REPUBLIC OF ALBANIA
MINISTRY OF ENVIRONMENT, FORESTRY AND WATER ADMINISTRATION

National Implementation Plan
for Reduction and Disposal of Persistent Organic Pollutants

TIRANA

DECEMBER 2006

Background

Parties to the Stockholm Convention are required to develop National Implementation Plans (NIP) describing how they will meet the obligations set by the Convention. Albania received through UNDP as GEF implementing agency capacity building support for enabling activities to strengthen its ability to implement a systematic and participatory process for the preparation of the NIP, and for the NIP production.

National project-executing organization

Ministry of Environment, Forestry and Water Administration of Albania

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Acknowledgements

Financing:

This report was financed by the Global Environmental Facility (GEF) through UNDP as GEF implementing agency, and co-financed by the Government of Albania.

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Foreward

In 2001, the United Nations Environment Program (UNEP) adopted the Stockholm Convention on the 12 most dangerous and widespread Persistent Organic Pollutants in the world, which had been causing incremental problems related to public health and the environment. Their risk is related not only to their toxic properties but also to their ability to accumulate in the organism and persist in the environment for longer periods of time.

Albania signed the Stockholm Convention on 5 December 2001 and ratified it on 4 October 2004, undertaking the obligation to prevent the use of most of the Persistent Organic Pollutants, curb the production of DDT and develop a National Action Plan to that end, which is now being presented.

The targets, options, methods, timeframe and budgets for the reduction and, ultimately, elimination of POPs have been based on an assessment of the situation in Albania and issues and priorities related to each Persistent Organic Pollutant.

The National Action Plan was developed by the Ministry of Environment, Forestry and Water Management, in cooperation with a number of other local actors and the United Nations Development Program, with funding from the Global Environment Fund. As a result, the implementation of this Plan will be a task for many actors, as part of our common coordinated efforts for the EU integration of Albania.

The implementation of this plan by the State Administration, research institutions, the business community and NGOs is expected to improve public health and the environmental situation, particularly the condition of the flora and fauna in the areas that have been affected by Persistent Organic Pollutant pollution. At the same time, the implementation of the Plan will ensure our national contribution to the global efforts for the elimination of Persistent Organic Pollutants.

Lufter XHUVELI

Minister

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Executive Summary

Introduction

Persistent Organic Pollutants (POP-s) are chemical substances that persist in the environment, bio-accumulate through the food web, and pose a risk of causing adverse effects to human health and the environment. With the evidence of long-range transport of these substances to regions where they have never been used or produced and the consequent threats they pose to the environment of the whole globe, the international community has now, at several occasions, called for urgent global actions to reduce and eliminate releases of these chemicals.

When it became clear that these POP-s were deadly and that urgent global action was needed, UNEP Governing Council created an Intergovernmental Negotiating Committee (INC) to prepare an internationally legally binding instrument that would "point the way to a future free of dangerous POP-s". The result of the INC-s efforts is the Stockholm Convention on Persistent Organic Pollutants. Stockholm Convention is a global treaty to protect human health and the environment from persistent organic pollutants. The Convention was adopted on 22 May 2001 at the Conference of Plenipotentiaries on the Stockholm Convention on Persistent Organic Pollutants, held in Stockholm on 22-23 May 2001. The Stockholm Convention on Persistent Organic Pollutants entered into force on 17 May 2004 in pursuance of its Article 26. The European Union is a party to this Convention and in addition adopted also the Community Policy for POPs Management, which will become mandatory for new countries upon joining the EU. Albania has signed the Convention on December 05, 2001 and ratified it on October 04, 2004.

The POPs Convention sets forth a number of obligations that the Parties shall or are encouraged to undertake, including designating a national focal point, fostering information exchange, providing technical assistance, promoting and facilitating public awareness and participation, consultation and education, stimulating research and monitoring, and reporting "at periodic intervals".

POP-s NIP Project

In the framework of the obligations for parties to the Stockholm Convention (article 7 of the Convention) it is foreseen the preparation of a National Implementation Plan (NIP) in which it will be defined how to implement the Convention requirements. NIP aims at establishing the legislation and institutional framework, as well as defining the actions that need to be programmed and implemented in order to phase out and destroy the POPs in Albania. The action plans should be submitted to the Conference of Parties within two years since the entry of the Convention into force.

In 2002 the Albanian Ministry of Environment asked the GEF through UNDP, for financial support to run a project that would enable Albania to prepare a National Implementation Plan for Phasing Out and Destroying POPs. The GEF contribution to this purpose is 347,000 USD, while that of the Albanian Government is 31,400 USD. The executing body for the project is the Albanian Ministry of Environment, Forestry and Water Management, whereas the UNDP is acting as the implementing agency.

NIP aims at encouraging, assisting and supporting central and local authorities, state and private actors to tackle with POPs, POPs containing facilities and POPs polluted areas in an appropriate way and in conformity with the convention requirements.

POPs managing policy, as part of hazardous chemical management policy, necessitates an insistent implementation of protective and preventive measures for health and environment preservation in the Republic of Albania, based on the comprehensive legal and institutional framework in compliance with the requirements of the Stockholm Convention and European Union Directives.

In the given context, production of the POPs NIP is in accordance with objectives put forward by the National Environment Action Plan approved by the Council of Ministers on 2002, one of the aims of which is "mitigation and prevention of the environmental problems".

The NIP preparation process is based on Initial Guidelines for Enabling Activities for the Stockholm Convention on Persistent Organic Pollutants, and has passed through the following five main groups of activities:

Step 1: Determination of coordinating mechanisms and organization of process
Step 2: Establishment of POP-s inventory and assessment of national infrastructure and capacity
Step 3: Setting of priorities and determination of objectives
Step 4: Formulation of a National Implementation Plan, and specific Action Plans on POP-s
Step 5: Endorsement of NIP by stakeholders.

To meet the tasks provided by GEF guidelines several working groups were set up, accordingly to the specific needs for the plan preparation process.

Working groups carried out for the first time in Albania preliminary POPs inventories at country level and on this bases identified problems to be tackled with and resolved in the framework of NIP in full agreement with Albanian Government policy on environment protection, as well as requirements set forth by Stockholm Convention and European Directives for POPs phasing out and elimination.

NIP is intended to be a dynamic document calling for engagement in its implementation process not only the central and local institutions and organizations, both public and private, but also necessitating a careful monitoring and evaluation, and, on this basis, permanent updating, in order to be continuously coherent to socio-political and environmental development of the country, and in a broader context to international development focused on environmental protection.

Country profile

Albania is located at the western part of the Balkan Peninsula, at the eastern coasts of Adriatic and Ionian Seas, in the area of the sub-tropical Mediterranean climate, which is very appropriate for the life and socio-economic activities. The country is rich in mineral resources, water, flora and fauna, etc. Fauna has been damaged by irrational hunting, deforestation, reclamation of wetlands and marshlands, use of chemicals in agriculture, soil, water and air pollution, etc.

Albania is a Parliamentary Republic. Population number in 2001 was about 3,069,275 inhabitants. About 0.6 million people have migrated from Albania in the period 1989-2001. More than half of the population is concentrated in the coastal plains. Average age of Albanian population is youngest in Europe while the longevity is comparable to that of the populations of the developed countries. Albanians constitute 98% of the ethnic structure of the population.

The currently working industries in Albania include agro-industry, textiles, clothing, timber, oil, cement, chemical, mining and metal processing, hydro-energy industry. European Union is the main trade partner of Albania. The main exports of the country are in the sectors of textiles and footwear, metals and minerals, crude oil, vegetables, fruits and tobacco. Main imports are industrial products and many other processed products.

Industrial sector in Albania is still weak. The agriculture sector contribution in the country's GDP has proved a continuous and significant decrease in the last 5 years. While the privatization of SME-s has been completed, privatization of big enterprises has been slower. The energy system is still weak while the efforts for its gradual improvement have not yet solved the energetic crisis. The telecommunications sector has improved, although the remote areas have still problems. Number of mobile users has grown recently, while internet

access and use remain still low. In the transport sector the current priorities remain the finalization of the East – West and the North – South corridors.

Albania has inherited multiple environmental problems from the past, which were further emphasised during the transition period. The country policy documents present the main environmental priorities which include: soil erosion, deforestation, biodiversity loss, urban waste, air pollution in urban and industrial areas, and soil pollution from hazardous waste from the old industry, etc. Other problems at the institutional, legal and environmental education/culture level have also been inherited from the past. Although during the transition period a progress has been made, especially in the institutional, policy, legislation, and awareness raising fields, yet a lot has to be done. Investments in the environmental infrastructure are considered as an important measure in order to implementation legislation and to fulfil the European standards in the field.

Since the year 2000, Albania is a WTO country and is implementing all the Free Trade Agreements foreseen under the Stability Pact.

On June 12, 2006 Albania has signed The Stabilisation and Association Agreement with the European Commission, under which important obligations related to the environment and sustainable development are also foreseen.

Assessment of the POPs Issues and the National Implementation Plan

Institutional and Regulatory Framework Strengthening

Regarding the existing regulatory framework in Albania the following issues are identified:

- In the national legislation, does not exist any separate law or by-law which oppose the provisions of the Stockholm Convention;
- Up to now there is no any specific legal act to deal with POPs;
- In some laws and by-laws, as well as in some other state documents concerning the environment, there exist room for future treatment of POPs in accordance with the requirements of the Convention;
- The preparation of the specific legal frame to enable the implementation of the requirements of the Convention is part of the general efforts to transpose and harmonize the national legislation with the EU one in the field of human health and environmental protection;
- The preparation and approval of each of the acts, part of the specific legislation on POPs, shall be realized in accordance with an approved detailed program, which is short, medium and long term, giving priority to the most necessary acts, approval of which ease the preparation of the others;
- In order to prepare the specific acts, the working groups are to be established, composed of environmental lawyers, technicians and members of specialized NGOs and business associations;

Institutional Network

The following issues are identified for consideration regarding the existing institutional frame in Albania:

- The critical assessment of the existing bodies and structures, as the most important acting capacity to find out the relevance of each with the obligations of the POPs Convention;

- Reassessment and update of the concrete obligations, that relevant institutions currently have in relation to POPs management, in accordance with their functions, competencies and responsibilities;
- The design of the new institutional scheme, which would involve all structures and bodies at central and local level, the definition of roles, functions, responsibilities, competencies and duties of any of them, their relationships and the functioning rules of the whole system;
- The designation of the contact points and focal points at national and local and/or sectoral level, which altogether constitute the National POPs Network;
- The contact points and focal points shall build their communication scheme among them, as well as they will prepare operative programs how to perform their respective duties and obligations;

Priority problems

- Necessity to elaborate and implement legislation on chemicals;
- Current legislation is not yet fully harmonized with the EU legislation;
- Need to regulate issues connected with use of PCBs in close systems, their phasing out and environmentally sound disposal;
- Insufficient enforcement of the current environmental legislation;
- Need to establish a national structure for implementation of Stockholm Convention (network of local contact points, national focal point).

Objectives

- Completion and harmonisation of the environmental legislation with that of EU;
- Improvement of the institutional framework and capacity building at the local and central levels.

Action Plan

1. **POPs and in particular PCBs monitoring to be included as a part of the National Environment Monitoring program;**
2. **Registering of PCBs containing equipments and oil in the electricity sector;**
3. **Harmonization of the legislation with EU;**
4. **Establishment of a national structure for implementation of Stockholm Convention**.

POPs Pesticides

Nine of the twelve chemicals listed by the Stockholm Convention are POPs-pesticides: Aldrin, Dieldrin, DDT, Endrin, Mirex, Toxaphene, Chlordane, Hexachlorobenzene, and Heptachlor.

First in our country were used imported products and later chemicals formulations, produced in the Chemical Enterprise Durrës: DDT, Heptachlor, Aldrin, Dieldrin, Toxafene (Melipax), Chlordane. Hexachlorane and Lindane has been also produced in this enterprise. Practically the production of pesticides was interrupted in 1990. However, the danger from stock pesticides was apparent.

From inventory which have performed in POP-s NIP framework during 2005 and results that in

Albania are no pesticides of this group. A contingent of about 3 ton DDT and Hexachlorane/Lindane which have been present in stores of Ministry of Health (MOH), are repacked and evacuated from Albania in June 2006, in project MMPAU: "Repacking and evacuation from Albania of pesticides and other chemicals from Bishti i Palles", financed from Dutch Government. The actual problem is the determination of eventual contamination cost by the previous use of POP-s pesticides.

There are only sporadic studies related to the residues of these products in the environment. These studies have been performed in regions referred to as environmental hot spots and there is no integral study on the country situation in respect to the land/water contamination from POP-s pesticides. In this context, it is suggested planning the monitoring of these pesticides mainly in the ex-storehouses, surrounding soil/water area and in special cases in the domestic animals and humans.

Priority problems

- Non adequate enforcement of legislation for pesticides use;
- Non-systematic information about past DDT uses (documents about imported and used amounts of DDT in the health sector);
- Lacking analytic study of the actual level of contamination of the ex- POPs pesticides storehouses, as well as of the surrounding environment;
- The local authorities have insufficient information related to the POPs pesticides (in particular the old storehouses);
- The technical staff has insufficient information related the POPs pesticides (possible contamination of old storehouses);
- Lack of specific pesticide related information to the general public;
- Lack of financial support.

Objectives

- Strengthening of capacity of the PPI laboratory for POPs pesticide monitoring;
- Determination of the eventual contamination of ex- storehouses and surrounding area from POP-s pesticides;
- Development of rehabilitation plan for the contaminated sites by POP-s pesticides;
- Raising awareness about these contaminated sites concerning possible health risks to the people living in proximity to these sites.

Action Plan

1. **Preparation of monitoring amendment CMD to perform POP-s pesticide analysis.**
2. **Performing analysis of present levels of POP-s pesticide residues in ex-stores and contaminated sites, including assessment;**
3. **Strengthening of the human and technical capacity of the analytical laboratory in Plant Protection Institute;**
4. **Preparation of action plan for rehabilitation of the sites contaminated by POPs pesticides;**

5. **Increase the awareness of concerned public with regard to potential hazards connected with POPs contaminated sites.**

DDT

DDT started to be used during the Second Wold War. It has been used to combat the diseases transmitted by insects and for protecting the humans. It has been efficient in protecting public health from malaria, typhus, yellow fever, river blindness and encephalitis.

Actually is prohibited in all the countries the use of DDT in the Agriculture sector, and in some countries is not applied in public health sector as well. In some countries where the Malaria vector is still sensible, DDT is used for dwelling disinfection, in the indoor areas in aerosol form.

DDT began to be used in Albania during the years 1946–1947 to combat the Malaria vectors. In 1946, 1947 till 1959 – 1960 years, annual average quantity of DDT and HCH used for residences sprinkling with the manual method, and the use of the airplanes in water surfaces, where the infestation with anopheles mosquito has been very high, reached in 90 – 120 tons. DDT has been used also to combat other insects as well, as louses, houseflies, fleas, bed-bugs, which have been spread in the poor families of the non–developed areas in Albania, at that time. The year 1967 is considered as the year of the eradication of malaria in Albania, officially certified by the WHO, based on the request made by the Albanian Government. According to the information of malaria researchers and experts of Albania, DDT hasn't been used after 1970, but it looks like that an amount of 20–30 tons was set aside by the Ministry of Health, in order to combat expected eventual malaria outbreaks from imported cases, as well as that during that period of time began the resistance from anopheles mosquitoes, after using DDT for 20 years.

Some districts informed us that DDT and Lindan was used 15 years ago. Lindan was usually used mainly against scabies and parasites. It was used massively in cream form and emulsion 1% during the period of years 1975 – 1985. Latter on it was forbidden for its resistance against these parasites.

It does not exist any monitoring and information system for the impact of pesticides in human health and environment, although theoretically this impact is known. In the last years the IPH has taken some steps to study the impact of these pesticides in the food chain and the blood of the population.

It has been found the presence of HCH isomers (α, β, γ) in the blood of the people living in surroundings and in the territory of the former lindane factory (Porto Romano, near Durres). The level of α and β isomer was found to vary, respectively, up to 0,0028 μg/ml and from 0,0005 μg/ml to 0,0915 μg/ml. The higher levels correspond to the subjects living within the territory of the mentioned factory.

Two milk samples received in the area of Porto-Romano on the frame of the UNEP feasibility study, and the frame of the study performed by the IPH, contained high level or HCH. Both samples give us an idea on the level on the pollution scale and on the very high levels of HCH in the milk that is produced in Porto Romano area, which is traded in other areas of Durres as well. The HCH concentration found in milk suggest that the milk can not be used for human consumption because they pose a serious risk for human health.

According to the inventory performed in on the frame of the project for preparation of the National Action Plan on POPs, the situation regarding POPs in the health sector (December 2005) is as shown in the following table.

Stocks of DDT and Lindan at the MoH storehouses

No	District	Storage place	DDT amount (kg)	Lindan amount (kg)	Package
1	Gjirokastër	DKSHP	50 kg sol. 25 %	-	Barrels
2	Durrës	DKSHP	200 kg sol. 25 %	24.2 kg (sol.10%)	Barrels Bottle x 500 ml
3	Elbasan	DKSHP	100 kg sol. 25%	-	Barrels
4	Lushnjë	DKSHP	1040 kg sol. 25%	200 (HCH)	Barrels, sacks
5	Lezhë	DKSHP	-	704.6 (sol. 10%)	Bottle x 50 ml
6	State Reserve	Lundër	108 kg sol. 25%	212 (dust)	Barrels
	Total	6 places	1948 kg sol 25%	1140 kg	Barrels, bottle, sacks

The identified amount of DDT and Heksachlorane/Lindan were removed from Albania on the frame of the project of the Ministry of Environment, Forestry and Water Administration "Repackaging and removal of pesticides and chemicals from Albania, Bishti i Pallës", financed by the Dutch Government. This process has been finalized in July 2006.

Priority problems

- The lack of capacities for analytical studies related to the contamination of ex-stores of DDT, and the environment around these ex-stores.
- The lack of financial support.

Objectives

- Strengthening the capacities of IPP, IPH, and LQU for DDT monitoring.
- Evaluation of the eventual contamination in the ex-stores and their surroundings for DDT.
- Preparation of Rehabilitation Plan for the contaminated by DDT areas.
- Raising the awareness for the contaminated areas in relation to the risks on health for population living in the surrounding areas.

PCB-s

PCB-s are organic synthetic chemicals, have excellent dielectric properties, non- flammability and resistance to thermal and chemical degradation. Most transformers and capacitors use a dielectric fluid based on polychlorinated biphenyls (PCBs) because of having fire-resistant and other properties required for use in electrical equipment, but in other side some major disadvantages are present in these products. These disadvantages are linked to the toxic nature of PCB-s and their potential contamination to human health and the environment.

PCBs are subject to three international conventions related to hazardous chemicals, namely Basel, Rotterdam and Stockholm Conventions. PCB-s are covered by these conventions addressing the production, declaration, use, import, export, storage, transport, monitoring, phase out, disposal of PCB-s.

PCB-s inventory

The objective of the PCB-s inventory is identification of all the PCB-s transformers which are "in use" and/or obsolete, to apply the precaution principle to PCB-s installations in use (keep in use and phase out and disposal), to ensure the monitoring of technical compliance of all PCB-s installations in use and to ensure the tracking of all the PCB-s installations until the end of the life.

According to the Stockholm Convention it has to be identified, labelled and removed from use equipment containing more than 10 % PCB-s (100 000 ppm) and volumes greater than 5 litres, to identify, label and remove from equipment in use containing more than 0.05 % PCB-s (500 ppm) and volumes greater than 5 litre and endeavour to identify and remove from use equipment containing greater than 0.005 % PCB-s (50 ppm) and volumes greater than 0.05 litre.

PCBs are never produced in Albania. The transformer's oil always has been imported from other countries of Europe or Asia. Until now no PCBs control on equipments and oil at the Custom and The Central Storehouse in Shkozet – Durres in relation to the oil quality and the presence of PCBs in it.

In KESH Facilities are in use many old transformers manufactured before 1970 that have created environmental pollution especially in soil and groundwater because of oil spill and leakage during maintenance process or their old age. Most part of transformers is stated on ground or in static support but no secondary containment under transformers. One can easily visually observe the contaminated soil under transformers, so there is a need to carry out soil and groundwater contamination investigation.

From the testing performed in the frame of project for POP-s NIP preparation, there were inspected about 57 power facilities and are tested about 169 oil samples; the results show that 5.3% of tested population should be considered as PCBs assumed (PCBs > 50 ppm).

If we apply the result of the tested transformers and extrapolate on the whole population of transformers manufactured before 1990, the quantity of PCB-s contaminated transformers could be:

Number of transformers manufactured before 1990	6 000 units
Average weight of distribution transformers	1,5 tons
Percentage of transformers suspected to be contaminated	5,3 %
Number of transformers suspected to be contaminated	about 320
Total weight of transformers	1100 tons
Total weight of dielectric	300 tons
Total Weight of drained transformer	800 tons

About 10 % of transformers have a weight ratio higher than 30 % and no positive density tests have been found on this population: those transformers should be considered as retro filled and PCB-s assumed.

The Preliminary Inventory of PCB-s revealed that non existing standards (limits) and methods for analyses for PCB-s, low level of information and awareness on PCB-s throughout all population groups, no information and awareness of general population about potential risk of PCB-s (transformer oils), limited level on PCB-s awareness among responsible management in public and private sector, low awareness among employees potentially exposed to PCB-s, lack of PCB-s contamination monitoring in various matrices and possibly polluted air, soil and ground / surface water with oil contain PCB-s.

The capacitors number in KESH facilities is limited. They are placed in Fieri 220 kV Substation (2x25 MVAr), in Lushnja and Ballshi 110 KV substations, (each of them is 25 MVAr). The capacitors contain small oil quantity and no many link points in their structures, thus they haven't created environmental pollution in place. However, these capacitors are to be considered as a possible source of pollutions, and care should be taken for prevention measures of their impact to the environment.

Action Plan

1. **To elaborate and implement regulation regarding to management, handling, monitoring, phase out and disposal of oil and equipments contaminated with PCBs;**
2. **To elaborate and implement internal KESH guideline on transformer management, handling and phase out;**
3. **To train the employees responsible for transformer handling and maintenance;**
4. **Establish laboratory capacity for analysis of PCBs in transformer oils;**
5. **Implement awareness raising activities for the concerned public;**
6. **Gradual rehabilitation of the PCBs contaminated sites;**
7. **Disposal of mineral oil contaminated by PCBs**
8. **Design and put in place a national PCBs monitoring program**.

Unintentionally Produced POPs

Unintententional produced POP-s, as defined in the Stockholm Convention, are polychlorinated dibenzofurans (PCDF) and polychlorinated dibenzo-p-dioxins (PCDD) as well as polychlorinated biphenyls (PCBs), when PCBs are formed as by products. Polychlorinated dibenzofurans (PCDF) and polychlorinated dibenzo-p-dioxins (PCDD) are environmental contaminants detectable in almost all compartments of the global ecosystem in trace amounts. These compound classes in particular have caused major environmental concern.

PCDD/PCDF releases in Albania for the year 2004

	ANNUAL RELEASES, G TEQ/YEAR				
Source categories	Air	Water	Soil	Products	Residue
Waste incineration, medical	14	0	0	0	0.070
Ferrous and non Ferrous metal production	0.935	0	2.91	0	0
Power generation and heating	0.000563	0	0	0	0.000111
Mineral production	0.2577	0	0.150	0	0.00045
Transportation	0.3304245	0	0	0	0
Uncontrolled combustion process	43.154463	0	0.0065204	0	0
Chemicals and consumer goods	0	0	0	0	0
Miscellaneous	0	0	0	0	0
Disposal/landfill	0	57.52910	0	0	0
Total	**58.678**	**57.529**	**3.066**	**0**	**0.071**

Dioxins are among the most toxic chemicals known to man. Acute poisoning occurs rare, but dioxins persist and bio-accumulate in humans. Consequently, the chronic effects are the main concern. 90% of PCDD and PCDF human uptake is via the food chain. Other important routes of exposure may be inhalation and infestation of dust particles.

The category of uncontrolled urban waste burning in open air, spontaneous or intentional, is the most significant contributor to PCDDs/PCDFs emissions into water with 100 % of emission releases. During the year 2004 in Albania the average generation of urban waste in Albania was 410922 tons out of which about 43000 tons were burned.

The waste management system in Albania is weak and under-funded. The collection, transportation and disposal systems do not have adequate and financial resources and are no proper sanitary landfills. The waste is collected in open dumps that are unsuitable for this activity.

Waste is not separated before final disposal. Further, the poor collection rate has led to substantial burning of waste in the backyards and in the streets (even inside containers), in order to reduce volumes and to get rid of the stench. Also some of the uncontrolled burning is done for retrieving valuable waste streams such as metals. Such activities are taking place also at landfill sites, which are uncontrolled dumpsites.

Some first steps have been taken to rectify the situation as a part of the implementation of the Albania Solid Waste Management Strategy, 1997. This Strategy includes and an Action plan where issues of capacity building, legislation, investments and non-investment activities etc. are addressed. One of the results is the adoption of the law concerning disposal of waste and the law of waste management. Also, in 2005 some first initiatives for recycling and selective collection of UW has commenced. Currently the 4% of metals, 2% of plastics and 1% paper are recycled.

Priority problems

- Non-completely adequate legal and institutional framework for effective control of unintentional releases of POPs pollutants;
- Weak waste management system (inappropriate waste management and uncontrolled burning of waste);
- Unappropriate medical waste disposal.
- Low awareness of hazards connected with unintentional releases by key stakeholders and the general public;

Objectives

- Improvement of legislation for prevention of industrial pollution, to be fully harmonized with the EU legislation;
- Ensure effective enforcement of the law and regulations about industrial pollution prevention and waste management;
- Strengthening of institutional and technical capacity as well as infrastructure for environmentally sound waste management, including medical waste;
- Implement effective monitoring and evaluation strategy for reduction and prevention of releases of unintentionally produced POP-s by products;
- Implement effective sensitisation programmes on environmentally sound waste management.

Action Plan

1	**Completion of legislation and regulations concerning industrial pollution prevention and control, as well as waste management;**

2 **Strengthening the capacity (human and technical) of responsible institutions for waste management (in particular sound management of landfills and prevention of open burning);**

3 **Policy development and implementation for reducing dioxin emissions from waste management;**

4 **Introduction of BAT & BEP into the industrial sector and medical waste incineration;**

5 **Development and implementation of a country-wide medical waste management minimizing unintentional POP-s emissions**

6 **Awareness rising of general public on proper waste management practices.**

7 **Regular updating of emission inventory;**

POPs Stockpiles, Wastes and Contaminated Sites (SWCS)

The category of POPs stockpiles, wastes and contaminated sites (SWCS) which may be also seen as hot spots, differ from other nine categories, since it presents a possibility to be a future source of contamination. According to the definition, SWCS can be sites of former or ongoing production of PCDD/PCDF contaminated products. This can occur from storage of product, disposal of waste or application of the product over a long period. Although the concentrations of PCDD/PCDF in SWCS can be very high, present releases may be negligible or small.

SWCS in Albania have been identified and classified based on the above definition. in the regions of industrial activities, in the storage places of industrial products and pesticides and as well in the disposals of waste.

This understanding has been used to classify and asses the SWCS in Albania. Therefore there are inventoried as POPs stockpiles and wastes the storage places of POPs chemicals or other stockpile or wastes that would generate POPs chemicals as by-products, like stockpiles of industrial and urban waste. In addition, there are inventoried as contaminated sites the places where the potential activity of POPs chemicals would have been generated as result of industrial production, agriculture activities or by careless maintenance of a POPs stockpile and waste.

Actually in Albania there are no POPs contaminated stockpiles or wastes, except perhaps the wastes of tar in the former coke plant in Elbasan. Some industrial activities could be pointed out as having considerable impact regarding POPs pollution. One of them is the Soda and PVC Plant in Vlora (CSPV), which has produced a number of chemicals, including PVC itself. Other sources of contamination by organic and chlorine-organic chemicals have been the factories of PVC-processing in Durrës and Lushnje, and especially the Chemical Enterprise in Durrës; they all were also closed down few years before 1990-ies. In addition, in Tirana operate two KESH managed facilities for repairing transformers, and for transformer oil regeneration. Both facilities are working for more than 30 years, and the applied technology, as well as measures taken to protect the environment may have caused oil pollution, not excluding the contamination by POPs in the surrounding area.

In the agricultural sector for a long time have been used pesticides with a high content of POPs (DDT). The last assessment made by Albanian specialists indicates that there are no DDT pesticides stockpiles in the country: in years 2000-02, in the framework of a Phare program, all stock pesticides were evacuated to Germany, where later on were finally disposed. Despite of this, specialists think that contamination in the former pesticide storehouses still presents a serious problem. Indoor environment in these premises is contaminated, while they are being used for diverse purposes, without any attempt for cleaning or rehabilitation.

Priority problems

- Legislation for prevention of industrial pollution and for waste management is not fully harmonized with the EU legislation;
- Waste sites management practices are not carried out in compliance with the appropriate specific management legislation;
- Insufficient enforcement of pollution prevention legislation;
- Insufficient institutional and technical capacities in the custom, research institutions and inspection authorities;
- Lack of qualified experts on POPs monitoring and for industrial waste treatment;
- Contamination of soil and groundwater as result of urban waste burning in the landfills;
- Lack of means (laboratories and control units) for the enforcement of law on pollution prevention and control and environmentally sound waste management;
- Contamination of air, soil and eventually of groundwater in the region of Porto Romano, as well as in the area of former Soda -PVC plant in Vlora as result of the existing there of stockpiles and wastes contaminated by chlorinated compounds;
- Contamination of air soil and eventually of groundwater in the territory near and around the former coke processing plant in the ex-metallurgical combine in Elbasan;
- Contamination of air, soil and eventually of groundwater in the territory near and around the area where wood has been chemically treated in the former wood processing combine in Elbasan;
- Contamination of soil and eventually of surface and underground water in the territories of the facility for the maintenance and repair of transformers, as well as for the regeneration of transformers` oils in Tirana;
- Contamination of soil and in the area of former pesticides storehouses operated in the agriculture sector;
- Very low awareness in most of the target groups regarding the hazards from POPs releases.

Objectives

- Improvement of the Albanian practices in the administration of contaminated sides;
- Strengthening of the institutional capacities of the LA for ESWM;
- Strengthening of the capacities for the disposal and monitoring of industrial waste;
- Strengthening of the institutional and technical capacities in the custom, research institutions and inspection authorities;
- Study of the level of POPs pollution in the contaminated sites;
- Gradual rehabilitation of the contaminated sites.
- Preparation and implementation of the effective sensitisation programmes on environmentally sound waste treatment

Action Plan

1 **Capacity building on POPs management for:**
(a) responsible central and local institutions (customs, research centres, central environmental inspectorate, regional environmental agencies and local authorities),
(b) responsible institutions for POPs analyses and monitoring, and
(c) responsible institutions for ESM-waste treatment and management;

2 **Site investigation and development of remediation plans for the potentially POPs contaminated sites;**

3 **Site investigation, sampling and analysis, priority settings, data processing and cost evaluation for contaminated sites rehabilitation projects.**

Information and Awareness

Particular population groups in Albania have different level of information and awareness on POPs issues. Broad public knows the risk of using pesticides in general, but they don't almost anything on the concrete effects of POP's chemicals, and haw they act in living organisms. Nevertheless, the information and awareness on POP-s is yet in low level, so there is a large action area in this field (preparation of leaflets, documentary films and publicity spots on POPs), which would highly enhance the public awareness and level of information.

Priority problems

- Low level of information and awareness in all community groups about POPs;
- Low level of awareness on the health and environment effects from the mismanagement of urban waste landfills;
- Low level of awareness on POPs of the interested actors of public and private sector.

Objectives

- Rise awareness about POPs throughout interested subjects and general public.

Action Plan

1 Rise information and awareness in the communities where POPs are present, sensitizing the public about POPs effects on human health and environment;

2 Rise information and awareness of general public on POPs impact on health and environment;

3 Increase environmental NGOs capacities in relation to public awareness and environmental information dissemination on POPs, through media and other sensitizing means;

Inventory on POP-s in Albania has shown that these chemicals are present in a dangerous amount only in several particular areas. Targeted campaigns on information and awareness in these areas to the relevant public groups would be very effective.

Monitoring, Reporting, Information Exchange and Research

Existing Monitoring Program of the environmental elements and factors (CMD No 103, dated 31.3.2002) does not include POPs monitoring in general, nor monitoring of individual chemicals of the POPs group. Requirements of the Stockholm Convention and the in country situation identified on te basis of the preliminary POPs inventory in Albania, make necessary to undertake an action program which should include relevant legal, institutional and technical issues needed for carrying out monitoring of this category of chemicals.

The Action Plan for various POPs groups, take into consideration relevant actions for POPs monitoring, mainly in the media considered as contaminated by use or stockpiling of POPs, such as: DDT, lindan, HCH, PCBs, dioxins and furans. This monitoring will cover the areas

where these chemicals are stockpiled, terrain in close proximity, surface and underground water, surrounding air, domestic animals in these areas, as well as communities living in vicinity to contaminated areas. Findings obtained from POPs monitoring implementation will supply feedbacks for its updating by adding or removing areas or mediums and POPs chemicals, depending on the monitoring results, in order to continuously show a real picture regarding POPs situation in Albania.

The monitoring range is wide and shall include chemical analysis in various media and at different time intervals. Activities of this kind definitely asks for adequate professional capacities and precise equipment, accordingly to the analysis quality and level, and both need financial support to ensure purchase of laboratory equipment and respective staffs training, as well as to cover the costs needed for POPs monitoring program implementation. This is because Albania has only limited financial means to cover on its own all requirements to properly realize monitoring program. Consequently, additional donor support shall be necessary.

Research and development in this area will enlarge efficiency of resources used. In-country research capacities concerning all POPs emission inventory aspects and technologies for their reduction or elimination are actually limited. Sporadic research has been done by the Faculty of Natural sciences of the University of Tirana, Public Health Institute by the Ministry of Health, ECAT Tirana, and UNEP, in relation to PCBs content in the Karavasta Lagoon biota and in contaminated locations of a former plant used to produce HCH/Lindan before 1990 year, as well as in mother milk of mothers from the same area.

Best Available Techniques and Best Environmental Practices still are discreetly known throughout expert community working in research institution and production enterprises.

In the future, based on the monitoring data and complete relevant inventory results for POPs chemicals and contaminated areas, as described in respective Action Plans, studies and projects will be carried out aiming at phasing out the POPs occurrence in Albanian territory and at the rehabilitation of POPs contaminated areas. Such projects implementation is to be carried out in compliance with obligations set by Stockholm Convention and as defined by the POPs National Implementation Plan. The central environment protection authority in Albania in cooperation with other relevant Ministries and bodies will have the task to coordinate all POPs research and monitoring activities.

The main strategic goal of information exchange is to enable exchange of information about production, use and release of POP-s compounds and their alternatives, including information about their harmful properties and financial and social costs that they might generate.

The Convention parties can exchange this information in direct contact or through the Convention Secretariat. To achieve this goal, a national focal point must be appointed to act as the liaison between the Convention and all local stakeholders i.e. that will take part in the information exchange on the international and local levels.

Strategy of information exchange will be based on:

- international information exchange, and
- national information exchange.

International information exchange comprises information exchange between the Convention parties and international organizations and forums. Information exchange on the national level is timely and accurate exchange of information between all stakeholders in POP-s issues (ministries, agencies, NGOs, professional associations, etc.).

Focal point of the Stockholm Convention is the Ministry of Environment, Forest and Water Management. It would play the role of the focal point for information exchange and would be responsible for implementing this programme, for administrative affairs and technical support. In this respect, an Office of Chemicals Register is foreseen to be set up in MFWA, which will be in charge for covering POPs issues in Albania.

Activities and Financial Means needed for the NIP implementation

The following Table presents in a concise mode main activities foreseen in the National Implementation Plan, as well as the necessary financial means for their implementation.

Financial means needed for the NIP implementation are foreseen to be 23.670.050 USD devaded as follows:

13.290.950 USD for the short-term period 2007-2009

9.187.400 USD for the middle-term period 2010-2015

1.191.700 USD for the long-term period 2016-2027

	Measures for Strengthening Institutional and Regulatory Framework	**Short term financial needs USD**	**Medium term financial needs USD**	**Long term financial needs USD**	**Total USD**
1.	Include POPs monitoring, particularly of PCBs, as part of the National Environment Monitoring Programme	49.000			49.000
2.	Register equipment and oils containing PCB in the electric power sector	20.000			20.000
3.	Approximation of legislation wit that of EU	201.000	308.400		509.400
4.	Setting up and making functioning the national unit for implementation of the Stockholm Convention	41.500	39.000	71.500	152.000
	Total I	**311.500**	**347.400**	**71.500**	**730.400 USD**
	POPs Pesticides (including DDT)				
1.	Preparation of an amendment to CMD on monitoring, in order to extend it up to POPs pesticides				Included in I.1
2.	Performing analysis on present level of POPs pesticides residues in ex storehouses and contaminated sites, including risk assessment	102.500	20.000		122.500
3.	Strengthening human and technical capacities of the analytical laboratory at the IPP	242.000			242.000
4.	Preparation of Action Plan on rehabilitation of contaminated sites with		10.000		10.000

	POPs pesticides				
	Total II	**344.500**	**30.000**		**374.500 USD**
	PCBs and PCB containing equipments				
1.	Preparation and implementation of a guide on management, monitoring, phasing out and disposal of oil and equipments contaminated with PCB				Included in I.4
2.	Preparation and implementation of an internal KESH guide on management, treatment, and phasing out of transformers contaminated with PCB	21.900	11.000	2.500	35.400
3.	Training of staff responsible for transformer treatment	13.300	7.800		21.000
4	Setting up laboratory capacities for performing analysis on PCB presence	69.700			69.700
5	Gradual rehabilitation of contaminated with PCB sites	126.400	739.600	551.800	1.417.800
6	Disposal of mineral oil contaminated with PCB	74.800	466.400	329.100	870.300
7	Preparation and implementation of a national PCB monitoring programme	11.450	67.100	66.500	145.050
	Total III	**317.550**	**1.291.900**	**949.900**	**2.559.350**
	Unintentional POPs By-products				
1.	Completion of legislation and guidelines regarding industrial pollution control and prevention, and waste management				Included in I.4
2.	Strengthening capacities (human and technical) in institutions responsible for waste management (particularly for management of landfills and prevention of solid urban waste open burning)	335.000			335.000
3.	Policy development and implementation of measures on release	9.850.000	4.275.000		14.125.000

	reduction of dioxins resulting from waste management				
4.	Introduction of Best Available Techniques (BATs) & Best Environmental Practices (BEPs) in industrial sector	380.000	500.00		880.000
5.	Development and wide implementation in the whole country of ESWM of hospital waste, thus minimizing unintentional dioxins release	670.000	2.200.000		2.870.000
6.	Systematic updating of release inventories	6.000	3000		9.000
	Total IV	**11.241,000**	**6.978.000**		**18.219.000**
	POPs Waste and Contaminated Sites				
1.	Strengthening POPs management capacities	319.500	159.300		478.800
2.	Site investigation, priority settings, and rehabilitation project preparation for sites potentially contaminated with PCB	673.000	220.000		893.000
	Total V	**992.500**	**379.300**		**1.3718000**
	Public Awareness, Informing and Information Dissemination, Training and Development				
1.	Rise information and awareness in the communities where POPs are present, sensitizing the public about POPs effects on human health and environment	41.000	75.000	24.000	140.000
2.	Strengthen environmental NGOs capacities for awareness raising of general public and information dissemination on POPs	18.000	36.000	66.000	120.000
3.	NGOs engagement in information dissemination, sensitising and awareness raising campaigns	24.900	49.800	80.300	155.000
	Total VI	**83.900**	**160.800**	**170.300**	**415.00**
	OVERALL TOTAL	**13.290.950**	**9.187.400**	**1.191.700**	**23.670.050**

List of acronyms and abbreviations

ATSO	Albanian Transmission System Operator
BAT	Best Environmental Techniques
BEP	Best Environmental Practices
ChED	Chemical Enterprise Durrës
CLA	Central Laboratory of Army
DNA	Designated National Authority
EBRD	European Bank for Reconstruction and Development
EIA	Environmental Impact Assessment
EMU	Environment Management Unit
EQME	Environmental Quality Monitoring and Enforcement
ESWM	Environmentally Sound Waste Management
FAO	Food and Agricultural Organization
FID	Flame Ionisation Detector
g TEQ/A	gram-Toxic Equivalent/Annum
GA	Government of Albanian
GC	Gas Chromatography
GEF	Global Environmental Facility
GLP	Good Laboratory Practice
HCB	Hexachlorobezene
HPP	Hydro Power Plant
IAEA	International Atomic Energy Agency
ICCS	International Conference on Chemical Safety
IFCS	Inter-government Forum on Chemical Safety
ILO	International Labour Organization
ILP	Institute of Land Protection

INSTAT	Institute of Statisics
IOMC	International Organization for the Sound Management of Chemicals
IPCS	International Program on Chemical Safety
IPH	Institute for Public Health
IPM	Integrated Pest Management
IPPC	Integrated Pollution Prevention and Control
ISIC	International Standard Industrial Classification of all Economic Activities
KESH	Albanian Power Corporation
LG	Local Government
MAFCP	Ministry of Agriculture, Food and Consumer Protection
MD	Ministry of Defence
MEFWA	Ministry of Environment, Forestry and Water Administration
METE	Ministry of Economy, Trade and Energetics
MH	Ministry of Health
MLGD	Ministry of Local Government and Decentralisation
MPWTT	Ministry of Public Works, Transport and Telecommunications
MTTKS	Ministry of Tourism, Culture and Sports
NCC	National Coordination Committee
NEA	National Environment Agency
NEAP	National Environment Action Plan
NGO	Non-Governmental Organization
NIP	National Implementation Plan for POPs
NPO	Non-Profit Organization
NPAL	National Plan for Approximation of Legislation
NSSED	National Strategy for Social and Economic Development
ODS	Ozone Depleting Substances
PC	Personal Computer
PCB	Polychlorinated biphenyl

PCCDF	Polychlorinated dibenzofurans
PCDD	Polychlorinated dibenzo-para-dioxins
PCP	Pentachlorophenol
PCU	Project Coordination Unit
PIC	Prior Informed Consent
POPs	Persistent Organic Pollutants
PPI	Plant Protection Institute
ppm	Part per million
PS	Private Sector
REA	Regional Environment Agencies
SAA	The Stabilization and Association Agreement with EU
SMEs	Small and Medium Enterprises
SWCS	Stockpiles, Wastes and Contaminated Sites
TPP	Thermo Power Plant
UN	United Nations
UNDCP	United Nations Drug Control Program
UNDESA	United Nations Department of Economic and Social Affairs
UNDP	United Nations Development Program
UNEP	United Nations Environment Program
UNITAR	United Nations Institute for Training and Research
VOC	Volatile Organic Compounds
WB	World Bank
WHO	World Health Organization

1. INTRODUCTION

Persistent Organic Pollutants

Persistent Organic Pollutants (POP-s) are chemical substances that persist in the environment, bio-accumulate through the food web, and pose a risk of causing adverse effects to human health and the environment. With the evidence of long-range transport of these substances to regions where they have never been used or produced and the consequent threats they pose to the environment of the whole globe, the international community has now, at several occasions, called for urgent global actions to reduce and eliminate releases of these chemicals.

Table 1: Priority 12 POPs pollutants selected by UNEP

1.	**Aldrin** Pesticide used to protect crops from soil insects.
2.	**Chlordane** Pesticide used to protect crops from termites.
3.	**DDT** Pesticide used on crops for vector diseases control. Used on troops during WWII to stop malaria, typhus and other diseases. World Health Organization estimates that 100 million lives were saved by using DDT
4.	**Dieldrin** Pesticide used to control of insects and disease vectors.
5&6.	**Dioxin and furans** Industrial by-products.
7.	**Endrin** Pesticide used on field crops and to control rodents. Widely banned.
8.	**Hexachlorobenzene (HCB)** Pesticide and industrial by-product released when plastics are manufactured.
9.	**Heptachlor** Pesticide used against soil insects and termites.
10.	**Mirex** Pesticide used against various ants, termites, wasps and bugs. Also used as a fire retardant in plastics, rubber, paint paper and electrical goods.
11.	**Polychlorinated biphenyls (PCBs)** Industrial chemical used in heat exchange fluids, paint additives, carbonless copy paper, plastics and various other industrial applications. Released as by-product.
12.	**Toxaphene** Pesticide used on cotton, grains, fruits, nuts and vegetables, and to control ticks and mites in livestock.

POP-s are found in common places. Electrical transformers contain PCBs. Dioxins, furans and other POP-s are created during the manufacture of paper and vinyl plastic, which is used to make children's toys, clothing, bags and tubing, flooring, pipes, and siding. When vinyl is incinerated or burned in a backyard trash fire, dioxin is formed again. Dioxins are also formed during the manufacture of some metals. The POP-s pesticides are used worldwide. Since POP-s do not easily degrade and can travel thousands of miles (attached to particulate matter and through the food chain), they can still be found in soil, lakes, rivers, fish, animals, and people long after they are used.

The pollution of the human body by POP-s has occurred together with the appearance of several alarming trends in human health over the past few decades. There has been a

precipitous rise in breast cancer, many studies showing dramatic increases in disorders of the reproductive organs. Numerous studies confirm the toxicity of different POP-s to humans. In addition, scientists recognize that POP-s can cause these health problems in animals that are commonly used to predict risk to humans. Dioxin is also internationally recognized as a known human carcinogen.

The 1995 Global Programme of Action for the Protection of Marine Environment from Land-based Activities and the 1998 POP-s Protocol to the UNECE Convention on Long-range Trans-boundary Air Pollution (CLRTAP) were responses to this serious situation. The Basel Convention on the Control of Trans-boundary Movements of Hazardous Wastes and their Disposal was one of the first to address management of toxics, complemented later primarily by the Rotterdam Convention on the Prior Informed Consent (PIC).

When it became clear that these POP-s were deadly and that urgent global action was needed, UNEP Governing Council created an Intergovernmental Negotiating Committee (INC) to prepare an internationally legally binding instrument that would "point the way to a future free of dangerous POP-s". The result of the INC-s efforts is the Stockholm Convention on Persistent Organic Pollutants.

Stockholm Convention

Stockholm Convention is a global treaty to protect human health and the environment from persistent organic pollutants. The Convention was adopted on 22 May 2001 at the Conference of Plenipotentiaries on the Stockholm Convention on Persistent Organic Pollutants, held in Stockholm on 22-23 May 2001. The Stockholm Convention on Persistent Organic Pollutants entered into force on 17 May 2004 in pursuance of its Article 26.

Albania has signed the Convention on December 05, 2001 and ratified it on October 04, 2004.

The overall objective of the Stockholm Convention is to protect human health and the environment from POP-s. It makes specific reference to the precautionary principle as set forth in the Rio Declaration on Environment and Development.

The Stockholm Convention provides subscribing Parties with basic objectives, principles and elements to be used in developing comprehensive programs and control regimes with respect to POP-s. It is structured to address POP-s that are: a) intentionally produced, such as pesticides and PCBs, and b) produced and released unintentionally as the result of human activity, including dioxins, furans, PCBs, and HCB. The nine chemicals currently listed in Annex A of the Convention are subject to a ban on production and use, except where there are generic or specific exemptions. In addition, production and use of DDT, a pesticide still used in many developing countries for malaria and other vector diseases control, is severely restricted, as set forth in Annex B of the Convention. Import and export of the ten intentionally produced POP-s is allowed only for the purpose of environmentally sound disposal under restricted conditions.

Special provisions are included in the Stockholm Convention for those Parties, with regulatory assessment schemes to review existing chemicals for POP-s characteristics and to take regulatory measures with the aim of preventing the development, production and marketing of new substances with POP-s characteristics.

Releases of unintentionally produced by-products listed in Annex C are subject to continuous minimization with, as objective, the ultimate elimination where feasible. The most stringent control provision with regard to by-products is that Parties shall promote and, in accordance with their action plans, require the use of best available techniques (BAT) for new sources within major source categories.

The Convention also foresees identification and safe management of stockpiles containing or consisting of POP-s.

The POPs Convention requires the Parties to develop implementation plans to indicate how they will meet their obligations under the Convention. The implementation plans are to be transmitted to the Conference of the Parties within two years of the Convention entering into

force. In addition, the Convention sets forth a number of obligations that the Parties shall or are encouraged to undertake, including designating a national focal point, fostering information exchange, providing technical assistance, promoting and facilitating public awareness and participation, consultation and education, stimulating research and monitoring, and reporting "at periodic intervals".

POP-s NIP Project

In the framework of the obligations for parties to the Stockholm Convention (article 7 of the Convention) it is foreseen the preparation of a National Implementation Plan (NIP) for Phasing Out and Destroying the POPs. NIP aims at establishing the legislation and institutional framework, as well as defining the actions that need to be programmed and implemented in order to phase out and destroy the POPs in Albania.

In 2002 the Albanian Ministry of Environment asked the GEF through UNDP, for financial support to run a project that would enable Albania to prepare a National Implementation Plan for Phasing Out and Destroying POPs. The GEF contribution to this purpose is 347,000 USD, while that of the Albanian Government is 31,400 USD. The executing body for the project is the Albanian Ministry of Environment, Forestry and Water Management, whereas the UNDP is acting as the implementing agency.

NIP aims at encouraging, assisting and supporting central and local authorities, state and private actors to tackle with POPs, POPs containing facilities and POPs polluted areas in an appropriate way and in conformity with the convention requirements. It comprises actions programmed in time and respective funds for completing legal and institutional framework related to the POPs phasing out and destroying, as well as to rehabilitation of the POPs contaminated areas.

POPs managing policy, as part of hazardous chemical management policy, necessitates an insistent implementation of protective and preventive measures for health and environment preservation in the Republic of Albania, based on the comprehensive legal and institutional framework in compliance with the requirements of the Stockholm Convention and European Union Directives.

In the given context, production of the POPs NIP is in accordance with objectives put forward by the National Environment Action Plan approved by the Council of Ministers on 2002, one of the aims of which is "mitigation and prevention of the environmental problems".

The NIP preparation process is based on Initial Guidelines for Enabling Activities for the Stockholm Convention on Persistent Organic Pollutants, May 2001.

The process for NIP development covers the following five main groups of activities:

Step 1: Determination of coordinating mechanisms and organization of process

Step 2: Establishment of POP-s inventory and assessment of national infrastructure and capacity

Step 3: Setting of priorities and determination of objectives

Step 4: Formulation of a National Implementation Plan, and specific Action Plans on POP-s

Step 5: Endorsement of NIP by stakeholders

The Project Steering Committee (PSC) was established to supervise the NIP process preparation. PSC consisted of members representing economy sectors whose activities are related to the POPs use or their emission into environment, and of representatives from non-profit organizations. It is chaired by the Minister of Environment, Forestry and Water Management.

Execution of activities provided by GEF guidelines, which comprises POPs inventories preparations, priorities settings, objectives definition and preparation of Sectorial Action Plans, necessitates engagement of experts from relevant fields. To meet these tasks, working groups

were set up, accordingly to the specific needs for the plan preparation process, as follows:

- Social and economic
- Legal and institutional framework
- POPs pesticides in agricultural sector
- POPs pesticides in health sector
- POPs in defence sector
- PCBs in power system
- Unintentionally produced POPs
- POPs contaminated areas and POPs containing stockpiles
- Public awareness rising

Working groups carried out for the first time in Albania preliminary POPs inventories at country level and on this bases identified problems to be tackled with and resolved in the framework of NIP in full agreement with Albanian Government policy on environment protection, as well as requirements set forth by Stockholm Convention and European Directives for POPs phasing out and elimination.

NIP is intended to be a dynamic document calling for engagement in its implementation process not only the central and local institutions and organizations, both public and private, but also necessitating a careful monitoring and evaluation, and, on this basis, permanent updating, in order to be continuously coherent to socio-political and environmental development of the country, and in a broader context to international development focused on environmental protection.

COUNTRY BASELINE

2.1 Country Profile

2.1.1 Geographic position and natural conditions

Albania is located at the western part of the Balkan Peninsula, at the eastern coasts of Adriatic and Ionian Seas. Its territory is located between the coordinates 42°39' (Vermosh) and 39°38' (Konispol) of the northern geographic width and 21°4' (Vernik) and 19°16' (Sazan Island) of the eastern geographic length.

Within today political borders, defined at the Ambassadors Conference in London (1913) Republic of Albania, with an extension of 335 km North - South and 150 km East – West, has a surface of 28.748 km². The length of the state border is 1,094 km, of which 657 km are land borders, 316 km sea borders, 48 km river borders, and 72 km lake borders. Up North, Albania shares its border with Montenegro, Serbia and Kosovo, East with Macedonia, while South and Southeast with Greece.

Fig. 1: The map of Albania

Albania is located at important land, sea and air crossroads connecting west to east. Its wide exit into the Adriatic and Ionian seas, and through them into the Mediterranean sea, is a very important factor for its multiple links to the rest of the world, which are of great importance to the socio-economic development of the country. The Albanian Adriatic coast lay only 72 km from the Italian coast. The geographic position enables the inclusion of the country in important Mediterranean and European tourist itineraries. From the strategic perspective, Albania controls the Otranto channel, which is the main entrance to the Adriatic Sea.

Albania's territory is part of the Mediterranean area, having a relief of huge contrasts, both hypsometric and fragmented; therefore, relief is the basic component of its geographic landscape. The hypsometric amplitude is over 2,700m. According to the data of the hypsometric map, 6,727 km² or 23,4% of the territory of Albania lay at an altitude of up to 200m above sea level; 24,6% at the altitude of 200,1-600m; 23,5 % at the altitude of 600 -1,000m. Albania has an average altitude of 600-1000 m, which cover 48,1% of the territory. The very fragmented relief of considerable steep slopes has conditioned the extension of degraded terrains. Albania's relief is morphologically variable. There are fields like the Western Plains, Korça Field etc. and mountains there. Actual dynamics of the relief modelling are intensive. Average erosion rate goes up to 0,7 mm annually, the maximum being 6-7 mm.

Albania is situated between the Equator and the North Pole, in the area of the sub-tropical Mediterranean climate, very appropriate for the life and socio-economic activities. Albania enjoys the four seasons: relatively cool spring; hot and dry summer; autumn warmer than

spring with its first half generally dry; the wet and mild winter in its Western part and in the lowlands, and cold in the inner land and particularly at high levels. The great climatic wealth of Albania is expressed in the emphasised variety, thermal and pluviometric resources.

The factual average annual temperature goes between 7,5°C up North to 17-18°C in South (Riviera). The absolute maximal temperatures vary between 30°C (inland and in the high mountains) to 43.9°C (in Kuçova). The absolute minimal temperatures vary between -2°C to -3°C (Riviera) up to -25.8°C in Sheqeras of Korça. Frosts are present for 2 to 140 days annually.

The average rain level is 1,480 mm per year. Rains are mainly concentrated during the cold half of the year (60-80% of the overall quantity). During summer season rainfall is 3-14% of the annual quantity.

Drought, which is a constant climatic phenomenon in the Riviera, lasts over 3 months. The changeable climate is expressed in both the thermal and pluviometric regime. In the higher level inner land snow is present for more than 100 days per year. The relative humidity of air in July goes between 50-40% (average at 14.00 hrs). The maximum values are met in January (60-75%).

Albania is rich in water) and has over 49,000 km of the hydro graphic network, which discharges an average annual amount of 41 km^3 water into the sea, i.e. about 1,4 million cubic meter for each km^2 or about 14,000 m^3 per inhabitant. Besides, hydro wealthy areas, like the Albanian Alps, the Puke-Mirdite Highland, etc., there are areas of low potential hydro resources like the Osumi and Devolli watersheds, Dumrea, etc. Albania has also numerous natural lakes (Shkodra, Ohrid, Prespa, etc.), which are an important water reserve. Part of the country's water, in particular that of the rivers Shkumbin, Fan, Gjanice, Lane, etc. is polluted by industrial discharges. As part of this water is used in agriculture, water treatment plants are indispensable.

About 75% of the territory is covered by brown and ash-brown lands. Wetlands lay at the former fresh marshlands (Maliq, Terbuf etc.). Saline lands lay at the former saline marshlands and along the coastal strip.

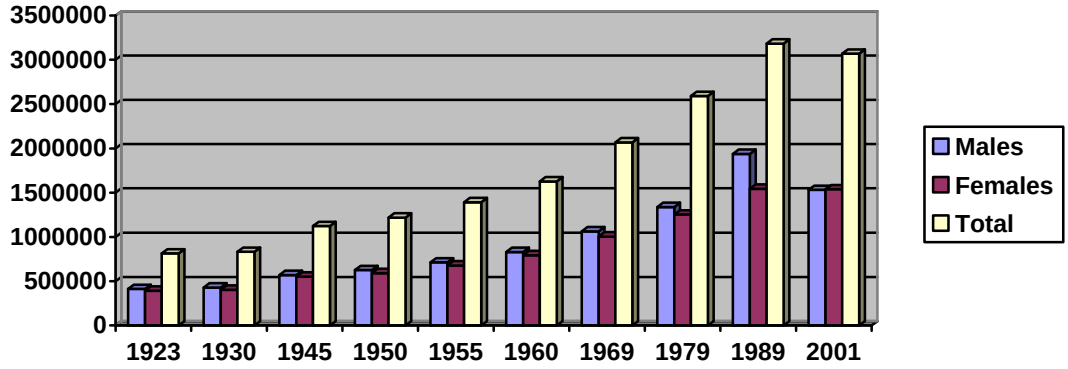
Albania has vegetation coverage of a high diversity of species, which grouped according to their values, can be split into: vegetation for timber; for fuel wood; for pastures; for industry, for medicines; for decoration, etc. Mediterranean bushes cover 42% of the country's surface (mainly in the western and south-eastern parts).

Fauna is diverse, too. A number of endemic species are present, as well. Among the carnivores are the wolf, the fox, the jackal, the brown bear, the wild cat, etc. Herbivores like the deer, the wild goat, the wild pig, the wild rabbit, etc. are of particular importance. A number of about 350 types of birds exist in Albania. Numerous species of fish of economic value exist in the marine and inland waters, as well. Fauna has been damaged by irrational hunting, deforestation, reclamation of wetlands and marshlands, use of chemicals in agriculture, soil, water and air pollution, etc.

2.1.2 General characteristics of the population

In 1989 Albania had 3,182,417 inhabitants, while in 2001 about 3,069,275. Population growth until 1990 has been the result of the natural growth, only. After that time, the population number and other demographic processes have been influenced by emigration processes, as well. About 0,6 million people have migrated from Albania during the period 1989-2001.

Fig. 2: Dynamics of the population number in the period 1923-2001.



Birth rates decreased from 25.1‰ in 1990 to 16.5‰ in 2000. Mortality rates decreased from 15‰ in 1950 to 5,5‰ in 2000, but infant mortality remains still high as compared to the rest of Europe (4.6 times higher than in Greece and 1.7 times higher than in Bulgaria). If the annual population growth rate in the coming 25 years will be about 11.1% (considering the emigration rates will decrease), in 2025 Albania will have about 4.4 million inhabitants.

In 2001, about 30% of the population was concentrated in the districts Tiranë, Durrës, Elbasan; over 20.1% in the districts of Fier, Vlore, Lushnje and Berat; 6% in Shkodra district, and 4.6% in Korça district. More than half of the population is concentrated in the coastal plains. As the internal migratory movement towards this region is expected to continue, in 2025 it is expected that the area Tiranë-Durrës will concentrate about 25% of the population (about 1,125,000 inhabitants), and the coastal area more than 60% (about 2.7 million inhabitants).

Average age of Albanian population is youngest in Europe (29 years) and the longevity is comparable to that of the populations of the developed countries: 71.5 years for males and 78.1 years for females.

Population of Albania is homogenous. In the period 1960-1990, Albanians constituted 97% of the population. The rest was Greek (1.85%), Macedonian (0.15%), Montenegrin, etc. After 1990 the situation slightly changed because part of the Greek minority returned to Greece. In 2001, the ethnic structure of Albania comprised: 98% Albanians, 1.8% Greeks, 0.1% Macedonians, and 1% others (INSTAT, Tirana 2004). The official language is Albanian, but in areas where the ethnic minorities live, the respective languages (Greek, Macedonian) are also taught and spoken.

Albania has a complete education system. Nine years of elementary and secondary education are obligatory. About 80% of the total number of children that complete the 9 years attend the middle school. Number of university students is defined and selection follows an open competition. There are about 75 study courses taught in the Albanian universities. Post-graduate education is also available.

Table 2: Main indicators on education according to the census of 2001

	ABSOLUTE NUMBERS			PERCENTAGE	
	Total	Males	Females	Males	Females
Population of more than 6 years	2,737,614	1,358,924	1,378,690	49.6	50,4
University graduated	134,110	78.,947	55,163	58.9	41.1
Completed middle school	594,913	318,229	276,684	53.5	46.5

Completed low middle school level	1,050,714	514,821	535,893	49.0	51.0
Completed 8-9 years (elementary and secondary education)	509,825	246,489	263,336	48.3	51.7
Ability to write and read only	404,561	183,509	221,052	45.4	54.6
Illiterate	43,491	16,929	26,562	38.9	61.1
Percentage of illiterate	1.6	1.2	1.9		

Source: INSTAT, census of population and habitats, 2001.

Except for the secondary education, in all the other educational levels, number of males having completed the school, is a bit higher than that of females. In 2001 the number of illiterate was less than 2%.

In 2001, 63.2% of the population of the country was at the working age (15-64 years). The active population constitutes 44% of the total.

Unemployment in 2001 was at 22.7% of the total working force. Unemployment is higher between those having completed the middle school (26.4%) as compared to those having completed only the secondary school (22.4%). Only 9.5% of the university graduates are unemployed.

Table 3: Economic status of the population at the working age in 1989 and 2001

ACTIVE POPULATION					IN-ACTIVE POPULATION
Total	Working force	Employed	Un-employed	% of population	
1989	1,599,766	1,443,167	156,599	9.8	517,254
2001	1,347,281	1,041,775	305,506	22.7	823,156

Source: INSTAT, census of population and habitats, 2001.

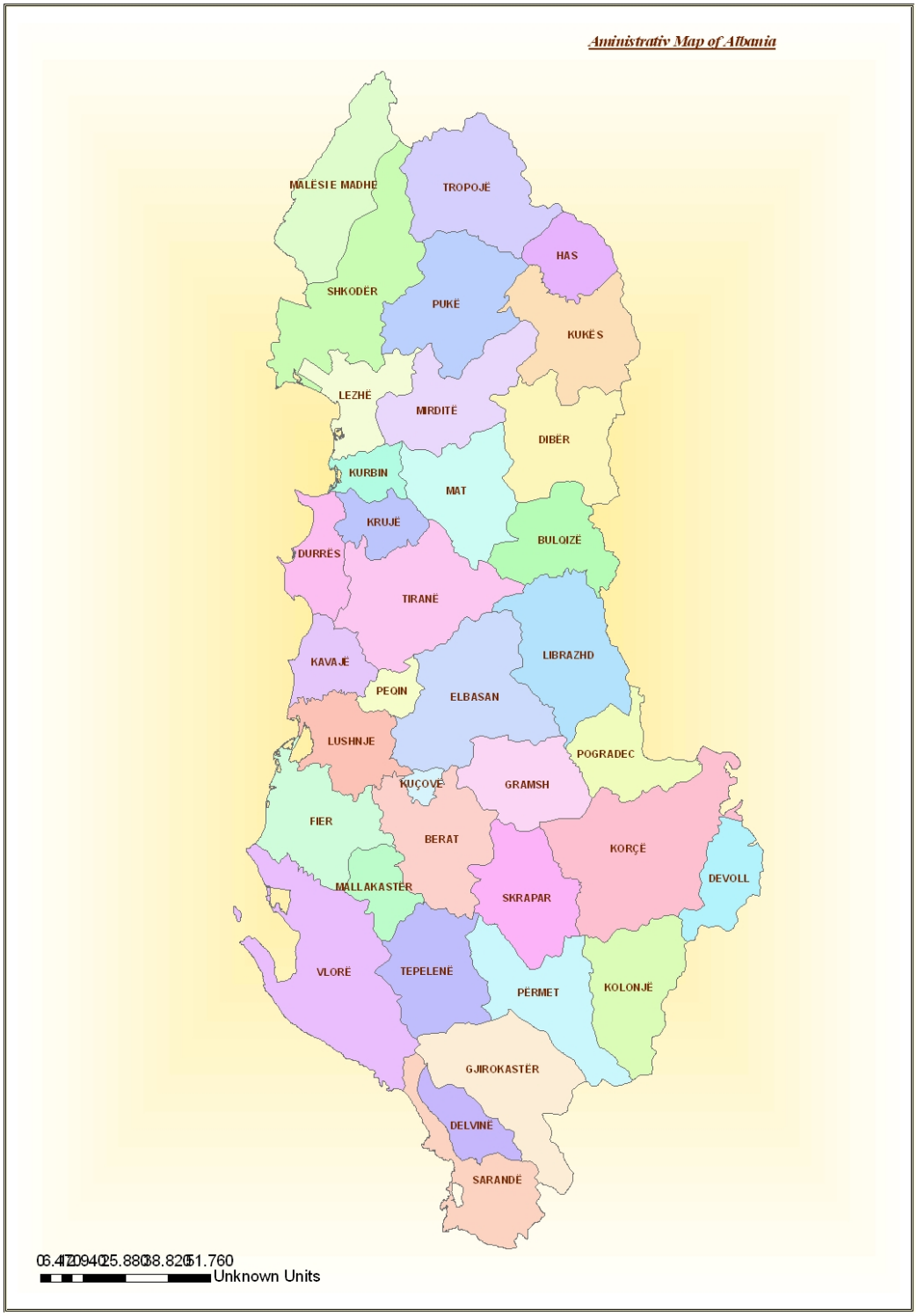
The overwhelming part of the population (50.5%) is engaged in agriculture. Construction and transport employ 12.7%, trade 11.6%, while industry 7.1%.

2.1.3 Political and administrative organization

The changes of the form of regime in 1991 brought in Albania the Parliamentary Republic. According to the Constitution of 1998, the legislative power belongs to the Parliament, which has 140 members elected for 4 years. The Parliament elects the President of the Republic, who has a 5 year mandate, with a possibility to be re-elected for a second time.

The Constitution of 1998 conceives the local governing as self-governing. This principle entitles the bodies of the self local government to regulate and manage on their own, according to their competences and responsibilities, the most important public issues, in the interest of the population and the subjects of the area under their jurisdiction.

Fig. 3: The administrative map of the Republic of Albania



According to the law “On the functioning and organization of local government” (2000), the organs of the local government exert their activity in conformity with the principle of autonomy, while maintaining close relationship with the central government. The autonomy of the local government is at the political, legislative, administrative and financial level.

The organs of the local government are legal persons, aiming at the continuation of governing through the communes, municipalities and counties (prefectures). The

representative of the commune or municipality is respectively the Communal or the Municipal Council. The executive bodies of the commune and municipality are the Chairman of the Commune and the Mayor, respectively. The representative body of the county is the Council of the County. The executive functions of the county are carried by the Chairman and the Chairmanship of the County Council.

Albania is composed of 12 prefectures (Berat, Diber, Durres, Elbasan, Fier, Gjirokaster, Korçe, Kukes, Lezhe, Shkodre, Tirane, Vlore), 36 districts, 65 municipalities and 309 communes. Prefectures are composed of several communes and municipalities that have geographic, tradition, economic and social relationships, as well as common interests. Districts are sub-divisions of prefectures/counties. Each district is composed of 1-2 municipalities and on the average of 8-9 communes. Each commune is composed of 9 villages averagely (sometimes the communes include small towns of less than 5.000 inhabitants, as well). Villages next to the cities are in some cases included in the municipalities. For the municipalities of more than 15,000 inhabitants, further sub-divisions are made into municipal units (se the administrative map of the RoA). The competencies of the Council of each commune/municipality include:

- Protection and rehabilitation of environment, historic and cultural monuments as well as parks and natural wealth
- Decision to create joint ventures with other communes and municipalities, as well as with domestic and foreign companies for taking measures of common interest
- Decision to complete cooperation agreements with homologue institutions abroad, etc.

2.1.4 Profiles of Economic Sectors

The currently working industries in Albania include: agro-industry, textiles, clothing, timber, oil, cement, chemical, mining and metal processing, hydro-power industry.

The main exports of the country are in the sectors textiles and footwear, metals and minerals, crude oil, vegetables, fruits and tobacco. European Union is the main trade partner of Albania. It represents about 75% of the overall imports of Albania (1.11 MEUR in 2003) and about 90% of its overall exports (368 MEUR in 2003). Imports include machinery and equipment, food, textiles and chemicals. At the sector level, EU imports from Albania mainly processed products. Textiles count for about 29% of the imports, while agricultural products for about 12%. Main exports of EU toward Albania are industrial products and many other processed products. Agricultural products count for about 22% of the total EU exports.

Industrial sector in Albania remains still weak. Its contribution to the country's GDP was 26% in 2000, followed by services (23%). During 2003 industry's contribution was similar to that of 2002 (about 12-13%). In 2004, industry and construction counted for 20% of the GDP while services grew up to 55%. Industry continues to be generally outdated and with a low competitive power versus the European industry.

In 2003, Albania had 56.490 Small and Medium Sized Enterprises (SME-s). According to the data, in 82, 5% of these enterprises only one person was employed. About 52% of the SME-s operate in the trade sector, where the entry barriers and the requests for investing capital are limited. Only 10% operate in the industrial sector. 15% of the SME-s continues to operate under state administration. As a matter of fact, the SME-s under state administration covers about 41% of the work force employed in the SME sector.

Only 0.2 % of the SME-s employs more than 100 employees. From the beginning of the transition, Albania has achieved a continuing growth of the number of SME-s, which have become an important part of its economy. In 2003, Albania signed the European Chart on SME-s, which was followed by a number of normative acts for the SME-s development. In October 2002, the Agency for Promotion and Development of SME-s was established.

Enterprise restructuring and privatization. While the privatization of SMEs has been completed, privatization of big enterprises has been slower due to political uncertainty and the low interest on the side of the strategic investors.

The general policy of Albania is to initially restructure and only after that to privatize the state companies. The electro-power company KESH is still under the restructuring phase and a first step has already been made through the division of the company into three entities, responsible respectively for distribution, production and transmission. In the oil sector the privatization process of companies Albpetrol (production), Armo (processing) and Servkom (distribution) is at a more advanced stage.

During 2003, positive steps have been made toward the improvement of business environment and climate. The Albanian Agency for Foreign Investments in concert with two other governmental entities, the Agency for the Support to the SME-s and the Agency for the Promotion of Exports established recently, aim at facilitating information for investors, businessmen about bank crediting, promoting the business interest and facilitating the dialog between business and the state administration, finding of distribution markets for investors, etc.

Since the year 2000, Albania is a WTO country. The plans with the WTO forecast gradual trade liberalization until 2007. Albania has finished and is implementing all the Free Trade Agreements foreseen under the Stability Pact.

Agriculture. The agriculture sector contribution in the country's GDP has proved a continuous and significant decrease since 2000 (51%), in 2003 (28%), while in 2004 contribution of this sector in the GDP fell at the level of 25%. More than half of the population of Albania is living and working in the rural areas. Although since 1998 the areas under cultivation have decreased, the agricultural production in 2003 grew by about 2%.

Along with augment of the public investments in the irrigation and drainage system and the private investments for greenhouses, wine-yards and fruit trees have increased. Nevertheless, the income from agriculture remains still lower than that coming from the un-qualified workers of the cities, a fact that has stimulated the land and agriculture abandonment by a good part of the agriculture work force.

During the period 2002-2003, growth has been noted in specific sub-sectors under agriculture. Agro-industry grew by 6%, while the share of investments from the baking system dedicated to this sector grew by 22%.

Growth in the agricultural remains a priority in the mid term plans. However, meeting this objective highly depend on the infrastructure and marketing networks, which are too weak. The land market is creating difficulties in the establishment of large agricultural economies. Over passing of these difficulties calls for the establishment of a farmer crediting system, improvement of infrastructure and energy supply, solution of the land property issues, as well as the capacity building and knowledge transfer to the farmers.

Transport. The current priorities remain the finalization of the East – West corridor (Durrës-Varna, through Tirana and Sofia) and the North – South corridor (connecting Greece with Montenegro). Besides the international support, Albania has allocated funds from the state budget (about 40 MEUR in 2003; about 50 MEUR in 2004) for the sector of transport, committed in particular to cover the cost of expropriation for road construction and maintenance, as well as for financing some roads at North of the country. The regional cooperation is also expanding through the development of the Regional Transport Network for the South-East Europe.

With the goal of privatizing the Durres harbour, a few measures have been taken such as the improvement of harbour infrastructure, re-construction of the quays, rehabilitation of cranes and the construction of a new ferry terminal. Measures for the rehabilitation of

Vlora harbour are on-going in place. A new terminal has been built and measures have been taken for the improvement of the control of the air space and increased safety at the International Airport “Mother Teresa”.

Water management and infrastructure. In 2003 the National Strategy for Water Supply and Sewerage and the Rural Strategy for Water Supply and Sewerage were approved by the government. Nevertheless, their implementation is still at a very initial phase and results are not yet visible.

Although there is an improvement of the water supply for the households (an average of 9 hours/day in the rural areas and over 12 hours/day in the urban areas) water supply remains in-sufficient all over the country. About 80 % of the urban population is connected to the water supply network, but the supply and sanitation systems in general are old and outworn. Water quality is sometimes poor and loss and illegal connections to the network are frequent. Only about 40% of the urban population is connected to the sewage system and their treatment, in spite of a number of projects meant of finance investments for sewage water treatment plants in certain cities, in particular on the coast, is still in-existent. Decentralization and privatization are on-going.

Energy. Efforts continue for the gradual mitigation of the energetic crisis impacts. As a result of a number of factors including better atmospheric conditions and the favourable hydro situation, the successful implementation of the Action Plan 2002-2003 and the commitment of both government and donors for the rehabilitation of the distribution and transmitting system in 2003 a relative improvement was noticed: amount of energy produced grew by 56% more than in 2002, whereas the collection of paid bills grew from 57 MEUR in 2000, in about 152 MEUR in 2003. A new law was adopted on the re-construction, liberalization and integration of Albania into the regional energy market, and the long term National Energy Strategy and Action Plan 2003-2005 was approved by the government. The electricity prices grew by 10% annually for the household sector and 5% for the rest of the consumers. These price increases were the results of the efforts made for bringing the prices closer to the costs, which is on the bases of the governmental energy policy.

A number of investments are on-going for the rehabilitation of the main energy generational resources of the country, improvement of the Country’s connection to the neighbour countries and the reconstruction of the old and overloaded transmission and distribution networks. Nevertheless, the results obtain in terms of alternative energy resources (example the LPG) and the promotion of the energy diversification remains still limited.

In 2003, the Council of the Territory Adjustment of the Republic of Albania approved the site for the proposed trans-Balkans Ambo oil pipeline from Burgas (Bulgaria) to Vlora (Albania). Albania signed the Athens 2003 Memorandum of Understanding and is committed to establish a competitive energy market in the region.

In spite of the progress made in 2003, the crisis in this sector has not been yet solved. The network losses (39%) and the illegal connections are still significant, while the level of paid bills collection must be increased further through the implementation of the Action Plan and the National Energy Strategy.

Telecommunications. The sector has improved, although the remote areas have still problems. At the end of 2003 the number of the national fixed phone company AlbTelecom subscribers reached to 222,000. In the meanwhile, about 25 private operators offer their service to about 12.000 users in the rural areas. The number of the mobile users grew 800,000 in 2002, to 1,000,000 in 2003. According to the mobile operators, 80 % of the territory, meaning about 90% of the population is covered by the service.

Due to the current network limitations and the high prices, internet access and use

remains low. The number of internet subscribers is about 5.000, while the number of users is estimated at 30.000.

Banking. The sector is actually composed of two banks of joint capital, 12 private foreign capital banks and a local private bank. During the last years steps have been made to reduce the volume of cash transactions and to promote the use of the banking sector, actually for the payment of public servants' salaries and the encouragement of the electricity bills and telephone payment through the banks.

The GDP value in 2004 was 1,680 EUR/capita, which according to the current exchange rates means 8% of the respective value of the EU25.

The economic growth of the last years was respectively: 3.4% in 2002; 6.0% in 2003; 6.0% in 2004. Inflation was at 2.4% in 2003 and 3.4% in 2004. Unemployment in 2004 was at 14.6%.

Albania is implementing the National Strategy for Social Economic Development (NSSED), which was launched in 2001. This strategy aims at the improvement of governing and at the stabilization of a high economic growth, at the improvement of the situation with education, health and infrastructure. NSSED has also a chapter on environment, which main priorities are the stopping of the further environmental degradation, rehabilitation of the hot spots and the sustainable use of resources. In July 2002 the World Bank approved the Country's Assistance Strategy which is focused in the poverty reduction through the support given to the country for the implementation of the NSSED. The World Bank will support the improvement of governing and strengthening of the institutions, promotion of the sustainable growth of the private sector, restructuring of the energy sector, improvement of the basic infrastructure and the promotion of the human development. Four projects (three for the sectorial crediting and one for the crediting to support the poverty reduction) at an overall amount of 61 million USD (about 50 MEUR) were approved in the frame of the new Assistance Strategy for Albania.

According to the strategy of the European Bank for Reconstruction and Development for Albania, the focus of its activity will be oriented towards the development of the private sector and the support for the SME-s, as well as the participation in the strategic privatizations, in particular in the financial and telecommunications sectors, the financing and development of infrastructure, especially in the energy and transport sectors. At the end of 2003, EBRD allocated to Albania financing for more than 155 MEUR.

The EU support to Albania comes mainly through the CARDS program. The support allocated for the period 2001-2004 was 193.4 MEUR. The main priorities for CARDS in Albania are: justice and home affairs, building the administrative capacities, socio-economic development, environment and natural resources (11.4 MEUR) and the democratic stabilization. CARDS 2005-2006 allocated 90 MEUR to Albania. From these, about 8 MEUR will go to environment (physical rehabilitation of environment in the hot spots and support for the implementation of the NPAL).

2.1.5 Environmental Overview

Albania has inherited multiple environmental problems from the past, which were further emphasised during the transition period. The National Environmental Action Plan (1994 and 2002), as well as the other country's policy documents, presents the main environmental problems which include: soil erosion, deforestation, biodiversity loss, urban waste, air pollution in urban and industrial areas, soil pollution caused by hazardous waste from the old industry, etc.

Another document was published in year 2000 by UNEP, following its "Post conflict environmental assessment" in Albania. It recognised five environmental hot spots in areas already recognised as such by other documents of the country: Porto-Romano (Durrës) at

the former Chemical Plant, Vlorë at the former PVC plant, Patos-Marinzë oilfield, Ballshi Oil Refinery and Sharra dumpsite in Tirana. Four other high risk areas were identified in Fier, at the former Ammonia Factory, in Elbasan, Rubik, Laç at the industrial areas where the former metallurgical industry was concentrated. All of the areas, are former industrial areas where the production activity has ceased since the beginning of the '90ies. Their closure did not follow any environmental management procedures and the unused raw materials (chemicals) and by-products or waste already generated in time was left beyond any control. They were not properly closed and free access to those areas magnified the already existing environmental damage. A map with the so-called environmental hot spots is attached.

There have also been inherited numerous other problems of an institutional, legal and environmental education and culture character.

The environmental institutions in Albania are new, established during the transition period. Thus, the Ministry of Environment was established for the first time in September 2001. After the elections of July 3, 2005, its focus became wider and it was transformed into the Ministry of Environment, Forestry and Water Administration. The environmental legislation belongs to the period of transition, too. The first environmental law dates to 1993. In the period 2001-2005, the legal gap was filled through a considerable number of legal and regulatory acts, which were mainly based in the respective EU legislation. However, a much more significant work is expected to be done for the approximation of legislation in the period 2005-2014. Environmental education and culture inherited from the past was in-existent. In 15 years of transition this situation has been overcome. There is an increased public awareness, a large number of environmental NGOs and the environmental problems are increasingly more present in the media.

Among the important policy documents interesting environment are:

- The Governmental Programme 2005-2009. It has a strong emphasis on environment. It declares that quick measures will be undertaken for the strengthening of the discipline in the implementation of the environmental law. Polluter Pays Principle will be applied; the institutional network will be reformed and penalties will be set on polluters and those who damage environment.

  A matter of primary importance will be the disciplining of the economic activities that cause air pollution in urban areas, pollution of the coastal and ground waters and those damaging the tourist potential, forests and cause soil erosion. Indicators of environmental quality improvement are expected within 2005-2007.

  A 50% decrease in the air pollution is expected to be achieved in the major urban areas. Air emission standards will be approximated with the European ones, following an ambitious programme. Ground water pollution in the coastal area is expected to be avoided within 2009.

  All the environmental hot spots inherited form the industry of the past will be dealt with priority, and cleaned up, followed by resettlements of the population exposed to the risk, when necessary.

  While increasing and strengthening the discipline, incentives for businesses that show an environmentally friendly attitude will be promoted. Therefore, fiscal incentives for pollution reduction will be applied for the businesses, consumers, investments in clean technologies, energy conservation, rational use of natural resources and environmental investments.

  A new approach will be adopted regarding the fund rising for environment. An Environmental Fund will be established and fully earmarked for environmental protection.

  The Stabilization and Association Agreement (SSA) with the EU. Negotiations for this agreement started in January 2003 and ended up in 2006. The SSA was signed on 12 June 2006. The annual reports of the European Commission on the Stabilization and Association Process requests more commitment for fighting organized crime, the human trafficking, money laundering and corruption. In the field of environment the reports stress the need for the

rehabilitation of the hot spots, enforcement of the law with particular emphasis on the law on EIA, strengthening and better coordination of the monitoring system, implementation of the Aarhus Convention, etc.

The European Partnership Documents (2004 and 2005). They emphasise the need for mid term environmental the rehabilitation of the hot spots in Fier, Ballsh, Durrës and Vlorë, improvement of the quality of air in certain urban and industrial areas such as Tirana and Elbasan; such as Tirana and Elbasan; water pollution prevention; strengthening and increasing the efficiency of environmental monitoring; enforcement of the new environment legislation on Environment Impact Assessment; improvement of coordination among Ministry of Environment and other institutions involved in environmental issues; utilisation of eco-taxes; strengthening and increasing efficiency of the international cooperation.

- The National Plan for the Implementation of the SSA (2006), which among other issues determines the steps to be taken in the period 2006-2012 for transposition of the EC environmental legislation into the national legislation, its implementation and enforcement in practise. The environmental chapter of the NPAL is divided into subchapters following the model of the environmental part of the *Acquis Communitauria*. Some of these chapters, such as the air quality, waste, chemicals, industrial pollution, etc. are of particular importance in the area of the POPs management. They have already been considered while planning the national actions for the implementation of the Stockholm Convention.

A number of measures have already been undertaken or planned to be undertaken in the period 2000-2008 for the rehabilitation of the hot spots:

- A feasibility study has been done with the support of the World Bank in Porto-Romano (250,000 USD),
- a pre-investment study has been carried out in Vlora with the support of the UNEP MAP (300.000 USD),
- EU has supported two projects (2.5 MEUR) for the elimination of the arsenical solution in Fier, of which the first phase (1 MEUR) consisted in the stabilization of the arsenic solution into a solid waste, which needs to be treated in a hazardous waste treatment plant.
- Two projects (2 MEUR) have been secured by the EU CARDS programme for the clean up and improvement of environmental management at the Ballsh Oil Refinery, the first phase (0.9 MEUR) being carried out.
- A second project (0.5 MEUR) to update the situation in Patos-Marinza Oilfield will start soon with the support of the EU CARDS, which follows the previous “Environmental baseline survey for Patos-Marinza oilfield” carried out in 1996 with the support of the former Phare programme of the EU (0.15 MEUR).
- A feasibility study and detailed design (0.6 MEUR) have already been undertaken with EU CARDS support for the construction of a hazardous waste landfill in Albania. The following phases of the project, which regard construction of the landfill (3 MEUR) and the transport of the hazardous waste from the hot spots or current locations (3.5 MEUR) have also been secured by the EU CARDS.

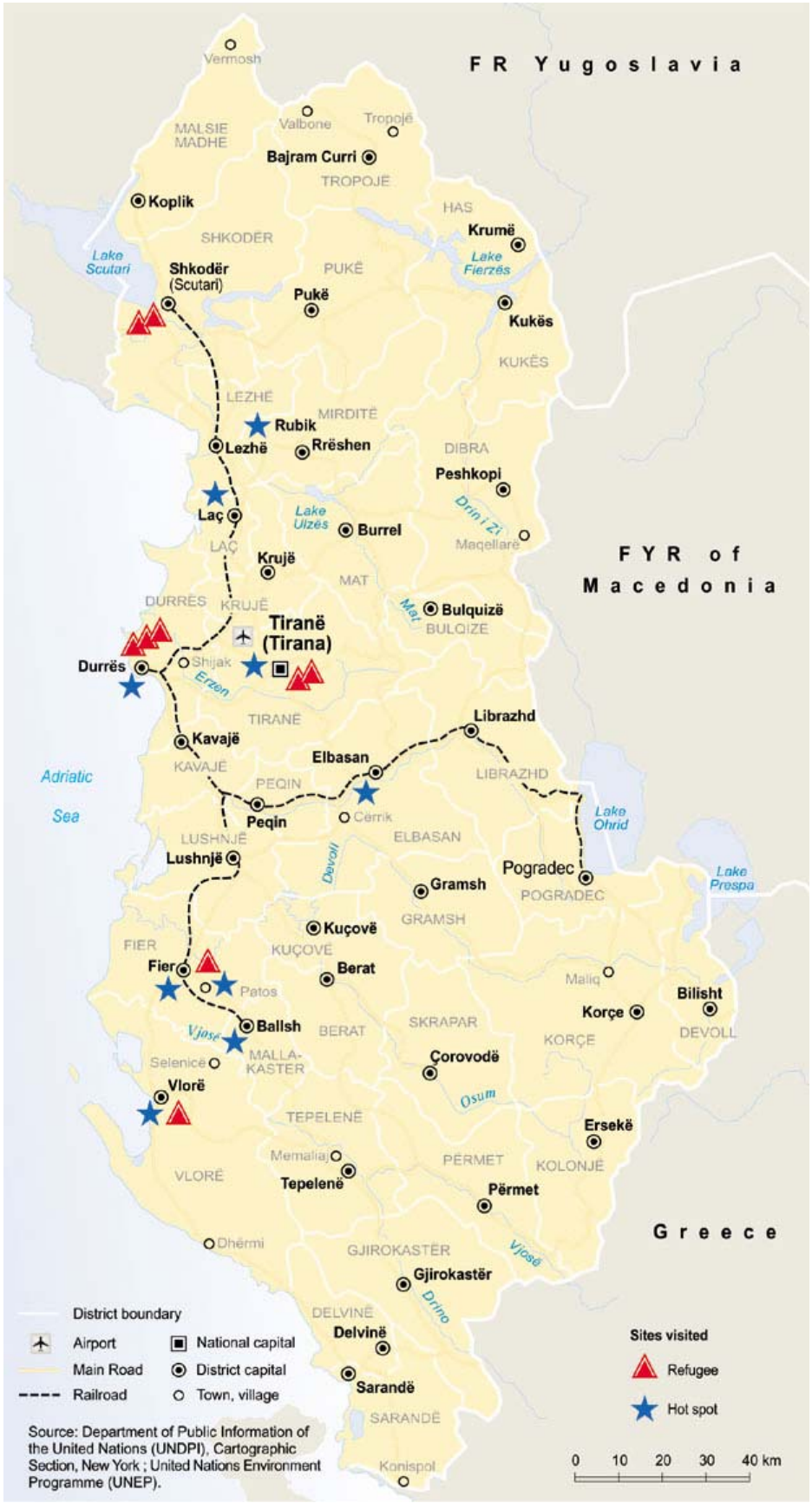


Fig. 4: The map of the environmental hot-spots in Albania

- A World Bank project “Integrated Coastal Zone Management and Clean-up Program” to be realized through the co-financing of a number of donors, is between other things, also taking care of the situation in Porto Romano. The Government of Netherlands is committed for the Porto-Romano clean-up activities (3.66 mln USD).
- Re-packaging of chemical waste at the Bishti i Palles waste storage facility (2 million USD) was completed in June 2006 with the support of the Royal Netherlands Embassy. It helped the removal and export of 800 tons of hazardous chemical wastes from the storages of Former Chemical Plant of Porto Romano. This project took care of the export of 5.990 kg of POPs pesticides (DDT, lindane and hexachloride) that were reported as waste by six districts (Lushnje, Elbasan, Durres, Lezhe, Gjirokastra and Tirana-Lunder). These pesticides were produced by the Former Chemical Plant of Porto Romano to be used in the health sector for fighting vector diseases.
- UNDP in cooperation with the Czech ODA are supporting the “Bio-remediation of oil field Patos Marinza - Environmental hot spot in Fier, Albania” (185,000 USD).
- The Italian Cooperation is supporting the improvement of the situation at Sharra dumpsite (Tirana) (6.4 MEUR).

2.2 Institutional, Policy and Regulatory Framework

2.2.1 Environmental/Sustainable Development Policy and General Legislative Framework

During the last 15 years, the environment and its protection underwent a thorough and comprehensive process of evaluation. To date have been concretised the main streamlines of the process that constitute its main achievements, among which we can mention the following phenomena that happened for the first time in the Albanian reality:

- Formulation of strategies, action plans and programs for environmental protection;
- Enacting of a new Albanian environmental legislation;
- Establishment and functioning of separate state structures for protection and management of environment;
- Involvement of the civil society in environmental problems, mainly through establishment and activity of environmental NGOs;
- Determination of roles and responsibilities of main actors in the field of environment such as the state and its separate bodies, civil society with interested public and NGOs, the business and various investors, etc.;
- Establishment and functioning of wide co-ordination with international environmentalist factor such as international and inter-governmental, regional and global organisations, in particular with neighbour countries and those of the region, etc.;
- Integration in global and regional initiatives, plans and strategies, becoming signatory party in international environmental conventions, protocols and agreements;
- Formulation and implementation into the Albanian environment of many important environmental projects supported by foreign donors, etc.

Last 15 years have been very productive in Albania also with regard to changes in the legal framework:

- The New Constitution has been approved;

- New laws and codes have been approved;
- New conventions and related protocols have been ratified/adhered;
- A broad base of secondary legislation has facilitated the implementation of new laws, conventions, protocols, EU directives, etc.
- In particular, the environmental legislation has been significantly broadened, especially after year 2002;
- Significant improvements are made in the legislation concerning the agriculture, land use, forestry, fishery, aquaculture, etc.
- The fulfilment of the food and clients protection legislation has also started;
- The responsible organs and institutional network has been established in order to implement and check the compliance with the new legislation.

Regarding the national environmental legislation, after year 2002 a strong legal base has been established aiming at the health and environmental protection. The following laws have entered in force:

- On the environmental protection;
- On the environmental management of solid waste;
- On the chemical substances and preparations;
- On the air protection;
- On the sea protection from pollution and damage;
- On Environmental treatment of waste waters;
- On the environmental impact assessment;
- On the protected areas;
- On the public disposal of wastes;
- On the control service for pesticides, etc.

After elaboration of the secondary legislation supporting these laws, it could be affirmed that in Albania already there exist the legal base for solving the issues laid by the Stockholm Convention. The new environmental legislation has aimed at:

- Fulfilment of the legal deficiencies in the field of environment (up to 2002, only one law was in place, called “On the environmental protection” of 1993);
- The horizontally development of the environmental legislation (medias like air, water, sea, as well as urban waste, hazardous waste, protected areas, etc. are already covered by specific laws);
- Inclusion in new laws of the requirements set by the international conventions where Republic of Albania is a party, and those of the EU directives in the field of environmental protection;
- The full compliance of the laws with the Constitution of the Republic of Albania, and the harmonization of their requirements with those of the other laws related with other fields.

The following national Legal Instruments address the management of POPs in Albania as part of the management of Chemicals:

- **Law Nr. 8934, dated 05.09.2002 “On the Environmental Protection”**

  The national environmental legal framework is developed through the law **“On the Environmental Protection”**. It contains all environmental issues, which characterise

a modern European environmental protection act. It stipulates the main principles, while legal and technical details are elaborated in secondary legislation. It also lays the groundwork for implementation of EU legislation on transposition of access to environmental information; strategic environmental impact assessment of certain strategies, plans and programs and environmental impact assessment of certain projects are also referred to this law.

The use and protection of the environmental constituents is established in principia under Chapter III of the law, which deals in details with:

- Soil protection;
- Protection of humus layer;
- Water protection;
- Air protection;
- Protection of biodiversity;
- Protection of human built environment;
- Waste management;
- Obligations of legal persons for wastes;
- Important of hazardous substances and waste;
- Transit transport;
- Hazardous substances;
- Environmental charges and taxes.

In addition, the law prescribes how the environmental control has to be done, who are the bodies that exercise the control on the environment, what are the duties and responsibilities of the state bodies related to environment, which is the role of the public when environmental protection is a concern.

Secondary legislation has been produced or is under development on each of the above mentioned media.

- **Law Nr. 8990, dated 23.01.2003 "On the environmental impact assessment"**

  This is the main law dealing with EIA issues which are further elaborated by secondary legislation. However, there is an urgent need to draft and approve methodologies and specific EU standardized requirements for the subjects, whose activities cause environmental pollution. The aim in medium term is to prevent environmental pollution by a careful environmental impact assessment process, environmental auditing, professional expertise and reports in the field of environment. More specifically the law sets forth rules, procedures, deadlines, rights and duties on the following:

  - To identify, correct and assess direct and indirect impacts of a project or activity on the environment where they will be implemented;
  - To compare advantages and deficiencies of a project proposed in other potential variants that include changes;
  - Provision of a technical, professional, legal and administrative processing of the request and decision making by relevant bodies.

The Albanian environmental legislation framework is further developed by the law "On Air Protection", law "On the environmental treatment of used waters", law "On the environmental management of solid wastes", law "On chemical substances and preparations" and the draft law "On the environmental management of hazardous waste".

- **Law Nr. 8897, dated 16.05.2002 "On the air protection"**

  This law identifies the sources of air pollution (stationary sources-industrial and energy installations, mobile sources of pollution). The law also asks for certain limit values (limit values for the air quality and alarming thresholds, limit values for air emissions from stationary sources, limit values for emissions from mobile sources and the content of dangerous substances in fuels). The secondary legislation is already developed. Nevertheless, there are shortcomings in applying this law, due to the lack of the equipments and trained staff to control the limit values. There is also a need for to train the polluting subjects, through pilot projects on how to mange registers, how to build and implement monitoring programs, emergency plans, etc. More specifically the law specifies the following:

  - Sources of pollution and their classification;
  - Indicators of air quality;
  - Restraints on discharges into the air;
  - Obligations to protect the air;
  - Areas of the country under special protection;
  - Environmental permits for air polluting activities.

- **Law Nr. 9115, dated 24.07.2003 "On the environmental treatment of used waters"**

  This law is a general framework law intended to protect waters and to control the pollution. The law is structured in order to determine general standards and principles for management of waters in the Republic of Albania. Furthermore the law has been developed to provide for allowed limits for water discharges and the zoning criteria for the receiving water bodies. Nevertheless, there is lack of funds to establish water treatment plants (both urban and industrial ones). From the other side, due to the fact that the Ministry of Environment is currently transformed into Ministry of Environment, Forestry and Water Management, there is an urgent need to harmonize the legislation on water resources with that of used waters and again to fully transpose the respective EU directives into the water protection field. The law treats the following issues in details:

  - The duties of the state structures towards prevention of pollution and reduction of polluted waters;
  - Obligations of physical and legal entities who discharge polluted waters;
  - Obligations of subjects engaged in treatment of polluted waters;
  - Treatment of polluted waters according to their type;
  - Environmental license, Monitoring and Control.

- **Law Nr. 9010, dated 13.02.2003 "On the environmental management of solid wastes"**

  This law focuses on the institutionalization of instruments supporting the sustainable development by promoting the rational use of resources and preventing and eliminating the dangers to human health and the environment from wastes. The law provides for the creation of a prevention-oriented hierarchy of obligations (minimization of waste before processing, disposal is the last final solution). It encourages the prevention or reduction of waste generation. It aims to reduce the harmful effects of wastes by encouraging clean technologies, technical developments and new products on the market, which were produced by waste recycling. Waste minimization during technology is also appreciated.

The law focuses on waste and on the modalities of the management, disposal, collection and recycling thereof, as well as on the obligations of the generators and holders of waste. It is an obligation that all necessary measures for processing or disposal of waste be undertaken without endangering human health and without damaging the environment. The law requires that waste management be carried out based on a system of permits issued in accordance with planning documents. The law also stipulates an obligation for recording and reporting all phases of waste management.

Like with the other specific laws, there is an urgent need to develop relevant secondary legislation. A law "On environmental management of hazardous waste", is already prepared and recently approved by the Albanian Parliament. Consequently, a possible merge of these two laws is expected in a near future.

- **Law Nr. 9537, dated 18.05.2006 "On the environmental management of hazardous wastes"**

  This is a new law aiming at the protection of the human heath and environment from the pollution and damage caused from the hazardous waste, through their environmental management at each stage, including generation, collection, separation, transportation, recycling, treatment and disposal, which lead to waste decrease and to the reduction of their negative and hazardous impacts. This is a frame law which foresee a number of specific regulations for specific issues related to hazardous waste.

- **Law Nr. 9108, dated 17.07.2003 "On chemical substances and preparations"**

  The law aims at regulation of management of chemical substances and preparations for the protection of life and health of people and animals as well as for the protection of environment from risks that may cause hazardous matters. The law imposes the rights and obligations to natural and juridical persons in determination of features and classification of chemical substances and preparations for their registration, inventory, announcement, management and commerce.

  In addition, this law focuses in designation of the jurisdiction of the management offices for taking measures for protection of health and environment, as well as the jurisdiction of expert inspection bodies in compliance with the provisions of the law.

It should be said, that besides the frame law, no other steps are undertaken towards the developing of the secondary legislation which could enable entering into force the frame law.

- **Law No. 9362, dated 24.03.2005 "On the service of plants protection"**

  The law defines the requirements regarding the phyto-sanitation in-site controls, national observation and the imports' inspections. It sets the principles of the phyto-sanitation controls applicable to plants & plants products' producers, importers and exporters. The law sets also the phyto-sanitation measures to be applied in cases when the contamination from harmed organism is present.

From the analysis already performed results that the existing legislation in the field of nature and biodiversity protection is one of the most developed and elaborated. However, the work continues with the secondary legislation, ratification of the international agreements in the field, as well as with the transposition of the EU directives especially of those related to the biodiversity protection. Then again, the compliance with the legislation could be still stated as constituting a problem.

On the other hand, the efforts to implement the environmental legislation related to POPs are to be in line with efforts for *harmonization* of the chemicals related legislation with that of the EU one. Recently, the Government of Albania has approved the National Plan for

the Legislation Approximation which is short, medium and long terms, up to 2014. Actually, the gap analysis is already performed, the EU directives to be transposed are defined and the specific programs are built to deal with the transposition. The chapter devoted to chemicals is an important chapter of the National Plan.

2.2.2 Roles and Responsibilities

In the Republic of Albania, the Ministry of Environment, Forestry and Water Management, the Ministry of Agriculture, Food and Consumer Protection and the Ministry of Health are directly in charge for protection of the environment and human health. The management of toxic chemicals, plant protection chemicals, their residues, drafting legislation regarding these issues, inspections, and international cooperation are among their tasks.

Parliamentary Commission on Health and Environment reviews the draft laws and international agreements drafted by the Ministry of Environment, before submitting them to the Parliament for enactment.

The Ministry of Environment, Forestry and Water Management drafts national environmental strategies and policies. It collaborates with the line ministries and takes into account their opinion before submitting proposals to the Council of Ministers. The implementation of environmental laws and standards is the duty of all governmental and non-governmental actors, as well as of the general public. Monitoring and enforcement is the responsibility of the Ministry of Environment, Forestry and Water Management.

The Environmental Inspectorate under the Ministry of Environment, Forestry and Water Management enforces the environmentally related issues. Currently, there are only five inspectors at central level and 12 other inspectors based at the Regional Environmental Agencies, which highlight the necessity of capacity building and human resource enlargement. They have the authority to take samples and control the working processes in order to check if the protection of the environment is implemented. Meantime, the Environmental Inspectorate has signed memorandums of understanding with other inspectorates at the country level, in order to become more powerful and skilled once checking the activities for the compliance with the environmental legislation.

The Ministry of Health is responsible for the preparation of regulations on poison management. It participates in plant protection substance management, the procedure for classification of substances (new chemicals) in the group of poisons, and their inclusion in the list of approved chemicals. It is also involved in inspections. The analyses are performed by the Institute of Public Health. The inspections are the responsibility of the Sanitary Inspectorate.

The General Directorate of Customs, under the Ministry of Finance is in charge of control and enforcement of the regulations related to trade, export and import of goods. Ministry of Environment, Forestry and Water Management has recently organized workshops with the employees of Customs Administration, to introduce the specific environmental legislations issues, what has proved to be very profitable and cooperative.

For the control of food, pesticides and plant material import and export (quarantine) the inspectors from the Food Inspectorate and Directorate of Plant Protection in the Ministry of Agriculture, Food and Consumer Protection are in charge.

A Bureau for Chemicals is expected to be established soon in accordance with the requirements of the Law Nr. 9108, dated 17.07.2003 “On the chemical substances and preparations”.

Other central institutions related which have to deal with chemicals in general are:

- **Ministry of Economy, Trade and Energy** which has the responsibility for the remediation of hazardous waste related hot spots within the country and related pollution from industry and energy sectors;

- **Ministry of Defence**, who is responsible for the management and destruction of chemical weapons and related waste.

At local level, there are also local authorities lined up with regional environmental agencies and local inspectorate, which take measures to avoid health and environment damage from chemicals.

The inter-institutional cooperation is organised through Ad hoc working groups (with representatives from different institutions) for the preparation of draft laws or strategies, project steering committees, inter-ministerial committees such as the Committee for the implementation of the Environment National Action Plan, Territory Adjustment Council, National Council for Nature and Biodiversity Protection, Tourism Policies Committee, Inter-ministerial Committee for Energy, State Commission for Land, Coordination Group for Land Control Degradation and Desertification. Another instrument for the inter-institutional cooperation is the process of Environmental Impact Assessment and Strategic Environmental Assessment. Different reports from the European Commission have underlined the need for further strengthening/improvement of the mentioned cooperation/coordination. The implementation of the National Environment Strategy, which is expected to be approved very soon in the near future and the new approach of the Integrated Planning are anticipated to contribute to better results in this direction.

2.2.3 Relevant International Commitments and Obligations

Recently, it has been clear for Albania that adherence or ratification of the international juridical acts, environmental conventions and related protocols need to be accompanied quite soon by the national efforts in order to find out solutions and ways that enable the smooth implementation of the concrete obligations arising from these international acts.

A good example is the Stockholm Convention on POPs and the approach chosen for the implementation at the national scale of its obligations. This case and its selected model could be well used also for other conventions and related protocols.

The ratification of the Stockholm Convention on POPs has been among other steps in the framework of the national efforts towards health and environmental protection from the negative effects of chemicals and other substances, waste and hazardous waste. The decision to ratify the Convention has come was made after a careful assessment at the national scale of its positive impact and of the possibilities that the country had has to implement its obligations. The approval and entering into force of a number of laws like “On the environmental protection”, “On the environmental management of solid waste”, “On Chemical substances and preparations”, “On the environmental impact assessment”, and of many other acts involved in relation to with the secondary legislation, had already established the necessary legal framework and institutional frame to facilitate the implementation of the Convention’s obligations.

Following is a list of the related environmental agreements where the Republic of Albania is already a party:

Stockholm Convention on Persistent Organic Pollutants, ratified by Law Nr.9263, dated 29.07.2004

Initially 12 POPs are targeted for international action. These include pesticides and industrial chemicals such as DDT and PCBs, which were or are being used in Albania.

The Convention principally provides for:

- Measures to reduce/eliminate releases from intentionally and unintentionally produced POPs;
- Registration of specific exemptions;
- Measures to reduce or eliminate releases from stockpiles and wastes;

- Implementation Plans;
- Research and monitoring;
- Information exchange and awareness and education;
- Technical and financial arrangements;
- Reporting and evaluation;
- Non compliance and settlement of disputes.

Obligation of Parties:

Parties should immediately stop using the following POPs pesticides: Aldrin, Chlordane, Dieldrin, Endrin, Heptachlor, Hexachlorobenzene, Mirex and Toxaphene; severely restrict the use of DDT. Annex B provides for the restriction of DDT to vector control and use in accordance with specified WHO guidelines. Parties using or producing DDT have to sign up to a Register. For other Parties, the use and production have to be eliminated. However, all exemptions are for a fixed period of time, and subject to review;

Restrict the use of PCBs to closed systems with the aim of their phasing out and environmentally sound disposal by 2025 (equipment) or 2028 (wastes);

Measures should be taken to eliminate or reduce releases from unintentionally produced POPs;

Parties should develop implementation plans for the implementation of their obligations under the Convention;

Parties should establish mechanisms and schemes for awareness raising and information;

Parties should encourage the undertaking of research geared towards the elimination of POPs and the finding of alternatives.

Basel Convention on the Control of Trans-boundary Movements of Hazardous Wastes and their Disposal and its Amendment III/1, ratified by Albania by Law Nr. 9279, dated 28.10.2004

The Convention is related to trans-boundary movement of hazardous wastes and their disposal. The Stockholm Convention refers to the guidance documents elaborated under the Basel Convention with regard to environmentally sound disposal of POPs containing/contaminated wastes.

Vienna Convention for the Protection of the Ozone Layer and subsequent Montreal Protocol with its four amendments

The Montreal instrument controls the emissions of Ozone Depleting Substances (ODS) into the atmosphere. Ozone depleting substance study was completed, indicating the types and quantities that were used, sold or stored in Albania. The Plan for phasing out ozone depleting substances up to 2010 is already under implementation. Training programs were organized for mechanics and repairers on retrofitting refrigerating and air conditioning equipment. Custom inspectors were trained in setting up and enforcing a system for the identification, monitoring and control of imported ODS.

Recently, Albania adhered also to the amendments of the Montreal Protocol respectively: to London amendment (by law no.9484, dated 02.03.2006), to Copenhagen amendment (by law no.9480, dated 16.02.2006), to Montreal amendment (by law no.9485, dated 06.03.2006) and to Beijing amendment (by law no.9484, dated 02.03.2006).

Albania is also party to:

- Convention on Environmental Impact Assessment in Transboundary Context

- Aarhus Convention on Access to Information, Public Participation in Decision making and Access to Justice
- Kiev Protocol for Strategic Environmental Assessment
- Convention on Biological Diversity
- Convention on the Wetlands of International Importance, especially as Waterfowl Habitat
- United Nations Framework Convention on Climate Change and Kyoto Protocol on the Climate Change
- Convention on Long-range Transboundary Air Pollution
- Convention on Protection and Use of Transboundary Water-courses and International Lakes, etc.

There is also a common initiative of the Ministry of Environment, Forestry and Water Management and the Ministry of Agriculture, Food and Consumer Protection to ratify in the near future the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade.

Recently, a cooperation process has started between the Ministry of Environment, Forestry and Water Management and the Ministry of Agriculture, Food and Consumer Protection in order to start in the near future the procedures to ratify the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade.

The PIC Procedure is based on the principle of prior informed consent, that international shipment of a chemical, that is banned or severely restricted to protect human health or the environment, should not proceed without the agreement, or contrary to the decision of the Designated National Authority (DNA) in the participating importing country.

The objective of the Convention is to foster a shared responsibility to protect human health and the environment between exporting and importing countries.

It enables the world to monitor and control the trade in certain hazardous chemicals. It gives importing countries the power to decide, which of these chemicals they want to receive and to exclude those, they cannot manage safely. If trade does take place, requirements for labelling and provision of information on potential health and environmental effects will promote the safe use of these chemicals.

The Convention covers pesticides and industrial chemicals that have been banned or severely restricted for health or environmental reasons by participating Parties. Severely hazardous pesticide formulations that present a hazard under the conditions of use in developing country Parties or Parties with economies in transition may also be included. Twenty-seven chemicals including severely hazardous pesticide formulations are currently on the PIC List.

Albania is also engaged into certain regional environmental agreements (REReP Program) and bilateral ones with the neighbour countries. Together with the other countries of the Western Balkan, Albania is a candidate country to become member of the European Environment Agency.

2.2.4 Principles of Existing Legislation and Regulations addressing POPs

Manufactured chemicals

According to the law "On chemical substances and preparations":

In the management of hazardous substances and preparations any person shall be obliged to protect human life and the environment, to place the danger precaution signs describing the specific danger and with technical safety guidelines for their management.

Juridical or natural persons authorised to exercise commercial activity may manage hazardous substances and preparations that have one or more dangerous features as specified in law "On chemical substances and preparations" and treat these substances in quantities exceeding higher than ten tons per a calendar year only on permits of the relevant ministry.

The management of hazardous substances shall be done after receipt of permit from the regional environmental agency.

Juridical or natural persons authorised to exercise commercial activity shall be obliged to allow authorised person by offices of control and inspection to enter in the environs and buildings and to get all the necessary data for their work.

Unintentionally produced POPs

In accordance with the law "On the environmental treatment of solid wastes", in the territory of the Republic of Albania, it is prohibited:

To discard or discharge in the land or in water bodies waste that might cause the downgrading of land and water properties and entail harmful consequences on the human health and the environment;

To process and eliminate waste in zones other than those designated by relevant authorities;

To process, deposit and eliminate waste by means of techniques and technologies inappropriate for such use and uncertified by the Environmental and other relevant ministers;

To incinerate in open air, including incineration by itself of waste and waste residues resulting from final treatment of waste.

According to the same law, the processing and disposal of urban waste, industrial waste, hospital waste has to be done in accordance with rules approved by respective authorities for urban waste management, industrial waste management and hospital waste management. The respective authorities also have to approve criteria and regulations for installation and operation of processing plants and incineration establishments.

2.2.5 Priority problems and objectives for institutional and regulatory strengthening

Legal Framework

It is expectable that the legislation field is the one where we should start to guarantee the implementation of the Stockholm Convention's requirements. This is true only for the needed changes and improvements related directly with the legal statements, but even the possible changes in the institutional frame have to be supported by and reflected into the legal one.

In connection relation to the implementation of the POPs Convention requirements, based in the article 122 of the Constitution the Republic of Albania "Any ratified international agreement is part of the internal juridical system after its publishing publication into the Official Gazette of the Republic of Albania. That shall be implemented directly, besides cases when is not implemental and its implementation asks for enforcement of a certain law. An international agreement, ratified by law, is superior in connection with country laws which do not comply with that". From this definition of the

Constitution, it could be drawn there are three important conclusions regarding the POPs Convention:

- Stockholm Convention is already part of the inner juridical system of Albania. The POPs Convention ratification has brought an important enrichment of the environmental legislation at national level related with POPs, which has been almost not specifically covered before, even though being new the environmental legislation is much harmonized with the respective EU directives.
- Stockholm Convention is a juridical act obligatory for implementation: from the very first day of its entering into force, the Albanian executing bodies are obliged to implement rigorously any of its requirements and to ask for compliance from any obligated subject.
- Stockholm Convention requirements are superior in comparison with those of the national legislation which do not comply with them. This helps in cases where some different opinions are described in the national legislation enforced before the ratification of the POPs Convention.

In this regard, the following issues are identified for consideration in relation with the existing regulatory framework in Albania:

- In the national legislation, does not exist any separate law or by-law which oppose the provisions of the Stockholm Convention;
- Up to now there is no any specific legal act to deal with POPs;
- In some laws and by-laws, as well as in some other state documents concerning the environment, there exist room for future treatment of POPs in accordance with the requirements of the Convention;
- The preparation of the specific legal frame to enable the implementation of the requirements of the Convention is part of the general efforts to transpose and harmonize the national legislation with the EU one in the field of human health and environmental protection;
- The preparation and approval of each of the acts, part of the specific legislation on POPs, shall be realized in accordance with an approved detailed program, which is short, medium and long term, giving priority to the most necessary acts, approval of which ease the preparation of the others;
- In order to prepare the specific acts, the working groups are to be established, composed of environmental lawyers, technicians and members of specialized NGOs and business associations;
- In addition to the Stockholm Convention, the specific acts shall make the thorough legal frame, necessary to implement its obligations;
- In order to increase the public awareness towards the legal packet dealing with rules and procedures to proper management of POPs, its publication and discussion with the related public administration representatives, interested groups and general public is suggested.

Institutional Network

From the institutional point of view, the Stockholm Convention also presents obligations for the countries, which have already signed/ratified it. Even though, there are no definitions for new organs or specific defined job descriptions for existing ones in the respective countries to deal with provisions of Stockholm Convention, the obligations for the countries are clear and it belongs to those to design their structures in order to effectively apply the Convention itself.

However, there is an expressed need for broad participation, not only from the state part, but even from the civil society, specialized NGOs, scientific institutions, universities and laboratories, networks for collection, assessment, processing and distribution of environmental information, etc. In the process of the implementation of the Stockholm Convention, the identification of the institutions as above is needed and their involvement is required;

By defining the fields of application, the Convention also orient towards the national model (scheme) to administer up to the disposal at national level the persistent organic pollutants. In this scheme, there are anticipated concretely the organs and structures who shall deal with:

- the preparation, submission and approval of the National Plan to implement Stockholm Convention;
- the information collection in order to get to know the situation through the inventory process;
- the prohibition of POPs production and import;
- the approval of rules and procedures to export and transit POPs;
- the POPs management;
- the monitoring of POPs management process and of the implementation of the Convention itself, etc.

By defining the volumes and content of duties to be performed, there is a need to harmonize and consolidate the institutional network, where, central and local organs, controlling and monitoring organisms, decision-makers and implementation structures, policy makers and scientific nucleus, should all be effectively involved.

In this regard, the following issues are identified for consideration related with the existing institutional frame in Albania:

- The critical assessment of the existing bodies and structures, as the most important acting capacity to find out the relevance of each with the obligations of the POPs Convention;
- Reassessment and update of the concrete obligations, that relevant institutions currently have in relation to POPs management, in accordance with their functions, competencies and responsibilities;
- The design of the new institutional scheme, which would involve all structures and bodies at central and local level, the definition of roles, functions, responsibilities, competencies and duties of any of them, their relationships and the functioning rules of the whole system;
- The designation of the contact points and focal points at national and local and/or sectoral level, which altogether constitute the National POPs Network;
- The contact points and focal points shall build their communication scheme among them, as well as they will prepare operative programs how to perform their respective duties and obligations;
- Standardization and preparation of the documents, registers, inventories, etc., related to POPs, in order to have it in an unique and standard form; the definition of rules and procedures to deal with the documentation and for its safe maintenance in a separate national centre.

Priority problems

Necessity to elaborate and implement legislation on chemicals;

Current legislation is not yet fully harmonized with the EU legislation;

Need to regulate issues connected with use of PCBs in close systems, their phasing out and environmentally sound disposal;

Insufficient enforcement of the current environmental legislation;

Need to establish a national structure for implementation of Stockholm Convention (network of local contact points, national focal point).

Objectives

- ➔ Completion and harmonisation of the environmental legislation with that of EU;
- ➔ Improvement of the institutional framework and capacity building at the local and central levels.

2.3 Assessment of the POPs Issue in Albania

2.3.1 POPs pesticides

Nine of the twelve chemicals listed by the Stockholm Convention are POPs-pesticides: Aldrin, Dieldrin, DDT, Endrin, Mirex, Toxaphene, Chlordane, Hexachlorobenzene, and Heptachlor.

First in our country were used imported products and later chemicals formulations, produced in the Chemical Enterprise Durres: DDT, Heptachlor, Aldrin, Dieldrin, Toxafene (Melipax), Chlordane. Hexachlorane and Lindane has been also produced in this enterprise.

Practically the production of pesticides was interrupted in 1990. However, the danger from stock pesticides was apparent.

Different projects have performed some inventories after 1990. There were 2.700 tons of stock pesticides heredities from the former cooperatives and agriculture enterprises in the end of 1993. 465 tons of these amounts were stock or ready to run out. This amount came from former East Germany, in 1991-1992 as a aid and was stored mostly in Bajza (Shkoder) and the railway station in Milot. In the end of October 1994 these pesticides were evacuated from Albania back in Germany.

In the same year 1.500 tons pesticides excluding the 500 tons of the Chemical Enterprise Durres (ChED), (residues of Lindane production) were still present.

From inventory which have performed in POP-s NIP framework during 2005 and results that in Albania are no pesticides of this group. Contingent about 3 ton DDT and Hexachlorane/Lindane wHich have been present in stores of Ministry of Health (MOH), are repacked and evacuated from Albania in June 2006, in project MMPAU: “Repacked and evacuated from Albania of pesticides and other chemicals from Bishti i Palles”, financed from Dutch Government.

The actual problem is the determination of eventual contamination cost by the previous use of POP-s pesticides.

Introduction

After the year 1990, the persistent organic pesticides (Hexachlorbenzene, DDT, Chlordane, Heptachlor, Aldrin, Dieldrin, Endrin, and Toxafen) have been carefully managed. MAFPC systematically has worked for withdraw and banned import of POP-s pesticides. In this context the legislation for using of Plant Protection Products (PPP) is improve and with CMD is founded the Commission for Registration of pesticides. The import and export of pesticides is strictly under control. The Commission has always worked to forbid the using of POP-s in agriculture following the international recommendations.

During the last decade, there is not any case of POP-s use in agriculture and the State Commission on the Registration of Pesticides has not allowed the registration and the import of such products in agriculture.

There are only sporadic studies related to the residues of these products in the environment. These studies have been performed in regions referred to as environmental hot spots and there is not any integral study for the country situation in respect to the land/water contamination from POP-s pesticides. In this context, it is suggested to plan the monitoring of these pesticides mainly in the ex-storehouses, surrounding soil/water area and in special cases in the domestic animals and humans

Relevant Stockholm Convention Requirements

Parties shall: [Article 3, para. 1]

(a) "prohibit and/or take the legal and administrative measures necessary to eliminate":

(i) production and use of chemicals in Annex A[1] and

(ii) import and export of chemicals in Annex A

- *i.e.,* trade is restricted [see paragraph (2)]

(b) "restrict its production & use" of chemicals in Annex B[2]

- "acceptable purposes" specified for these chemicals

Parties shall: [Article 6]

- develop and implement strategies to identify stockpiles [para. 1 (a)(i) and 1 (b)]
- manage stockpiles in a safe, efficient and environmentally sound manner (ESM) until they are deemed to be wastes [paragraph 1 (c)]
  - *i.e.,* no remaining uses by Party
    - no *specific exemption* or *acceptable purpose*
  - does not apply to stockpiles that may be exported
    - per Article 3, para. 2
- develop strategies to identify [para. 1 (a)(ii)]
  - products and articles in use, and
  - wastes

  that consist of, contain or are contaminated with a POP in Annex A, B or C

[1] Aldrin, Chlordane, Dieldrin, Endrin, Heptachlor, Hexachlorobenzene, Mirex, Toxaphene, Polychlorinated biphenyls (PCBs)
[2] DDT

- endeavor to develop strategies for identifying sites contaminated by POPs in Annex A, B or C[3] [para. 1 (e)], and
- if remediation is attempted, do it in an environmentally sound manner

Situation in Albania

Plants protection by means of chemicals.

The use of pesticides in Albania is still a crucial process in achieving high productivity and a stable production. As a process, it needs a correct assessment to be less harmful to the people and to the environment as well. After the 70-ies, there was a huge increase of agricultural production in the modern countries. This was as a result of the application of agrochemicals and especially the application of pesticides. Pesticides were regarded as the quickest and the most effective means for protection of agricultural production from parasites.

However, after a period of time many of the pesticides have demonstrated adverse effects to the environment. They caused negative effects to the flora and fauna and to the people's health.

Pesticides in our country were a crucial means of fighting against the parasites in the agricultural. It started with the organochlorine pesticides DDT, Heptachlor, Lindane etc. They were used to disinfect the soil, the seeds and the dusting of many agricultures, against different pests. During '67-'70 together with the base cooper production of oxichlorure cooper, sulphur, calcium polysulphide, started the formulation of the organochlorine pesticides using active imported ingredients. In the ex-ChE in Durres were formulated DDT, Heptachlor, Melipax and were produced which are qualified as POP-s pesticides from the Stockholm Convention and Hexachloran and Lindane as well. The active ingredient for these formulations was imported from China, Romania, France, etc.

The observation of the advantages and the disadvantages of the organochlorine, worked out that they were persistent in the environment. They accumulated in the lipids of the active organisms. EPA in USA, three years after its foundation 1970 forbid the use of DDT and in 1975 forbid the use of Aldrin and Dieldrin. Initially, in 1974, it was forbid the formulation of DDT in the former chemical enterprise in Durres (it is pretended that after this year the import was stopped, but there were residues in stores which continued to be used in the whole country).

There is not any clear evidence of the year when it was completely abandoned. However, in 1975 -1980 are observed restrictions. Firstly there were restrictions of DDT, Aldrin, Dieldrin, Heptaclor, Toxafen and later on of Lindan.

Observations showed that the organochlorine possessed a high persistence and toxicity. As a consequence of their cumulative properties, first it was accomplished realized a restriction in agricultural cultures and it was permitted to apply them only in the soil disinfection. The production and the use of pesticides were focused on phosphor organic compounds. The maximum use of the pesticides in Albania has been in 1988-1989. It is estimated that 85% of total pesticide formulations of 16.500 ton, 14.400 ton (15 types of formulations) were Albanian production. The rest was imported. According to the estimation, the production of pesticides in Albania has never been higher than 2 kg active ingredient per ha.

[3] PCDD/PCDF, hexachlorobenzene, PCBs

In 1990 - 1991 was recorded a drastic decrease in the use of pesticides, due to the socio-economic changes (see Table 4). In this period, the data are insufficient.

It was not applied any procedure to probate and record pesticides during this time.

Based on the Law No 7662 dated 19.01.1993 "On the Plant Protection Service", in the same year, CM has approved "Regulations on Pesticides applied in Agriculture.

Later on the CMD No 72 date 15.02.2001 "On approval of the General Regulations for Plant Protection." This Law Packet restores the PP problems in a considerable way and deals with the problems of the pesticides administration as well. This is based on EU Directive (91/414/EEC) according to which pesticides are considered as products that protect the plants from parasites and environment from contamination as well.

Table 4: Use of pesticides in Albania, 1988-2000.

YEARS	PESTICIDES	
	Tons	a.i.'/ha
1988	16,500	2.0
1991"	1,585	0.68
1992*	1,700	0.73
1993**	790	0.34
1994**	740	0.32
1995**	520	0.22
2000	88	0.04

' - active ingredient
'' - MAF data
* - World Bank 1992, data.
** - Dutch Project "Strengthening the PPS in Albania" data, 1995.

The basis of these Regulations is related to the registration of pesticides. This is a procedure, which consists of the environmental and agro biological assessment of these products.

The State Commission of the Pesticide registration deals with the correct administration of pesticides and performs this assessment. After the approval of the pesticide by the State Commission, it is granted the permission to be used in agriculture

The monitoring of the post-registration procedure is the weakest point in this field. It is related with problems of the contamination level of the environment.

The problem of POP-s pesticides and the contamination that they may have caused remains unsettled.

Even though they are no longer produced within Albania, the places where they have been formulated and produced (Ex-Chemical Enterprise Porto-Romano, Durres) and the storing sites remain a problem of a major concern.

Specialists of the Pesticide Sectors of PPI Durres in cooperation with the specialists of PP Directory in the Ministry of Agricultural and Food have performed many inventories. The main purpose of these inventories has been the identification of the qualities and kinds of pesticides stored in these sites for years. The first inventories have brought to light the quantity, kinds of pesticides, and the formulation types by analyzing samples in the

Analytical Laboratories of the Pesticides in PPI Durres.

Later on, this quantity has been reduced because of the use in agriculture and disposal inside or outside of Albania by different projects.

In 2000-2002 the PHARE project evacuated all the stock pesticides of the Agriculture Sectors stores and eliminated them in Germany.

In 2005, the PPI specialists of Durres performed an inventory in all the ex pesticide stores, imported or formulated in the country. They are all free from the stocks of pesticides but the state of these storehouses remains a serious problem. The environment within these premises is contaminated and some of them are partially damaged. There are also few pesticide storehouses still in use and the rest is used for other purposes, but most of them are empty or useless.

Priority problems and objectives for POPs management

There are not POP-s pesticides in Albania. The last contingent about 3 ton DDT and HCH/Lindane which have be present in health sector, are evacuated from Albania in July 2006, in the framework of agreement between Republic of Albania and The Netherlands Kingdom for repacking and evacuation of pesticides from Bishti i Palles, and POPs chemicals from the health sector Albania. This task was fulfilled during the July 2006.

The problems which were identified during the POP-s pesticides inventory are the contamination sites in ex-storehouses in agriculture, defence and health sectors and the environment around them.

The management and the impact of the residues in these former storing sites is unknown or little known. There is not a technical infrastructure in Albania to monitoring, study or develop the POP-s Pesticides. The POP-s pesticide ex-storehouses still contain pesticides accumulated on the floor and walls or in surrounding area. The identification of their impact is a complicated work and requires respective equipments, qualified and well-trained specialists on POP-s pesticides.

The result of national level inventory, in agriculture and defence section is that: in Albania haven't POP-s pesticides. However, the disposal information on the quantity and the plant protection using, the time which they are forbidden in agricultural, is not completed.

In DDT and Hexachlorane/Lindane, have resulted that a small quantities have be present in health section storehouses. This quantities 3 ton DDT and Hexachlorane/Lindane which have be present in stores of Ministry of Health (MoH), are evacuated from Albania in project MMPAU, ‘‘Repacked and evacuated from Albania of pesticides and other chemicals from Bishti i Palles“, financed by the Dutch Government.

Priority problems

Non adequate enforcement legislation for pesticides use;

Non-systematic information about past DDT uses (documents about imported and used amounts of DDT in the health sector);

Lacking analytic study of the actual level of contamination of the ex- POPs pesticides storehouses, as well as of the surrounding environment;

Unsafe handling with pesticides (repacking) and unsafe disposal of empty containers;

The local authorities have insufficient information related to the POPs pesticides (in particular the old storehouses);

The technical staff has insufficient information related the POPs pesticides (possible contamination of old storehouses);

Lack of specific pesticide related information to the general public;

Lack of financial support.

Objectives

- ➔ Strengthening of capacity of the PPI laboratory for POPs pesticide monitoring;
- ➔ Determination of eventually contamination of ex- storehouses and surrounding area form POP-s pesticides;
- ➔ Development of rehabilitation plan for the contaminated sites by POP-s pesticides;
- ➔ Raising awareness about these contaminated sites concerning possible health risks to the people living in proximity to these sites.

2.3.2 PCBs

Introduction

PCBs are organic synthetic chemicals, have excellent dielectric properties, non- flammability and resistance to thermal and chemical degradation.

Most transformers and capacitors use a dielectric fluid based on polychlorinated biphenyls (PCB-s) because they have fire-resistant and other properties required for usage in electrical equipments, but in other side some major disadvantages of these products are present. These disadvantages are linked to the toxic nature of PCB-s and their potential contamination to human health and the environment.

They are subject to three international conventions related to hazardous chemicals, namely Basel, Rotterdam and Stockholm Conventions. PCB-s are covered by these conventions addressing the production, declaration, use, import, export, storage, transport, monitoring, phase out, disposal of PCB-s.

Up to some years ago in Albania, there have not been too many efforts about pollution on PCB-s and their impact to the environment and human health. So far there is not specific legislation regarding to PCB-s and no PCB-s monitoring system in place.

The only electricity provider in Albania is the Albanian Power Corporation (KESH). Actually the company is divided in two divisions: Generation and Distribution, which are responsible for generation, import and distribution of power energy. Transmission Division which is responsible for power transmission also has been part of KESH, up to two years ago it was separated from KESH and transferred to a new Albanian Transmission System Operator (OST) which was registered as a joint-stock company with 100% state-owned shares on July 2004.

In the past KESH has had no any institutional structure dealing with environmental issues. KESH has had no plans for managing emergency situations, no records on waste generation and management are kept, no internal waste management procedures that would provide instructions for waste handling, set responsibilities in waste management and set duties for recording of waste generation has been developed. The awareness level of KESH facilities employees for knowing PCBs impacts was very low. Due to the lack of legislation and procedures for environmental administration of PCBs oil, the impact and the risk to human's health and environment will be present.

In order to improve the environmental situation and to strength environmental management capabilities, a few years ago are established in KESH and OST the Environmental Management Units (EMU-s) for developing internal capacities in handling their environmental health & safety responsibilities across all KESH/OST facilities.

As far as the management of PCB-s is concerned, we have to consider the overall objectives of environmental management at the national level, in particular the management of chemicals and hazardous wastes, as well as within the framework of the relevant environmental conventions.

Relevant Stockholm Convention Requirements

Annex A requires all Parties to cease production of new PCBs immediately (*i.e.,* entry into force)

All Parties using the (Part II) PCB specific exemption shall:

- eliminate use of in-place equipment containing PCBs **by 2025:**
  - make determined efforts to identify, label & remove from use equipment with >10% or >0.05% and >5 liters of PCB
  - endeavour to identify & remove from use equipment with >0.005% (50ppm) and >0.05 liters of PCB
  - give higher priority to equipment with higher PCB levels
- promote measures to reduce exposures and risk:
  - use PCBs only in intact and non-leaking equipment and only in areas where risk of environmental release can be minimized and quickly remedied
  - forbid use in food and feed production and processing areas
  - when used in populated areas (schools, hospitals, etc.)
    - take all reasonable measures to protect from electrical failure which could result in a fire
    - inspect regularly for leaks in equipment
- not export or import PCB equipment, except for the purpose of environmentally sound management (ESM) of waste
- not recover liquids with more than 0.005% PCBs for reuse in other equipment, except for maintenance and servicing
- make determined efforts to achieve ESM of wastes containing >0.005% PCBs ASAP, and **by 2028**
- endeavour to identify articles with >0.005% PCB for ESM
- report to the COP every five years on their progress in eliminating PCBs [per Article 15]

COP will review progress toward the 2025 and 2028 targets at 5 year intervals, taking into account reports from Parties

Situation in Albania

EU Directives

Albania is in process of approximating the environmental legislation according to the National Plan for Approximation of Legislation approved by Albanian Government on May 2005 in parallel with the environmental convention mentioned above, after the endorsement of Associate-Stability Agreement.

In this contest most relevant EU Directives related to PCB-s are the following:

- Regulations (EC) No. 850/2004 of the European Parliament and Council of 29 April 2004 on POP-s and amending Directive 79/117/EC,

- Regulations (EC) No. 304/2003 of the European Parliament and Council of 28 January 2003 concerning the export and import of dangerous chemicals,

- Council Directive 96/59/EC of 16 September 1996 on the disposal of PCB-s and PCT-s

Legal and institutional background

Albania is in the process of developing laws regarding environmental protection. The environmental legislation is filling and is improving according to relevant EU directives.

Actually no specific legislation regarding to PCB-s (management, handling, monitoring, phase out and disposal) is in place. Decisions of the Council of Ministers No. 103, date 31.3.2002, "On Monitoring of Environment in the Republic of Albania" doesn't determine the duties of institutions to monitor the PCBs presence in equipments oil in different power facilities.

The EMUs, based on Environmental Management System (EMS) have developed some action plans including "The Action Plan for Spill Prevention, Control and Countermeasures for Power System Facilities", "Hazardous Waste Contingency Action Plan", "Action Plan for preparation and withstanding emergency situations on Power Facilities" and "Personal Protective Equipments" for better management of environmental issues in all power Facilities complying with the Environmental Policy in order to control and/or mitigate environmental impacts due to oil spills to improve environmental performance.

The transformers inventory

KESH and OST serve more than 900.000 consumers in all over the country. KESH was established in 1957 and converted to a joint-stock company with 100 % state – owned shares in 1995 while OST was separated from KESH and registered to a new joint-stock Company with 100 % state – owned shares in 2004.

KESH is divided in two divisions: Generation and Distribution, which are engaged for management and maintenance of this company. Transmission activity is detached from KESH and transferred to a new Albanian Transmission System Operator (ATSO).

The first investigation for detection of PCBs contamination in transformer oils was conducted by ECAT Tirana and concluded that none of the analyzed transformer fluids exceeded the limits set in the international guidelines such as The Swiss Directive on Hazardous Substances to the Environment.

In year 2002, an environmental audit was conducted by a foreign company at some KESH facilities which left some recommendations based on identified problems, also to test for the presence of PCBs all transformer oil that is not from Chinese suppliers.

Table 5: The data about transformers in KESH/OST according to Divisions

KESH/ATSO	TOTAL NUMBER OF TRANSFORMERS	TOTAL OIL MASS (LITRES)
Generation Division	164	806 720
Transmission System Operator	51	1 050 251
Distribution Division/Cabins	11 181	3 383 969
Distribution Division/Substations	298	2 763 494
Total	11 694	8 004 434

The information on the potential PCB-s containing facilities across the country is not well known due to lack of recordkeeping practices and formal reporting.

The first investigation for PCBs preliminary inventory in Albania is the preliminary inventory conducted in the frame of POPs project, based on total number of transformers in state, age and type of transformers and partial test. It's prepared by EMU in KESH and is focused in transformers and capacitors.

The EMU-s in KESH/OST have realized the testing process for the presence of PCBs in transformers oil in about 57 power facilities and are tested about 169 oil samples, using selecting procedures.

Table 6: The data about Generation Division transformers in HPPs and TPP

KESH/ GENERATION DIVISION	**TOTAL NUMBER OF TRANSFORMERS**	**TOTAL OIL MASS (LITERS)**
HPP Vau Dejes	9	196 460
HPP Fierze	10	191 900
HPP Koman	5	146 500
HPPs Local	8	22 980
HPP Ulez	6	36 600
HPP Shkopet	5	24 640
TPP Fier	121	187 640
Total	**164**	**806 720**

First priority was appointed the testing of big transformers that have big quantity of oil, mainly in 400 kV and 220 kV Substations. These big transformers are mainly last years produced. The WR >30%, that means oil mass divided to total equipment weight, was an important information for the selected transformers to be tested. The WR data are taken from Access data base that is improved (rieviewed) after inspections in almost all power

facilities by EMU experts, but can't be sure for this WR because of missing registered data about the oil movement and the monitoring related to PCBs presence. The WR>30% value should be exact only if equipment's inside oil should be the initial oil.

For this reason are tested also electric cabins small transformers, military units transformers etc. manufactured from years '50 up to now but most part of tested transformers are of '70-ies yeras manufactured.

The results show that 5.3 % of tested oil should be considered as PCBs assumed.

The work team experts have used Test-Kits manufactured by Dexsil Company for PCBs tests in transformers oil. The results could not generalize in national level cause of limited number of tested oil sampling,

Inventory method for PCB-s

Inventory method and the results are based on the internationally recommended guidelines and the best available information in Albania. The EMUs have selected a work team, includes experts from EMUs and KESH/OST facilities to prepare and elaborate the PCB-s inventory program.

The EMU-s have prepared and delivered to all KESH/OST facilities the format table-sheets because of no available information and no available records in place. This questionnaire requires all needed information about transformers/ equipments to be inventoried such as year and place of manufactured, dimensions, its weight and capacity, its status, maintenance, environmental conditions in use, impact to the environment, data about equipments oil (oil weight, oil trade name), etc.

The main goal of this preliminary Inventory of PCBs is to identification of all electrical equipments that may contain PCBs oil or PCBs contaminated mineral oil and the PCBs wastes amount, in order to fulfil Stockholm Convention requirements, to evaluate existing infrastructure in place and to set priorities for further process.

Table 7: The data about 8 Zones of Distribution Division, Substations 35/110 kVA transformers

KESH/DISTRIBUTION DIVISION ZONES	TOTAL NUMBER OF SUBSTATIONS	TOTAL NUMBER OF TRANSFORMERS	TOTAL OIL MASS (LITTERS)
Durres	12	24	293 324
Berat	23	35	330 250
Elbasan	27	49	471 640
Fier	18	30	212 520
Shkoder	14	32	240 330
Korce	27	45	418 780
Burrel	24	42	360 730
Tirane	16	41	435 920
Total	**161**	**298**	**2763494**

Table 8: The data about cabins transformers divided by 8 Distribution Zones of Distribution Division

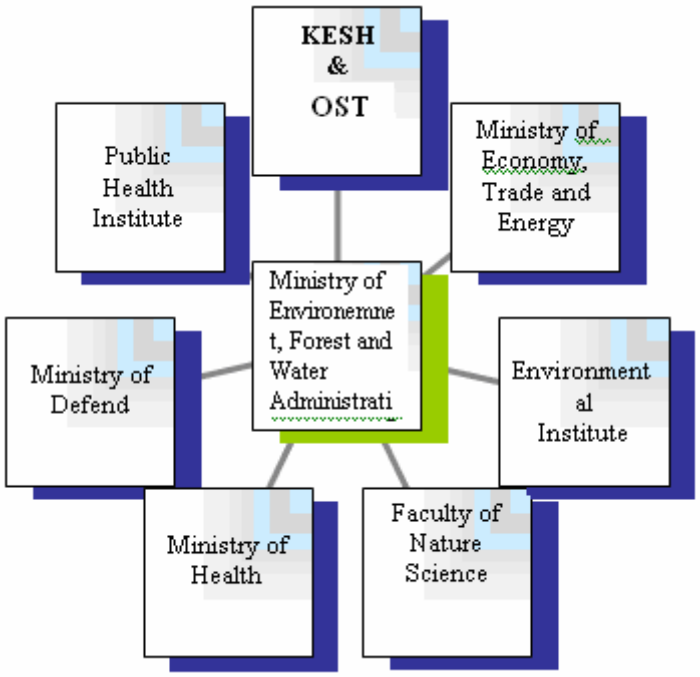
KESH/DISTRIBUTION DIVISION/ZONES	TOTAL NUMBER OF TRANSFORMERS	TOTAL OIL MASS (LITTERS)
Durres	1 064	283 620
Berat	1 044	319 990
Elbasan	1 200	169 440
Fier	1 338	333 130
Shkoder	1 896	539 310
Korce	761	197 014
Burrel	1 333	775 870
Tirane	2545	765 595
Total	**11 181**	**3 383 969**

The objective of the PCB-s inventory is to identify all of the PCB-s transformers which are "in use" and/or obsolete, to apply the precaution principle to PCB-s installations in use (keep in use and phase out and disposal), to ensure the monitoring of technical compliance of all PCB-s installations in use and to ensure the tracking of all the PCB-s installations until the end of the life.

Tabela 9: The OST data on power transformers mainly in S/Ss 220 kVA and 400 kVA

OTS/SUBSTATIONS	TOTAL NUMBER OF TRANSFORMERS	TOTAL OIL MASS (LITTERS)
Burrel	4	49 445
Tirane	12	279 576
Elbasan- 400 kVA	5	71 170
Elbasan-220 KV	6	85 050
Fier	6	284 100
Korce-Zemblak	3	73 460
Durres-Rrashbull	4	86 350
Shkodra Unit S/St. of Fierze HPP	9	39 000
Shkodra Unit S/St. of Vau Deja HPP	2	82 100
Shkodra Unit S/St. of Koman HPP	0	0
Total	**51**	**1 050 251**

Fig. 5: Chart of institutions involved in PCBs inventory process.



According to the Stockholm Convention it has to be identified, labelled and removed from the use equipment containing greater than 10 % PCB-s (100 000 ppm) and volumes greater than 5 litres, to identify, label and remove from equipment in use containing greater than 0.05 % PCB-s (500 ppm) and volumes greater than 5 litres and endeavour to identify and remove from use equipment containing greater than 0.005 % PCB-s (50 ppm) and volumes greater than 0.05 litres.

The EMU in KESH elaborated the database, an integrated management tool for identifying PCB-s installations and PCB-s holders, to ensure updated data for the ESM of PCB-s installations and for the implementation of a national disposal plan.

Some definitions of elements in this database are: information sources, headings of the database: (identification of the owner and equipment, maintenance, environmental security, administrative status of the installation), the statistic data and the tools for identification and technical follow-up. This database also includes: identification of the holder (classification of activities, risk linked to the activity: schools, hospital, chemical, food industries, and location: urban, rural, industrial zone, identification of the equipment (transformer, capacitor), maintenance of the equipment, security and environmental impact, regulatory status of the equipment.

Summary of the transformer Inventory results

PCBs are never produced in Albania. The transformer's oil is always imported from other countries of Europe or Asia. The oldest transformer in KESH is Russian, dated 1950. In the past, the main supplier of transformers was URSS and China. The transformers that are manufactured in URSS have their age about 50 years old. The most part of transformers in Albania are Chinese, Russian, Bulgarian, Macedonian and Romanian. Last years many transformers are imported from Italy, Croatia, Swiss and Belgium.

Until now no PCBs control on equipments and oil at the Custom and The Central Storehouse in Shkozet – Durres related to oil quality and the presence of PCBs in it.

The transformers oil is the main element in all KESH facilities, which may pollute the environment around. KESH/OST use a huge quantity of mineral oil, about 8200 tons. The

oil quantity in KESH/ATSO transformers, range from 70 kg to 102 tons per transformer.

In Power KESH Facilities there are in use many old transformers manufactured before 1970 that have created environmental pollution especially in soil and groundwater because of oil spill and leakage during maintenance process or their old age. Most part of transformers is stated on ground or in static support but no secondary containment under transformers. One can easily visually observe the contaminated soil under transformers, so there is a need to carry out soil and groundwater contamination investigation.

Based on the data gathered from the questionnaire of preliminary inventory on PCB-s, the population of transformers placed in all KESH facilities in Albania there are about 12,000 units in all capacities in use. Most of them (about 98%) are distribution transformers, with low capacity, placed in small electric cabins and are used for supplying family consummators.

About 50 % of total amount of transformers are manufactured before 1990 (about 6,000 units) and the average age of transformers is very old: 28 years. About 98% of transformers are small transformers belong to Distribution Division placed in electrical cabins. The other part of transformers is placed in KESH substations, 298 of them belong to the Distribution Division, 164 to the Production Division and 51 belong to the ATSO.

Because of no systematic control monitoring program, there is no any available Laboratory in Albania could analyse presence of PCBs in oil or soil, so the preliminary results are based on test-kits results (Dexsil).

From the testing performed in the frame of project for preparation of POP-s NIP, there are inspected about 57 power facilities and are tested about 169 oil samples, the results show that 5.3% of tested population should be considered as PCB-s assumed (PCB-s > 50 ppm).

If we apply the result of the tested transformers and extrapolate on the whole population of transformers manufactured before 1990, the quantity of PCB-s contaminated transformers could be:

Number of transformers manufactured before 1990:	6000 units
Average weight of distribution transformers:	1.5 tons
Percentage of transformers suspected to be contaminated:	5,3 %
Number of transformers suspected to be contaminated:	about 320

Total weight of transformers (kg)	1 100 tons
Total weight of dielectric (kg)	300 tons
Total Weight of drained transformers	800 tons

About 10 % of transformers have a weight ratio higher than 30 % and no positive density tests have been found on this population: those transformers should be considered as retro filled and PCB-s assumed.

Because of no PCB-s control on oil at the custom and on equipments, in order to stop the cross contamination process it's required the immediate activities for PCB-s management.

The Preliminary Inventory of PCB-s revealed that non existing standards (limits) and methods for analyses for PCB-s, low level of information and awareness on PCB-s throughout all population groups, no information and awareness of general population about potential risk of PCB-s (transformer oils), limited level on PCB-s awareness among responsible management in public and private sector, low awareness among employees

potentially exposed to PCB-s, lack of PCB-s contamination monitoring in various matrices and possibly polluted air, soil and ground / surface water with oil contain PCB-s.

Capacitors

The primary function of the capacitors is to give dynamic support to the system voltage, particularly during circuit outages immediately following a fault, to ensure the best possible dynamic response under network conditions which include varying network impedances in different locations. The design is compact and technical solutions utilized guarantee low noise as well as low magnetic interference, thereby limiting the environmental impact.

The capacitors number in KESH facilities is limited. They are placed in Fieri 220 kV Substation (2x25 MVAr), in Lushnja and Ballshi 110 KV substations, (each of them is 25 MVAr). They belong only to ATSO; two other Divisions do not use them.

The purpose of the installation of capacitors is to maintain the stability and power transmission capability of the grid during various network conditions.

The capacitors contain small oil quantity and no many link points in their structures, thus they haven't created environmental pollution in place.

However, EMU will considerate these capacitors as a possible source of pollutions, to take care for prevention measures of their impact to the environment.

The following tables present the sumurized data about tested transformers for presence of PCBs and the other data related to this inventory.

Table 10: General data about transformers, object of this Inventory

Number of transformers inspected	544
Number of transformers tested (chlorine test)	**169**
Number of transformers tested (< 50 ppm)	**160**
Number of transformers tested (> 50 ppm)	**9**
Percentage of PCB contaminated transformers on the tested population:	**5,3 %**

Total weight of tested transformers, assumed to be contaminated: 230 ton
Total oil mass of tested transformers, assumed to be contaminated: 57 ton
Total weight of drained tested transformers, assumed to be contaminated: 173 ton

It should be emphasized that the above data are based on results of using only test-kits CLOR-N-OIL for testing transformers oil in substations and electric cabins, because actually the GC analysis are not available in Albania.

Statistical result for distribution transformers on the tested population are shown in table 11:

Table 11: Distribution of transformer per category on the tested population

Power generation transformers	8 %
Transmition transformers	19 %
Distribution transformers	73 %
Percentage of PCBs contaminated distribution transformers	8%
Percentage of PCBs free distribution transformers	92 %

Table 12: Age of transformers (no of units for calculation: 488**)**

Average age of transformers on the inspected population with year of manufacture	28 YEARS
Number of transformers over aged (> 30 ans):	218
Percentage of overaged transformers	45 %

Fig. 6: Transformer age curve

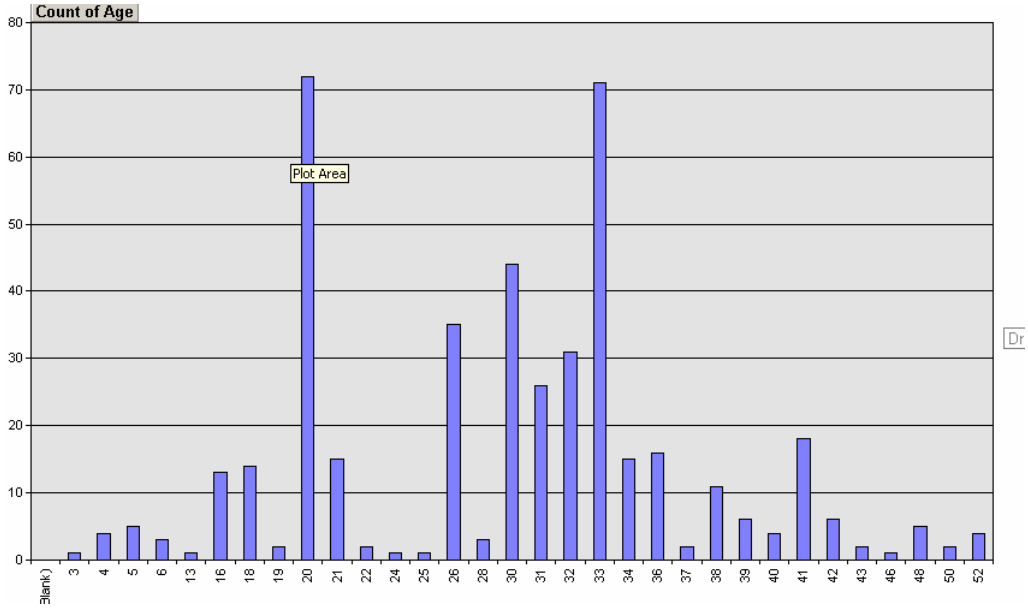
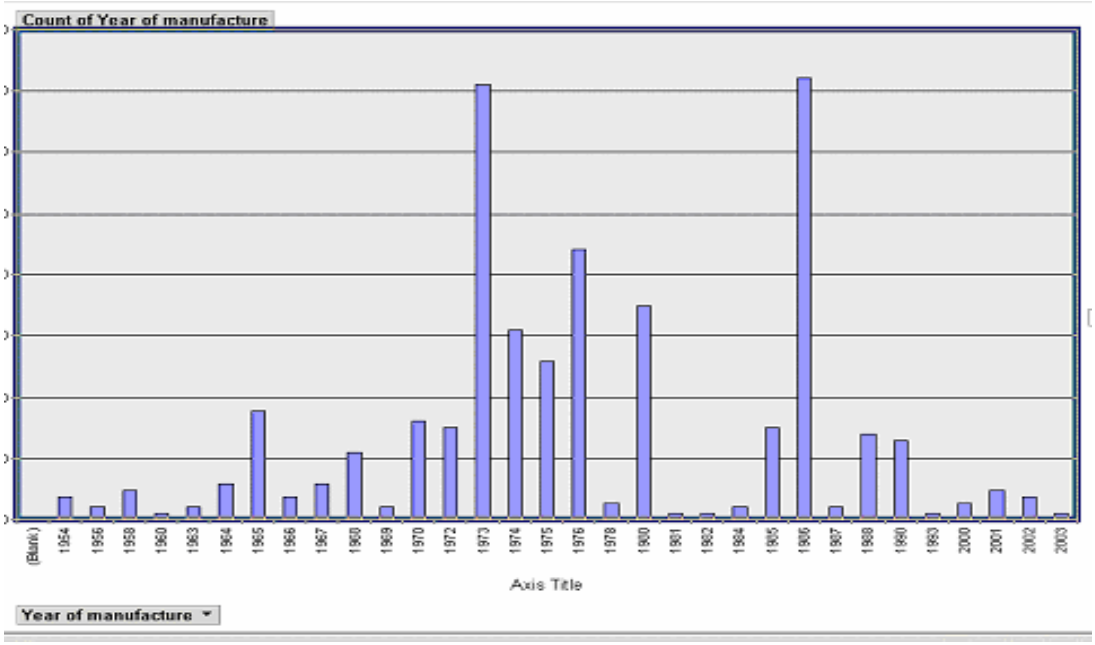


Fig. 7: Transformer year of manufacture curve



Extrapolation of expected PCB waste for disposal based on 5,3% PCB contaminated population manufactured before 1990

Number of transformers manufactured before 1990: 6000

Average weight of distribution transformers: 1.5 tons

Percentage of transformers suspected to be contaminated: 5,3%

Number of transformers suspected to be contaminated: about 320

Table 13. The weight of transformers and the oil

Total weight of transformers	1 100 tons
Total weight of dielectric	300 tons
Total Weight of drained transformer	800 tons

Table 14: Technical option for PCBs contaminated transformers treatment

PCBs contaminated mineral oil	Dechlorination (chemical decomposition)
	Incineration in cement kiln (thermal decomposition)
Drained transformers (mineral oil)	Washing process

Table15: Technical option for PCBs oil transformers treatment

PCBs oil	High temperature incineration (export in EU)
Drained transformers (PCBs oil)	Decontamination process by autoclaving (export in EU)

PCBs Contaminated Sites

There are in use many old transformers manufactured before 1970 in some KESH/OST Facilities that have created environmental pollution especially in soil and groundwater because of oil spill and leakage during maintenance process or their old age. Most part of transformers are stated on ground or in static support but no concrete holes or secondary containment under transformers. Visually can easily observe contaminated soil under transformers that need to carry out soil and groundwater contamination investigation for presence of PCBs. Anyhow, some KESH/OST facilities could consider as much polluted such as the Transformers Repair Plant in Tirana, where is the Central Maintenance Workshop for all damaged transformers comes from all around country and the Oil Treatment Plant in Tirana.

There are some substations where are placed old transformers manifactured before '80 that have also occured oil spills in soil during their long period in operation. These substations should be considered contaminated sites too and need to carry out the PCBs presence investigation.

- One of more polluted OST facilities in Albania is the Oil Treatment Plant in Tirana. The oil removed from damaged transformers goes there for treatment and after that all wastes discharge to the river or in soil without any treatment. Even though the Plant has been reconstructed, the floor and the wall around the piping in this Facility are saturated with oil, all around this treatment building can easily observe massive spills on the ground, so it's a hot spot which need a special attention.

- Transformers Repair Plant in Tirana, where is the Central Maintenance Workshop for all damaged transformers, coming from all KESH/OST facilities is another contaminated site. The Repairing factory is in operation since 30 years without any control of PCBs until now. All concrete surfaces are contaminated by transformers oil. Its possible to occur oil spills and soil contamination during the process of emptying or filling transformers with oil, because of no any safety condition in place. The facility is located in urban area and transformers are situated directly on the ground saturated with oil in opened area indicated from rain, wind and heat. In a case of a fire accident, the operation under these conditions can risk not only employees and the Facility but the population lives around facility too.

Over the years, the oil spills have been occurred because of the lack of personel training, improper filling of transformers tanks with oil or old equipments used for oil suppling.

The conclusions can be summarized as follows:

- Low quantity of PCBs oil transformers;
- Most part of them are mineral oil transformers;
- About 5, 3 % of all tested transformers and 6 % of distribution transformers are PCBs contaminated assumed;
- Number of transformers manufactured before 1990: 6000 units

- Average weight of distribution transformers (150 of them are substations transformers and 5 850 are electric cabins transformers): 1.5 tons
- Percentage of transformers suspected to be contaminated: 5, 3 %
- Number of transformers suspected to be contaminated: about 320
- Total weight of transformers: 1 100 tons
- Total weight of dielectric: 300 tons
- Total weight of drained transformers: 800 tons

Priority problems and objectives for PCBs management

Priority problems

There is no specific legislation regarding to PCBs (management, handling, monitoring, phase out and disposal);

Decision of the Council of Ministers No. 103, date 31.3.2002, "On Monitoring of Environment in the Republic of Albania "doesn't determine the institutions to monitor the PCBs presence in equipments oil in different facilities;

Incomplete inventory of PCBs equipment;

No internal guidelines for management, handling and phase out of PCBs equipment in KESH;

Very low awareness among employees potentially exposed to PCBs;

Limited level on PCBs awareness among responsible management in public and private sector;

Low level of information and awareness of general population about potential risk of PCBs (in transformer oils);

Lack of PCBs contamination monitoring in various matrices;

Possibly polluted air, soil and ground / surface water with oil containing PCBs.

Objectives

- ➔ Creation of legal framework for management, phase out and disposal of PCBs;
- ➔ Safe management, handling, disposal and monitoring of PCBs;
- ➔ Health Control of relevant population groups
- ➔ Control of environment risks of PCB-s;
- ➔ Monitoring of PCBs contamination in transformer oils and selected environmental matrices;
- ➔ Rehabilitation of PCBs contaminated sites.

2.3.3 DDT

Introduction

DDT was first introduced massively in World War II. It helped stop disease-carrying insects and protect crops. It was especially effective in protecting against malaria, typhus, yellow fever, river blindness, and encephalitis. Malaria was nearly eliminated by the late 1960s. India, which before the introduction of DDT had over 75 million cases of malaria, had less the a million by 1962, and by 1970 had only 200,000. The World Health Organization estimates that 100 million lives were saved by DDT.

DDT is now banned in almost all countries for the use in agriculture and a number of countries have extended this ban to public health applications. However, in some other countries, where the local malaria vector is still susceptible, DDT is used for indoor residual spraying.

The following chapter summarises the past use of DDT and Lindan in Albania and evaluating them against the Stockholm Convention requirements. Finally, priority problems and objectives are identified, as well as proposals for further actions.

Relevant Stockholm Convention Requirements

Parties shall: [Article 3, para. 1] (b) "restrict its production & use" of chemicals in Annex B "Acceptable purposes" specified for these chemicals

All Parties shall eliminate DDT production and use except Parties that notify the Secretariat of their intention to produce and/or use DDT in disease vector control programs (an "acceptable purpose" in Annex B):

these Parties will be included in a special publicly available DDT Register maintained by the Secretariat

a Party may withdraw from the DDT Register at any time production and/or use must be in accordance with WHO recommendations and guidelines on use of DDT, and only when locally safe, effective and affordable alternatives are not available to the Party

Situation in Albania

DDT started to be used in Albania since 1946 – 1947 to combat malaria vectors.

Albania is a country where malaria was widespread, and half of the population of that time (in 1959) was protected by sprinkling two times per year the dwellings with DDT. The number of these dwellings achieved over 100.000.

In the cities is performed anti larva campaign. At the swampy areas and in marshes is used the sprinkling with the airplane in intervals 10 – 15 days in the period May – October.

In 1946, 1947 till 1959 – 1960 years, annual average quantity of DDT and HCH used for residences sprinkling with the manual method, and the use of the airplanes in water surfaces, where the infestation with anopheles mosquito has been very high, reached in 90 – 120 tons. Together with systematizing measures, preventive, diagnostic and cure measures, the use of DDT combating against malaria vectors was estimated as a valuable one for its high and long effect, either with one or two annual sprinkling of the dwellings.

DDT was usually combined:

- DDT emulsion 25% (1:50), for the residencies in remote areas were where roads were missing, and technique DDT (dissolved in kerosene) for the nearest residences where the infrastructure existed

- DDT 25% dissolved emulsion 1:40 for sprinkling from airplane, from 1 to 3 times/day with 1000 l each one of them.

- Combination: 10 litres DDT 25% émulsions + 1 kg hexachloran + 10 lit. Flibol (SCHVIM

1:50) or DDT 25 % emulsion with equal parts of flibol (1:1), from which one litre is dissolved with 40 litres of water.

The last combination emulsion was used and requested from the population to combat other insects as well, as louses, houseflies, fleas, bed bugs, which have been spread in the poor families of the non–developed areas in Albania, at that time.

The year 1967 is considered as the year of the eradication of malaria in Albania, officially certified by the WHO, based on the request made by the Albanian Government.

According to the information of malaria researchers and experts of Albania, DDT hasn't been used after the year 1970. During consultations with them it has been declared that an amount of 20–30 tons was hold from the Ministry of Health for two reasons:

1. Although the eradication of malaria was realized, they could expect eventual outbreaks from imported cases;

2. Because in that period of time started the resistance from anopheles mosquitoes. The resistance from DDT begun after 20 years of its use.

Information collected from some district point out that DDT and Lindane has been used until 15 years ago. Lindane was usually used mainly against scabies and parasites. It was used massively in cream form and emulsion 1% during the years 1975 – 1985. Latter on it was forbidden for resistance of these parasites against it.

Although the impact of pesticides on human health and environment had been known, there has not been any system of monitoring or data collection to determine these impacts, in Albania. Recently some attempts have been made by the IPH to study the pesticide residues in the food chain. The examinations have been performed only in the area of Porto Romano (former factory of pesticide production).

Levels of α and β isomers that vary from 0.0028 μg/ml, 0.0005 μg/ml to 0.0915 μg/ml have been found in the blood of persons that live in close proximity to the site or within the territory of the former factory. The highest levels correspond to the people that live within the territory of the former factory. The measured values for HCH isomers gamma were comparable with the white tests. Also, the values of delta isomer in the analyzed samples can hardly be measured.

The presence of the high level of HCH β isomers, compared with other HCH isomers can be explained with the ability of this isomer to accommodate and persist longer than the others. The level of HCH β- isomer is obviously decreased in distance from the factory, up to low levels for persons that live in a distance of 120 m north of the factory.

Two milk samples taken in the polluted area in Porto-Romano in frame of a UNEP feasibility study and in frame of a study of Institute of Public Health, contained high HCH levels (see table 16).

According to German legislation, the maximal allowed concentration for lindan in milk is 0.2 mg/kg (in fat). The above mentioned found HCH levels in milk exceed 30-60 times this maximal allowed concentration. The concentration of HCH isomers found in the milk sample in Porto Romano exceed tens of times the cases of literature in the '70-ties, when the restriction on the use of the technical HCH had started.

Table 16: Analytical results of HCH in milk compared with UNEP sample

SAMPLE	α-HCH	β-HCH	γ-HCH (LINDANE)	Δ-HCH	TOTAL HCH
	mg/kg fat				
UNEP sample	4.86	7.27	0.13	0.47	12.7
Milk (IPH sample)	3.34	2.69	0.39	0.39	6.8

Source: Tafaj L. (2003): *A hexachlorocyclohexane polluted site in Albania, Environmental health perspective*, 7th International HCH and Pesticides Forum, Kyiv, Ukraina, June 5-7, 2003.

Table 17: Stock of DDT and Lindan in the storehouses of MOH

No	Districts	Location	DDT amount (kg)	Lindan amount (kg)	Package
1	Gjirokaster	DPHC	50 kg sol. 25 %	-	Barrel
2	Durres	DPHC	200 kg sol. 25 %	24.2 kg (sol.10%)	Barrel Bottle x 500 ml
3	Elbasan	DPHC	100 kg sol. 25%	-	Barrel
4	Lushnje	DPHC	1040 kg sol. 25%	200 (HCH)	Barrel, sacks
5	Lezhe	DPHC	-	704.6 (sol. 10%)	Bottle x 50 ml
6	State reserve	Lunder	108 kg sol. 25%	212 (powder)	Barrel, sacks
	Total	6 places	1948 kg sol 25%	1140 kg	Barrel, bottle, sacks

Both samples give us an idea on the level on the pollution scale and on the very high levels of HCH in the milk that is produced in Porto Romano area, which is traded in other areas of Durres as well. The HCH concentration found in milk suggest that the milk can not be used for human consumption because they pose a serious risk for human health.

During the inventory performed in the frame of the NIP. POP-s the situation regarding POP-s in the health sector as per December 2005 is presented in the table 17.

The identify quantities of DDT and Hexachlorane/Lindane are evacuated from Albania in project MMPAU, ‘‘Repacked and evacuated from Albania of pesticides and other chemicals from Bishti i Palles‘‘, financed from Netherlands Government. This elimination was carried out in July 2006.

Priority problems and objectives for DDT management

The priority problems which are connected with control and administration of DDT ex-storehouses depend on eventual environment, soil, surfacing and underground water contamination. But it is necessary to equip the respective laboratories for to perform this analysis and in the same time to training the analytical staff. After the analysis, we will assessment the risk and will determination the necessary and safe intervention on protection human health and environment.

Priority problems

Lack of capacities for analytical studies related to the contamination of former DDT storehouses and surrounding areas;

Non-systematic information on past pesticide uses (documentation about imported and used amounts of DDT and lindane in health sector;

Objectives

- ➔ Strengthening the capacities of laboratories of PPI, IPH and Army Central Laboratory for DDT monitoring.
- ➔ Identification of eventual contaminated sites in the former DDT storehouses and surrounding areas;
- ➔ Raising awareness about contaminated sites concerning possible health risks to the people living in proximity to these sites.

2.3.4 Unintentionally Produced POPs

Introduction

Unintententional produced POPs, as defined in the Stockholm Convention, are polychlorinated dibenzofurans (PCDF) and polychorinated dibenzo-p-dioxins (PCDD) as well as polychlorinated biphenyls (PCBs), when PCBs are formed as by products. Polychlorinated dibenzofurans (PCDF) and polychlorinated dibenzo-p-dioxins (PCDD) are environmental contaminants detectable in almost all compartments of the global ecosystem in trace amounts. These compound classes in particular have caused major environmental concern.

There exist 75 congeners of dioxins (PCDD) and 135 congeners of (PCDF) furans. Seven dioxins and 10 furan congeners have been proven to be toxic.

Dioxins are among the most toxic chemicals known to man, acutely 10 times more toxic than chemical weapons (sarin, soman, vx) or most natural toxins (fish, snake), and 100 times more toxic then strychnine. Acute poisoning occurs rare, but dioxins persist and bio-accumulate in humans. Consequently, the chronic effects are the main concern.

90% of PCDD and PCDF human uptake is via the food chain. Other important routes of exposure may be inhalation and infestation of dust particles.

PCDD/PCDF, in contrast to other POPs chemicals, like polychlorinated pesticides, such as DDT, are never produced intentionally. The unintentional POPs, are formed as by-products of numerous industrials activities and most combustion processes.

All forms of combustion, both industrial and domestic, may release dioxins if chlorine is present, even in trace quantities. Sources include:

Incineration of wastes (including municipal, medical and hazardous wastes)

Combustion of solid and liquid fuels including coal, oil and wood both on a large-scale, such as in electrical power generation, and on a small-scale in domestic stoves and fires,

Other combustion processes such as garden-refuse burning, bonfires and accidental fires;

Industrial processes, including thermal processes, processing of metals, including sinter plants, electric arc furnaces, and non-ferrous metals processing;

Chemical production processes: Production of polychlorinated aromatic pesticides e.g. 2,4,5-T and PCP; chlorinated phenols; certain chlorinated solvents and vinyl chloride;

Relevant Stockholm Convention Requirements

Parties shall, <u>at a minimum</u>, take measures to address the following:

- action plan
- release reduction or source elimination
- substitute materials, products, processes
- introduce Best Available Techniques (BAT) and Best Environmental Practices (BEP) for new and existing sources

- **The Action Plan on Persistent Organic Pollutants (NIP)** [Article 5, para. (a)]

  Each Party shall develop an action plan or, where appropriate, a regional or sub regional action plan within two years of the date of entry into force of this Convention for it, and subsequently implement it as part of its implementation plan specified in Article 7, designed to identify, characterize and address the release of the chemicals listed in Annex C.

The action plan shall include the following elements:

(i) An evaluation of current and projected releases, including the development and maintenance of source inventories and release estimates, taking into consideration the source categories identified in Annex C;

(ii) An evaluation of the efficacy of the laws and policies of the Party relating to the management of such releases;

(iii) Strategies to meet the obligations of this paragraph, taking into account the evaluations in (i) and (ii);

(iv) Steps to promote education and training with regard to, and awareness of, those Strategies;

– A review every five years of those strategies.

– A schedule for implementation of the action plan, including for the strategies and measures identified there in;

Promote the application of available, feasible and practical measures that can expeditiously achieve a realistic and meaningful level of release reduction or source elimination.

The action plan shall be developed within 2 years of entry into force and may be national, regional, or sub-regional constitutes part of the overall implementation plan in Article 7.

- **For industrial sources that Party identifies as having <u>potential for comparatively high</u> formation & release of POPs to environment (*including* those in categories in Annex C Part II), Party must:**

  - for <u>new</u> sources warranting such action:

- Promote, and as provided for in an action plan, require use of best available techniques (BAT) [Article 5, para. (d)]
  - phase in any BAT requirements for new sources in categories in Annex C Part II as soon as practicable but *no later than 4 years after entry into force*
- Promote use of best environmental practices (BEP) [Article 5, para. (d)]

- for existing sources, promote use of BAT & BEP [Article 5 (e)]

This includes:

Use of modified materials, products and processes to prevent the formation and release of the chemicals listed in Annex C, taking into consideration the general guidance on prevention and release reduction measures in Annex C and guidelines to be adopted by decision of the Conference of the parties.

Promotion and, in accordance with the implementation schedule of its action plan, require the use of best available techniques for new sources within source categories which a party has identified as warranting such action in its action plan, with a particular initial focus on source categories identified in Part II of Annex C. In any case, the requirement to use best available techniques for new sources in the categories listed in Part II of that Annex shall be phased in as soon as practicable but no later than four years after the entry into force of the Convention for that party.

When applying best available techniques and best environmental practices, Parties should take into consideration the general guidance on prevention and release reduction measures in that Annex and guidelines on best available techniques and best environmental practices to be adopted by decision of the Conference of the Parties.

Unitentional POPs Situation in Albania

The first ever inventory of unintentionally produced POPs in Albania has been compiled according to the UNEP Toolkit for the Identification and Quantification of Dioxins and Furans. The Toolkit addresses direct releases and transfers of PCDD/PCDF in the following compartments: Air, Water, Land, Waste and Products.

There are 9 categories of unintentional emissions of POPs by-products in the inventory:

1. Waste incineration
2. Ferrous and non ferrous metal production
3. Power generation and Heating/Cooking
4. Mineral production
5. Transport
6. Uncontrolled combustion
7. Production of Chemicals and Consumer Goods
8. Miscellaneous
9. Land-filling/Disposal

The raw data for the inventory is collected mainly from the official sources, such as the state agencies like MEFWM (E.R. for years 2000-2002), INSTAT, NEA, ER (2000-2002) of MEFWM.

Table 18: PCDD/PCDF releases in Albania for the year 2004

	Annual Releases g TEQ/A				
Source categories	Air	Water	Land	Products	Residue
Waste incineration,	14	0	0	0	0.070
Ferrous and non Ferrous	0.935	0	2.91	0	0
Power generation and	0.000563	0	0	0	0.000111
Mineral production	0.2577	0	0.150	0	0.00045
Transportation	0.3304245	0	0	0	0
Uncontrolled combustion	43.154463	0	0.0065204	0	0
Chemicals and	0	0	0	0	0
Miscellaneous	0	0	0	0	0
Disposal/landfill	0	57.52910	0	0	0
Total	**58.678**	**57.529**	**3.066**	**0**	**0.071**

In absence of official sources, the data used where collected from private companies or by experts that are working in the respective industries. In all cases the data gathering has been performed in more than in one resource.

Emission factors are used those that recommended UNEP methodology for respective category and subcategory of PCDD/PCDF sources.

Table 18 summarizes the PCDD/PCDF RELEASES in Albania for year 2004. As seen, the uncontrolled burning as the major source of releases in the air accounting for more than 73.54% of the national total.

Medical waste incineration, the second highest source of releases, contributed about 23.8% to the national total. The contributions of the rest of the categories to the national total were insignificant.

Discussion on the unintentional POPs emission inventory

In the following chapter are described the results of the first unintentional POPs inventory in Albania, identifying issues of concern and priority problems, as well as the objectives and management options to address them.

1. Medical waste

Releases from medical waste incineration accounts for 23.8% of the country total of PCDD/PCDF emissions.

There is only one medical waste incinerator i operation in Albania. This incinerator is installed at "Madre Theresa" hospital centre. It is planned to process only non-pathological waste, but in practice the medical waste is not separated before the incineration.

The incinerator has a capacity 108 kg/h, but the technology is not optimal for avoiding POPs releases, because the temperature is below 1000 °C and the incinerator has not filter system to clean the exhaust gases etc. If medical waste is incinerated in conditions that do not constitute the BAT and BET, there is a potential for the release of PCDD and PCDF in relatively high concentration.

There are not exact data about the quantity of medical waste burnt in this incinerator but from the analyses of HPI Report not more that 40 % of the Madre Theresa incinerator capacity is used.

The major part of medical waste in different districts of Albania are directly disposed in landfills. Some hospitals even practice open burning of medical waste. As emissions from these sources are not included in the calculations it can be noted that the release figures in the inventory represent minimum estimations.

2. Ferrous and Non- Ferrous metal production

Metal production in Albania consists of production of steel, construction steel bar and ferro-chromium processes. The remaining industries are artisan with small capacity for which it is very difficult to obtain data for.

The industries include Metallurgical Combinat, in Elbasan, managed by Turkish company "Kurum" and Italian "Darfo" company with production facilities in Elbasan and Burrel.

The "Kurum" operations consist of two productions line, one which produces only secondary steel and the other that produces construction steel bar. The output of these plants during 2004 was 140,000 ton. Of the "Darfo" production facilities only the Elbasan ferro –chromium production line is in operation with an annual production capacity of 40,000 tons.

PCDD/PCDF releases in these activities are about 1.6 % of the total releases.

3. Power Generation and heating

Power Generation, Heating & cooking accounts for very small of the unintentional POPs releases. Electricity and fuel wood constitutes almost the only source of household energy.

One of the reasons for the low emission is that out of eight Thermal Power Plants installed in Albania, only of the power plant in Fier is still in operation. The dependence on fuel wood and electricity in the home is expected to grow in tandem with the growth of population. Economic improvement may lead to change habits and increase in the demand for energy.

4. Mineral Processing

The emissions of unintentional POPs originate from mineral processing, from cement, lime and bricks production and from asphalt mixing.

There are two cement factories in operation, one in Elbasan and one in Fushe-Kruje. Both are under private ownership and management. In 2004 the production in Elbasan was 573,000 ton cement and 153,000 ton clinker. Private company "Kurum" stood for the lime

production in Elbasan. In 2004 this production was 15000 ton. In addition, there exist extensive artisan activity, but there is no exact data on the amount produced.

Bricks production is very common in Albania. During the year 2004 14 factories produced bricks to the total amount of 431,000 ton.

The total releases from these activities are not significant, accounting for less than 0.5% of total releases.

5. Transport

During the years of social and economic transition years the transport sector in Albania has changed very fast. The number of cars and trucks has increased drastically, totalling in 1.8 million out of which 1.5 million are diesel engine driven (year 2004).

The total fuel consumption in the same year for Albania was 671,733 tons, of which 480,876 tons are used only in transport sector. Out of this, gasoline consumption accounted for 41,589 ton, while gas oil consumption was 38,928 ton.

One reason of high fuel consumption in Albania is the high proportion of imported second –hand vehicles.

Increase in population, urbanization, and expansion in road infrastructure, economic prosperity etc., will lead to an increase in demand for energy for transportation. Consequently, an increase of unintentional POPs releases from the transport sector can be expected. However, adopted environmental legislation may effective reverse this trend and with growing incomes the share of less polluting newer vehicles will increase.

The emission releases in from the transport sector has limited influence (5.63% of the releases).

6. Uncontrolled combustion processes

The most significant contributor to PCDDs/PCDFs emissions in Albania is the category uncontrolled combustion processes, which includes landfill/dumpsite fires and open burning of domestic wastes. This category accounts for more than 73.54% of the national releases into the air. These activities are the most significant contributor to PCDDs/PCDFs emissions in water, accounting for almost 100 % of emission releases. In the category uncontrolled combustion processes are take in consideration only waste burning and accidental fires.

Urban waste

Urban waste in principal cities is in average 0.815 kg/day/person. During the year 2004 the average generation of urban waste in Albania has been 410922 tons out of which about 43000 tons were burned.

The waste management system in Albania is weak and under-funded. The collection, transportation and disposal systems do not have adequate and financial resources and there are no proper sanitary landfills. The waste is collected in open dumps that are unsuitable for this activity.

Waste is not separated before final disposal, representing a significant risk to human health. Further, the poor collection rate has led to substantial burning of waste in the backyards and in the streets in order to reduce volumes and get rid of the stench. Also, some uncontrolled burning is done for retrieving valuable waste streams, such as metals. Such activities are taking place also at landfill sites.

In Albania the general collection system for urban waste operates only in the larger cities, while the rural areas are not cover by municipal solid waste collection system. Of the collected waste only a part is going on the disposals, due to improper operations by enterprises which manage

the disposal sites on behalf of the municipalities.

The low share of the waste properly disposed and uncontrolled waste burning are ranked as among the most important environmental issues in the country. Some first steps have been taken to rectify the situation, as a part of the implementation of the Albania Solid Waste Management Strategy, 1997. This strategy includes an Action plan where issues of capacity building, legislation, investments and non-investment activities etc. are addressed. One of the first results is the adoption of the law concerning disposal of waste and the law on waste management. Also, in 2005 some first initiatives for recycling and selective collection of UW have commenced. Currently the 4% of metals, 2% of plastics and 1% paper are recycled.

Forest Fires

In 2002 54.6 hectares of forest and 39.6 ha of pasture were burned. The Department of Forestry has commenced activities to reduce the incidence of uncontrolled fires. The area managed by the Department of forestry will increase significantly, as laid down in the National Forestry Policy and Action Plan. With forestry regulations that are in place and their implementation, should contribute to reduction of forest fires.

Priority problems and objectives for unintentional POPs management

Priority problems

Non-completely adequate legal and institutional framework for effective control of unintentional releases of hazardous pollutants (including POPs);

Weak waste management system (inappropriate waste management and uncontrolled burning of waste);

Non-adequate medical waste disposal.

Low awareness of hazards connected with unintentional releases by key stakeholders and the general public.

The most significant contributor to PCDDs/PCDFs emissions in Albania is the category uncontrolled combustion processes, which includes landfill/dumpsite fires and open burning of domestic wastes. This category accounts 73.54% of the national releases into the air. The most significant contributor to PCDDs/PCDFs emissions in water is waste disposal activity with 100 % of emission releases.

Due to poor infrastructure and capacity and rapid population growth, this category is expected to remain the most significant emission source in Albania. Therefore this issue needs to be given the highest priority to ensure that all Albanians are protected from exposure. One of the most critical factors is that the waste is only partly deposited at the disposal sites and that there is no waste separation system in place.

The medical waste management system is non-functional and will require a total overhaul with minimization, separation, collection and transport for final disposal for reducing the significant PCDD/PCDF emissions from these activities.

The level of industrial activities in the country is rather low and therefore many PCDD/PCDF source categories, normally associated with this sector, are almost absent and the PCDD/PCDF emissions are insignificant. There is a low capacity for pollution prevention (use of BAT/BACT/BEP[4]) in the industrial sector and the introduction of BAT and BEP in the industrial sector would further decrease the POPs emissions as well as contribute to the implementation of cleaner production.

There is a low awareness of general public about the environmental and health hazards

[4] Best Available Techniques, Best Available Control Techniques, Best Environmental Practices.

connected with open burning of waste and unmanaged dumpsites. Further, local authorities and NGOs are not involved in sensitization of public on POPs issues.

PCDD/PCDF releases cannot be reduced without the requisite knowledge of the stakeholders whose collective actions are necessary to bring about the required changes in behaviour. Knowledge about the releases will lead to the better appreciation of the need for action. This should include willingness to commit needed resources - human, financial, institutional, material - necessary for the efficient management of PCDD/PCDF releases.

Objectives for unintentional POPs release management

- ➔ Improvement of legislation for prevention of industrial pollution, to be fully harmonized with the EU legislation;
- ➔ Ensure effective enforcement of the law and regulations about industrial pollution prevention and waste management;
- ➔ Strengthening of institutional and technical capacity for environmentally sound waste management, including medical waste;
- ➔ Implement effective monitoring and evaluation strategy for reduction and prevention of releases of unintentionally produced POPs by products;
- ➔ Implement effective sensitisation programmes on environmentally sound waste management.

Following management actions were identified to meet the above objectives:

1. **Completion of legislation and regulations concerning industrial pollution prevention and control, as well as waste management;**
2. **Strengthening the capacity (human and technical) of responsible institutions for waste management (in particular sound management of landfills and prevention of open burning);**
3. **Policy development and implementation for reducing dioxin emissions from waste management**
4. **Introduction of BAT & BEP into the industrial sector and medical waste incineration;**
5. **Development and implementation of a country-wide medical waste management minimizing unintentional POPs emissions**
6. **Awareness rising of general public on proper waste management practices.**
7. **Regular updating of emission inventory;**

2.3.5 POPs Wastes and Contaminated Sites

Introduction

POPs stockpiles, wastes and contaminated sites (SWCS) are described for assessment as a category 10 (section 4.1 of UNEP PCDD/PCDF Toolkit, 2003). Accordingly, SWCS have been identified and classified in the regions of industrial activities, in the storage places of industrial products and pesticides and as well in the disposals of waste.

According to the above definition SWCS can be sites of former or ongoing releases of POP-s and particularly of PCDD/PCDF contaminated products. This can occur from

storage of product, disposal of waste or application of the product over a long period. Although the concentrations of PCDD/PCDF in SWCS can be very high, present releases may be negligible or small.

This understanding has been used to classify and asses the SWCS. Therefore there are inventoried as POPs stockpiles and wastes the storage places of POPs chemicals or other stockpile or wastes that would generate POPs chemicals as by-products, like industry or urban waste. And there are inventoried as contaminated sites the places where the potential activity of POPs chemicals would have been generated as result of industry production, agriculture activity or by careless maintenance of a POPs stockpile or waste.

Relevant Stockholm Convention Requirements

Article 6: stockpiles

- develop and implement strategies to identify stockpiles [para. 1 (a)(i) and 1 (b)]
- manage stockpiles in a safe, efficient and environmentally sound manner (ESM) until they are deemed to be wastes [paragraph 1 (c)]
    - *i.e.,* no remaining uses by Party

      (no specific exemption or acceptable purpose)
    - does not apply to stockpiles that may be exported

      (per Article 3, para. 2)

Article 6: wastes

Parties shall: [para. 1 (a)(ii)]

- develop strategies to identify
    - products and articles in use, and
    - wastes that consist of, contain or are contaminated with a POP in Annex A, B or C

Parties shall: [para. 1 (d)]

- handle, collect, transport and store wastes in an ESM
- dispose of wastes
    - in such a way that POP content is destroyed or irreversibly transformed, or
    - otherwise in an ESM when
        - destruction or irreversible transformation is not the environmentally preferred option, or
        - POP content is “low”, taking into account international rules, standards, etc.

Parties shall: [para. 1 (d)]

- not allow disposal operations leading to recovery, recycle, reclamation, direct reuse or alternative uses of POPs

- not transport wastes across international boundaries without taking into account international rules, standards and guidelines (*e.g.,* Basel Convention)

Contaminated sites:

Parties shall: [para. 1 (e)]

- endeavour to develop strategies for identifying sites contaminated by POPs in Annex A, B or C and,
- if remediation is attempted, do it in an ESM

Note: Remediation is not required by the Convention

Situation in Albania

Untill 1990, the industrial activities in Albania have been oriented mainly in the sector of mining, ore processing (enrichment and metallurgical treatment) and crude oil and gas extraction and processing. The metallurgical industry has produced cast iron, steel, ferro-chromium, cooper, ferro-nickel and cobalt. An important role in the national economy played as well the oil and gas extraction and oil deep processing industry. There were also some other industries connected with the production or paper and glass and the treatment of lether and wood.

Actually, in Albania there are not POPs contaminated stockpiles or wastes, except perhaps the wastes of tar in the cock. There after we shall be concentrated only on the sites and the places contaminated with POPs.

Despite of the fact that after '90, the chemical and metallurgical facilities in Albania worked only partially and below their projected capacity, the pollution caused by those is still "active". One of them is the Caustic Soda Plant in Vlora (CSPV), which has produced different chemicals, including PVC. Other sources for organical and chloro-organical contamination are the factories of PVC-processing in Durrës and Lushnje, and especially the Chemical Enterprise in Durrës, which have been also closed after the events of '90. Wood chemical processing sites in Fushë Arrëz, Elbasn and Laç could be as well contaminated with POPs. In Tirana are the two central facilities for production, refilling, maintenance or repair of transformers and capacitors for the whole electro-energetic system. Both facilities of 30 years-old-technology have worked all the time without respecting the environmental protection requirements: oil spillage occurred on the sites and the territory around during transportation, repair and maintenance of transformers and capacitors. As result, the presence there of PCBs contamination could not be excluded.

In the meantime it is important to be mentioned that the first years after '90, because a considerable part of the chemical plants and factories have been idle or operated in short periods and at low capacity, the pollution from the chemical industry has been insignificant.

The agcricultural sector is one, which for long time has used pesticides with high content of POPs. Since 1980 the EU-countries have alerted Albania not to use anymore lindan and DDT. However, the low cost of these insecticides and the economic crises extended the use of such chemicals until the facilities producing them were shut down (1990). After `90, as result of recent transformations in agriculture and due the change of soil structure, the use of pesticides in general has been decreased. The last assessment made by the Albanian specialists shows that in the country there are not stocks of pesticides like DDT: in 2000-02, in the

framework of the Phare-programm, all stocks of pesticides have been evacuated in Germany, where have been destroyed. In spite if this, specialists think that the contamination in territories inside and around the former pesticide stores is still a serious problem.

Table 19: The list of potential stockpiles and wastes with POPs activity (Category 10)

NO	FACTORY/ PLACE/ SITE	DESCRIPTION	TYPE OF HOT SPOT		SUBCATEGORIES OF HOT SPOTS				
			POPs Stockpiles Wastes	Contaminated Sites	Production Sites of Chlorinated Organics	Production Sites of Chlorinated Phenols	Formulation Sites of Chlorinated Phenols	Application Sites of Chlorinated Phenols	Timber Manufacture and Treatment Sites
1	Former PVC processing factory in Lushnje	Expired chemicals of organic nature	X	X					
2	Former cock processing plant in Elbasan	Coal treatment and processing (different subproducts, including those of phenolic nature)	X	X					
3	Rail station in Bajzë	Expired pesticides	X						
4	Chemical factory in Durrës (Porto Romano)	Production of lindane (gamma-HCH) and sodium dichromate		X	X				
5	Enterprise for the production, refilling, maintenance and repair of transformers and capacitors in Tirana	Use of PCBs contaminated oils		X					
6	Enterprise for the regeneration of transformers` and capacitors` oils in Tirana	Use of PCBs contaminated oils		X					

The most contaminated site as result of production and formulation of POPs pesticides in the country is Porto Romano, where during the years `80 has been produced and formulated lindane for the agriculture. In 1990 the production has been stopped and the rest of the production (lindane and its izomeres) have been packed and transfered in the stores of Bisht Palla.

In July 2006, in the framework of the project initiated from the MEFWA and supported financially from the Dutch Government „Repackage and evacuation of the pesticides and other chemicals from Bisht Palla“, all the stored quantity has been evacuated in an EU-country. Specialist think that both, the territory of the former factory in Porto Romano and the stores in Bisht Palla are highly contaminated.

Moreover, in the former PVC processing factory in Lushnja there are more than 1700 ton chemicals, mainly of organic origin, in very bad conditions of conservation and storing and very difficult to be identified.

Lately, an other quantity (200 ton) of pesticides has been reported that is stored near the rail-station in Bajza. The quantity is probably part of the waste imported in 1991 from former East Germany and sended back to the origin at the same year.

In spite of this, due to the reduction of activities in the industrial sector and the use of pesticides in the agricultural sector, the POPs contamination has been significantly decreased. The improvement of the water quality in the most of the rivers demonstrates this effect.

In conclusion, the analysis of soil from the potentially POPs contaminated sites should be considered as short-term action. Nevertheless, before this can happen, a priority setting, based on the source strength and potential for human and environmental exposure, should be performed for the potentially contaminated sites.

Table 20. The list of potential POPs contaminated sites (Category 10)

No	CONTAMINATED SITE	DESCRIPTION OF CONTAMINATION
1	Elbasan (area of former coke processing plant)	The most contaminated area in the whole territory of former metallurgical plant. According to the directives of Stockholm Convention, the production of coke for use in the metallurgy is accompanied with the release of POPs, containing PCDDs and PCDFs. The plant worked 16 years (1975-91). In the territory around the plant are hundred of tones of inert materials mixed with tar. Besides, there are at least 200 ton liquid of tar as residue from the coke factory. The last is a potential contaminator of POPs. The most hazardous waste have been (and still are) generated from the processes that take place in the coke-ovens, coal-gasification plant and in the power plant. The contaminated area amounts to 2,500 m^2.
2	Durrës(region of Bisht-Palla)	The territory of the former chemicals' depot. Actually free of lindane and other expired chemicals but still contaminated with chemicals like derivatives of dioxin and furan.
3	Vlora (area of former Soda -PVC plant)	PVC has been produced here for 20 years. Unfortunately, there are no data concerning the content of chlororganical chemicals, including POPs, in the territory of former plant.
4	Durrës - Porto-Romano (area of former chemical factory)	There are at least 2 ha contaminated with pesticide residues, especially lindane and hekzachloran. The analyses showed very high concentrations (1,290 – 3,140 mg/kg soil) for the isomers of HCH in the territory.
5	Elbasan, Fushë Arrëz, Laç (area of former wood processing combine)	Territories where wood has been treated with tar, phenolic resins and other chemicals
6	Lushnje (former PVC processing factory)	1700 ton chemicals, most of them of unknown origin, have been stored and part of them distributed (unintentionally, as result of bed storage conditions) in the territory of factory. Potential danger for the contamination of superficial and groundwater.
7	Shkodër - Bajzë (rail station)	At the station's stores are 200 tons of expired pesticides, probably part of the waste imported in 1991 from former East Germany and sent back to the origin at the same year. There are neither data for the composition of waste nor for the contamination of the environment.

POPs stockpiles, wastes and contaminated sites

These categories, which could be as well considered as Hot-Spots, differ from the other nine categories, because they have the potential to become in the future sources of PCDD/PCDF pollution.

The tables 19 and 20 present the list of SWCS in Albania regarding POPs activity, classified also according the subcategories they fall.

Priority problems and objectives for POPs management

Concerning the contaminated sites, urban dumpsites (landfills) must be considered as the principal source for POPs contamination, because, as the paragraph 2.3.4 describes, from the geological and hydro geological point of view they are situated in wrong places, are of outdated technologies and are bad managed, without respecting the conditions and rules for the environmental disposal of urban waste. In all urban dumpsites of principal towns and cities the waste undergoes the process of burning, resulting in release of dioxin and furan in air and water. The paragraphs 2.3.4 and 3.3.4 refer on the quantity of this kind of waste and how the contamination on the landfill and the territory around could be decreased or avoid.

The industry, which was active till 1990 and the one, which is still active, continue polluting the environment with their old and actual wastes. This conclusion is based chiefly upon the written information about the release from those industries in the environment. Because of lack in capacities and financial funds for the analyse of POPs, like PCDD, PCDF and PCB, till now, there are no data about their concentration and distribution in air, soil and ground water. As POPs contaminated sites could be also considered all the depots of agricultural sector, where POPs pesticides have been stored.

Unfortunately, nothing is done for informing about the effects of POPs in the environment and in the health of human being. Even for the potentially exposed population, e.g. in the communities, who live near the contaminated sites, or people, who work in those sectors, the level of information is extremely low. The lack of legislative framework for the environmental protection and the respective and specific laws, articles and paragraphs concerning POPs in the actual legislation have also contributed on this situation. For the same reason neither the research institutions nor the other administrative and local structures have been seriously involved for doing something and finding even a provisory solution.

Priority problems

Legislation for prevention of industrial pollution and for waste management is not fully harmonized with the EU legislation;

Waste management practices are not fully in compliance with the waste management legislation;

Insufficient enforcement of pollution prevention legislation;

Insufficient institutional and technical capacities in the custom, research institutions and inspection authorities;

Lack of qualified experts on POPs monitoring and for industrial waste treatment;

Contamination of soil and groundwater as result of waste burning in the landfills;

Lack of means (laboratories and control units) for the enforcement of law on pollution prevention and control and environmentally sound waste management;

Contamination of air soil and eventually of groundwater in the region of Porto Romano and in the area of former Soda -PVC plant in Vlora as result of the existence there of stockpiles and wastes contaminated with chlorinated compounds;

Contamination of air soil and eventually of groundwater in the territory near and around the

former coke processing plant in the ex-metallurgical combine in Elbasan;

Contamination of air soil and eventually of groundwater in the territory near and around the area where wood has been chemically treated in the former wood processing combines in Elbasan, Laç and Fushë Arrëz;

Contamination of air soil and eventually of superficial and groundwater in the territories of the facility for the production, refilling, maintenance and repair of transformers and capacitors and the facility for the regeneration of transformers` and capacitors` oils in Tirana;

Eventual contamination of soil and superficial and groundwater from the chemicals and pesticides in the area of former PVC processing factory in Lushnja and in the territory around the stores in the rail-station in Bajzë-Shkodër;

Contamination of soil near and around the depots of agricultural sector used for the storage of pesticides;

Low awareness of hazards connected with POPs releases in most of the target groups.

The paragraph 3.3.1 describes the institutional and legislative aspects for proper administration of the contaminated sites. The paragraphs 3.3.2 and 3.3.4 describe the technical issues concerning the management of pesticides and urban dumpsites, whereas the paragraph 3.3.8 deals with the public awareness.

Objectives:

- ➔ Improvement of the Albanian practices in the administration of contaminated sides;
- ➔ Strengthening of the institutional and technical capacities of the local authorities for ESWM;
- ➔ Strengthening of the capacities for the disposal and monitoring of industrial waste;
- ➔ Strengthening of the institutional and technical capacities in the custom, research institutions and inspection authorities;
- ➔ Study of the level of POPs pollution in the contaminated sites;
- ➔ Gradual rehabilitation of the contaminated sites.
- ➔ Preparation and implementation of the effective sensitisation programmes on environmentally sound waste treatment

2.3.6 Awareness and information

Introduction

Up to the early 1990s there was very little access to or dissemination of environmental information in Albania. The concept of provision of information, particularly environmental information, is relatively new.

The Albanian Constitution of 1998 recognizes everyone's rights "to be informed on the environmental situation and its protection" and "to participate in decision-making processes". Another step forward was the approval of the Guidelines "On the environmental information and public access for environmental information," No. 7, dated 19.1.1998 by the Minister of Health and Environment.

These guidelines determine the type of information that the MEFWA should possess and guarantees the right of every citizen to have access to information, regarding the environmental elements, the activities that have or might have negative impacts on the

environment and human health, as well as the measures for their protection, including administrative measures and the programs for the environmental administration and conservation policies and strategies, designed for this purpose. The guidelines also determine how the request must be presented, the format for the information requested by the public, and the deadlines for providing the information or refusing the request.

One of the priorities of the environmental Strategy and National Environmental Action Plan is "development of environmental knowledge and increased public participation in environmental issues". The participation of non-governmental organizations in environmental issues as foreseen in the National Environmental Action Plan aims at increasing public awareness on environmental issues through mass media, seminars and conferences, and also through designing policies that enable public participation in decision-making and the development of environmental standards.

A significant accomplishment in the field of public information and participation was the signing on 25 June 1998 and ratification on 27 June 2001, of the UNECE Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters, commonly known as the Aarhus Convention.

Environmental information is mainly disseminated through electronic and print media, leaflets, posters etc. Considering all newspapers that are published in Albania, only 8-10 main daily newspapers publicise on the average 5-6 articles and news on environment. Limited environmental information is disseminated through TV and radio. The articles of the newspapers are very much focused on "news" and not analysis. There is a lack of investigative journalism that could give more in-depth analyses of environmental policy related issues.

Nevertheless Albanian citizens are not generally well informed about the relationship between the environment and public health, and the benefits of a clean environment for the economy and society as a whole. This is also true among decision makers and politicians. There is a great need for improved environmental awareness at all levels of the society. Additionally, measures to facilitate and stimulate the public's right to seek environmental information should be taken.

Public interest in and concern for environmental issues is increased during the last few years. The established Environmental Information Centre year by year has increased the public service on environmental information. Now, MMPAU receives about four-to-five official requests for environment-related information a month, one to two individuals visit the centre per day and search for the environmental information, a small number. However, now every individual has the legal right to access environmental information and the relevant procedures are on place.

Relevant Stockholm Convention Requirements

Article 10 Public information:

Parties shall, within their capabilities:

- ensure public has access to up-to-date information [para. 2]
- encourage industry and professional users to promote and facilitate provision of information at national & other levels [para. 3]

Parties may:

- use range of approaches to provide information, and may establish information centers at national & regional levels [para. 4]

- develop mechanisms (such as Pollution Release and Transfer Register) to collect and disseminate information on annual amounts of POPs in Annex A, B or C that are released or disposed of [para.5]

Public awareness and participation.

Public awareness

In the last 5 years, public information has increased as a result of numerous activities of civil society in general and the environmental NGOs in particular. In addition, mass media, especially the electronic media, have increased year after year the environmental information and other environmental programs.

The number of NGOs acting in the environmental field has increased. In 1994 there were only 7 environmental NGOs in whole country, while at the end of 2005 the number had reached 79 environmental NGOs. In order to formalize the cooperation with the environmental NGOs, MEFWA has signed a Memorandum of Understanding with the environmental NGOs. MEFWA and the local government in many cities of Albania have implemented activities in coordination with NGOs, especially on the national and international environmental days. The right of the public to access information is incorporated in the Constitution of the Republic of Albania. In this context, the amendment made in 2001 to the law "On Environmental Protection" guarantees the right of each individual to be informed in environmental issues. Although the media are increasingly paying more attention to subjects of environmental concern, the developments and achievements in the field of public information, awareness and participation can still be considered modest. Training of journalists to treat environmental problems in an objective, professional and timely manner, is another field which should be supported and encouraged.

Public participation

The POPs related problems have better chance to get close to their successful resolution with the increasing of Public participation in general and interested communities particularly. The NIP preparation has already initiated steps for building up the public participatory process in decision making even for the problems related with sustainable solution of PoPs management.

Review of the current responsibilities of the state agencies should be carried out, so that they would comprise regular affairs to the public, meetings with the concerned groups, open days, official presentations in mass media, maintenance of interactive tools for complaints and alerts. The objective could be achieved through the provision of training courses for the various groups relevant to POP-S problems, including the state agencies, NGOs, educational institutes, business companies, consumers, women, children and least educated target groups.

Information exchange

Exchange of information in POPs related issues is important both for the awareness-building process and for generation of new knowledge. The most important actions would be inter-sectorial and interdisciplinary meetings, meetings of different generations' representatives, access to and use of relevant networks, access to information about the state of the environment in each community and within the country as a whole. The main tool for the exchange of information would be the POPs bulletin, printed one or placed in a web page. Mixed age groups conferences and symposiums, regular conferences between the most relevant actors in the POPs process, such as: ecological inspectors, researchers, representatives of polluting companies, physicians, representatives of agencies responsible for the management of natural resources, etc would also serve the purpose. Local and

national databases of POPs sources would be developed and made available to the public.

Information relevant to the solution of the POPs problem could be accessed internationally with other Parties to the Convention through bilateral and multilateral partnerships, creation of POP-s networks, conferences, symposiums, contests, awards for alternatives to POP-s, projects for solution of specific POP-s related problems.

Main activities carried out in Albania on POPs related issues

The main activities carried out in the framework of POPs related issues in Albania are:

- Identification and investigation of Albanian printed and electronic media about the public information on POPs effect in human health and environment in Albania. Analysis of the good and missing points of this information.
- Following each step of inventory process of other teams, informing continuously the public for it, through news and reports published in "Ekolevizja" newspaper or in daily newspaper and TV stations. In April and May "Ekolevizja" have published 2 long information articles about POP's, their effects in human health and environment.
- Leaflets about POP's are printed and distributed in several Albanian cities. A documentary film and a TV spot is prepared with focus on POP-s. They both are broadcasted in national televisions.

Specific assessment of POP's related awareness of the particular population groups

Particular population groups in Albania have different level of information and wariness about POP's. Broad public knows the risk of using pesticides in general, but they don't almost anything on the concrete effects of POP's and haw they act in living organisms. Preparing of leaflets, film-documentary and publication spot about POP's have had a good impact to public information/awareness. Disseminating these awareness materials in media several times seems to have good results in awareness. Nevertheless, the information and awareness on POP-s, is yet at low level.

Priority problems and objectives for POPs management

Priority problems

Low level of information and awareness on POPs throughout all population groups;

Low awareness about the environmental and health hazards connected to mismanaged dumpsites;

Limited level on POPs awareness among stakeholders and responsible management in public and private sector.

Objectives

➔ Increasing the awareness on POPs among all relevant stakeholders and broad public.

2.3.7 Identification of impacted populations or environments, estimated scale and magnitute of threats to public health and environmental quality and social implications for workers and local communities

This chapter gives a short survey of those populations, which are at potential risk of POPs exposure.

Porto-Romano in Durres, located at the Adriatic Sea, where the former Chemical Plant used to be had inherited an amount of linden, which was left beyond any control. It was considered as the major POPs contaminated site in the country.

Due to the vicinity to the sea and the continuous wash out of pesticides contaminated soil in the rainy seasons, fishermen, their families and other customers at the area of Porto-Romano, may have been exposed for years to POPs pesticides. So may be the families consuming home made vegetables and milk from the local cows, as their daily intake through the food chain may significantly exceed acceptable daily intakes.

The factory was closed down since the beginning of the '90ies, so no workers have been exposed to POPs pesticide since then, but no monitoring has been made for the workers occupational health related to the POPs during the lifetime of the factory. Therefore, no evidence has been inherited of any group at marked risk of professional exposure in the population occupationally exposed. No health monitoring has been made for the former workers during the transition period, after the closure of the factory. Nevertheless, considering the long time closure of the factory, one may say that actually there is no job-related exposure to these substances.

Hexachloran and lindane were re-packed and removed from Porto-Romano since 1997 (with the support of the Italian Government). It was deposited in the storage places at the Bishti i Palles, from where (with the support of the Dutch Government) they were definitely exported in 2006 to Germany for final disposal at a hazardous waste treatment plant. Following the internal coordination of the MEFWA and the MoH, the project carried away the last amounts of POPs pesticides that were left over at the different Regional Directories of Public Health (Gjirokaster, Durres, Elbasan, Lushnje, Lezhe, Lunder).

During the demographic movements that accompanied the transition period, a number of families from the North-East of the country moved next to the ruins (or in the ruins) of the factory. A study was carried out in 2005 by a group of physicians on environmental and occupational born diseases named "Health assessment of the inhabitants of the industrial and urban hot spots". The study was carried out through questionnaires and tests of 100 school children of 10-16 years old, the period they use to spend more time outdoors. The study reported the following data: 49% of the kids suffered of headaches; 27% of them suffered of dizziness, 18% of common cold; 37% of stomachache; over 20% of nausea and vomits; 14% of skin rash; 18% of nose bleeding. It was estimated that the symptoms were connected to the presence of dust and linden in the ground. Besides, about 55% of the examined population was found to be hypertonic and hypotonic.

Dislocation was asked to 4 families that had illegally settled in the most risky area of Porto Romano. The dislocation cost of 8.5 million ALL was covered by the MEFWA through the state budget allocation for 2005.

Nevertheless, the ground of Porto-Romano remained contaminated with linden and chromium factor 6. After the completion of the feasibility study for the rehabilitation of the hot spot (2005), the area is subject to be rehabilitated with the support of the Dutch Embassy/World Bank Coastal Zone Management Program. The support covers the remediation and demolition works, as well as the hydro-geological monitoring of the area.

The chemical plant in Porto-Romano was the only POPs chemicals producer in the country. This makes the situation a lot easier, when it comes to social/employment issues related to the prohibition of POPs production. No other enterprises are needed to be closed for this reason in the future; therefore no employment problems will be created. On the other hand, the costs for site remediation are being covered by the donor community and the state budget, so they do not burden the local community.

Assessment of costs implications to the farmers or to other businesses from POPs pesticides or POPs product replacement by un-risky products is difficult to assess at this moment. As the national economy (therefore agriculture, too) in the past was based on the state property, the costs of POPs pesticides were also covered by the state budget. In nowadays, under the market economy regime, the private farmers need to use their own resources for purchasing their inputs (therefore pesticides, too). On the other hand, POPs pesticide use was prohibited about 10 years ago and the prices, as well as the value of the national and foreign currencies have changed.

New spots storing POPs pesticides are being reported occasionally after the closure of the Bishti i Palles project. Bajza train station, where an amount of more than 200 tons of POPs pesticides is identified (commercial names: rrogor, vofatox, nogos, selinon, nuvakron, spritsornit 2-4 D, fugorat, sevin, lindane, etc), possibly a leftover from the degraded pesticide imported from East Germany in 1991, which might have been impossible to send back away with the bulk amount of them.

These cases and others that might be reported in the future need to be considered seriously. Following the privatization of storage places, in some cases together with the POPs pesticides or POPs containing waste cases, the respective private agents have to afford their costs of re-packaging and transportation of the waste to the storage place indicated by the central or local authorities.In the meantime, a continuous serious problem remains unsolved with the un-intentionally produced POPs, until the sanitary landfills are built and burning of waste is avoided both at the landfill site and the different city waste collection points. At the moment, scavengers and/or street cleaners, who set the waste on fire, as well as the families leaving next to the waste burning areas, are continuously exposed to dioxins and furans (PCDD/PCDF).

Obviously, the construction of landfills will imply high investment costs at the beginning and also user charges to be paid every year by the population, but in a long term perspective the cost-benefit analysis is undoubtedly expected to weight far more on the environmental and health benefits in general, including benefits from protection from the Annex C of chemicals under the Stockholm Convention.

As the un-intentionally produced POPs are released in any fire event, fire-fighters are the group of population at risk because of their exposure to fire, post-fire smoke and therefore to PCDD/PCDF.

Due to their specific job, the workers at transformer stations are another group of population exposed to PCBs i.e. The group includes those making, repairing transformers and capacitors filled with PCBs, oil recovering, etc. As these kinds of activities may also result in accidents and/or local soil contamination with the used oils, the above mentioned group of population may also include the staff engaged in remediation/clean up works.

According to the assessment above, implementation of the Stockholm Convention will not be specifically costly to the population and will not have a significant negative social implication.

3 STRATEGY AND ACTION PLAN ELEMENTS OF THE NATIONAL IMPLEMENTATION PLAN

3.1 Policy Statement

In order to accomplish the tasks derived from the being party to the Stockholm Convention, the following actions are required to be taken:

- Preparation and implementation of the Strategy and Action Plan for phasing out and disposal of Persistent Organic Pollutants (POP's).
- Drafting in accordance with the respective Directives of the European Union, legal framework for the environmental administration of POP's, including the norms set for POP's in the elements of environment, releases from the economic activities, monitoring and the limits in nutritive products.
- Drafting of a regulatory legal basis for collecting and maintenance of PCB and the equipment containing PCB.
- Informing through different communication forms and means of the responsible institutions, central and local ones, industrial actors, education and research institutions, written and electronic media, trade unions and public, on the risks for the health of human in particular and environment in general which derive from the pollution of POP's in general and Dioxins and Furans in particular.
- Assignment of institutions for the monitoring of POP's in the environment (air, water soil and biota) and defining the responsible institutions for carrying out the monitoring (picking the samples and the respective analysis).
- Carrying out the inventory for the main sources of pollution from dioxines/furanes and PCB which are released in the environment and creation of data-base (register of inventary of POP's).
- Creation of a registry for the production, dissemination, usage, import and export of POP's and POP's contaminated wasts.
- Provision of control by the respective institutions, transportation and disposal of POP's.
- Provision by the funds of the state budget or by other financial sources for the research and development in the field of administration of POP's.
- Obligatory certification on the content of POP's in the nuitrive products and raw materials.
- Development and implementation of technologies and cleaned products to minimaze the usage and releases in environment of POP's.
- Extension and empowerment of cooperation, exchange of scientific information to administrate POP's and the usage of the best possible technologies (BAT) and the best possible environmnet practices (BEP).

3.2 Implementation Strategy

This section details the actions included in the NIP to meet the obligations of the Stockholm Convention in Albania, reflecting her specific situation. Based on the analysis of the country baseline situation, considering the provisions of the Stockholm Convention as well as other relevant international treaties and national policies, pursuant to the national priorities and objectives for POPs, options were identified for institutional and regulatory strengthening, POPs management, awareness raising activities and research and development.

The proposed options are subject of the particular *action plans*. For each option an explanatory text describes the rationale behind selecting the particular option as well as the expected capacity of the option to meet the Stockholm Convention requirements.

The *implementation strategy* contains information on activities associated with the particular option, implementation timelines, responsible and supporting agencies for implementation, and indicators of success.

The National Implementation Plan contains actionx and strategies as follows:

1. **Action Plan: Institutional and Regulatory Strengthening Measures;**
2. **Action Plan: POPs Pesticides (including DDT);**
3. **Action Plan: PCBs and Equipment Containing PCBs;**
4. **Action Plan: Unintentionally Produced POPs by-products;**
5. **Action Plan: Wastes and Contaminated Sites**
6. **Action Plan: Public Awareness, Information Dissemination and Training;**
7. **Strategy: Monitoring;**
8. **Strategy: Information Exchange and Reporting;**

A strategy for information exchange and reporting provides the base for reporting to the COP as well as for the future evaluation and updating of the NIP.

3. 3 Strategies and Action Plans

3.3.1 Action Plan: Institutional and Regulatory Strengthening Measures

The national legislation in Albania should have in place all necessary provisions to secure compliance with the Stockholm Convention, concerning in particular:

1. **Import, export, production and use of Annex A chemicals (pesticides);**
2. **Handling, use phasing out (by 2025) and disposal (by 2028) of Annex A II chemicals (PCBs)[5];**
3. **Minimization or elimination of Annex C chemicals (unintentionally produced POPs by-products);**
4. **Environmentally sound disposal of POPs wastes.**

It is considered in addition that Albania is in the process of acceding the European Union; hence, the whole body of Albanian legislation must gradually adopt the *acquis communautaire*.

Management options

Based on the analysis of the country baseline situation, considering the provisions of the Stockholm Convention as well as other relevant international treaties and national policies, pursuant to the national priorities and objectives for POPs management, the following options

[5] In compliance with Directive 96/59/EC articles already in use must be phased out and disposed of by 2010

were identified for institutional and regulatory strengthening:

1. **POPs and in particular PCBs monitoring to be included as a part of the National Environment Monitoring program;**
2. **Registering of PCBs containing equipments and oil in the electricity sector;**
3. **Harmonization of the legislation with EU.**
4. **Establishment of a national structure for implementation of Stockholm Convention**

The proposed options for realising the objectives are described in more detail in the following text. For each option an explanatory text describes the rationale behind selecting the particular option, its implementation strategy and the assumed implementation costs.

Implementation strategy

1. POPs and in particular PCBs monitoring to be included as a part of the National Environment Monitoring program.

The Decision of the Council of Ministers No. 103, dated 31.03.2002 **"On the Environmental Monitoring in the Republic of Albania"** does not foresee the monitoring of POPs (including the PCBs, which are particularly identified problematic in Albania in comparison to the other POPs). In these conditions, the monitoring of their content in indoor air, drinking water, food, biota (surface waters) and in sewage sludge & compost applied on agricultural land is recommended to be included under the National Monitoring Program.

	Option / Activities	Timeframe	Responsible / supporting Institution(s)	Requested output / indicator of success	Estimated Budget, USD	Sources of funds
0	1	2	3	4	5	6
1. POPs (with a special focus on PCBs) monitoring to be included as a part of the National Environment Monitoring program						
1.1	Definition of the POPs' parameters to be monitored in Indoor Air and the monitoring scheme	2008	MEFWM	Indicators in place	1000	State Budget
1.2	Inclusion of the POPs' parameters under the indoor air monitoring program	2009	Institute of Public Health	Indicators monitored	5000	State Budget
1.3	Definition of the POPs' parameters to be monitored in drinking water and the monitoring scheme	2008	Ministry of Health	Indicators in place	1000	State Budget
1.4	Inclusion of the POPs' parameters under drinking water monitoring program	2009	Institute of Public Health	Indicators monitored	5000	State Budget
1.5	Definition of the POPs' parameters to be monitored in biota (surface waters) and the monitoring scheme	2008	MEFWM	Indicators in place	1000	State Budget
1.6	Inclusion of the PCBs' parameters under the biota (surface waters) monitoring program	2009	Institute of Environment	Indicators monitored	5000	State Budget
1.7	Definition of the POPs' parameters to be monitored in food and the	2008	Ministry of AFCP	Indicators in place	1000	State Budget

	monitoring scheme					
1.8	Inclusion of the POPs' parameters under the food monitoring program	2009	Ministry of AFCP Institute of Food	Indicators monitored	5000	State Budget
1.9	Definition of the POPs' parameters to be monitored in land and the monitoring scheme	2008	MEFWM	Indicators in place	1000	State Budget
1.10	Inclusion of the POPs' parameters under the land pollution monitoring program	2009	Institute of Land Protection	Indicators monitored	5000	State Budget
1.11	Definition of the POPs' parameters to be monitored in sludge & compost and the monitoring scheme	2008	MEFWM	Indicators in place	1000	State Budget
1.12	Inclusion of the POPs' parameters under the sludge & compost monitoring program	2009	Institute of Environment	Indicators monitored	5000	State Budget
1.13	Definition of the PCBs parameters to be monitored, monitoring media (liquid material and solid equipment for all incoming and out coming material related with the power sector)	2008	KESH, Institute of Environment	Indicators monitored	3000	State Budget
1.14	Inclusion of the PCBs parameters under the monitoring and control program	2009	KESH	Indicators monitored	10000	State Budget
	Total				**49,000**	

2. Registering of PCBs containing equipments and oil in the electricity sector

As identified, up to now in Albania there isn't performed any monitoring of the PCBs presence in equipments oil used in the electricity sector as well a regular & complete inventory of PCBs equipment used in this sector is missing. The following table illustrates the necessary measures to this aim:

	Option / Activities	**Timeframe**	**Responsible / supporting Institution(s)**	**Requested output / indicator of success**	**Estimated Budget, USD**	**Sources of funds**
0	***1***	***2***	***3***	***4***	***5***	***6***
2.	**Registering of PCBs containing equipments and oil in the electricity sector**					
2.1	Definition of the PCBs' parameters to be monitored in equipments oil used in the electricity sector	2008	METE	Indicators in place	1000	KESH
2.2	Monitoring of the PCBs' presence in equipments oil used in the electricity sector	2009	KESH	Indicators monitored	5000	KESH
2.3	Registering of the PCB-containing transformers and condensers from the industrial	2009	METE - KESH	Register in place	7000	KESH

	areas (in use and waste like)					
2.4	Registering of the PCB-containing dielectric fluids from transformers and condensers (maintenance and exchange)	2009	METE - KESH	Register in place	7000	KESH
	Total				**20,000**	

3. Harmonization of the legislation with EU

Within the National Plan for the Implementation of the SSA, the chapters for the air quality, chemicals, hazardous waste and industrial accidents have also foreseen the development of the necessary acts regarding POPs. The following table represents the foreseen measures from this plan, which are further fulfilled with the ones foreseen to enable the implementation of the Stockholm Convention on POPs.

As it is mentioned previously there doesn't exist up to know any separate legal act dealing with POPs in general or PCBs in particular. In these conditions, it is necessary to perform the Legislative reform for the management (inventory, labelling, reporting), handling (maintenance, transport, disposal) and phasing out of PCB's and PCBs containing material (equipment and wastes) is an urgent need. Import of new PCBs (e.g. as contamination in transformer oils filled in the imported transporters) should be avoided by all means.

Relatively high health, safety and environment risks associated with PCBs were identified and in the absence of effective recording, labelling, reporting mechanism, there is a significant shortage of reliable data in order to arrive at decision and policies with regard to their phase out and final disposal by the year 2025 for equipment, and 2028 for wastes respectively.

Therefore there is an urgent need for an integrated law to effectively manage POPs. This law has to treat in particular PCBs, in order to regularly update their inventory and gradually phase out the PCBs containing equipment as well as dispose of the PCBs containing waste. The mentioned law has to include all issues related to PCBs and other POP chemicals: their management once in use (inventory, labelling, reporting), the ban of production and import, handling (maintenance, transport, disposal) and phasing out of PCB's and PCBs containing material, the control of import-export and disposal of chemicals, subject of Annexes A II and B III (others from pesticides), etc.

Even though Albania has ratified the Basel Convention on the Control of Transboundary Movement of Hazardous Waste and their Disposal, there are certain gaps in the legislation which require to be filled in order to effectively control the importation of such chemicals/wastes. While the import and use of pesticides are already being controlled, there is no regulatory mechanism to control POPs other than pesticides in Albania. Therefore the highest priority should be given to the prevention of fresh stocks of POPs chemicals coming into the country in the form of pure chemicals, POPs containing equipment or as waste materials, which could be used as raw materials.

The mentioned legal act on POPs should be accompanied by a set of specific by-acts like: the formulation of guidance and standards for the management/control of PCBs during the overall cycle of their life; and regulations for the safe disposal of PCBs and PCB containing waste in support to the Law No. 9537, dated 18.05.2006 "On the environmental management of hazardous waste". *The guidance, regulations and standards on PCBs are subject of the National Action Plan on PCBs.*

Albania adhered to the LRTAP Convention with the Law No.9425, dated 06.10.2005. It is expected to adhere soon even to the related protocols, among which even to the POPs Protocol.

	Management option / Activities	Timeframe	Responsible / supporting Institution(s)	Requested output / indicator of success	Estimated Budget, USD	Sources of funds
0	*1*	*2*	*3*	*4*	*5*	*6*
3	**The approximation of the legislation with the EU one**					
3.1	The amendment of the Monitoring Decision of the CM, in order to include POP pesticides	2009	MEFWM/POPs Unit	Amended Decision in place	1,000	State Budget
3.2	Draft and approval of the law "On POPs" in compliance with Directives 75/439/EC, 91/157/EC, 93/86/EEC, 98/10/EC, 2001/68/EC and the Decision of the EC 96/59/EC for the disposal of PCBs/PCTs, etc.	2009	MEFWM/POPs Unit	Law in place, harmonised with the EU directives	20,000	State Budget, Donors
3.3	Draft and approval of the act "On active substances and POPs" in compliance with Directives 79/117/EEC, 83/131/EEC, 85/298/EEC, 86/214/EEC, 86/355/EEC, 89/365/EEC, 90/335/EEC, 90/533/EEC, 91/188/EEC and the Decision of the EC 2004/850/EC	2012	MEFWM/METE /MH	Act in place, harmonised with the EU directives	60,000	State Budget, Donors
3.4	Draft and approval of guidance and standards for the management/control of PCBs during their overall life cycle	2010-2012	METE/KESH/POPs Unit	Guidance ready to be implemented	3,000	State Budget
3.5	Draft and approval of the Regulation under the Law on Environmental Management of Hazardous Waste No. 9537, dated 18.05.2006 on Disposal of PCBs and PCBs containing waste	2012	MEFWM	Regulation ready to be implemented	3,000	State Budget
3.6	Draft and approval of the law "On discharges of dangerous substances" in compliance with Directives 76/464/EEC, 82/176/EEC, 83/513/EEC, 84/156/EEC, 4/491/EEC and 86/280/EEC	2009	MEFWM	Law in place fully harmonised	60,000	State Budget, Donors

3.7	Draft and approval of the act "On transport of hazardous goods" in compliance with Regulation 304/2003, Commission Regulation 1213/2003 and Commission Regulation 775/2004	2011	MEFWM/METE / MPWTT	Act in place fully harmonised	60,000	State Budget, Donors
3.8	Draft and approval of the act "On the restrictions regarding the commercialization and use of hazardous substances and preparations" in compliance with Directives 76/769/EEC, 79/663/EEC, 82/806/EEC, 82/828/EEC, 83/264/EEC, 85/467/EEC, 85/610/EEC, 89/678/EEC, 89/677/EEC, 91/173/EEC, 91/338/EEC, 91/339/EEC, 94/27/EC, 94/48/EC, 94/60/EC, 97/16/EC, 97/56/EC, 1999/43/EC, 2001/41/EC, 2003/11/EC, 2003/34/EC, 2003/36/EC and 2003/53/EC	2009	MEFWM/METE	Act in place fully harmonised	60,000	State Budget, Donors
3.9	Draft and approval of the act "On the classification and package of hazardous substances" in compliance with Directives 99/45/EC, 2001/60/EC, 91/155/EC and 93/112/EC	2010	MEFWM/METE	Act in place fully harmonised	60,000	State Budget, Donors
3.10	Draft and approval of the law "On the adheration to the POPs Protocol under the LRTAP Convention".	2010	MEFWM	Adheration documents in place	2,400	State Budget
3.11	Introduction in the legal framework of the main elements of the IPPC Directive **(**Directive 96/61/EC amended by Directives 2003/35/EC and 2003/87/EC) and Seveso II Directive	2009	MEFWM	Act in place fully harmonized	60,000	State Budget, Donors
3.12	Issue of sub legal acts for the definition of and the obligations to use BAT (Best Available Techniques" for a limited number of important industries in Albania, for example, oil refineries, production of cement,	2010	MEFWM	Act in place fully harmonized	60,000	State Budget

	foundries.					
3.13	Transposition of the respective directives regarding VOC	2011	MEFWM	Act in place fully harmonized	60,000	State Budget, Donors
	Total				**509,400**	

4. Establishment of a national structure for implementation of Stockholm Convention

In accordance with the law No.9108, dated 17.07.2003, article 10/8 "The Council of Ministers shall approve by decision the organisation and the structure of the Office of Chemicals registration. The Minister of Environment shall approve the regulation of functioning of this office."

Considering the lack of resources for establishment of new structures within state bodies, it is thought to use this Chemicals Office even as the appropriate national structure for the implementation of the Stockholm Convention. We have to secure adding of the respective duties and responsibilities related with the POPs management, once the above-mentioned draft decision is compiled and the Minister's of Environment regulation on the functioning of the Office is prepared.

	Management option / Activities	**Timeframe**	**Responsible / supporting Institution(s)**	**Requested output / indicator of success**	**Estimated Budget, USD**	**Sources of funds**
0	*1*	*2*	*3*	*4*	*5*	*6*
4.	**Establishment and functioning of a national structure for implementation of Stockholm Convention**					
4.1	Investment for the opening of the office (rent of the office, equipments, etc.)	2007	MEFWM	Office in function	22,000	State Budget
4.2	Employment of two full-time specialists to run the Office	2007-2025	MEFWM	Office Staff in place	130,000	State Budget
	Total				**152,000**	

3.3.2 Action Plan: POPs Pesticides

Concerning POPs pesticides and DDT use for health control the Stockholm Convention stipulates the following objective:

To eliminate production and use of all intentionally produced POPs i.e., industrial chemicals and pesticides.

Eliminate DDT use except if notifying the secretariat of the intention to use DDT in disease vector control programs.

Management options

Based on the analysis of the country baseline situation, considering the provisions of the Stockholm Convention as well as other relevant international treaties and national policies, pursuant to the national priorities and objectives for POPs management, the following management options were identified:

1. **Preparation a monitoring amendment CMD to perform POP-s pesticide analysis.**
2. **Performing analysis of present levels of POP-s pesticide residues in ex-stores and contaminated sites, including assessment;**
3. **Strengthening human and technical capacity of the analytical laboratory in Plant Protection Institute;**
4. **Preparation of action plan for rehabilitation of the sites contaminated by POPs pesticides;**
5. **Increase the awareness of concerned public with regard to potential hazards connected with POPs contaminated sites.**

Note: Management option 1 will be implemented under the Action Plan on Legal and Institutional Strengthening. Management option 5 will be implemented under the Action Plan on Public Awareness Raising.

The proposed options for realising the objectives are described in more detail in the following text. For each option an explanatory text describes the rationale behind selecting the particular option, its implementation strategy and the assumed implementation costs.

Implementation strategy

2. Performing analysis of present levels of POPs pesticide residues in ex-stores and contaminated sites, including risk assessment

The analysis of pesticides residues in general, and especially for POP-s residues pesticides, is difficult and need the professional staff and equipments as well. Some analyses are made in Faculty of Natural Sciences, in Institute of Plant Protection, and in Institute of Public Health laboratories. In NIP are predicted for making good laws for monitoring of environment, and monitoring of POP-s pesticides on different place and in contaminated sites which have very high pollution from Pesticides and also Lindane. To realize a residue monitoring in NIP are predict also activity that will make possible way special laboratories, to make strong capacities in professional and technical ways, for making analysis of POPs pesticides.

	Management option / Activities	**Timeframe**	**Responsible / supporting Institution(s)**	**Requested output / indicator of success**	**Estimated Budget, USD**	**Sources of funds**
0	*1*	*2*	*3*	*4*	*5*	6
2.	**Performing analysis of present levels of POP-s pesticide residues in ex-stores and contaminated sites,**					
2.1	Program for analytic study on the actual contamination levels of the ex- POP-s pesticides storehouses and the	2007- 2008	MACP, MD, MH, IE	Program adopted by MEFWA and University	1.000	MAFPC

	surrounding area.					
2.2	Revising the methodologies for completion with the necessary equipments laboratories for performing POP-s pesticide analysis.	2007- 2008	MAFPC, MH, MD, IPH, PPI, CLA	Methodologies are in place and equipments are provided	1.500	MAFPC Donors
2.3	Performing analysis of the present levels of POP-s pesticide in former storehouses and soil nearby.	2007- 2009	PPI, IPH, CLA	Results of analysis	80.000	MAFPC
2.4	Risk analysis in pesticides ex-storehouses and in surrounding areas.	2008- 2011	MAFPC, MH , MD, MEFWA, PPI, IPH, CLA, IE	Conclusion and recommendation measures Report on the risk assessment	40.000	MAFPC
	Total				**122,500**	

3. Strengthening human and technical capacity of the analytical laboratory in Institute of Plant Protection

This acitivity includes: Equipment of the laboratory for preparatory and analysis phase, sampling and equipment for soil and water sample; Extraction, clean up, concentration of samples; The training of the lab staff to analyze the POPs residue pesticides (training about soil and water sampling, training for use of special analytical equipments).

	Management option / Activities	**Timeframe**	**Responsible / supporting Institution(s)**	**Requested output / indicator of success**	**Estimated Budget, USD**	**Sources of funds**
0	*1*	*2*	*3*	*4*	*5*	6
3.	**Strengthening human and technical capacity of the analytical laboratory in Institute of Plant Protection**					
3.1	Provide the laboratories with equipments for sampling and analysing of POP-s pesticides.	2007 – 2008	MAPC, MEFWM, PPI	Good implementation	212,000	MAFPC Donors
3.2	Training of the lab staff to analyze the POP-s pesticides, in different media	2007 - 2008	MAFPC, MEFWM, PPI	Labs able to perform analysis of POP-s pesticides.	20.000	MAFPC Donors
3.3	Training on the methodology of risk assessment for the contaminated sites	2008	MAFPC, MEFWM, PPI	The trainee able to perform risk assessment analysis	10.000	MAFPC Donors
	Total				**242,000**	

4. Preparation of action plan for rehabilitation of the sites contaminated by POPs pesticides

This acitivity includes: Detailed study in contaminated sites, for the evidence of POPs pesticides contents; Preparation and programming of measurement for decontamination and rehabilitation of sites which result contaminated.

	Management option / Activities	Timefra me	Responsible / supporting Institution(s)	Requested output / indicator of success	Estimate d Budget, USD	Sources of funds
0	*1*	*2*	*3*	*4*	*5*	6
4	**Preparation of action plan for rehabilitation of the sites contaminated by POP-s pesticides**					
4.1	Preparation of Action Plan for rehabilitation of contaminated sites.	20010-2011	IPP, IPH, CLA,IE	Risk assessment on the presumed contaminated areas	10.000	MAFPC, Donors
4.2	Rehabilitation of sites which are result contamination sites	2012-2018	MEFWA, MACP, MH, MD, Local Authorities, PS	Collaboration & Financing	N A	MAFPC, Donors
	Total				**10,000**	

NA – Non Applicable at this stage

3.3.3 Action Plan: PCBs and Equipment Containing PCBs

Concerning PCBs and equipment containing PCBs the Stockholm Convention stipulates the following objective:

> **To take effective measures to phase out these equipment by the target year 2025 and make determined efforts to achieve ESM of wastes containing PCBs by 2028 at the latest.**

Management options

Based on the analysis of the country baseline situation, considering the provisions of the Stockholm Convention as well as other relevant international treaties and national policies, pursuant to the national priorities and objectives for POPs management, the following management options were identified:

1. **To elaborate and implement regulation regarding to management, handling, monitoring, phase out and disposal of oil and equipments contaminated with PCBs;**
2. **To elaborate and implement internal KESH guideline on transformer management, handling and phase out;**
3. **To train the employees responsible for transformer handling and maintenance;**
4. **Establish laboratory capacity for analysis of PCBs in transformer oils;**

5. **Implement awareness raising activities for the concerned public;**
6. **Gradual rehabilitation of the PCBs contaminated sites;**
7. **Disposal of mineral oil contaminated by PCBs**
8. **Design and put in place a national PCBs monitoring program.**

Note: Management option 1 will be implemented in the AP on Legal and Institutional Strengthening. Management option 5 will be implemented in the Action Plan on Public Awarenness Raising.

The proposed options for realising the objectives are described in more detail in the following text. For each option an explanatory text describes the rationale behind selecting the particular option, its implementation strategy and the assumed implementation costs.

Implementation strategy

2. To elaborate and implement internal KESH guideline on transformer management, handling and phase out

KESH possess "Regulation for Safety and Technical Utilization of Electrical Equipment and Installation", prepared by Electrical Equipment and Installation Inspectorate and approved by Albanian Ministry of Economy, Trade and Energy. Also "Safety and Health Management System" is another important document prepared in frame of European norm EN 50110-1 serves as Internal Regulation for KESH.

Every Electrical Zone regarding to their specific issues has prepared internal guidelines and procedures related to maintenance of electrical equipments for good implementation of these important documents.

Neverteless, due to the lack of information on PCBs, low level of knowledge on PCBs and their impact to the human health and the environment, in Albania no any guideline on management, handling and phase out of transformers contaminated with PCBs.

As most of PCBs expected waste in Albania are PCBs contaminated waste (not PCB oil) it's very important to establish guidelines and procedures in order to prevent cross contamination of equipments during maintenance of equipments. The setting of priority criteria in these regulations applicable to the phasing out of transformers contaminated with PCBs that are older than fixed limits and need replacing immediately is very important too.

	Management option / Activities	Timeframe	Responsible / supporting Institution(s)	Requested output / indicator of success	Estimated Budget, USD	Sources of funds
0	*1*	*2*	*3*	*4*	*5*	*6*
2.	**To elaborate and implement internal KESH guideline on transformer management, handling and phase out**					
2.1	Study of international Regulations, UNEP and Basel Convention, EU legislation.	January-March 2007	KESH	Absorption of international Documents	500	KESH
2.2	Drafting of internal guideline for removing of PCBs oil equipment, PCB material and contaminated soil	April-September 2007	KESH	Existing/enforce Guideline	4,200	KESH, donors
2.3	Drafting of internal guideline for	April-	KESH	Existing/enfo	4,200	KESH,

	phase out of contaminated equipments	September 2007		rce Guideline		donors
2.4	The implementation of Internal Guideline for removing of PCBs oil and contaminated soil	2008-2011	KESH and all facilities involved in PCBs issues	Guideline in place	10,000	KESH
2.5	The implementation of Internal Guideline for phase out of contaminated equipments	2008-2011	KESH and all facilities involved in PCBs issues		10,000	KESH
2.6	Review and improvement of internal guideline	2008-2020	KESH	Guideline in place	6,500	KESH
	Total				**35,400**	

3. To train the employees responsible for transformer handling and maintenance

Training in PCBs areas is needed for the representatives of all main target groups of occupations and professions relevant for PCBs problems, and entities capable of disseminating information to a wider public, such as central and local public authorities, school and university teachers, kindergarten educators, administrative staff of industries, managers and trainers of NGOs and professional growth institutions, leaders of political parties, organizations for economic and social development etc.

The special training of employees responsible for PCB contaminated transformers in use or in store, their maintenance and handling has missed in Albania due to above reasons.

Preparation of training manual, explanation of the mechanism of contamination with oil and porous material, mechanism of cross contamination, PCB determination methodology, specification of sampling/analytical kits, training courses for all energy enterprises, preparation of practical handbook (PCBs identification, labelling, equipment hot-spot assessment and safety management, reporting), consultation with stakeholders are to be main tasks to implement this management option.

The training process could include not only the whole range of information on PCBs and their impact, but also practices and skills for extension of PCBs related information, references to additional information sources, participatory methods of data collection and transfer of information, skills for incorporating the PCBs related concerns into the decision-making process at respective levels.

	Management option / Activities	**Timeframe**	**Responsible / supporting Institution (s)**	**Requested output / indicator of success**	**Estimated Budget, USD**	**Sources of funds**
0	*1*	*2*	*3*	*4*	*5*	*6*
3.	**To train the employees responsible for transformer handling and maintenance**					
3.1	Study of training documents	First half of 2008	KESH, responsible personnel for training	Absorption of training documents	3,100	KESH
3.2	Preparation of specific training for transformer maintenance team	Second half of 2008	KESH	Able maintenance team	3,400	KESH, donors

3.3	Preparation of specific training of employees responsible for transformers	Second half of 2008	KESH	Able employees	3,400	KESH, donors
3.4	Implementation of training	2009-2011	KESH	Good implementation	10,000	KESH
3.5	Improvement of training procedures	2009-2010	KESH	Good quality procedures	1,200	KESH
	Total				**21,100**	

4. Establish laboratory capacity for analysis of PCBs in transformer oils

In Albania, there are several laboratories available, which belong to governmental institutions and few of them to private sector, working for specific parameters and purposes.

Nevertheless, for time being none of these laboratories target analyze of PCBs substance whether it is contained in the products or in waste forms so facilities for PCBs analysis are not available in Albania. A few years before the PCBs in oil and soil have been analyzed in some of scientific but not accredited laboratories in Albania. But for time being due to lack of reagents or updated analyses procedures in place and the lack of proper training of staff, PCBs analyses are not available. Based on technology for PCBs analysis, the analysis can provide both actual PCBs concentrations and positive verification of PCBs presence. The analysis requires specific analyzing equipment and materials and should be conducted by persons trained in their use. Some analysis can provide only an overall concentration of PCBs while other analysis may identify the presence of individual PCB congeners.

So it's necessary to upgrade and accredit existing laboratories and/or to establish new dedicated analytical facilities required for PCBs analysis. Identification of laboratories' needs, specification and purchasing of equipments, supplies reagents and standards and train the staff are more important activities to archive this management option.

	Management option / Activities	**Timeframe**	**Responsible / supporting Institution(s)**	**Requested output / indicator of success**	**Estimated Budget, USD**	**Sources of funds**
0	*1*	*2*	*3*	*4*	*5*	*6*
4.	**Establish laboratory capacity for analysis of PCBs in oil**					
4.1	Identification of Laboratories	January-March 200	Ministry of Environment, KESH	Identified laboratories	1200	KESH
4.2	Purchase of equipments for PCBs analyses	March 2007-March 2008	International donors, Alb. Gov, KESH	Equipments in place	61300	International donors/ KESH
4.3	Training of personnel	2008	International donors	Qualified personnel	5200	KESH International donors
4.4	Accreditation of Laboratories and performance validation	2009	Albanian Government	Accredited laboratories	2000	KESH
	Total				**69,700**	

5. Gradual rehabilitation of the PCBs contaminated sites

The knowledge of risk caused by PCBs in Albania is relatively new and most people including officials did not know about it until the NIP project started in 2005. No attention had been paid to the spillage or leakage of PCBs from transformers (in-use, standby, repairing and disposing), and other transformers that had caught on fire. Therefore no information on contaminated sites related to PCBs has been prepared until the present. However, there are some main areas that are considered to be contaminated sites such as Transformer Repairing Factory and Oil Treatment Facility in Tirana, leaking transformers, and fired transformers but the degree and risk of such contamination could not be evaluated until detailed studies are made.

Over the years, many spills have occurred due to lack of training of the personnel, improper filling of the transformer tanks or use of older equipment for transfer of oil.

There are in use many old transformers manufactured before 1970 in Albania, that have created environmental pollution especially in soil and groundwater because of oil spill and leakage during maintenance process or their old age.

The level of preparedness for managing the contaminated sites should be upgraded. A methodology for risk assessment of contaminated sites should be prepared, including aspects of land use, access of population and animals to the site, spreading of pollution to other natural media, toxicity and environmental risk of PCBs.

Preparation and adoption of a strategy for handling and disposal of contaminated units and wastes, preparation and establishment of control mechanisms and cooperation of inspection bodies concerning handling and disposal of articles in use, development of schemes for positive influence in the business sector, having active roles and responsibilities in this area, preparation of technological and technical work procedures, remediation measures will be a good support for gradual rehabilitation process of the PCBs contaminated sites.

The remediation measures specified for PCBs contaminated sites (Repairing factory and transformers sites) consist on removing all the contaminated material and pack in metallic drums and transport them to the temporary storage facility until final disposal. The Repairing factory is working since 30 years without any control of PCBs until now. Factory is receiving all transformers for repairing from all KESH facilities, all concrete surfaces are contaminated by transformer oil and the use transformers are stored outside the building and expose to the rainfall and directly to the soil.

The strategy for contaminated areas recovery and carrying out decontamination activities impacting on human health and to the environment should be prepared too.

Preliminary data collection regarding potential contaminated sites is available based on questionnaire information came from electric facilities all over the country. These collected data must be reviewed and updated if necessary or whenever a rehabilitation/upgrading of the facility will be done.

	Management option / Activities	**Timeframe**	**Responsible / supporting Institution (s)**	**Requested output / indicator of success**	**Estimated Budget, USD**	**Sources of funds**
0	*1*	*2*	*3*	*4*	*5*	*6*
5.	**Gradual rehabilitation of the PCBs contaminated sites**					
5.1	Complete study of PCBs sites amount all around country	2007-2008	KESH/ MD	Complete Inventory	6,800	KESH, MD, PS

5.2	Move away the PCBs equipments	2009-2020	KESH/ MD	Gradually improved performance	320,000	KESH, MD, PS, Donors
5.3	Remove and dispose of contaminated soil	2009-2018	KESH/ MD	No contaminated soil in sites	196,000	KESH, MD, PS, Donors
5.4	Final treatment of contaminated soil	2012-2019	KESH/ MD	No contaminated soil	55,000	KESH, MD, PS, Donors
5.5	Gradually phasing out of the PCBs equipments	2009-2018	KESH/ MD	No more PCBs equipments	840,000	KESH, MD. PS, Donors
	Total				**1,417,800**	

6. Disposal of mineral oil contaminated by PCBs

The Council Directive on the disposal of polychlorinated biphenyls and polychlorinated terphenyls (PCBs/PCTs) is 96/59/EC of 16 September 1996.

Albania has one storage facility for transformers mineral oil. Generally, as practical, used lubricant oil is not thrown away, but instead sold for other purposes including use for secondary fuel (burning), or refining for local use.

Unlike lubricant oil, dielectric fluid whether it contained PCBs or was PCB-free discharge and then store in metallic drums and generally keeps at the workshop or warehouses. This discharged fluid is reused as additional fluid to retro-fill other transformers after it are purified.

However, even though Albania does not have waste reception facilities or storage facilities for the time being, it is necessarily to consider such facilities for the future, which are required in order to:

- Prevent further risk to public health, animals and the environment caused by PCBs-contaminated dielectric fluid spillage, mismanagement and misuse.
- Compliance with the international movement and the Stockholm Convention for the safe and sound environmental management of POPs substances.
- Further action on the disposal of and/or treatment of hazardous substances including PCBs and related contaminated items.

Responding to this concept, Albania should have proper storage tanks and facilities for the temporary discharge of PCB-contaminated dielectric fluid from transformers undergoing repair. Furthermore, the Ministry of Environmental should provide a technical guidance to the public and private sectors on safe management, with a particular focus on the management of PCBs transformers before decommissioning. In addition, temporary or permanent storage sites should be assigned to keep PCBs and assumed PCB-contaminated transformers that are no longer used. These sites should be located away from sensitive areas including schools, hospitals, markets, residential areas, etc. and should also be equipped with fire-fighting equipment and other emergency response items.

The MEFWA should pay attention to establish storage and/or disposal facilities to keep PCBs dielectric fluid away from other tools and sensitive areas.

Council Directive on the disposal emphasise that Member States must take the necessary measures to ensure that:

- Used PCBs are disposed of;
- PCBs and equipment containing PCBs are decontaminated or disposed of.

Member States must prohibit:

- the separation of PCBs from other substances for the purpose of reusing the

PCBs;
- the topping-up of transformers with PCBs.

Member States must take the necessary measures to ensure that:

- PCBs, used PCBs and equipment containing PCBs which is subject to inventory are transferred to licensed undertakings, at the same time ensuring that all necessary precautions are taken to avoid the risk of fire;
- any incineration of PCBs or used PCBs on ships is prohibited;
- all undertakings engaged in the decontamination and/or the disposal of PCBs, used PCBs and/or equipment containing PCBs obtain permits;
- transformers containing more than 0.05% by weight of PCBs are decontaminated under the conditions specified by the Directive.

Referred to in Directive 75/442/EEC, the Commission:

- must fix the reference methods of measurement to determine the PCB content of contaminated materials;
- may fix technical standards for the other methods of disposing of PCBs;
- must make available a list of the production names of capacitors, resistors and induction coils containing PCBs;
- will determine, if necessary, other less hazardous substitutes for PCBs.

Within three years following the adoption of this Directive, Member States must draw up:

- plans for the decontamination and/or disposal of inventoried equipment and the PCBs contained therein;
- plans for the collection and subsequent disposal of equipment not subject to inventory.

One of the available option for PCBs oil equipment in Albania is the export of PCBs waste to overseas facilities (the quantity of PCBs oil equipment is relatively low to justify the investment of such specific installation or mobile unit).

	Management option / Activities	**Timeframe**	**Responsible / supporting Institution(s)**	**Requested output / indicator of success**	**Estimated Budget, USD**	**Sources of funds**
0	*1*	*2*	*3*	*4*	*5*	*6*
6.	**Disposal of mineral oil contaminated by PCBs**					
6.1	Complete study of PCBs mineral oil amount in all equipments	2007-2008	KESH/ MD	Complete Inventory	6,800	KESH, MD
6.2	Emptying the PCBs mineral oil from the equipments	2009-2018	KESH/ MD	Gradually improved performance	617,500	KESH, MD Donors
6.3	Remove and dispose off the PCBs mineral oil	2009-2018	KESH/ MD	No contaminated oil by PCBs	100,000	KESH, MD Donors
6.4	Final treatment of the PCBs mineral oil	2012-2020	KESH/ MD	No contaminated oil	146,000	KESH, MD Donors
	Total				**870,300**	

7. Design and put in place a national PCBs monitoring program

Presently there is no system for monitoring of PCBs releases established in Albania.

The potential sources of PCBs, and consequently, their impact on the population, have to be confirmed during the implementation of the NIP. Due to the insufficient equipments in the laboratories, and lack of proper training of staff, research in the area of PCBs in the Republic of Albania is still at the beginning.

Although there are few separate case studies on the presence of PCBs on the environment and human health, a systematic and comprehensive analysis should be undertaken to obtain an overall picture of the state of environment and human health.

The laboratories in the Republic of Albania are not adequately equipped for PCBs analyses, fully equipped laboratories and trained staff are necessary.

The PCBs monitoring program consists of systematic PCBs control on liquid material and solid equipment for all incoming and out coming material in each unit and at the custom places for import and export.

The establishment of network for cooperation, data and information exchange of scientific institutions involved in PCBs research activities, the design of monitoring program, the identification of monitoring responsibilities and analytical laboratories, the development of information system for monitoring and results processing, the purchase of sampling and analytical equipment and training process of the people responsible for monitoring and of the analysis, the developed system of quality assurance and quality control in Albanian labs will be very helpful on design and put in place of national PCBs monitoring program.

	Management option / Activities	**Timefra me**	**Responsible / supporting Institution(s)**	**Requested output / indicator of success**	**Estim ated Budg et USD**	**Sources of funds**
0	*1*	*2*	*3*	*4*	*5*	*6*
7.	**Design and put in place a national PCBs monitoring program**					
7.1	Study of legal framework	2007	MEFWA/KESH/MD	Assimilation of legal framework	2,800	KESH/MD
7.2	Design national PCBs of monitoring program	2008-2009	MEFWA/KESH/MD	Draft monitoring program	8,650	KESH/MD Donors.
7.3	Approval of national PCBs monitoring program	2010	State Budget/KESH/MD	Approved monitoring program	600	KESH/MD
7.4	Implementation of national PCBs monitoring program	2011-2020	State Budget/KESH/MEF WA	Successful implementation	133,00 0	KESH/MD, PS
	Total				**145,0 50**	

3.3.4 Action Plan: Unintentionally Produced POPs by-products

Concerning unintended POPs by-products the Stockholm Convention stipulates the following objective:

> **Continuing minimization and, where feasible, ultimate elimination of the total releases of unintentionally produced POPs from anthropogenic sources;**

Management options

Based on the analysis of the country baseline situation, considering the provisions of the Stockholm Convention as well as other relevant international treaties and national policies, pursuant to the national priorities and objectives for POPs management, the following management options as the most important and appropriate and cost-effective were identified:

1. **Completion of legislation and regulations concerning industrial pollution prevention and control, as well as waste management;**
2. **Strengthening the capacity (human and technical) of institutions responsible for waste management (in particular sound management of landfills and prevention of open burning);**
3. **Policy development and implementation action for reducing dioxin emissions from waste management.**
4. **Introduction of BAT & BEP into the industrial sector;**
5. **Development and implementation of a country-wide medical waste management minimizing unintentional POPs emissions.**
6. **Awareness raising of general public on proper waste management practices.**
7. **Regular updating of emission inventory.**

Note: Management option 1 will be implemented in the AP on Legal and Institutional Strengthening. Management option 6 will be implemented in the AP on Public Awareness.

Implementation strategy

2. Strengthening the capacity (human and technical) of responsible institutions for waste management

The largest source of PCDD/PCDF discharges to air are landfill / dumpsite fires and open burning of domestic and other wastes. For reducing these emissions an effective waste management system needs to be put in place. This system should, in particular, include the upgrading of sanitary landfills and an adequate collection and storage capacity.

In addition to the infrastructure needs, capacity at the central environment institutions and other responsible institutions to carry out effective pollution prevention and control nation wide is very limited. The inspectors do not have adequate capacity in terms of personnel, training and equipment.

The managers of the waste service units of the local authorities have virtually no training but are in charge of all waste management issues. In addition, most of the supervisors of collection and disposal process have no training in public or environmental health or waste management. There is consequently a need for professional training in waste management in particular at local level. Addressing this capacity building is the main emphasis of the action plan.

	Management option / Activities	Time frame	Responsible / supporting Institution(s)	Requested output / indicator of success	Estimated Budget, USD	Funding source
0	*1*	*2*	*3*	*4*	*5*	6

2	**Strengthening the capacity (human and technical) of responsible institutions for waste management**					
2.1	Assess capacity of the municipalities for avoiding dioxin emissions from waste management.	2007	Local Government	The assessment of the situation	25,000	LG, Donors
2.2.1	Providing additional resources to the existing local government structure for waste management.	2008	Local Government	New municipal waste professionals recruited	50,000	LG
2.2.2	Creating a structure in small municipalities for waste management	2009	Local Government	All Albanian municipalities have waste management unit/ 80 % of municipalities by 2009	50,000	LG
2.3	Training and capacity building of local officials responsible for waste management		MEFWA, MPWTT	Reducing dioxin emissions	75,000	LG, Donors
2.3.1	Training of the existing/newly created structure in the municipality for waste management and especially for open waste burning as indicated in BEP.	2008-2009	MEFWA, MPWTT	70% of municipalities by 2009 to have training structure	65,000	LG, Donors
2.3.2	Training in separation, recycling and re-using of waste streams at collection points and landfill without burning as indicated in BEP.	2008	MEFWA, MPWTT	Number of the initiatives for selective waste collection etc	40,000	LG, Donors
2.3.3	Training for local government officials in EU legislation and EU directives concerning waste management	2007	MEFWA, MPWTT	90% of municipalities trained by 2009	30,000	MEFWA LG, Donors
	Total				**335,000**	

3. Policy development and implementation of action for reducing dioxin emissions from waste management.

One of the constraints for reducing of PCDD/PCDF emissions from waste management operations is the lack of a clear policy and coordination between the different authorities and private sector parties. While an overall waste management strategy waste elaborated in late 1990s, the actions identified have not been implemented.

The implementation of the waste management strategy would highly contribute towards reduction of PCDD/PCDF emissions. As a complement to this nation wide strategy, the elaboration of a local waste management action plan will be developed.

Policy dialogue and coordinate as well as introduction economic instruments for encouraging waste separation and re-cycling will provide building blocks for comprehensive action for minimization of PCDD/PCDF releases. As a first entry point, the already commenced

separation, re-use and re-cycling activities in Tirana will be supported with the aim of introducing such schemes in other major towns.

Further an effective waste management system Sharra and Korca landfills are put in place. This will include: Providing adequate storage, collection and transportation facilities to the local authorities to enable them provide reliable and efficient services, in parallel with the upgrading of these sanitary landfill/dumpsite to appropriate engineering standards and management practices.

	Management option / Activities	**Time frame**	**Responsible / supporting Institution (s)**	**Requested output / indicator of success**	**Estimated Budget, USD**	**Funding source**
0	*1*	*2*	*3*	*4*	*5*	6
3	**Policy development and implementation of actions for reducing dioxin emissions from waste management**					
3.1	Preparation of local action plans for reducing dioxin and furans emissions from waste management as per BEP	2008	Local Government, MPWTT, MEFWM	Quality material prepared / completed by end of 2008	100,000	LG, Donors
	Implementation of local Action Plans for reducing dioxin and furans emissions from waste management	2008-2009	Local Government, MPWTT, MEFWM	Redustion of dioxin emissions	300,000	LG, Donors
	Extend the ongoing initiatives in separating, recycling and re-using of waste streams at collection points and landfill without burning.	2007-2009	Local Government, MPWTT, MEFWM	Separation, recycling and re-use initiatives extended to 3 towns and landfills	500,000	LG, Donors
3.2	Coordination of waste management strategy formulation for ensuring inclusion of dioxin issues	2007	Local Government, MPWTT, MEFWM	Meeting held	--------	Local Govern., MPWTT, MEFWM
	Establish dialogue between central and local government on municipal waste management and in particular uncontrolled waste burning	2007	Local Government, MPWTT, MEFWM	Workshops conducted	---------	Local Govern m., MPWTT, MEFWM
	Developing economic instruments with the aim of increasing recycling of plastics and reducing waste streams that are a source of dioxin releases.	2007-2008	Local Government, MPWTT, MEFWM	New economic instruments adopted	25,000	MPWTT, MF, MEFWM,
3.3	Project preparation and design for upgrading the Sharra landfill site resulting in minimization of dioxin and other pollutants emissions	2008-2010	Munic. of Tirana, MPWTT, MEFWM	80% of fires decreased, 75% of leachate decreased	500,000	Munic. of Tirana, Italian Gov.

	Implement project for upgrading the Sharra landfill site resulting minimization dioxin releases from landfill leachate	2008-2010	Munic. of Tirana, MPWTT, MEFWM	80% of fires decreased, 75% of leachate decreased	4,500,000	Munic. of Tirana, Italian Gov.
3.4	Project preparation and design for upgrading the Korça landfill site resulting in minimization of dioxin and other pollutants emissions	2007-2010	LG, MEFWM	85% of fires decreased, 75% of leachate decreased	300,000	Munic. of Korça, SIDA
	Implement project for upgrading the Korca landfill site resulting in minimization of dioxin and other pollutants emissions	2007-2010	LG, MEFWM	85% of fires decreased, 75% of leachate decreased	1,000,000	Munic. of Korça, SIDA
3.5	Project preparation and implementation of the urban waste sanitary landfill for Shkodar region	2007-2010	LG, MEFWM	No dioxin and furans emissions, pollution reduction	5,000,000	LG, Italian Govrnm.
3.6	Project preparation and implementation of the urban waste sanitary landfill for Saranda municipalitry and Himara commune		LG, MEFWM	No dioxin and furans emissions, pollution reduction	1,900,000	LG, WB
	Total				**14,125,000**	

4. Introduction of Best Available Techniques and Best Environmental Practices into the industrial sector

While the industry contributes only marginally to the overall PCDD/PCDF emissions in Albania, the introduction of Stockholm Convention Best Available Techniques and Best Environmental Practices (BATs and BEPs) are important for two reasons.

Firstly, the Stockholm Convention aims at minimizing emissions and introduction of BAT and BEP will direct the industry towards these goals. Secondly, and more importantly for the industrial partners, the Stockholm Convention BAT and BEP is a step in an overall cleaner production effort. Benefits from introduction of cleaner production measures go beyond the POPs issues and will contribute to the decrease of all kinds of emissions.

Further, for industrial partners cleaner production measures will result in savings from less use of inputs, both when it comes to raw materials and energy. Experience further shows that cleaner production measures contribute towards a higher quality product, making the companies more competitive in the market.

The action of introducing BAT and BEP in the industrial sector is expected to be driven by the private sector due to financial savings and legal requirements. The authorities will have the role in coordinating the industry action as well as providing information and training in ways of introducing BAT and BEP in the industrial activities. The introduction of POPs BAT and BEP in the overall industrial permitting and Environmental Impact Assessment legislation will provide the momentum for carrying out the action plan.

	Management option / Activities	Time frame	Responsible / supporting Institution(s)	Requested output / indicator of success	Estimated Budget, USD	Funding source
0	*1*	*2*	*3*	*4*	*5*	6
4	**Introduction of BAT and BEP into the industrial sector**					
4.1	Dissemination of information concerning BAT and BEP as per Stockholm Convention guidelines and EU BREFs	2007-2008	METE& MEFWA	70% of municipalities by 2009 to have these materials	30,000	METE, MEFWM, Donors
4.2	Coordinate of sector wise BAT/Cleaner Production initiatives with an emphasis on minimization of dioxin emissions	2008-2010	METE, MEFWA& private sector	BAT and BEP introduced to key sectors	50,000	PS, Donors
4.2.1.	Cleaner production in Ferro-Chromium industry	2008-2012	METE, MEFWA& private sector	BAT and BEP introduced in Fe-Cr sector	300,000	PS
4.2.2.	Cleaner production in Steel industry	2008-2010	METE, MEFWA& private sector	BAT and BEP introduced in steel sector	200,000	PS
4.2.3.	Cleaner production specifically targeting temperature control and resulting dioxin emissions in Cement industry	2008-2010	METE, MEFWA& private sector	BAT and BEP including temperature control, introduced in cement sector	50,000	PS
4.3	Raising knowledge and capacity and conducting of self-monitoring of unintentional POPs emissions	2008-2012	METE, MEFWA& private sector	Providing equipment and training of self-monitoring of unintentional POPs emissions.	100,000	PS, Donors
4.3.1.	Training in sampling for performing dioxin analysis from industrial sources	2009	METE, MEFWA& private sector	Training in sampling for performing dioxin analysis from private entities and research institutions	50,000	PS
4.3.2.	Performing self-monitoring of dioxin emissions	2010-2012	MEFWA, private sector	Training in the performing self-monitoring of dioxin emissions from private entities and research institutions	100,000	PS, MEFWA
	Total				**880,000**	

5. Development and implementation of a country-wide medical waste management minimizing unintentional POPs emissions.

Medical waste incineration contributes to nearly 25% of the PCDD and PCDF emissions in Albania. It should be noted that this figure includes only the data from one operating medical waste incinerator in Tirana. The other medical waste generated in various hospitals and clinics are also partly incinerated either as a part of the landfill fires or in open tips by the hospitals. This results in even higher unintentional POPs emissions as well as other risks from the handling and dumping of contagious waste.

In order to rectify the situation and to reduce PCDD/PCDFs emissions, a comprehensive medical waste management system, covering the whole country, needs to be put in place. This intervention will require strengthening the regulative framework for ensuring that all hospitals and clinics are obliged to organize their waste management in an environmentally sound manner. Further steps in the medical waste management system are the minimization and separation of waste streams, their handling, collection and transport and the final disposal. The final disposal may be achieved by either constructing separate incinerators at their facilities or co-owned incinerators at appropriate locations. Possible alternatives to incineration are sterilization, microwave treatment, alkaline hydrolysis, or biological treatment, each following by landfilling.

The medical waste action plan is complemented with targeted action for optimizing the use of and the operative conditions of the only existing medical waste incinerator located at Mother Teresa hospital in Tirana.

	Management option / Activities	**Time frame**	**Responsible / supporting Institution(s)**	**Requested output / indicator of success**	**Estimated Budget, USD**	**Funding source**
0	*1*	*2*	*3*	*4*	*5*	6
5	**Development and implementation of a country-wide medical waste management**					
5.1	Develop a national strategy for medical waste management including regulative action, collection, transport, treatment and final disposal of waste.	2007	MH, MEFWA	Quality material prepared / completed by end of 2007	50,000	MH, MEFWA, Donors
5.1.1	Plan and decide final disposal technologies and their location.	2008	METE, MEFWA, private sector	The definition of the play of the final disposal technologies by the end of 2008	40,000	MEFWA, Donors
5.2	Introduction of proper waste management, including waste minimization, particularly of dioxin pre-cursors, and separation of waste at all hospitals and clinics according to BAT and BEP.	2007-2009	METE, MEFWA, private sector	Information of concerned sectors on BATs and BEPs	5,000	MH, MEFWA,
5.2.1.	Developing guidelines and provide training in all hospitals and clinics on waste minimization and separation as well as final	2007-2008	MEFWM, MH	Guidelines prepared by end of 2007 and provide training in 60% of all hospitals and	50,000	MH, MEFWA,

	disposal options.			clinics on waste minimization and separation as well as final disposal options.		Donors
5.2.2.	Implement the minimization and separation schemes at all hospitals and clinics	2008-09	MEFWM, MH	Implement the minimization and separation schemes implemented at 50% of all hospitals and clinics by end of 2008	200,000	MH, Donors
5.3.	Introduction of waste minimization and separation at Mother Teresa Hospital and optimization of the operation of the existing incinerator at Mother Theresa hospital in Tirana	2008	MEFWM and M.H	50% reducing dioxin and furans emissions	40,000	MH, Donors I
5.3.1.	Updating the operational guidelines of the Mother Theresa hospital incinerator in order to minimize dioxin emissions.	2007	MEFWM and M.H.	Guidelines prepared 2007	10,000	MH, Donors
5.3.2.	Training of Mother Theresa Hospital incinerator operators on the updated guidelines.	2007	MEFWM and M.H	All operators to be trained on the updated guidelines by the end of 2007	5,000	MH, Donors
5.4	Design and Construction of final additional disposal units	2009-2011	MEFWM and M.H.	The final disposal units to be constructed by the end of 2011	1,000,000	MH, Donors
5.4.1.	Put in place the nation wide collection and transportation system for the medical waste streams not disposed at hospital and clinic level	2010	MEFWM and M.H.	Nation –wide collection and transport system in operational	100,000	MH
5.5.1	Reconstruction of ‘‘Mother Theresa’’ incinerator	2012	M.H	Reducing 90% of the remaining dioxin and furan emissions	1,300,000	MH, Donors
	Total				**2,800,000**	

6. Regular updating of emissions inventory

During the first inventory the major categories of emission sources were identified in Albania. It is important to monitor any change to the present source categories in order to measure the effectiveness of the measures taken. This can be achieved by the Environmental Regulations. The inventory shall be updated every five years.

	Management option / Activities	Time frame	Responsible / supporting Institution(s)	Requested output / indicator of success	Estimated Budget, USD	Funding source
0	*1*	*2*	*3*	*4*	*5*	6
6	**Regular updating of emissions inventory**					
6.1	Regular updating of emission inventory every five years.	On-going	MEFWA	To be in conformity with SC	20,000	MEFWA, MH, PS, LG
6.2	Establishment of a reporting scheme, through permit regulations, of production capacity/measured dioxin emissions from concerned sources and its integration into the National Environment Report.	2007	MEFWA, MPWTT, MH, METE	To be in conformity with SC	6,000	MEFWA
6.3	Submit up-dated emission inventory to the Conference of Parties of the Stockholm Convention.	2011	MEFWA	To be in conformity with SC	3,000	MEFWA
	Total				**29,000**	

3.3.5 Action Plan: POPs wastes and contaminated sites

Concerning POPs wastes and contaminated sites the Stockholm Convention stipulates the following objectives:

To achieve that stockpiles that consist of or contain a POP in Annex A or B, and wastes, including products and articles upon becoming wastes, that consist of, contain or are contaminated with a POP in Annex A, B or C are managed in a manner protective of human health and the environment. Endeavour to identify hot spots and POPs contaminated sites.

Management options

Based on the analysis of the country baseline situation, considering the provisions of the Stockholm Convention as well as other relevant international treaties and national policies, pursuant to the national priorities and objectives for POPs management, the following management options were identified:

1. **Capacity building on POPs management: for:**
   -local authorities;
   -responsible institutions (customs, research centres, central environmental inspectorate and regional environmental agencies);
   -individuals for POPs monitoring and identification of POPs

contaminated wastes);
-individuals for waste treatment and management;

2. **Site investigation, priority setting, site assessment and development of remediation plans for the potentially POPs contaminated sites**

The activities identified for the other objectives are subject of *particular action plans* and are described in more detail in the following material.

Implementation strategy

The strategy includes detaild information regarding implementation of the each management options.

1. Capacity building on POPs management for relevant stakeholders.

Relatively low level of awareness on environment pollution by POPs in general and the polluted sites by POP's in particular, have created a gap in the central, local, researching and monitoring institutions. Lack of information about the scale of pollution and the extended level of polluted spots by these chemicals are reflected in an incomplete legislation for these category of pollutants and the high costs of the chemical analysis of pollutants, and in particular of dioxins and furans.

In the action plan concerning the capacity building a training package, that will prepare the specialists of the relevant institutions with the required knowledge, is foreseen. This training will consist of the prevention of production and import of ingredients/articles containing POP's, the manner of taking samples, analysis, studying, assessment and administration of polluted sites.

	Management option / Activities	**Time-frame**	**Responsible / supporting Institution(s)**	**Requested output / indicator of success**	**Estimated Budget USD**	**Funding source**
0	1	2	3	4	5	6
1.	**Capacity building on POPs management for relevant stakeholders**					
1.1	Assessment of deficiencies in the institutional and technical capacities of the LG, Customs, IPH and REAs	2007	MEFWM, METE, MPWTT, LG	Evidence of needs for guidelines, training and means	12,500	MEFWM, METE, MPWTT, LG
1.2	Staf training of the IE, IPH, PPI, CLA on monitoring	2007–2008	MEFWM, METE, MPWTT, MH	Qualified experts for POPs identification and monitoring.	53,000	Line Ministries, Donors
1.3	Training of IPH, REAs, LG, PS on POPs management	2008-2009	MEFWM, METE, MPWTT, MH	Waste management practices in compliance with the legislation	33,000	Line Ministries, Donors

1.4	Provide training in soil and site assessment	2008	MEFWM, METE, MPWTT, MH	Acquaintance with the techniques for soil and site assessment	88,000	Line Ministries, Donors, PS
1.5	Provide sampling and analysis equipment for testing for POPs pollutant in environmental media	2009-2010	MEFWM, METE, MPWTT, MH	Well equipped laboratory acquired for monitoring of water, air and soil quality	204,300	Line Ministries, Donors, PS
1.6	Training of the REA structures for the enforcement of law on pollution prevention	2009-2010	MEFWM	Qualified experts for law enforcement	44,000	MEFWM, Donors
1.7	Strengthening of the institutional and technical capacities of the municipalities for ESWM	2009-2012	MEFWM, LG	Qualified municipality sector for waste management	44,000	MEFWM, MPWTT, PS
	Total				**478,800**	

2. Site investigation, priority setting, site assessment and development of remediation plans for the potentially POPs contaminated sites.

The contaminated sites in Albania have been created for the most part as result of abandonment of former processing facilities, manufactures, plants and factories and huge stocks of bulk or dangerous materials, dumps or dust-piles.

Some of those sites have been in the meantime privatized and the new owners have changed the destination without making any attempt for remediation, creating at the same time difficulties for intervention. But the most of them are still waiting for rehabilitation.

There are at least four sites which probably need urgently rehabilitation, because they were active concerning the POPs emission:

1. In Durrës: the area of former chemical factory in Porto Romano. An area of 2 ha contaminated with different chemicals, including pesticide residues, especially lindane and hekzachloran (In the area have been produced hekzachloran and lindane, which have been used for the formulation of different pesticides). The area is classified as Hot-Spot.

2. In Vlora: the territory of former caustic soda - PVC plant. There are 20 ha contaminated with mercury and chlorinated products, including POPs.

3. In Elbasan: a territory of 2,500 m^2, near and around the former coke processing plant. The area is very contaminated with bitumen, tar and other hazardous chemicals.

4. In Lushnje: in the territory of the former PVC processing factory. About 1700 ton chemicals, most of them of unknown origin, mixed with inert materials, have been stored and part of them distributed (unintentionally, as result of bed storage conditions) in the territory of factory. Potential danger for the contamination of the superficial and groundwater

5. In Shkodër: the area in and near the stores in the rail-station in Bajzë. About 200 tons of expired pesticides, including lindane, have been stored there since 1991.

For the rehabilitation of sites 1 and 2 have been discussed long ago and two projects initiated from the Government and supported by foreign donors, are waiting for implementation. For the other three sides the knowledge is insufficient for undertaking rehabilitation actions and a study on the potential pollution, its distribution and the possible decontamination is necessary.

The rehabilitation process for an object, a site, a territory or a region, includes:

- in situ investigations,
- sampling and analyses,
- data processing and determination of the rehabilitation technology
- rough cost and timeframe estimation and
- preparation of the rehabilitation project.

	Management option / Activities	**Time-frame**	**Responsible / supporting Institution(s)**	**Requested output / indicator of success**	**Estimated Budget USD**	**Funding source**
0	1	2	3	4	5	6
2	**Site investigation, priority setting, site assessment and development of remediation plans for the potentially POPs contaminated sites**					
2.1	Investigate POPs concentration at sites potentially POPs contaminated	2008	MEFWM, LG, MH, MAFCP	acquaintance with the level of contamination and identification of the priorities	300,000	Line Ministries, LG, PS, Donors
2.2	Based on the results above, conduct detailed site assessment for the most POPs contaminated/priority sites	2008-2009	MEFWM, MH, MAFCP	building up the PIU and performing the necessary analyses for identifying the penetration of the contamination and the borders of the contaminated sites	329,000	Line Ministries, LG, PS, Donors
2.3	Making acquaintance with several methods used for the rehabilitation of contaminated sites	2008-2009	MEFWM, MH, MAFCP	acquaintance of the participants with the rehabilitation methods and practices	44,000	Line Ministries,PS, Donors
2.4	Develop site remediation plans for the priority POPs sites	2010	MEFWM, MH, MAFCP	Data processing and evaluation and rough cost and timeframe estimation for the rehabilitation projects	220,000	Line Ministries, LG, PS, Donors
	Total				**893,000**	

3.3.6 Action Plan: Public Awareness, Information Dissemination and Training

Concerning information dissemination and awareness raising the Stockholm Convention stipulates the following objective:

> **Provide public access to relevant POPs information, overall awareness raising on POPs.**

Management Options

Based on the analysis of the country baseline situation, considering the provisions of the Stockholm Convention and national policies, pursuant to the national priorities and objectives for POPs management, the following options for awareness raising, information dissemination and training were identified:

1. **Rise information and awareness in the communities where POPs are present, sensitizing the public about POPs effects on human health and environment;**
2. **Increase environmental NGOs capacities in relation to public awareness and environmental information dissemination ;**
3. **NGO engagement in information dissemination, sensitization and awareness campaigns.**

Implementation strategy

1. Increasing the information regarding the POPs related effect on public health and environment

The most critical factor in the reduction of POP-s emissions is public sensitisation. The public needs to be informed about the sources of POP-s and the impacts of the chemicals on human health and the environment. POP-s releases cannot be reduced without the requisite knowledge of the stakeholders whose collective actions are necessary to bring about the required changes in behaviour. Knowledge about the releases will lead to the better appreciation of the need for action. Increasing the information/awareness regarding the POPs is a continuously process. Only in this way is possible to have an efficient control of the POPs risks in public health and environment.

Inventory on POP-s in Albania told that these chemicals are present in a dangerous amount only on several special areas. A targeted campaign in these areas to the relevant public groups would be very effective.

Information and awareness activities in local community affected by POPs are planned for a medium term of (10 years). The risks in these zones will be decreased because of the efforts to clean those up and the given information and awareness timeframe is sufficient to take the necessary measures for the protection and cleaning up of the polluted territories as well as for the protection of the inhabitant health and environment.

	Management options Activities	Timefra me	Responsible organisation	Expected results	Estimated Budget USD	Fundin g source

0	*1*	*2*	*3*	*4*	*5*	*6*
1.	**Rise information and awareness in the communities where POPs are present, sensitizing the public about POPs effects on human health and environment**					
1.1	Organising meeting in the spot and sensitizing campaigning with participation of the communities near POPs polluted zones.	2007-2012	NGOs , Research institutions, MEFWA, LG	Community awareness raising	50.000	MEFWA, Line Ministries , Donors, NGOs
1.2	Sensitising campaign about air pollution from POPS deriving from urban waste burning.	2007-2015	NGOs, IE, LG	Citizen awareness	30.000	MEFWA, Line Ministries , Donors, NGOs
1.3	Sensitising campaign in industrial zones about land, water and air pollution from PCBs.	2007-2020	NGOs	Awareness of decision makers, businessmen's, community and general public	30.000	MEFWA, Line Ministries , Donors, NGOs
1.4	Campaign in industrial zones for unintentional POPs.	2007-2020	NGOs	Awareness rising of the habitants of industrial zones	30.000	MEFWA, Line Ministries , Donors, NGOs
	Total				**140,000**	

2. Involvement of NGO-s in the information dissemination, sensitization and awareness campaigns

In Albania now there are around 80 environmental associations. Expecting any specialized ENGO on chemist's pollution, all others have a missing aware and information on POP-s. For this reason their training would be one of much needed activity on NIP.

Mass media role in public information and awareness about environmental problems as well as problems related to POPs is very important. Electronic media is present in almost every Albanian house, while the newspapers are not distributed throughout the country. According to some surveys Albanian see television approximately 5 hour per day. TV programs which have a bigger effect in informing and rise people awareness are the documentary films. Training journalists on environmental problems, especially on POPs, is very important for fulfilling the National Plan objectives on POPs.

The training on communication can be realised through short term courses. The materials can be followed with a manual on national communication on exchanging information for issues related to POPs.

	Management options Activities	**Timeframe**	**Responsible organisation**	**Expected results**	**Estimated Budget USD**	**Funding source**
0	*1*	*2*	*3*	*4*	*5*	*6*

2.	**Increase environmental NGOs capacities in relation to public awareness and environmental information dissemination**					
2.1	Training activities with Environmental NGOs for recognition and negative effects of POPs to humans and environment.	2007-2025	NGOs MEFWA	NGOs awareness rising	20 000	MEFWA, Line Ministries, Donors, NGOs
2.2	Journalist training and exchange of experiences with colleagues from neighbouring countries.	2007-2025	NGOs	More professional journalist in POPs field and protection of health.	20 000	MEFWA, Line Ministries, Donors, NGOs
2.3	POPs Web page designing and updating.	2006-2027	MEFWA, NGOs	An effective web page for POPs problems.	80 000	MEFWA, Line Ministries, Donors, NGOs
	Total				**120,000**	

3. Awareness raising campaigns targeted to the relevant public groups

Albanian citizens in general are not informed about the risks that environmental pollution opposes in health, interrelation in between environment and human health and the benefits for the whole society and economy from a clean environment. This shows clearly the huge need for environmental awareness improvement in all levels of society.

In order to create the possibility of citizens access to environmental information and for doing it as attractive as possible, there is a need that this information should be given by using diversity forms and tools. In this context the plan foresees activities which pass the given info on POPS effects on human health and environment in simple and easy to understand forms by using all massive communication tools.

	Management options Activities	Timeframe	Responsible organisation	Expected results	Estimated Budget USD	Funding source
0	*1*	*2*	*3*	*4*	*5*	*6*
3	**NGO engagement in information dissemination, sensitization and awareness campaigns**					
3.1	Regular publication of POPs news and articles in the local and national electronic media.	2007 – 2025	NGOs, Mass media, MEFWA	Public awareness	50 000	MEFWA, Line Ministries, Donors, NGOs
3.2	Preparation of brochures with information on POPs which have effect in human health and environment.	2006-2020	NGOs	Public awareness	25 000	MEFWA, Line Ministries, Donors, NGOs
3.3	Preparation and dissemination of POPs posters	2007-2020	MEFWA,NGOs	Public awareness	15 000	MEFWA, Line Ministries, Donors, NGOs
3.4	Periodic press conferences on the POPs situation and their risks.	2007-2025	NGOs, MEFWA Research institutions	Public and politicians awareness	20 000	MEFWA, Line Ministries, Donors, NGOs
3.5	Preparation of documentaries and spots in local and national TV(every 2 year a new spot)	2007-2025	Mass media NGOs,	Public awareness	45 000	MEFWA, Line Ministries, Donors, NGOs
	Total				**155,000**	

3.3.7 Strategy for Monitoring, Research and Development

Chemical compounds classified within the POPs group are highly toxic for human health and in a broader context they are toxic to the environment in general. They are also greatly resistant to environmental degradation with time and consequently their presence in any part of the world, along with their ability to concentrate in fatty tissues of living organisms, including humans, have set forth the necessity of undertaking relevant measures to monitor POPs compounds, to undertake research in order to determine most effective and economic ways for phasing out and disposal of this hazardous chemicals, as well as for rehabilitation of POPs contaminated areas (para. 11 of the Convention).

Existing Monitoring Program of the environmental elements and factors (CMD No 103, dated 31.3.2002) does not include POPs monitoring in general, nor monitoring of individual chemicals of the POPs group. Requirements of the Stockholm Convention and the in country situation identified on the basis of the preliminary POPs inventory in Albania, make necessary to undertake an action program which should include relevant legal, institutional and technical issues needed for carrying out monitoring of this category of chemicals.

This monitoring will make possible an exact knowledge of situation concerning POPs content in

various media, the contribution of different social and economic activities to the environmental pollution caused by this category of hazardous chemicals, performing of risk analysis, and on this base, designation of respective measures which should contribute for environment upgrading and environmental standards accomplishment.

The above presented chapters, and more specifically the Action Plan for various POPs groups, take into consideration relevant actions for POPs monitoring, mainly in the media considered as contaminated by use or stockpiling of POPs, such as: DDT, lindan, HCH, PCBs, dioxins and furans. This monitoring will cover the areas where these chemicals are stockpiled, terrain in close proximity, surface and underground water, surrounding air, domestic animals in these areas, as well as communities living in vicinity to contaminated areas. Findings obtained from POPs monitoring implementation will supply feedbacks for its updating by adding or removing areas or mediums and POPs chemicals, depending on the monitoring results, in order to continuously show a real picture regarding POPs situation in Albania.

The monitoring range is wide and shall include chemical analysis in various media and at different time intervals. Activities of this kind definitely asks for adequate professional capacities and precise equipment, accordingly to the analysis quality and level, and both need financial support to ensure purchase of laboratory equipment and respective staffs training, as well as to cover the costs needed for POPs monitoring program implementation. This is because Albania has only limited financial means to cover on its own all requirements to properly realize monitoring program. Consequently, additional donor support shall be necessary.

POPs, their impact on human health and environment and sophisticated techniques used for their reduction or elimination are rather new topics, rapidly developing on the bases of research recently conducted. Under these circumstances, research and monitoring activities are new challenges asking for serious human resources and financial contribution.

Research and development in this area will enlarge efficiency of resources used. In-country research capacities concerning all POPs emission inventory aspects and technologies for their reduction or elimination are actually limited. Sporadic research has been done by the Faculty of Natural sciences of the University of Tirana, Public Health Institute by the Ministry of Health, ECAT Tirana, and UNEP, in relation to PCBs content in the Karavasta Lagoon biota and in contaminated locations of a former plant used to produce HCH/Lindan before 1990 year, as well as in mother milk of mothers from the same area.

Best Available Techniques and Best Environmental Practices still are discreetly known throughout expert community working in research institution and production enterprises.

In the future, based on the monitoring data and complete relevant inventory results for POPs chemicals and contaminated areas, as described in respective Action Plans, studies and projects will be carried out aiming at phasing out the POPs occurrence in Albanian territory and at the rehabilitation of POPs contaminated areas. Such projects implementation is to be carried out in compliance with obligations set by Stockholm Convention and as defined by the POPs National Implementation Plan.

The central environment protection authority in Albania in cooperation with other relevant Ministries and bodies will have the task to coordinate all POPs research and monitoring activities.

3.3.8 Strategy for Information Exchange and Reporting

Strategic goals

The main strategic goal of information exchange is to enable exchange of information about production, use and release of POP-s compounds and their alternatives, including information about their harmful properties and financial and social costs that they might generate.

The Convention parties can exchange this information in direct contact or through the

Convention Secretariat. To achieve this goal, a national focal point must be appointed to act as the liaison between the Convention and all local stakeholders i.e. that will take part in the information exchange on the international and local levels.

It is important to point out that the exchanged information about human health and safety and about environmental impact will not be treated as confidential for Convention purposes. As for other information, the parties shall agree about their confidentiality.

Guidelines of the information exchange policy

Strategy of information exchange will be based on:

- International information exchange, and
- National information exchange.

International information exchange comprises information exchange between the Convention parties and international organizations and forums. Information exchange on the national level is timely and accurate exchange of information between all stakeholders in POP-s issues (Ministries, agencies, NGOs, professional associations, etc.).

Organization of the national focal point for information exchange

Focal point of the Stockholm Convention is the Ministry of Environment, Forest and Water Management. It would play the role of the focal point for information exchange and would be responsible for implementing this programme, for administrative affairs and technical support. In this respect, an Office of Chemicals Register is foreseen to be set up in MFWA, which will be in charge for covering POPs issues in Albania.

Communication among all involved institutions will be organized according to a scheme shown in Figure 8.

Figure 8: Communication scheme

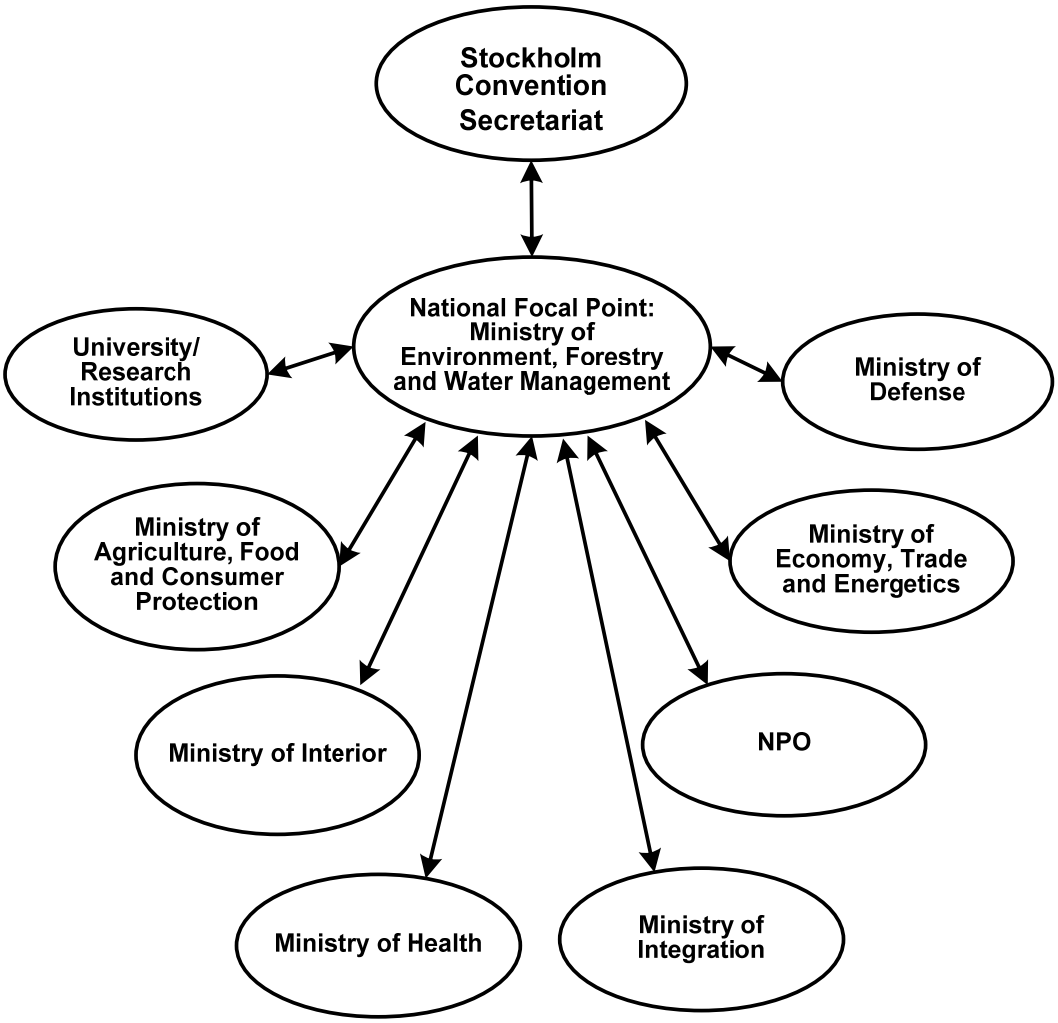


Table 21: Reporting obligations under the Stockholm Convention and the strategy of information exchange and reporting in Albania

Convention Obligation	Description of Requirement	Periodicity	Responsible Institution
Article 5, subparagraph (a) Measures to reduce or eliminate releases from unintentional production	Requires each Party to develop an action plan, or, where appropriate, a regional or sub regional action plan, and subsequently to implement it as part of its national implementation plan specified in article 7, designed to identify, characterize and address the release of the chemicals listed in Annex C of the Convention.	Within two years of the date in which the Convention enters into force for that Party	MEFWA, METE, MPWTT
Article 5, subparagraph (a) (v): Measures to reduce or eliminate releases from unintentional production	A review to be undertaken of those strategies pursuant to the development of an action plan to identify, characterize and address the release of the unintentionally produced persistent organic pollutants listed in Annex C, and of their success.	Every five years	MEFWA, Lines Ministries
Article 7: Implementation plans	Requires each Party to develop and endeavour to implement an implementation plan and transmit it to the Conference of the Parties, and requires each Party to review and update its plan on a periodic basis and in a manner to be specified in a decision of the Conference of the Parties.	Transmission to the Conference of the Parties within two years of the date on which the Convention enters into force for that Party.	MEFWA,
Article 15: Reporting	Each Party shall report to the Conference of the Parties on the measures it has taken to implement the provisions of the Convention and on the effectiveness of such measures in meeting the objectives of the Convention. Each Party shall provide to the Secretariat: (a) Statistical data on its total quantities of production, import and export of each of the chemicals listed in Annex A and Annex B or a reasonable estimate of such data; and	To be decided by the Conference of the Parties.	MEFWA, MF, INSTAT

Convention Obligation	Description of Requirement	Periodicity	Responsible Institution
	(b) To the extent practicable, a list of the States from which it has imported each such substance and the States to which it has exported each such substance.		
Annex A, Part II Subparagraph (g)	Requires each Party to provide a report every five years on progress in eliminating polychlorinated biphenyls and submit it to the Conference of the Parties pursuant to Article 15	Every 5 years	MEFWA, METE, KESH
Annex B, Part II, paragraph 4	Each Party that uses DDT is required to provide to the Secretariat information on the amount used, the conditions of such use and its relevance to that Party's disease management strategy in a format to be decided by the Conference of the Parties in consultation with the World Health Organization.	Every 3 years	MEFWA, MH, MAFCP
Article 4, paragraph 6	A Party that request an extension of a specific exemption is required to submit a report to the Secretariat justifying its continued need for registration of that exemption.	Before the expiration of the specific exemption (five years after the entry into force of the Convention for that POP)	MEFWA

3.4 Proposals and Priorities for Capacity Building

Current capacity and capability for POPs management available in Albania needs to be strengthened to achieve the objectives of the NIP. Priority needs for capacity building to support compliance with Convention provisions and achieving of NIP objectives, are highlighted bellow for the particular priority areas.

1. Establishment of POPs unit under MEFWM, to:

- Monitor the fulfillment of obligations deriving from the Stockholm Convention and policies related to POPs.
- Coordinate the activities of ministries addressing POPs, and ensure exchange of information.
- Monitor the completion of environmental legislation in line with EU Directives on POPs.
- Monitor the implementation of consultations with institutions and experts regarding those activities that are implemented with the goal of banning and eliminating POPs and rehabilitating polluted areas.
- Appraise POPs-related projects.

2. The Council of Ministers should assign the institutions to implement the POPs monitoring program, to fulfill the obligations deriving from the Stockholm Convention.

3. The Ministry of Economy, Trade and Energy should ensure the technical capacities for managing PCBs, substituting oil containing PCBs and the equipment using such oil, and eliminating the oil in an environmentally safe way.

4. Relevant ministries and MEFWM should draft procedures for safe storage of POPs (mainly oil containing PCB) and POPs-containing equipment until ultimate elimination.

5. Preparation of studies and projects for the elimination of POPs or materials contaminated with POPs.

6. Organization of training events and seminars with various stakeholders on issues related to monitoring, control, safe storage and elimination of POPs.

7. Raising public awareness of POPs impact on human health and the environment.

3.5 Summary of Activities and Financial Means needed for the NIP implementation

The following Table presents in a concise mode main activities foreseen in the National Implementation Plan, as well as the necessary financial means for their implementation.

Financial means needed for the NIP implementation are foreseen to be 23.670.050 USD devaded as follows:

13.290.950 USD for the short-term period 2007-2009

9.187.400 USD for the middle-term period 2010-2015

1.191.700 USD for the long-term period 2016-2027

I	**Measures for Strengthening Institutional and Regulatory Framework**	**Short term financial needs USD**	**Medium term financial needs USD**	**Long term financial needs USD**	**Total USD**
	1. Include POPs monitoring, particularly of PCBs, as part of the National Environment Monitoring Programme	49.000			49.000
	2. Register equipment and oils containing PCB in the electric power sector	20.000			20.000
	3. Approximation of legislation wit that of EU	201.000	308.400		509.400
	4. Setting up and making functioning the national unit for implementation of the Stockholm Convention	41.500	39.000	71.500	152.000
	Total I	**311.500**	**347.400**	**71.500**	**730.400 USD**
II	**POPs Pesticides (including DDT)**				
	1. Preparation of an amendment to CMD on monitoring, in order to extend it up to POPs pesticides				Included in I.1
	2. Performing analysis on present level of POPs pesticides residues in ex storehouses and contaminated sites, including risk assessment	102.500	20.000		122.500
	3. Strengthening human and technical capacities of the analytical laboratory at the IPP	242.000			242.000
	4. Preparation of Action Plan on rehabilitation of contaminated sites with POPs pesticides		10.000		10.000

	Total II	**344.500**	**30.000**		**374.500 USD**

III	**PCBs and PCB containing equipments**				
	1. Preparation and implementation of a guide on management, monitoring, phasing out and disposal of oil and equipments contaminated with PCB				Included in I.4
	2. Preparation and implementation of an internal KESH guide on management, treatment, and phasing out of transformers contaminated with PCB	21.900	11.000	2.500	35.400
	3. Training of staff responsible for transformer treatment and	13.300	7.800		21.000
	4. Setting up laboratory capacities for performing analysis on PCB presence in	69.700			69.700
	5. Gradual rehabilitation of contaminated with PCB sites	126.400	739.600	551.800	1.417.800
	6. Disposal of mineral oil contaminated with PCB	74.800	466.400	329.100	870.300
	7. Preparation and implementation of a national PCB monitoring programme	11.450	67.100	66.500	145.050
	Total III	**317.550**	**1.291.900**	**949.900**	**2.559.350 USD**
IV	**Unintentional POPs By-products**				
	1. Completion of legislation and guidelines regarding industrial pollution control and prevention, and waste management				Included in I.4
	2. Strengthening capacities (human and technical) in institutions responsible for waste management (particularly for management of landfills and prevention of solid urban waste open burning)	335.000			335.000
	3. Policy development and implementation of measures on release reduction of dioxins resulting from waste	9.850.000	4.275.000		14.125.000

	management				
	4. Introduction of Best Available Techniques (BATs) & Best Environmental Practices (BEPs) in industrial sector	380.000	500.00		880.000
	5. Development and wide implementation in the whole country of ESWM of hospital waste, thus minimizing unintentional dioxins release	670.000	2.200.000		2.870.000
	6. Systematic updating of release inventories	6.000	3000		9.000
	Total IV	**11.241,000**	**6.978.000**		**18.219.000**
V	**POPs Waste and Contaminated Sites**				
	1.Strengthening POPs management capacities	319.500	159.300		478.800
	2. Site investigation, priority settings, and rehabilitation project preparation for sites potentially contaminated with PCB	673.000	220.000		893.000
	Total V	**992.500**	**379.300**		**1.3718000**
VI	**Public Awareness, Informing and Information Dissemination, Training and Development**				
	1. Rise information and awareness in the communities where POPs are present, sensitizing the public about POPs effects on human health and environment	41.000	75.000	24.000	140.000
	2. Strengthen environmental NGOs capacities for awareness raising of general public and information dissemination on POPs	18.000	36.000	66.000	120.000
	3.NGOs engagement in information dissemination, sensitising and awareness raising campaigns	24.900	49.800	80.300	155.000
	Total VI	**83.900**	**160.800**	**170.300**	**415.00**
	OVERALL TOTAL	**13.290.950**	**9.187.400**	**1.191.700**	**23.670.050**

Annex I: Projects Profile Portfolio

Project profile 1

1. Project Title	**The analytical study on the actual level of contamination of the ex-POP-s pesticides storehouses, and the surrounding area.**
2. Implementing Agency	MAFCP, MH MEFWA, IPP
3. Co-operational Agency	IPH
4. Duration	2007 – 2010
5. Location	In different ex – storehouses in Durres, Fier, Tirane, Fushe Kruje
6. Background	There are extremely bad condition in the ex-storehouses, the possibility of infiltration in the environment nearby may have caused different environmental contamination around these sites, and these sites are completely out of supervision.
7. Project Rationale	To know and reduce the human risk.
8. Project Justification	It is very important that the responsible authorities manage the POP-s pesticides situation and eventual risk
9. Project Goal an Objectives	Estimation of present levels on ex stores of POP-s and risk assessment
	Prevention of further exposure of population of POP-s pesticides
10. Beneficiaries	Communities and environment
11. Activities	The study on actual level of contamination
	Performing analysis of the present levels of POP-s pesticide in former storehouses and soil/water nearby
	Risk management
12. Estimated Cost	150.000 Euro
13. Potential Donors	Albanian Government
14. Other Contributing Agencies	Netherlands Government, Switzerland Government etc.
15. Project map location	Durres, Fier, Tirane, Fushe Kruje

Project Profile 2

1 Project Title	**Feasibility study of Transformers Repairing Factory**
2 Implementing Agency	KESH
3 Co-operational Agency	Ministry of Trade, Economy and Energy; (MTET) MEFWA
4 Duration	12 months
5 Location	The Transformers Repairing Facility in Tirana
6 Background	The Transformers Repairing Factory is receiving all transformers for repairing from all KESH facilities. The site is working since 30 years without any control of PCBs until now. The knowledge of risk caused by PCBs in Albania is relatively new and most people including officials did not know about it until the NIP project started in 2005. No attention had been paid to the spillage or leakage of PCBs from transformers during waiting or repairing process, they don't use retention tanks for dielectric leaking risk. All concrete surfaces in this Facility are contaminated by transformers oil and there is a channel of electric cables in the concrete floor. About 50 % of total amount of transformers are manufactured before 1990 (about 6,000 units) and the average age of transformers is very old: 28 years. Because of no concepts regarding to the PCBs hazards, the mixed used dielectric fluid is used for retro filling repaired transformers. The used transformers are stored outside the building and expose to the rainfall and directly to the soil. Under existing conditions it has risk of fire, further more the Facility is located in the urban zone, very close to living buildings.
7 Project Rational	To select the best solution of: • Remediation of the existing Facility (Decontamination and Rehabilitation of the building and outside), or • The construction of the new Facility.
8 Project Justification	Because of existing Facility is the only transformer repairing centre in country operating since 30 years without PCBs control, its environment inside and out side is hot spot of pollution, impacting human's health and the entire environment around. The project will ensure ESM for existing Transformer Repairing Facility or new one Facility, whichever may be. This project will provide environmental impact assessment of PCBs in existing site and the populated area close to the site, also for another option too, in order to ensure that implementation of this project will be socially and economically feasible. The implementation of this project will fundamentally improve environmental performance of this Facility, raising employees' awareness level for the risk of PCBs to their health and the environment.

9 Project Goal and Objectives	To provide full feasibility study on pollution level in existing site and the populated area close to the site. Also to decide the cost during different processes and phases including decontamination and rehabilitation. To provide full feasibility study of the new Transformer Repairing Facility in another location including the cost of existing site decontamination and new plant construction. This project also will give opportunity to compare these two possibilities to select the best one with the best environmental performance and lower cost.
	Selecting the best solution for repairing transformers area without any impact to human health and the environment.
10 Beneficiaries	The Transformers Repairing Facility employees, the population living close to this site, KESH/ATSO.
11 Activities	a– Training workshop for all PCB stake holders: EMU, Ministry of Environment, Managers of facilities. The aim of this workshop is to provide a good understanding of PCBs pollutions: - sources of pollution, - identification of pollution, - technical option for remediation (Biodegradation**,** Washing using solvent, Incinerator, Thermal Desorbtion, Distillation of PCB by low temperature. It's important to give the right information to the workers to be aware for the risk of PCBs in their health and the environment. b- in the site 1. Complete PCB testing of all transformers located on this site and sampling. Also PCB determination of concrete in the building and soil outside the building to determine the deep of contamination. 2. Carry out pilot test on soil samples by different process (biodegradation, solvent washing process,…) in different deep. 3. Full assessment of pollutions in the building and outside. 4. Carry out a full feasibility study including the remediation (decontamination and rehabilitation) of the building and remediation of the site (technical option and remediation cost) 5. Carry out a full feasibility study including existing site decontamination and new plant construction. The remediation measures consist in removing all the contaminated material and pack in metallic drums and transport them to the temporary storage facility until final disposal. 6. Determination of the cost of new plant (need site decontamination and new plant construction) and the cost of will be rehabilitated existing facility (during different processes and phases of need site decontamination and rehabilitation) and compare these two costs to select the lower one.

12 Estimated Cost	350 000 EURO
13 Potential Donors	World Bank, GTZ, European Bank of Investments, SECO, GEF, EBRD
14 Other Contributing Agencies	Albanian Government
15 Project map location	The Transformers Repairing Facility in Tirana

Project Profile 3

1. Project Title	**Site remediation of PCBs contaminated site (Transformers Repairing Factory)**
2. Implementing Agency	KESH
3. Co-operational Agency	MTET, IPH, Faculty of Natural Science and private companies.
4. Duration	24 months
5. Location	The Transformers Repairing Facility in Tirana
6. Background	The Transformers Repairing Factory is receiving all transformers for repairing from all KESH facilities. The site is working since 30 years without any control of PCBs until now. The knowledge of risk caused by PCBs in Albania is relatively new and most people including officials did not know about it until the NIP project started in 2005. No attention had been paid to the spillage or leakage of PCBs from transformers during waiting or repairing process, they don't use retention tanks for dielectric leaking risk. All concrete surfaces in this Facility are contaminated by transformers oil and there is a channel of electric cables in the concrete floor. About 50 % of total amount of transformers are manufactured before 1990 (about 6,000 units) and the average age of transformers is very old: 28 years. Because of no concepts regarding to the PCBs hazards, the mixed used dielectric fluid is used for retro filling repaired transformers. The used transformers are stored outside the building and expose to the rainfall and directly to the soil. Under existing conditions it has risk of fire, further more the Facility is located in the urban zone, very close to living buildings.
7. Project Rational	The site remediation process (decontamination and rehabilitation) will be performed regarding to ESM. The appropriate measures must be taken in order to increase the awareness of all employees and workers exposed on the PCBs, through some education programs and training workshops related to the risks of PCBs that affect human health and the environment, with the assistance of KESH/ATSO environmental experts.
8. Project Justification	Ensure ESM for remediation of this contaminated site. This remediation project will fundamentally improve environmental performance of this Facility, raising employees' awareness level for the risk of PCBs to their health and the environment. The implementation of this project will cover all PCB testing of all transformers in site, PCB determination in concrete and in the soil during different processes. This project will provide environmental impact assessment of PCBs in site and the populated area close to the site, in order to ensure that implementation of this project will be socially and economically feasible.

9. Project Goal and Objectives	• The environmental performance improvement. • All employees to be aware for the risk of PCBs in their health and the environment.
	Improving PCB health and environmental impact issues in site and the area around.
10. Beneficiaries	The Transformers Repairing Facility employees, the population living close to this site, KESH/ATSO.
11. Activities	a– Training workshop for all PCB stake holders: EMU, Ministry of Environment, Managers of facilities. The aim of this workshop is to provide a good understanding of PCBs pollutions: - sources of pollution, - identification of pollution, - technical option for remediation (Biodegradation**,** Washing using solvent, Incinerator, Thermal Desorbtion, Distillation of PCB by low temperature, - using personal protective equipments as protective measures from PCBs. It's important to give the right information to the workers to aware them for impact of PCBs to the health and environment around. b- The site remediation 1. The remediation measures consist in removing all the contaminated material in the building and out side (including oil, soil, concrete, transformers and other contaminated materials) and pack in metallic drums and transport them to the temporary storage facility until final disposal. The metallic drums will be labelled by yellow table showing hazard waste. To decide the methodology of decontamination it's required to do some preliminary tests. 2. The rehabilitation of the building and the site will include reception area (weighting, sampling), repairing area, draining transformers area, washing rooms, shower bath rooms, dressing rooms.
12. Estimated Cost	300 000 EURO
13. Potential Donors	World Bank, GTZ, SAEFL, European Bank of Investments, SECO, GEF, EBRD
14. Other Contributing Agencies	Government of Albania
15. Project map location	The Transformers Repairing Facility in Tirana

Project Profile 4

1. Project Title	**PCBs Analysis**
2. Implementing Agency	KESH/ATSO, Central Laboratory of Army
3. Co-operational Agency	METE, MD, MEFWA.
4. Duration	18 months
5. Location	Tirana
6. Background	In Albania, there are several laboratories available, which belong to governmental institutions and few of them to private sector, working for specific parameters and purposes. Nevertheless, for time being none of these laboratories target analyze of PCBs substance whether it is contained in the products or in waste forms so facilities for PCBs analysis are not available in Albania. A few years before the PCBs in oil and soil have been analyzed in some of scientific but not accredited laboratories in Albania. But for time being due to lack of reagents or updated analyses procedures in place and the lack of proper training of staff, PCBs analyses are not available.
7. Project Rational	The knowledge and information on PCBs hazards and risks is widely provided and disseminated. The laboratory capacity in analysing PCBs is provided and strengthened Personal protection and safety environment from the impact of PCBs are considered.
8. Project Justification	This project aim to improve laboratory capacity in PCBs analysis. The implementation of this project will cover all the process on improving laboratory capacity and increasing quality of PCBs analysis in oil, soil and solid parts in order to achieve the full data on PCBs content in electrical equipments.
9. Project Goal and Objectives	To upgrade and accredit existing laboratories and/or to establish new dedicated analytical facilities required for PCBs analysis. To achieve high quality of PCBs analysis. The analysis requires specific analyzing equipment and materials and should be conducted by persons trained in their use.
	To achieve a full segregation of PCBs and non PCBs electrical equipment and material in use, for their maintenance and out of use to be in compliance with ESM.
10. Beneficiaries	KESH/ATSO Facilities, Army Electric Facilities, Private sector
11. Activities	Identification of laboratories' needs, specification and purchasing of equipments, supplies reagents and standards and train the staff are more important activities on this project.
	The accreditation of able laboratories to perform PCBs analysis exact results in required level.
	The PCBs analysis in oil, soil and equipments solid parts in all KESH/ATSO and Army Facilities and private sector.

12. Estimated Cost	120 000 EURO
13. Potential Donors	World Bank, European Investment Bank, EBRD, GEF
14. Other Contributing Agencies	Albanian Government, GTZ
15. Project map location	Tirana

Project Profile 5

1. Project Title	**The process of handling, transportation, temporary storage of PCBs contaminated equipments and oil**
2. Implementing Agency	KESH/ATSO
3. Co-operational Agency	METE, MEFWA., private companies
4. Duration	24 months
5. Location	All around country
6. Background	Up to few years ago KESH/ATSO has no any institutional structure dealing with environmental issues, no records on waste generation and management are kept, no plans for managing PCBs wastes, no internal waste management procedures that would provide instructions for waste handling, set responsibilities in waste management and set duties for recording of waste generation has been developed. The awareness level of KESH facilities employees for knowing PCBs impacts is very low. Until now all wastes are discharging in soil or into the river without any treatment, creating environmental pollution in soil, surface water and may be ground water impacting in human health, animals and the environment around. No any temporary waste storage Facility is available in Albania. Furthermore, no waste treatment Facility exists. In KESH Facilities are in use many old transformers manufactured before 1970 that have created environmental pollution especially in soil and groundwater because of oil spill and leakage during maintenance process or their old age. Most part of transformers is stated on ground or in static support but no secondary containment under transformers, can easily visually observe the contaminated soil under transformers, so there is a need to carry out soil and groundwater contamination investigation and safe management.
7. Project Rational	Governmental environmental officers, KESH/ATSO environmental experts and the employees of concerned enterprises will be trained on PCBs management. The management of chemicals and hazardous wastes, as well as within the framework of the relevant environmental conventions.
8. Project Justification	The project will provide practical ESM concepts and technology for the compliance with the obligations under the Stockholm Convention related to PCBs management.
9. Project Goal and Objectives	To take effective measures on handling, transportation, temporary storage of PCBs oil and contaminated equipments according to the Stockholm Convention related to hazardous chemicals.
	To achieve ESM of wastes containing PCBs.
10. Beneficiaries	KESH/ATSO Facilities, population living close to polluted areas, animals, flora and fauna.
11. Activities	A proper environmental sound management will be applied to all power facilities, workshops, substations, warehouses, transformers and all in use equipments contaminated with

	PCBs. Promote measures to reduce exposures and risk of PCBs. Inspect regularly for leaks in equipments. Identify contaminated sites for selection and prioritizing environmental sound manner. Label by a yellow all contaminated equipments and containers waiting for further process. Develop strategy for gradually reduction of electrical equipments and articles containing and/or contaminated with PCBs. Remove from use equipments and wastes under technical requirements related to ESM and Stockholm Convention recommendation. Transport and store equipments and wastes with PCBs in compliance with ESM and the regulations in force. Undertake all reasonable measures to protect from electrical failure that could result in a fire. Make determined efforts to achieve ESM of wastes containing PCBs. Give higher priority of management to equipments with higher PCB levels. Awareness activities on using personal protective equipments by participant employees in this project.
12. Estimated Cost	350 000 EURO
13. Potential Donors	GEF, GTZ, EU, World Bank, EBRD, EIB, SAEFL (Swiss Agency for the Environment, Forests and Landscape).
14. Other Contributing Agencies	Government of Albania
15. Project map location	All power facilities

Project Profile 6

1. Project Title	**Full PCB control monitoring system.**
2. Implementing Agency	KESH/ATSO,
3. Co-operational Agency	METE, MEFWA., Customs,
4. Duration	12 months
5. Location	Tirana, Durres
6. Background	Presently there is no system for monitoring of PCBs releases established in Albania. Due to the insufficient equipment in the laboratories, and lack of proper training of staff, research in the area of PCBs in the Republic of Albania is still at the beginning. Although there are few separate case studies on the presence of PCBs on the environment and human health,
7. Project Rationale	A systematic and comprehensive analysis should be undertaken to obtain an overall picture of the state of environment and human health. The establishment of network for cooperation, data and information exchange of scientific institutions involved in PCBs research activities, the design of monitoring program, the identification of monitoring responsibilities and analytical laboratories, the development of information system for monitoring and results processing, the purchase of sampling and analytical equipment and training process of the people responsible for monitoring and of the analysis, the developed system of quality assurance and quality control in Albanian labs will be very helpful on design and put in place of national PCBs monitoring program.
8. Project Justification	The PCB control monitoring system will ensure that no more uncontrolled materials may contain PCBs will enter in Albania and all materials and equipments in place presumed contaminated with PCBs will phase out and dispose under international rules, to guarantee human health and clean environment.. Albania need to have this PCBs control monitoring system because until now no one knows if our equipments and environment is polluted by PCBs or not, to have under control all incoming electrical equipments and oil, for good-control of all equipments and oil movements between different units to avoid their further contamination.
9. Project Goal and Objectives	The goal of this project is to design and put in place PCBs control monitoring system. The PCBs monitoring program consists on systematic PCBs control on liquid material and solid equipment for all incoming and out coming material in each unit and at the custom places for import and export.
	To implement a full PCBs monitoring system in Albania: Import and movement of PCBs material between each unit concerned by PCBs on liquid material and solid equipments in order to avoid mixing of contaminated oils with uncontaminated oils.

10. Beneficiaries	KESH/ATSO storehouses, Transformers repairing facility, Oil treatment facility, State custom-houses, all electric substations, and Metallic parts recycling Unit.
11. Activities	- The system of PCBs control monitoring should control all materials imported which can contain PCBs: o mineral oil for transformers o transformers o "used oil" for striking of formwork oil o Capacitors
	- The control will be present on all equipments and materials between each unit concerned by electrical equipment: o KESH/ATSO storehouses and state custom-houses o KESH/ATSO storehouses and repairing factory o Repairing factory and oil treatment facility o All substations and repairing factory.
	- Hazard waste transport documentation between: o KESH/ATSO and temporary storage facilities o KESH/ATSO and Transformers Repairing Unit o KESH/ATSO and Oil Treatment Facility o KESH/ATSO and Metallic Parts Recycling Unit o KESH/ATSO and Incinerator Facilities o Repairing Factory and Oil Treatment Facility o Facilities and temporary storage facilities o Temporary storage facilities and Incinerators
	Training workshop to explain the mechanism of contamination with oil and porous material, mechanism of cross contamination, PCB determination methodology etc, by expert on this field with participation of KESH Staff – EMU, Custom officer, Ministry of Environment.
12. Estimated Cost	250 000 EURO
13. Potential Donors	GEF, GTZ, European Union, SAEFL, World Bank, SECO
14. Other Contributing Agencies	Government of Albania
15. Project map location	Tirana and Durres

Project Profile 7

1. Project Title	**PCBs Regulation**
2. Implementing Agency	KESH/ATSO
3. Co-operational Agency	METE, MEFWA.
4. Duration	12 months
5. Location	Tirana
6. Background	Albania is in the process of developing laws regarding environmental protection. The environmental legislation is filling and is improving according to relevant EU directives. Up to some years ago in Albania, there have not been too many efforts about pollution on PCB-s and their impact to the environment and human health and no PCB-s monitoring system in place. Actually no specific legislation regarding to acts and regulations address PCB-s (management, handling, monitoring, phase out and disposal) and no PCB-s monitoring system in place. Decision of the Council of Ministers No. 103, date 31.3.2002, "On Monitoring of Environment in the Republic of Albania" doesn't determine the KESH duties and other institutions depend form it, to monitor the PCB presence in equipments oil in different KESH facilities. Also, inspection of compliance not yet implemented because related legislation has not been cover aspects of PCBs and equipment contaminated by PCBs. Decision of the Council of Ministers No. 103, date 31.3.2002, "On Monitoring of Environment in the Republic of Albania" doesn't determine which institutions have to monitor the PCBs presence in equipments oil in different facilities. Environmental requirements such as control of water contamination and solid waste contamination PCBs do not exist, no records on waste generation and management are kept. Due to the lack of legislation and procedures for environmental administration of PCBs the impact and the risk to human's health and environment will be present. However, there are general provision that regulate the management of chemicals wastes and hazardous wastes including PCBs. There are legal instruments stated in the Governmental Ordinance, such as the umbrella law No. 8934 entitled "Law on Environmental Protection" and others: law No. 9263, dated 29.7.2004 "On Ratification of Stockholm Convention for POPs", law No. 9108, dated 17.07.2003 "On Chemical Substances and Preparations" which regulate the administration of chemical substances and preparations for human life protection and for environment protection from the risk of these substances and preparations, decision No. 824, date 11.12.2003 "On classification, packaging, label and preservation of hazardous substances and preparations " which obligates parties to report for pollution's sources and chemical substances that are the object of this Convention. The EMU in KESH, based on Environmental Management System (EMS) has developed some action plans including "The Action Plan for Spill Prevention, Control and Countermeasures for KESH's Facilities", "Hazardous Waste Contingency Action Plan", "Action Plan for preparation and withstanding emergency situations on KESH's Facilities" and "Personal Protective Equipments Program" for better management of environmental issues in power Facilities complying with its Environmental Policy in order to control and/or mitigate environmental impacts due to oil spills to improve environmental

	performance.
7. Project Rational	Because of lacked legislation regarding to PCBs management, therefore low level of information and awareness on PCB-s throughout all population groups, especially among employees potentially exposed to PCB-s in public and private sector its immediate require to elaborate and put in place the PCBs Regulation in compliance with Stockholm and Basel and Rotterdam Convention also with Albanian legislation. It will have a positive impact not only to public awareness of PCBs risk in human health and the environment but also on management of PCBs and PCBs wastes, on relation between different Facilities involved to this management on recordkeeping and formal reporting, on exchange information between institutions involved on PCBs analysis, on PCBs control monitoring system etc. The main potential exposed population which is the workers and employees working in power plants, workshops and warehouses critically affected by PCBs on their health, have to be protected by laws and relevant legal instruments such as this Regulation for managing PCBs release. Also in the Regulation's framework will elaborate relevant guidance and work programs, will organize workshops to raise the employees awareness on PCBs hazards.
8. Project Justification	Ensure PCBs Regulation will provide very important document for ESM of PCBs, in compliance with obligations under Stockholm Convention. This Regulation will be a good support on setting priorities of PCBs management, on preparing internal guidelines, internal waste management procedures that would provide instructions for waste handling, storing, transporting and disposing, programs and action plans helping on setting responsibilities in waste management and set duties for recording of waste generation. Because of lacked legislation regarding to PCBs management and current environmental situation it is immediate require to elaborate and put in place the PCBs Regulation related to PCBs in compliance with Stockholm and Basel and Rotterdam Convention also with Albanian legislation.
9. Project Goal	To elaborate and put in place PCBs Regulation regarding to management, handling, monitoring, phase out and disposal of oil and wastes contaminated with PCBs. The environmental sound management of PCBs until the end of life of transformers.
10. Objectives	Implementation of a specific PCBs regulation. Regulate the in-use and out-of-use of electrical equipment and accessories / articles containing and/or contaminated with PCBs for ESM purpose
11. Beneficiaries	KESH/ATSO employees, private and public sector related to PCBs, population impacted form PCBs hazards.
12. Activities	Form a legal and technical working group including PCBs stakeholders, representatives from Ministry of Environment, Ministry of Energy, Trade and Economy, KESH/ATSO, Private Companies, Environmental & Development Agency, NGO). Study of existing Albanian legislation and international Regulations, UNEP and Basel Convention, EU legislation related to PCBs

	management for development of PCBs Regulation. Site Meetings to take into consideration employees options regarding to their working conditions.
13. Estimated Cost	50 000 EURO
14. Donors	Global Environment Facility (GEF), European Union, World Bank, GTZ, Government of Albania
15. Project map location	KESH, Tirana

Project Profile 8

1. Project Title	**Final Inventory of PCBs**
2. Implementing Agency	KESH/ATSO, Army
3. Co-operational Agency	METE, MD, MEFWA., Private Companies
4. Duration	24 months
5. Location	Tirana
6. Background	Up to some years ago in Albania, there have not been too many efforts about pollution on PCB-s and their impact to the environment and human health. The preliminary inventory of PCBs which has started to prepare on July 2005, is prepared by Environmental Management Unit in KESH (Albanian Power Corporation - the only electricity provider in Albania serving more than 900.000 consumers in all over the country) and is focused mainly in transformers and capacitors in KESH/ATSO Facilities and Army Units. Inventory method is based on the internationally recommended guidelines and the best available information in Albania. The main goal of this preliminary Inventory of PCBs was identification of all electrical equipments that may contain PCBs oil or PCBs contaminated mineral oil and the PCBs wastes amount, in order to fulfil Stockholm Convention requires, to evaluate existing infrastructure in place and to set priorities for further process. Because of no available information and no available records in place, the EMU has prepared and delivered to all KESH/ATSO facilities the questionnaire requires all needed information about transformers/ equipments to be inventoried such as year and place of manufactured, dimensions, its weight and capacity, its status, maintenance, environmental conditions in use, impact to the environment, data about equipments oil (oil weight, oil trade name), etc. The preliminary inventory has mainly identified relevant issues of PCBs: PCBs are never produced in Albania. The transformer's oil is always imported from other countries of Europe or Asia. The oldest transformer in KESH/ATSO is Russian, dated 1950. In the past, the main supplier of transformers was URSS and China. The transformers that are manufactured in URSS have their age about 50 years old. The most part of transformers in Albania are Chinese, Russian, Bulgarian, Macedonian and Romanian. Last years many transformers are imported from Italy, Croatia, Swiss and Belgium. Until now no PCBs control on equipments and oil at the Custom and The Central Storehouse in Shkozet – Durres related to oil quality and the presence of PCBs in it. Because of economical reason, Albania also has imported second hand transformers possibly to have been retro filled or are retro filled in Repairing Unit time after time, but due to lack of information, analysis and recordkeeping no data available. In Power Facilities are in use many

	old transformers manufactured before 1970 that have created environmental pollution especially in soil and groundwater because of oil spill and leakage during maintenance process or their old age. Most part of transformers is stated on ground or in static support but no secondary containment under transformers. One can easily visually observe the contaminated soil under transformers, so there is a need to carry out soil and groundwater contamination investigation. Based on the data gathered from the questionnaire of preliminary inventory on PCB-s, the population of transformers placed in power facilities in Albania is about 12,000 units in all capacities in use containing a huge quantity of mineral oil, about 8200 tons. The oil quantity per transformer range from 70 kg to 102 tons. Most of them (about 98%) are distribution transformers, with low capacity, placed in small electric cabins and are used for supplying family consummators. About 50 % of total amount of transformers are manufactured before 1990 (about 6,000 units) and the average age of transformers on the inspected population with year of manufacture is very old: 28 years. The percentage of over aged transformers (> 30 years) is about 45 %. A part of transformers have a weight ratio higher than 30 % and no positive density tests have been found on this population: those transformers should be considered as retro filled and PCB-s assumed. The Preliminary Inventory of PCB-s revealed that non existing standards (limits) and methods for analyses for PCB-s, low level of information and awareness on PCB-s throughout all population groups, no information and awareness of general population about potential risk of PCB-s (transformer oils), limited level on PCB-s awareness among responsible management in public and private sector, low awareness among employees potentially exposed to PCB-s, lack of PCB-s contamination monitoring in various matrices and possibly polluted air, soil and ground / surface water with oil contain PCB-s. For time being due to lack of reagents and no updated analyses procedures in place and the lack of proper training of staff, PCBs analyses in Albania are not available; it's operated using Test-Kits manufactured by Dexsil Company for PCBs tests in transformers oil. Caused of limited number of tested oil sampling, the results could not generalize in national level. However the preliminary Inventory of PCBs revealed: Low quantity of PCBs oil transformers Most of them are mineral oil transformers About 5,3 % of the whole tested population and 8% of the distribution transformers should be considered as PCB-s assumed (PCB-s > 50 ppm) Number of transformers suspected to be contaminated is about 320. Statistical results are based on the tested population, (there are inspected about 57 power facilities and are tested about 169 oil samples).
7. Project Rational	Execute PCBs inventory procedure according to preliminary inventory methodology. The PCBs inventory is an essential method to enhance health care and environmental quality on the manageable area in

	particular transformers and capacitors throughout the country. The PCBs inventory is a method to encourage and recognize stockholder's efforts to reduce and eliminate PCBs transformers use from stockpiles and other sources, a tool to track healthy and environmental progress and develop a basis for further decision-making and cooperation between ministries, relevant organizations, workers and the stakeholders.
8. Project Justification	Compliance with the obligations of Stockholm Convention related to inventory. Ensure ESM of PCBs through complement the project by providing broader environmental and technological national scope. PCBs are subject to three international conventions related to hazardous chemicals, respectively Basel, Rotterdam and Stockholm Conventions. PCB-s are covered by these conventions addressing the production, declaration, use, import, export, storage, transport, monitoring, phase out, disposal of PCB-s. This project will focus on several aspects of PCBs Final Inventory. This project also will accurate the data and complete the overall picture of PCBs situation in Albania, providing the precise information for long term run of ESM management of PCBs equipment and wastes.
9. Project Goal	Fulfilment of the overall picture of PCBs situation in Albania Ensure a strong basement for the environmental sound management of PCBs and PCBs wastes.
10. Objectives	Evaluation of quantities of PCBs in Albania. Identification of PCBs holders. Identification of all the PCB-s transformers which are "in use" and/or obsolete, to apply the precaution principle to PCB-s installations in use (keep in use and phase out and dispose off), to ensure the monitoring of technical compliance of all PCB-s installations in use and to ensure the tracking of all the PCB-s installations until the end of the life. Technical data related to the PCBs equipments and materials. ESM issues related to PCBs.
11. Beneficiaries	Power-electrical stakeholders, private and public industrial and services sectors.
12. Activities	Study on preliminary inventory report and form inventory team. The team will be responsible for: input the existing data into database selecting the population sample training the people needed for undertaking inventory Identify support tools and equipments for inventory, and develop inventory plan. The team will be responsible for: Inventory form Database tool Preparing inventory equipment (GPS, sampling equipment, protective

	equipment) Design and develop national database and information on in-use electrical equipment and articles containing and/or contaminated with PCBs. The team will be responsible for: Input data in the database Issue technical report and send report to the authorities, undeletable labelling of PCBs wastes Evaluate the workshop with power stakeholders. Provide Final Inventory (including inventory form, site inspection, sampling, testing, classifying, labelling, registering, send to lab for analysis, analysis, database, and technical report etc.) of oil, electrical equipments and wastes containing and/or contaminated with PCBs. The team will be responsible for: Field inspection work Collecting data Filling inventory form Sampling Site test (density test, test-kits) Labelling and registering Analysis by GC Technical Report
13. Estimated Cost	250,000 EURO
14. Donors	Global Environment Facility (GEF), European Union, SECO, World Bank, GTZ, Government of Albania, EBRD.

Project Profile 9

1. Project Title	**Disposal of mineral oil contaminated with PCBs and PCBs wastes**
2. Implementing Agency	KESH/ATSO, /MD
3. Co-operational Agency	MoEWF, MoETE, Private Companies
4. Duration	18 months
5. Location	Tirana
6. Background	Up to some years ago in Albania, there have not been too many efforts about pollution on PCBs and their impact to the environment and human health. So far there is not specific legislation regarding to PCB-s management, no records on waste generation and management are kept, no plans for managing PCBs wastes, no internal waste management procedures that would provide instructions for waste handling, set responsibilities in waste management and set duties for recording of waste generation has been developed. The awareness level of power facilities employees for knowing PCBs impacts is very low. Until now all wastes are discharging in soil or into the river without any treatment, creating environmental pollution in soil, surface water and may be ground water impacting in human health, animals and the environment around. No any temporary waste storage Facility is available in Albania. Furthermore, no waste treatment Facility exists. In Power Facilities are in use many old transformers manufactured before 1970 that have created environmental pollution especially in soil and groundwater because of oil spill and leakage during maintenance process or their old age. Most part of transformers is stated on ground or in static support but no secondary containment under transformers, can easily visually observe the contaminated soil under transformers, so there is a need to carry out soil and groundwater contamination investigation and safe management. Albania has one storage facility for transformers mineral oil. Generally, as practical, used lubricant oil is not thrown away, but instead sold for other purposes including use for secondary fuel (burning), or refining for local use. In Albania no disposal facilities have been designed yet for PCBs wastes. In conclusion, does not exist any proper place for PCBs dielectric fluid or waste reception and disposal facilities.
7. Project Rational	Adequate information and data on mineral oil contaminated with PCBs and PCBs wastes. ESM of disposal process of PCBs wastes. Strategy for the treatment and disposal of PCBs wastes.
8. Project Justification	The project will undertake an assessment regarding the data collection and further consultation with relevant parties on the improvement of management of mineral oil contaminated with PCBs, PCBs wastes and disposal facilities. Examine the potential for upgrade storage sites and installed facilities for ESM (Environmental Sound Management). The final product of this project is the comprehensive strategy and the disposal of mineral oil contaminated with PCBs and PCBs wastes. ESM

	concepts will apply in period of this project implementation.
9. Project Goal	The environmental sound management for disposal process of mineral oil contaminated with PCBs and PCBs wastes. The economical aspect of the PCBs management
10. Objectives	Develop strategy for the treatment and disposal of mineral oil contaminated with PCBs and PCBs wastes. Develop ESM of disposal process of PCBs wastes.
11. Beneficiaries	Power-electrical stakeholders, private and public sector, population impacted from PCBs presence.
12. Activities	Develop strategy for dispose off the mineral oil contaminated with PCBs and the PCBs wastes in compliance with ESM requirements Undertake assessment (current and future) for the possibility of: Construction of disposal facility in the country or Transportation of PCBs wastes to the disposal facility out of country. For this: Form working group for developing the strategy for the treatment and disposal of PCBs wastes. Training of specialists and workers for ESM of mineral oil contaminated with PCBs and PCBs wastes especially on disposal process in environmental sound manner. Take measure to ensure needed information and data on mineral oil contaminated with PCBs and PCBs wastes. Identify temporary storage sites and facilities for keeping mineral oil contaminated with PCBs and PCBs wastes in environmental sound manner. Organize financial mechanisms, evaluation cost of project etc.
13. Estimated Cost	150 000 EURO
14. Potential Donors	Global Environment Facility (GEF), European Union, World Bank, GTZ, Albanian Government, KFW.
15. Project map location	Tirana

Project Profile 10

1. Project Title	**Awareness on issues related with PCBs**
2. Implementing Agency	MEFWA, KESH, ATSO
3. Co-operational Agency	KESH/ATSO, Central Laboratory of Army, Mass Media, NGOs
4. Duration	18 months
5. Location	Albania
6. Background	The concerned public has no knowledge/awareness on issues related to PCBs' impact on human health and the environment. This is because Albania has no expertise on PCBs and related hazards. At the same time, Albania has also lack of law or guideline for managing PCBs The exposed employees and workers who work in transformer workshops, warehouses, and power plants are unaware of PCBs hazard. A lack of awareness by the concerned public regarding PCBs hazards is extremely dangerous. Albania competent authority has also lack of capability in maintaining and management of in-use transformers (leak, spill). The technical staff as well as the workers worked in dangerous condition because of lack of personal protected equipment, and they are not aware of the risk caused by PCBs. In general, the exposed general public has not been provided with any education on such matters. Very limited information has been disseminated for public awareness. A lack of the improvement of communication within society through the establishment of a communication framework, incorporating the provision of communication knowledge and skills to the staff of central and local public authorities, environmental and health protection agencies, NGOs, public companies, research institutes, universities.
7. Project Rational	Manual on PCBs risk issues and personnel safety will be developed The capacity of electrical workers working with PCBs associated issues will be provided and strengthened. Knowledge and information on PCBs hazards and risks is widely provided and disseminated. Personal protection and safety environment from the impact of PCBs are considered. Capacity of laboratory in analyzing PCBs is provided and strengthened. The management level, both government and private sectors regarding the preparation of PCBs management regulation, health protection regulation, PCBs hazard training programs, and on awareness raising

	on PCBs safe use guidelines has to raise in high level.
8. Project Justification	This project aims to be complied with the Stockholm convention obligation in order to protect public health and the environment from PCBs impact. On another purpose of this project is to raise PCBs awareness and promote action in increasing PCBs impact prevention among top policy makers in the government. Decisions are ultimately a political responsibility, but the likelihood of the best choices being made is greatly enhanced when there is a widespread understanding and knowledge of all the implications and this is the general requirement of awareness of PCBs stakeholders. The education awareness on PCBs issue to public, professional workers and managers has to be provided. The range of communication tools could include all communication techniques starting with presentation and messages in mass media and general meetings of communities, interactive dialogues, micro-seminars between colleagues within and outside the profession, and ending with preparation and presentation of information through existing communication channels of each community, such as professional meetings, entertainment facilities, local radio, interest groups sessions, other accepted ceremonies and media. Awareness for all organization (NGOs), chamber of Commerce and Industry, syndicates, TV, radio, universities, news paper, environmental private companies will help on all concerned public awareness related to the risks of PCBs substance that affect human health, animals and the environment.
9. Project Goal	To increase public awareness especially employees directly affected from the risk of PCBs, through applying the appropriate activities in compliance with Stockholm Convention.
10. Objectives	Improving PCBs health and environmental impact issues for all electrical stakeholders
11. Beneficiaries	Power-electrical stakeholders, public and private sectors.
12. Activities	1. Identify the fields of information and awareness to be provided to the stakeholders including: Main sources of PCBs Regulation regarding the elimination of the use of PCBs Risk assessment methodology Health and safety Precautions required when cutting PCBs-containing/Equipment Precautions needed for flushing equipment to remove PCBs Handling PCBs contaminated liquids and equipments PCBs contaminated oil Identification of type of cooling Density of transformer fluid. Health precautions

	Maintenance of PCB transformers Performance evaluation Electrical tests Chemical tests Reclassification of transformers Retro-filling of transformers Retro-filling decision check-list Required characteristics of PCBs replacement oils Control measures for retro-filling Action to be taken in the event of an accident caused by an electrical fault or a fire PCBs toxicological profile Emptying of PCBs transformers Personal protective equipment (PPE) Leaks from transformers Preventative measures to be taken against the risk of cold pollution Measures to be taken in the event of "cold" accidents Measures to be taken to avert "hot" accidents Ventilation Respiratory protective equipments (RPE) Environmental monitoring Leaks and spills emergencies and protection device (retention tank) Technical approach for handling and dismantling Equipment containing PCBs 2. Develop materials on PCBs issues and publicize. 3. Organize workshops for all stakeholders. 4. Organize trainings on PCBs sound management related issues for national and provincial levels. 5. Action Media for information & awareness.
13. Estimated Cost	150,000 EURO
14. Potential Donors	GEF, European Union, World Bank, GTZ, Albanian Government, SECO, SAEFL,
15. Project map location	Throughout Albania

Project Profile 11

1. Project Title	**Socio-economic analysis on PCBs**
2. Implementing Agency	KESH/ATSO
3. Co-operational Agency	MEFWA, METE, MD
4. Duration	24 months
5. Location	Tirana
6. Background	Albania faces some problems related to the management and economical constrain led to keep over aged transformers kept in-use without proper maintenance and high environmental risk. This project seeks to develop cooperative long-term assessment of socio-economic aspects in Albania trough the promotion of the collection and exchange of appropriate data, and the development and application of appropriate assessment techniques. Up to some years ago in Albania, there have not been too many efforts about pollution on PCB-s and their impact to the environment and human health. No records on waste generation and management are kept, no waste management procedures that would provide instructions for waste handling, set responsibilities in waste management and set duties for recording of waste generation has been developed. The awareness level of power facilities employees for knowing PCBs impacts is very low. Until now all wastes are discharging in soil or into the river without any treatment, creating environmental pollution in soil, surface water and may be ground water impacting in human health, animals and the environment around. No any temporary waste storage or disposal facilities are available in Albania. In Power Facilities are in use many old transformers manufactured before 1970 that have created environmental pollution especially in soil and groundwater because of oil spill and leakage during maintenance process or their old age. Most part of transformers is stated on ground or in static support but no secondary containment under transformers, can easily visually observe the contaminated soil under transformers. About 50 % of total amount of transformers are manufactured before 1990 (about 6,000 units) and the average age of transformers on the inspected population with year of manufacture is very old: 28 years. This assessment project will implement mainly on the base of last years experience acquired during ESM in-use equipments, in particular during elaboration of the PCBs inventories report and is being the main outputs. PCBs socio-economic assessment method will be chosen in order to integrate in the most efficient way the relatively scarce information and knowledge, available with particular stakeholders in Albania.
7. Project Rational	To systematically identify the main elements of PCBs risk, prioritizing potential problems related categories of targets in Albania and possible consequences of the PCBs use and management for the socio-economic as a whole and to provide basic information for ESM of PCBs until the end of life of transformers.
8. Project Justification	PCBs socio-economic assessment is an important tool for decision makers. It helps them to assess the social and economic costs and benefits of kept in-use or phase out of over aged transformers in Albania. This assessment project could improve the situation of PCBs equipment in ESM socio economic benefit. This project will assess the possible PCBs management options by means of socio-economic

	cost/benefit analysis in order to ensure, that implementation of the Stockholm Convention in Albania will be socially and economically feasible.
9. Project Goal	The environmental management of PCBs until the end of life of transformers The economical aspect of the PCBs management
10. Objectives	Establish decision tool for socio economic assessment of PCBs equipment use related to life cycle.
11. Beneficiaries	Electrical stakeholders Industrial sector, private and the public sector.
12. Activities	Phase 1: Pilot assessment phase Form a working group of stake holder Plan of pilot risk assessment project Site assessment Issues of risk assessment Conclusion workshop with stake holders (legal issues, technical issues, financial issues: financial mechanisms) Phase 2: Full assessment Form a working group of stakeholder Develop plan of full risk assessment Conduct full site assessment Identify issues of full risk assessment Organize the national conclusion workshop with stakeholders (legal issues, technical issues, financial issues)
13. Estimated Cost	200,000 EURO
14. Donors	SAEFL, GEF, European Union, EIB, World Bank, EBRD, GTZ, Government of Albania
15. Project map location	All provinces and municipalities in Albania

Project Profile 12

1. Project Title	**Minimization and separation of waste at "Mother Theresa" hospital and optimization of existing incineration operations**
2. Implementing Agency	Mother Theresa-Hospital
3. Co-operational Agency	MH, MEFWA.
4. Duration	2008-2009
5. Location	Tirana
6. Background	Medical waste management efforts has already commenced in Albania. First guidelines on the topic have been developed and waste separation carried out at some pilot hospitals. These experiences will be further developed and made operational at Mother Theresa" hospital, the biggest hospital in the country. Mother Theresa hospital is also operating the only existing medical waste incinerator. The operational conditions and waste streams are not optimized for minimizing dioxin emissions.
7. Project Rationale	The project aims at minimizing dioxin emissions from medical waste management by reducing the type and amount of waste incinerated. In addition, the existing incinerator will be technically tuned and its operation optimized. The optimal operating conditions will be kept up by introducing a systematic procedure for start-up, loading, operation and maintenance. This will introduce Best Environmental Practices (BEP) as required by Stockholm Convention to the hospital's waste management. The personnel of the Mother Theresa are well qualified fro their work. Therefore, the hospital is ideal for implementing the updated waste management scheme before further replication. Further, the Tirana region has a reasonably well functioning municipal waste collection system (though the final disposal site needs up-grading) giving another feasible disposal route for the waste not requiring incineration.
8. Project Justification	The minimum estimation of dioxin emissions from health care waste disposal is 14 g I-TEQ/a or nearly 24% of the total emissions and originate from the targeted incinerator. 90% of Medical Waste is ordinary municipal solid waste, not requiring incineration and resulting POP-s emissions. Minimization and separation of waste will further reduce the quantity of medical waste sent for final disposal. Further some of the waste may be reused or the materials can be recycled.
9. Project Goal and Objectives	To reduce dioxin and furan emissions from medical waste management.
10. Beneficiaries	Mother Theresa-hospital, Ministry of Health
11. Activities	Study of the actual scheme of waste management and incinerator operation.

	Develop an appropriate waste minimization and separations scheme for each ward and department in the hospital. Optimize the incinerator operations and develop manuals for incinerator operators.
	Implement the minimization and the separation scheme at "Mother Theresa" hospital. Train incinerator operators and put the new incinerator operating procedures in practice.
12. Estimated Cost	55000 US$
13. Potential Donors	Mother Theresa-hospital, Ministry of Health
14. Other Contributing Agencies	SIDA, GTZ
15. Project map location	Tirana

Project Profile 13

1. Project Title	**Upgrading of medical waste incinerator at "Mother Theresa" hospital.**
2. Implementing Agency	Mother Theresa-Hospital
3. Co-operational Agency	Ministry of Health –Ministry of Environment, Forestry and Water Administration.
4. Duration	2008-2009
5. Location	Tirana
6. Background	Mother Theresa hospital is operating the only existing medical waste incinerator. However, the operational conditions of the incinerator are not optimized for minimizing dioxin emissions. In addition there is no air pollution control system (APCS) installed for the incinerator flue-gases. Hence the incinerator does not represent BAT as defined by the Stockholm Convention and the dioxin emissions are considerable higher than with a proper modern waste incinerator.
7. Project Rationale	The project aims at minimizing dioxin emissions from medical waste incineration at Mother Thereza hospital by upgrading the existing medical waste incinerator to correspond to Best Available Technologies (BAT) as defined by the Stockholm Convention. By upgrading the incinerator, the emission factor for air emissions can be reduced from 40,000 µg TEQ/t to 525 µg TEQ/t representing a reduction of nearly 90%.
8. Project Justification	Most of the official accounted dioxin emissions from medical waste are from the only existing incinerator. By upgrading the incinerator a very sizeable reduction of dioxin emissions can be achieved.
9. Project Goal and Objectives	To reduce dioxin and furan emissions from medical waste management.
10. Beneficiaries	Mother Theresa-hospital, Ministry of Health
11. Activities	Perform a feasibility study for upgrading the existing incinerator at Mother Theresa hospital. Lay down additional hardware and software requirements for obtaining operational conditions as laid down in Stockholm Convention BAT. Procure APCS equipment and install them Optimize the incinerator and train the staff to use the updated system.
12. Estimated Cost	1,500,000 US$
13. Potential Donors	Mother Theresa-hospital, Ministry of Health
14. Other Contributing Agencies	SIDA, European Union
15. Project map location	Tirana

Project Profile 14

1. Project Title	**The design and construction of final disposal units for Medical Waste in Albania**
2. Implementing Agency	Ministry of Health –Ministry of Environment, Forestry and Water Administration
3. Co-operational Agency	Private health care and waste companies
4. Duration	2009-2010
5. Location	Tirana
6. Background	There exit only one bigger final disposal unit for medical waste in Albania. Other hospitals and clinics are disposing their waste either together with municipal waste or are disposing the waste through unauthorized burning. Some smaller autoclaves for waste sterilization are also in use. The direct disposal and burning is against the legislation but the hospitals and clinics find few alternatives for their waste management especially due to their tight financial situations
7. Project Rationale	The medical waste disposal situation in Albania is clearly not sustainable and there is a high possibility of spreading of contagious diseases in addition to the elevated dioxin emissions from the unauthorized medical waste burning. For reducing the dioxin emissions, a scheme for medical waste collection, transportation and disposal will be established. All health care units will be invited to join the scheme which with a few central medical waste disposal units, potentially complemented with smaller units taking care of the non-contagious waste streams at major hospitals.
8. Project Justification	The minimum estimation of dioxin emissions from health care waste disposal is 14 g I-TEQ/a or nearly 24% of the total emissions. The actual emissions are difficult to establish without more detailed information about the unauthorized burning carried out at the hospitals and clinics. By systemizing the waste collection, transports and disposal the current emissions could be reduced to well under 1 g I-TEQ/a. A reduction in public health risks from contagious diseases would be obtained as a valuable side-effect from the proper medical waste management.
9. Project Goal and Objectives	Reduction of dioxin and furan emissions from the medical waste operations by establishing centralized collection, transport and final disposal.
10. Beneficiaries	Ministry of Health, hospitals and private clinics.
11. Activities	Study the existing medical waste disposal operations at hospitals and clinics nation-wide. Prepare a plan for an efficient collection and disposal system for medical waste. Obtain endorsement from major participants in the collection and disposal plan.

	Procure and install additional disposal units. Set collection and transport system in operation.
	Hand-over the operation to selected entity
12. Estimated Cost	1,300,000 US $
13. Potential Donors	Ministry of Health , private health care companies
14. Other Contributing Agencies	GEF, EU
15. Project map location	Tirana and nation-wide

Project Profile 15

1. Project Title	**Pilot project for separating, recycling and reusing of materials without uncontrolled waste burning.**
2. Implementing Agency	Ministry of Environment, Forestry and Water Administration-Ministry of Local Government
3. Co-operational Agency	Saranda Municipality and other municipalities
4. Duration	2009-2011
5. Location	Saranda and 2 other towns in Albania
6. Background	The by far biggest activity contributing to unintentional POPs, dioxin, emissions is uncontrolled waste burning. Much of this burning is happening already at collection points in order to separate valuable waste streams such as metals. Intentional waste burning for same reason takes place also at municipal landfills. The aim of the project is to establish waste separation at source and collection points as well as at the landfill sites so the burning and consequent dioxin emissions can be reduced. The project will be implemented at selected smaller cities in Albania. One of these is Saranda, by the Greek border, with a high potential for developing tourism. Solid waste management and waste burning is identified as one of the main problems by the municipality.
7. Project Rationale	Uncontrolled municipal waste burning stands for nearly 75% of the total dioxin emissions in Albania. The waste burning is both intentional as well as unintentional. The unintentional burning is mainly due to poor design and operation of landfill sites. The project will be targeting the intentional municipal waste burning which is done to collect valuable materials, mainly metals, from the waste. This will be achieved by setting up waste separation at source and collection as well as providing possibilities for waste separation at final disposal site.
8. Project Justification	The project will effectively reduce the emissions of the municipal waste burned at project municipalities. This will decrease the dioxin releases as well as other nuisances from uncontrolled burning. Also improved hygiene and visual attractiveness of the environment will be achieved at the pilot municipalities. Further the scavenging community will be provided an organized and less risky environment for their activities. It is foreseen that the introduced scheme can be easily replicated in many municipalities throughout Albania.
9. Project Goal and Objectives	To reduce dioxin and furan emissions from solid waste management by introducing separation and re-cycling. To reduce human risk from waste separation and scavenging activities. Enable economic development through ameliorated local environmental conditions.

10. Beneficiaries	Community of Saranda and other municipalities. Poor people involved in scavenging activities.
11. Activities	Study of the actual situation with waste separation and recycling at homes, collection points and landfill sites
	Design a municipal waste separation scheme and the collection of the separated waste. Plan and organize the waste separation and retrieval of valuable waste streams at landfill sites
	Implement the collection at municipal collection points. Carry out waste separation at landfill sites.
12. Estimated Cost	500,000 US$
13. Potential Donors	Municipalities, Ministry of Local government
14. Other Contributing Agencies	GEF, WB
15. Project map location	Saranda and other targeted municipalities

Project Profile 16

1. Project Title	**Capacity building on POP-s management for relevant stakeholders**
2. Implementing Agency	MEFWA
3. Co-operational Agency	SM, KESH, MD, MAFCP, Ministry of Local Government and Decentralization (MLGD)
4. Duration	5 years
5. Location	Municipalities, counties
6. Background	Employee, technical staff and supervisors from MEFWA, LG, REA,
7. Project Rationale	Acquaintance with the level of contamination and identification of the priorities
8. Project Justification	low awareness of hazards connected with POPs releases in most of the target groups; lack of qualified experts on POPs identification and monitoring; lack of qualified experts for industrial waste treatment; lack of knowledge on soil and site assessment lack of technical capacities for identification, control and monitoring of air soil and groundwater in the contaminated regions insufficient enforcement of pollution prevention legislation; lack of inclusion of the local authorities in the issues concerning POPs contamination and especially those concerning the waste management
9. Project Goal and Objectives	• assessment of deficiencies in the institutional and technical capacities of the LA, LG, CA, EI and REA • training of IM&ICW and of IWT&M • acquaintance with the techniques for soil and site assessment • provide well equipped laboratory for the monitoring of water, air and soil quality • provide in REAs qualified experts for the enforcement of legislation concerning the prevention of the pollution • building in the municipalities qualified sectors for waste management
10. Beneficiaries	Municipalities, counties, REA, CE, IE, CA, PE
11. Activities	• two day meting for evidence of needs for guidelines, training and means (2 experts from EU + relevant stockholders) and two workshops (2 EU-expert and participants from all stockholders) • three training sessions for IM&ICW (3 EU-experts + participant from LG, LA, REA, IE, PE) • three training sessions for IWT&M (3 EU-experts + participant from LG, LA, REA, IE, PE) • eight training sessions for the technical staff of RC and REAs'

	structures (8 EU-experts + representatives from relevant RC and all REA) • provide the laboratory for air, soil and water monitoring • installation, calibration and operators' training (1 month, 2 operators for training abroad) • four training sessions with the REAs staff for the enforcement of the legislation concerning the prevention of the pollution (2 EU-experts + representatives from all REAs) • four training sessions for the strengthening of the institutional and technical capacities in the municipalities and counties for ESWM (2 EU-experts + representatives from relevant municipalities and counties)
12. Estimated Cost	478,800 $
13. Potential Donors	EU, GEF, WB (250,000 $)
14. Other Contributing Agencies	MEFWA, Research Institutions, Respective Ministries (150,000 $)
	Private donors and participants from NGOs (78,800 $)
15. Project map location	Tirana, Durrës, Vlora,

Project Nr. 17

1. Project Title	**Site investigation, priority setting, site assessment and development of remediation plans for the potentially POPs contaminated sites**
2. Implementing Agency	MEFWA
3. Co-operational Agency	SM, MLGD, PE
4. Duration	2 years
5. Location	Sites (municipalities, counties, town or cities), which shall be considered potentially contaminated
6. Background	chemistry, geology, petroleum chemistry, technical staff, RC, universities
7. Project Rationale	provide good acquaintance for the level, penetration and the borders of contamination in soil and in the superficial and groundwater and developing corresponding projects for their rehabilitation
8. Project Justification	contamination of the air, the soil and probably the groundwater in the area of former PVC processing plant in Lushnje and in the territory near the stores in rail-station Bajzë-Shkodër; contamination of the air, the soil and eventually the groundwater in the territory near and around the former coke processing plant in the ex-metallurgical combine in Elbasan; contamination of the air, the soil and probably the groundwater in the territory near and around the area where wood has been chemically treated in the former wood processing combines in Elbasan; contamination of the soil and eventually the groundwater as result of waste burning in the landfills.
9. Project Goal and Objectives	acquaintance with the level of contamination and identification of the relevant issues; based on the results of the above activity a detailed site assessment will be conducted for the most POPs contaminated/priority sites; acquaintance with the different methods and techniques used for the rehabilitation of the contaminated sites; development of the rehabilitation plans for the most POPs contaminated/priority sites.
10. Beneficiaries	The community, who live near or around the contaminated sites and development of those regions, the whole municipality or county and the tourism
11. Activities	Investigation of the level of POPs concentrations at the sites potentially POPs contaminated (8 sites, 4 (1+3) sampling and analyses for each site) building of a PIU. Performing the necessary analyses for identifying the penetration of the contamination and the borders of the contaminated area. Four workshops for training of the participants for making acquaintance with the methods and techniques used for the rehabilitation of contaminated sites (4 Eu-experts for the techniques used for the remediation of POPs contaminated regions and objects and the ESWM + participants from all

	relevant stockholders). Data processing and rough cost and timeframe estimation for the rehabilitation projects.
12. Estimated Cost	893,000 $
13. Potential Donors	GEF, WB, JICA (600,000 $)
14. Other Contributing Agencies	MEFWA, Research Institutions, Line Ministries (200,000 $)
	Private donors and participants from NGOs (93,000 $)
15. Project map location	Elbasan, Tiranë, Lushnje, Bajzë

Project Profile 18

1. Project Title	**Project for public awareness about the risk on human health in case of waste burning.**
2. Implementing Agency	Ministry of Environment, Forestry and Water Administration-Ministry of Local Government
3. Co-operational Agency	Municipalities of five cities of Albania
4. Duration	2009-2011
5. Location	The five biggest towns in Albania
6. Background	The by far biggest activity contributing to unintentional POPs, dioxin, emissions is uncontrolled waste burning. Much of this burning is happening already at collection points in order to separate valuable waste streams such as metals. Intentional waste burning for same reason takes place also at municipal landfills. The aim of the project is to inform and awareness the public of five cities of Albania about the risks and consequences that bring the waste burning and dioxin emissions for human health. The project will be implemented at five biggest cities of Albania. Were solid waste management and waste burning is identified as one of the main problems by the municipality.
7. Project Rationale	Uncontrolled municipal waste burning stands for nearly 75% of the total dioxin emissions in Albania. The waste burning is both intentional as well as unintentional. The unintentional burning is mainly due to poor design and operation of landfill sites. The project will be targeting general public. Collaborating with municipalities of the cities and local media the project will inform and awareness the public about the risks and consequences that bring the urban waste burning and their dioxin emissions for human health.
8. Project Justification	Information and awareness of the relevant public groups have a special importance compared with wide people. Concerned people in general are low-lived and not well informed on the risk of Pops. Action plan on their information/awareness on POP-s must be direct and near communication with a simple language, concrete examples. And audiovisual tools. Some of POP-s likes furan and dioxins are not known from wide public about their risk for human body. That is why information and awareness about it must be very present everywhere around surrounding people.

9. Project Goal and Objectives	To reduce dioxin and furan emissions from solid waste management by. To reduce human risk from waste separation and scavenging activities.
10. Beneficiaries	Communities of 5 towns of Albania. Poor people involved in scavenging activities.
11. Activities	Develop field thematic meetings and sensitization campaigns with community involvement in 5 cities. Public campaigns in the areas near the Awareness campaign about air pollution from POPs coming from burning of urban waste collaborating with local media. Periodical roundtable discussions about POPs issues on local and national radio and TV stations with the experts, politicians and decision makers Preparation and distribution of posters, brochures, leaflets, video spots and documentaries. Specific awareness aimed at school children
12. Estimated Cost	100 000 EU
13. Potential Donors	Municipalities, MEFWA, Ministry of Local government and Decentralization, Local business.
14. Other Contributing Agencies	Local environmental NGO-s, Foreigner donators
15. Project map location	Tirana, Durres,Shkodra,Vlora, Saranda

Annex II: Decision of Council of Ministers of Republic of Albania on Approval of National Implementation Plan for Reduction and Elemination of Persistent Organic Pollutants

REPUBLIC OF ALBANIA

Council of Ministers

DECISION

No_860 Dated 20.12.2006

ON

THE APPROVAL OF NATIONAL IMPLEMENTATION PLAN FOR REDUCTION AND ELIMINATION OF PERSISTENT ORGANIC POLLUTANTS

Based on the article 100 of the Constitution and point 1 of article 8 of the law no.8934 dated 5.9.2002 on "The protection of environment" with the proposal of the Minister of Environment, Forestry and Water Administration, the Council of Ministers

DECIDED:

1. Approval of national implementation plan reduction and elimination of persistent organic pollutants attached to this decision.
2. Ministry of Environment, Forestry and Water Administration as well as all the interested ministries and institutions mentioned in the national implementation plan are assigned for its implementation.

This decision enters into force after its publication in the "Official Booklet".

PRIME MINISTER

SALI BERISHA

MINISTER OF ENVIRONMENT, FORESTRY
AND WATER ADMINISTRATION

LUFTER XHUVELI