budget (approved in the budget 0,4 thousand LVL)	

	10.13. Prepare the report of the strategy for the implementation process in discharge of the obligations stipulated in Article 5.	Report prepared on the strategy for the implementation of the obligations as required by the Convention.	ME, MA, MH	State budget (approved in the budget 0,8 thousand LVL)	Every 5 years, (the date for the first report is not specified)
Ensure the compliance of the reports and communications prepared for the European Commission with the requirements of EU POPs Regulations.	10.14. Collect the information on the activities undertaken to comply with the requirements of the regulations.	Information is collected on the activities undertaken to comply with the requirements of the EU POPs regulations.	ME	State budget (approved in the budget 0,8 thousand LVL)	Every 3 years after the entry into force of EU POPs Regulations
	10.15. Submit statistical data on the reasonable assessments of produced and available quantities of substances included in Annexes I and II.	The required information on Annex I and II substances is collected.	LEGMA, ME	State budget (approved in the budget 0,8 thousand LVL)	
	10.16. Prepare a summary of the communications received on stockpiles as required by Article 5.(2).	A summary of the required stockpiles of these substances is prepared.	LEGMA	State budget (approved in the budget 0,8 thousand LVL)	
	10.17. Prepare a summary of the information compiled on the emission inventory according to the requirements of Article 6.(1).	A summary of the emissions inventory is prepared.	LEGMA	State budget (approved in the budget 0,4 thousand LVL)	
	10.18. Prepare a summary of dioxin, furan and PCB concentrations in the environment according to the requirements of the Article 9.	A summary of the presence of the required substances in the environment is prepared.	LEGMA	State budget (approved in the budget 0,16 thousand LVL)	
	10.19. Compile the collected information	A summary and analysis of the above-mentioned information is prepared.	LEGMA	State budget (approved in the budget 0,8 thousand LVL)	
	10.20. Prepare and submit the report to the European Commission.	A report is prepared and submitted to the European Commission according to the required terms.	ME	State budget (approved in the budget 0,8 thousand LVL)	

Action Plan 11. Inclusion of Chemical Substances in the Convention Annexes.

Objective of the Action Plan

Promote the inclusion of new industrial substances that correspond to POPs criteria in the Convention annexes.

Summary of tasks, measures, anticipated results, responsible institutions, financing sources and terms for achieving the objective of the Action Plan

Tasks	Measures	Anticipated results	Responsible institutions	Financing sources	Terms
Prepare proposals for the inclusion of new chemical substances in the Convention Annexes A,B, and C.	11.1. Evaluate new industrial substances and pesticides according to the requirements of Article 1 of Annex D of the Convention.	For each new substance available in the market an evaluation is prepared to assess its conformity to POPs criteria.	LEGMA	State budget (approved in the budget 0,12 thousand LVL)	As necessary
	11.2. In cases where the new substance conforms to Article 1 of Annex D- POPs criteria, decide on the inclusion of the substance in Annexes A, B and C of the Convention.	For each substance that presents a potential conformity to the POPs criteria, a National level decision for promoting its inclusion in the Convention Annexes is accepted.	ME	State budget	
	11.3. Prepare and submit proposals to the Conference of the Parties.	If a decision for inclusion into Annex is taken, the proposal is prepared and submitted in accordance with the recommendations of the Conference.	ME	State budget	

Action Plan 12. Registering and Reporting to the Convention Register of Specific Exceptions

Objective of the Action Plan

Ensure the protection of Latvia's interests in cases where Convention Annexes are supplemented by new chemical substances.

Summary of tasks, measures, anticipated results, responsible institutions, financing sources and terms for achieving the objective of the Action Plan

Tasks	Measures	Anticipated results	Responsible institutions	Financing sources	Terms
In cases of necessity, register specific exceptions to accommodate the needs of Latvia.	12.1. Regularly review the lists of substances included in Annexes A and B to the Convention.	Up-to-date information on new chemical substances that are the subject of POPs criteria.	ME, LEGMA	State budget	As required
	12.2. Review the use in Latvia of substances included in Annexes A and B	Actual use of POPs in Latvia reviewed.	ME	State budget	
	12.3. Take the decision on the necessity to register a specific exception regarding the use of a particular substance in Latvia.	Decision on the necessity for an exception accepted.	ME	State budget	
	12.4. If necessary, develop a written notification for the registration of an exception in accordance with the procedure.	Specific exception notice prepared and submitted.	ME	State budget	
If a specific exception is registered, extend it regularly as required.	12.5. Follow up on the terms of the Register review.	Continuous information on the results of the Register review.	ME	State budget	Within the terms defined by the Convention Secretariat
	12.6. Research the situation in Latvia on the particular use of a substance and prolong the terms of the special exception if necessary.	The Latvian situation on specific exceptions is regularly reviewed.	ME	State budget	
	12.7. If necessary, prepare and submit a rationale to the Conference of the Parties.	A rationale for the prolongation of specific terms of exception is prepared and submitted.	ME	State budget	

Prepare an action plan for the implementation of other measures stipulated by the Convention on activities with a chemical substance included in Annexes A and B and subject to a specific exception.	12.8. If the exception is registered, prepare an action plan in accordance with the measures defined by the Conference of the Parties for its implementation and amend the NIP accordingly.	The action plan is prepared and the NIP amended.	ME	State budget	Within the terms defined by the Convention Secretariat
	12.9. Submit a prepared action plan to the Convention Secretariat.	A new action plan is submitted to Convention Secretariat.	ME	State budget	

Action Plan 13. Evaluation of Effectiveness[1] of the Convention

Objective of the Action Plan

Participate in the evaluation of the effectiveness of the Convention and promote improvements to the Convention.

Summary of tasks, measures, anticipated results, responsible institutions, financing sources and terms for achieving the objective of the Action Plan

Tasks	Measures	Anticipated results	Responsible institutions	Financing sources	Terms
Implement the measures defined by the Conference of the Parties for comparative monitoring data.	13.1. Acquire monitoring data as required by the Conference of the Parties using existing monitoring programs and methods.	The necessary monitoring data are acquired.	ME, LEGMA	State budget	Within the terms defined by the Conference of the Parties
	13.2. Implement the harmonization of the existing monitoring systems in accordance with the recommendations of the Conference of the Parties.	The harmonization of existing monitoring systems between member states is improved.	LEGMA	State budget	
	13.3. Include monitoring results in the current report to the Conference of the Parties .	Acquired monitoring data prepared and integrated into the current report.	ME	State budget	

[1] According to Article 16 of the Convention, the effectivenes evaluation is carried out by the Conference of the Parties, and Contractual Parties are obliged to provide the necessary monitoring data to the Conference.

Action Plan 14. Technical and Financial Assistance

Objective of the Action Plan

Ensure the technical and financial assistance to other Convention member states and promote the achievement of global objectives.

Summary of tasks, measures, anticipated results, responsible institutions, financing sources and terms for achieving the objective of the Action Plan

Tasks	Measures	Anticipated results	Responsible institutions	Financing sources	Terms
Provide technical assistance to other Convention member states.	14.1. Implement activities as indicated by bilateral international agreements (if any) according to the recommendations of the Conference of the Parties.	Obligations of bilateral international agreements fulfilled.	In accordance with the requirements of the agreements.	State budget	According to agreement
	14.2. Create and participate in developing an increased capacity for regional and sub-regional technology centres (in cooperation with EC) in accordance with the recommendations of the Conference of the Parties .	Permanent participation in regional centres established by EC.	In accordance with the requirements of the agreements	State budget	According to the requirements of the Conference of the Parties
Provide financial assistance to other Convention member states.	14.3. Implement measures indicated by bilateral international agreements (if any) in accordance with the recommendations of the Conference of the Parties.	Obligations of bilateral international agreements fulfilled.	In accordance with the requirements of the agreements	State budget	According to the requirements of the Conference of the Parties
	14.4. As indicated by the recommendations of the Conference of the Parties, participate in the activities of the financial mechanism (when it is created).	Regular contributions to the established financial mechanism of the Conference of the Parties.	In accordance with GEF requirements	State budget	According to GEF requirements (later, the Conference of the Parties requirements)
	14.5. Collaborate in the activities of the financial mechanism (when it is created) as indicated by the recommendations of the Conference of the Parties.	Regular contributions to the established financial mechanism of the Conference of the Parties.	In accordance with GEF requirements	State budget	

	14.6. During the transition period, from the date of the Convention coming into force in relation to Latvia until the1st Conference of the Parties, participate in the financial mechanism and secure financial assistance with GEF, as necessary and possible.	Cooperate with GEF during the transition period.	In accordance with GEF requirements	State budget	

Annex 1

Approval by the government

LATVIJAS REPUBLIKAS MINISTRU KABINETS

2005.gada 31.martā
Rīgā

Rīkojums Nr. 206
(prot. Nr. 16 29 .§)

Par noturīgo organisko piesārņotāju samazināšanas nacionālo plānu 2005.–2020.gadam

1. Apstiprināt noturīgo organisko piesārņotāju samazināšanas nacionālo plānu 2005.–2020.gadam (turpmāk – plāns).

2. Noteikt Vides ministriju par atbildīgo institūciju plāna īstenošanā un apstiprināt plāna finansējumu 2006.–2020.gadam kā jaunās politikas iniciatīvas pieteikumu.

3. Saskaņā ar Stokholmas konvencijas par noturīgajiem organiskajiem piesārņotājiem 7.panta 1.punkta "b" apakšpunktu Vides ministrijai ne vēlāk kā divu gadu laikā pēc Konvencijas spēkā stāšanās iesniegt plānu Konvencijas Līgumslēdzēju pušu konferencē un Eiropas Komisijā.

4. Jautājumu par papildu finanšu līdzekļu piešķiršanu plāna īstenošanai skatīt, sagatavojot attiecīgos valsts budžeta projektus 2006.–2020.gadam.

Ministru prezidenta vietā –
ārlietu ministrs A.Pabriks

Vides ministrs R.Vējonis

TRANSLATION

The Cabinet of Ministers of the Republic of Latvia

31 March 2005

Order Nr. 206
(Protocol No. 16, 29. §)

On Persistent Organic Pollutants National Implementation Plan for 2005.-2020.

1. The Government of Latvia hereby approves the Persistent Organic Pollutants National Implementation Plan for 2005.-2020. (hereinafter the Plan).
2. The Government of Latvia nominates the Ministry of Environment as the responsible institution for the implementation of the Plan and approves funding for its implementation for the period of 2006.-2020.
3. In accordance with Article 7, paragraph 1, subparagraph "b" of the Stockholm Convention, the Ministry of Environment shall submit the Plan to the Conference of Parties of the Stockholm Convention and the European Commission no later than two years from now.
4. Requirements for additional funding to implement the Plan shall be considered when preparing budget proposals for each respective year from 2006. until 2020.

In the name of Prime Minister – Minister of Foreign Affairs — A. Pabriks

Minister of Environment — R. Vējonis