Development of a Strategy to Harmonise State and Regional Waste Treatment Legal Basis with the EU Standards

Final Report: **Recommendations for the development of a National Policy of Waste Management for Ukraine**

19 October 2004

Acronyms

ADEME	Agence de l'Environnement et de la Maîtrise de l'Énergie (French Agency of Environment and Energy Mastery)
ASTM	American Society for Testing and Materials
BAT	Best Available Techniques
BRGM	Bureau de Recherches Géologiques et Minières (French Bureau of Geological and Mining Research)
CEN	Comité Européen de Normalisation (European Committee of Standardisation)
DENR	Department of Ecology and Natural Resources (State) - Ministry of Eco-resources of Ukraine
DCHS	Department of Housing and Communal Services
EBRD	European Bank for Reconstruction and Development
ED	European Delegation in Kiev
EU	European Union
IFIs	International Finance Institutions
IPPC	Integrated Pollution Prevention and Control
ISO	International Standard Organisation
JEK	Local Housing Administration
NGO	Non-Governmental Organisation
NIMBY	"Not In My Back-Yard"
NIMEY	"Not In My Election Year"
PCB-PCT	Poly Chlorine-Biphenyls Poly Chlorine-Terphenyls
PPP	Public Private Partnership
PWO	Permanent Waste Observatory
RSA	Regional State Administration
SES	Sanitary and Epidemiological Service
SHW	Solid Household Waste
SHWM	Solid Household Waste Management
SIW	Solid Industrial Waste
SME	Small and Medium (size) Enterprises
SIWM	Solid Industrial Waste Management
ST	Study Tour
TACIS	Technical Assistance to Commonwealth of Independent States (Programme of Assistance of the EU to NIS and Mongolia)
TIWG	Total Index of Waste Generation
TOR	Terms Of Reference
UAH	Ukrainian (UA) Gryvna (H), official currency unit
WB	World Bank
WTO	World Trade Organisation

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1 Context

The European Commission and the Government of Ukraine agreed on co-operations and decided the programme: Institutional Building Partnership Programme - Ukraine fiche 3 - KI 02-03 "Development of a Strategy to Harmonise State and Regional Waste Treatment Legal Basis with the EU Standards". For the European Commission this programme has been entrusted to the French Ministry of Ecology and Sustainable Development throughout its public bodies BRGM (Bureau de Recherches Géologiques et Minières) and ADEME (Agence de l'Environnement et de la Maîtrise de l'Énergie).

On the side of the beneficiary, the Cabinet of Ministers of Ukraine named the state company UkrEkoKomResurcy for the national scale and the Oblast of Chernivtsi for the regional scale.

The programme focuses on industrial waste. Two targets have been defined:

1. A capacity building at the national and regional levels on the technical, regulatory and economical issues on industrial waste management,
2. The definition of a draft of a regional industrial waste management plan for the Chernivtsi Region

After the field studies, it appeared it was necessary to build a strong policy of waste management. The order of the Ministry of Ecology and Natural Resources of January 2003 defines the "Political Priorities, Strategic Directions and Mechanisms for Implementing the State Policy in environment protection, efficient use of natural resources, ecological safety, hydrometeorological, topographic, geodetic and cartographic activities" (See Annex 2: Order 2003-0001). This order is like a catalogue of good-wills but it doesn't define the "mechanisms", the means, the organisation.

The present report shortly describes the principles, the objectives, the means, the organisation of a policy of waste management.

2 Objectives

2.1 To control the streams of waste

We are obliged to notice the bad state of the Solid Waste Management in the transition countries but first the stakes must be valued. The waste which are not correctly disposed can be considered as abandoned, in full coherence with the definition of the waste: *each object its owner decides to put out of use*. The most common and the most harmful effect of this abandon is the pollution of the water resource, whose the ultimate effect is to attempt to the human health. Citing one of the rare serious study about that subject, the Federal Ministry of the Protection of the Environment concluded in 1994 that the contamination of the water resource by the 160,000 illegal dumpsites within the territory provoked 85,000 deceases per year, mainly among babies and old people. An extrapolation to 2,000,000 deceases per year all over the world is not completely stupid. And what to say of the damages by genetic malformations, apparent or hidden ?

The stake of the SWM is so to control the streams of potential pollution. It has priority because there's human death. The first objective in this case, and it's often already ambitious, is to stop to worsen the situation, to stop to put new waste in the illegal dumpsites, to stop to increase the streams of contamination of the water resource. It's what we call to control the streams of waste. Concretely it means to be sure to collect all the waste and to bring them all in facilities which insulate them from the environment. For that, three conditions are necessary and we define them as the three fundamentals of the SWM.

2.1.1 To vanquish the paper tigers

Everywhere in the world the management of the waste relates to the social contract. The life between several people puts immediately the principle of to establish social rules to put the waste of the community in an unique place out of the places of housing. The waste is always put at the margin, as said the Pr GOUHIER. The societies get sophisticated along the time and the evolution but the waste management stays always entrusted to the community or its organs as the municipality, the region, the state. The most commonly the city manage the household and common waste. With the development of our scientific knowledge on the subject appeared the notions of industrial waste, special, hazardous, and other, whose the management is the more often relevant of larger entities.

For the disposal of the waste, resources are necessary. The use has been established that this service (for the household waste) must be paid by the inhabitants, by the way of a tax or a fee, or for the common waste of the legal entities by a fee. The first job is to take knowledge of the system of taxation of the waste. All over the world there’s a lot of imagination and the system can be based upon the surface of the housing, the incomes of the inhabitants, the number of inhabitants, the number of rooms, and so, and the system is usually very complex with a lot of regulations. But these paper tigers hide the fact that the efficiency of this tax is only from 50 to 80%, if not less, i.e. the recovered amounts are of this order of size.

It must be noticed in parallel that the service of collection and disposal of the household waste is missing means, whether the park of containers, the state and the number of trucks, the state of the "legal" dumpsites, the payment of the salaries, the debts of gasoline, etc. And what to say of the administrative means ! Recently we saw municipalities where the receivables amounted more than one year of the product of the fees.

It cannot be done anything without the means. If it's wanted to collect all the waste, the services which are in charge of that must have the means. So the first fundamental is to restore the efficiency of the system of fees. As a large part of the population is under the threshold of poverty there's a mechanism of compensation by which the State allows subsidies but these subsidies must be paid in time.

2.1.2 The sanitary landfill

After to have collected the waste, it must be put somewhere. Let's kill immediately this illusion of the recycling: it can be hoped between 8 and 12% recycled waste; so the remaining 90% must go somewhere.

It exists a lot of regulations about the landfills, whether international or national in developed countries, based on a level of technique and even, as we have the means, the Best Available Techniques (BAT). Everybody has not the relevant means. So let's stay in the objective which is to forbid the contamination of the water resource by the waste and their decomposition (organics) or their reactions (chemical). To this objective, the inventory of the local means and of a reasonable financing effort allows to define the game rules: the minimal criteria to impose in aim the landfills offer a level of security satisfying for the protection of the resource at economical conditions affordable by the community. These criteria cannot be the Western or International criteria word for word regarding the state of the today's economy. They must reach them progressively with the recovery of the economy.

With these criteria, it's then possible to locate the future landfills. On one hand, few convenient sites will be found, on the other hand, it's easier to well manage a landfill between 100,000 and 200,000 t/y than a lot of landfills of 10,000 t/y. It must aim to a regional plan of creation of sanitary and secure landfills.

For the industrial waste, it must be the same approach. The main is to take them out of the plants and to put them in a secure place. And if we have not today the means to treat them, a reversible storage must be imagined.

So the second fundamental is to cover the territory with a park of landfills allowing to insulate the whole waste from the environment. For a progressive settling, it will be useful to rationally characterize the existing landfills which can be maintained for some time without significant attempt to the environment.

2.1.3 A police of the Environment

Let's not dream. Nobody wants to pay for the protection of the environment. Once the means are given to control the source of the waste and their destination, all the operations of the chain must be under control. It's the role of the public power and it's a police power. In aim to do that, must be controlled the

nature of the waste, the quantities of waste, their origin, their transportation, the good operation of the landfills. To do these controls, liable metering dispositions (laboratories, systematisation of the weighting of the waste) must be available everywhere. So the Administration must have enough means in terms of personnel, computers, vehicles. All that must be regulated with a system of sanctions and these sanctions must be applied.

The common drift of this situation is corruption. If we impose to a subject an obligation without any reasonable operating solution, for example if the treatment of a waste is imposed although there's no such a facility or if it's out of price, a corrupter is created. If a power is given to the administration without the decent means to work (including the wages of the officers), corruptibles are created. And when a corrupter meets a corruptible, there's corruption.

At least, trying to promote a minimum of democratic process, all decision of the administration toward a justiciable may be contested in front the court with fair chance of success and be pleaded in appeal if necessary.

So the third fundamental is to create or to restore a true administration of the environment and all the annex necessary components.

2.1.4 Strategic Planning

All that cannot be done within a few days by some orders. We worry each time we read "put at European level of the regulation" or "European acquis" as if it was enough to translate the package of the European regulation in local language and to vote it in Parliament. This way to do has the perverse effect to create a new field of corruption by creating unreachable objectives.

The local authorities must can manage their own situation. It's the only sense of an approach of co-operation. The exercise becomes complex with the necessity to simultaneously manage the transition. The permanent question must be: what to do with what we have? It cannot be presupposed a recovery if not an economical recovery. After to have put at level our three fundamentals, and it's already a huge economical effort, the rapprochement of the "advanced" practices and regulations can only be progressive. So it's indispensable to create a structure of consultation and management of this evolution. Environment and waste management must be true priorities but nothing can be imagined beyond the available means. It must be a Plan and a structure of the Plan. It must be a Plan to take cohesive decisions on a few years, keeping in mind they must be harmonised between economy, regulation, administrations of control. It must be a structure of the Plan to prepare all these decisions with a representation of the elected and the administrations as far as of the civil society, to actualise the data of the waste, to control the good application of the Plan.

A transverse principle of all these strategic considerations is and must stay pregnant: the one of coherence and synchronization. A waste management includes multiple components. We spoke of regulation, police of the environment, laboratories of control, treatment facilities, financial means, administrations. It must be added standards of sampling and analysis, sensitisation of the elected, public awareness, training of the officers and of the elected, and so many others. It's dangerous to make to progress one of the components on a given subject without to check that all the other components stay cohesive with this advance and that this advance is cohesive with the rest of the system. It's an es-

sential dimension of the Plan: to take decisions but checking that they are always synchronous and cohesive.

To summarize our purpose, each time is envisaged a modernisation of a waste management, it must be modestly given as a first objective to control the streams of waste. For that, three operating conditions, which are also three intermediate objectives, are: 1) to have the technical and financial means to collect the whole of the waste; 2) to have the secure storage capacities to dispose all the waste; 3) to have a set of cohesive and efficient institutions to control the streams of waste.

2.1.5 Regulation package

We can define a "**regulation package**" as a whole including a regulation (law, order, resolution), the necessary means for the administration (and the relevant orders and instructions), the necessary equipments of control (laboratories, standards of analysis, accreditation of laboratories), the facilities for the collection and the treatment of the waste at a reasonable price, the organisation of the training of the officers of the administration and of the executives of the producers of waste, the communication of the implementation of the regulation toward the public.

2.2 Harmonization with the EU standards and WTO requirements

As we'll see in the following paragraphs, the EU regulation can inspire the reforms of the situation. It must be kept in mind that the EU regulations about environment protection started 30 years ago. The on going state of these regulations reflects 30 years of improvement and a comfortable level of means. The experience of the pre-adhesion co-operations of 10 new member states shows that the applicability of the EU regulation must take into account a transition period of 5 or 10 years or more.

Nevertheless, the main principles are in the following regulations:

2.2.1 Horizontal Regulations (all waste or by facility category)

- Council Directive 96/61/EC of 24 September 1996 concerning integrated pollution prevention and control *(Official Journal L 257 , 10/10/1996 P. 0026 – 0040)*

- Directive 2003/4/EC of the European Parliament and of the Council of 28 January 2003 on public access to environmental information and repealing Council Directive 90/313/EEC

- Directive frame 75/442/CEE of the Council of 15 July 1975, relative to the **waste** (JOCE 25 July 1975) modified by the directive 91/156/CEE of 18 March 1991 (JOCE 26 mars 1991)

Complemented by a decision of the Commission 94/3/CE of 20 December 1993, establishing a list of waste whose the owner has the obligation to dispose (JOCE 3 January 1994)

- Directive 91/689/CEE of the Council of 12 December 1991, relative to **hazardous waste** (JOCE 31 December 1991)

Complemented by a decision of the Council (94/904/CE) of 22 December 1994, establishing a list of hazardous waste *(projects of modification on going)* (JOCE 31 December 1994)

- Regulation 259/93 of the Council of 1st February 1993, concerning the survey and the control of the **transfer of waste** at the entrance and the exit of the European Community *(frequent modifications)* (JOCE 6 February 1993)

- Directive 89/369/CEE of 8 June 1989, concerning the prevention of the atmosphere pollution from the **new facilities of incineration of municipal waste** (JOCE 14 June 1989)

- Directive 89/429/CEE of the Council of 21 June 1989, concerning the reduction of the atmosphere pollution from the **existing facilities of incineration of municipal waste** (JOCE 15 July 1989)

- Directive 94/67/CE of 16 December 1994, concerning the **incineration of hazardous waste** (JOCE 31 December 1994)

- Proposition of directive on **incineration of municipal waste** *(actually submitted to the advice of the Committee of Regions)*.

2.2.2 Vertical Regulations (by waste species)

- Directive 75/439/CEE of the Council of 16 June 1975, concerning the elimination of **used oils** (JOCE 18 June 1975)

- Recommendation 81/972/CEE of the Council of 3 December 1981, concerning the re-use of old papers and the utilisation of **recycled papers** (JOCE 10 December 1981)

- Directive 86/278/CEE of the Council of 12 June 1986, relative to the protection of the environment and the soils when using **waste water sludge** in agriculture (JOCE 4 July 1986)

- Directive 91/157/CEE of the Council of 18 March 1991, relative to the **batteries and accumulators** containing some dangerous matters (JOCE 26 March 1991)

- Directive 94/62/CE of the Parliament and the Council of 20 December 1994, relative to the **packaging** and to the packaging waste (JOCE 31 December 1994)

- Directive 96/59/CE of the Council of 16 September 1996, concerning the elimination of the **PCB & PCT** (JOCE 24 September 1996)

2.3 Optimisation of the economical cost/environmental benefit ratio

In western countries, the cost for the elimination of the waste may be from 10 €/t up to 5000 €/t for some very hazardous waste as PCB/PCT. Nowadays Ukraine cannot afford excessive costs for the elimination of waste and doesn't dispose of the facilities able to eliminate all kinds of waste.

So the "regulation packages" must be developed and implemented progressively according to the economical recovery and the knowledge of the streams of waste and of the hazardousness of the waste. It must be done step by step in aim to give to the administration, to the producer, to the waste professionals the time to implement each new "regulation package". For that, the Ministry must dispose of a statistic tool allowing to follow the concrete results of the implementation on the field.

Two parallel strategies can be developed: on one hand to treat the waste at an affordable cost and on the other hand to store temporarily the hazardous waste which are too expensive. In this second case, the hazardous waste will be insulated from environment but identified and under the control of the administration as long as the facilities will not exist and/or the cost will not be affordable for the producers.

3 Main tasks

3.1 Understanding the situation

The preliminary to any policy of waste management is to have a true view of the figures.

The Tacis Programme "Improvement of the Solid Household Waste Management in Donetsk Oblast" has proposed, implemented and checked a methodology allowing to know the production of household waste both in quantities and qualities at the regional scale. Even if for this first try the liability of the figures is ±5% for quantities and ±3% for the qualities, this approach must be replicated in all the Oblasts, the Autonomous Republic of Crimea and the cities of Kiev and Sevastopol. The figures and the data must be concatenated at the national scale by the Ministry.

The Tacis Programme "Development of a Strategy to Harmonise State and Regional Waste Treatment Legal Basis with the EU Standards" has checked in Chernivtsi Oblast that the passportization of waste allows to dispose of the figures of the production of industrial waste. It is a legal obligation for the producers of >1000 t/y TWGI[1]. This legal obligation must be quickly applied by all the Inspections of Environment and the figures and the data must be concatenated at the national scale by the Ministry.

It has been seen also in both the two Tacis Programmes that the passportization of the waste treatment facilities allows to dispose of figures. It has also been seen that the main way to dispose the waste is in landfills and dumpsites. It appeared in Donetsk Oblast that the knowledge of existing landfills and dumpsites was insufficient. So a methodology has been developed in aim to make a qualified inventory of landfills. This approach must be replicated in all the Oblasts, the Autonomous Republic of Crimea and the cities of Kiev and Sevastopol.

At least, the transportation of waste in largely unknown and uncontrolled. A "regulation package" as the French one about waste transportation can be easily and quickly transposed in Ukraine.

3.2 Enhancement of the Administration

There's no policy of waste without a police of waste.

3.2.1 To improve competencies

The French culture of the administration of environment is to size the Inspectorates as enough large to gather a polyvalent team of Inspectors. Each one must be a good generalist and must have a domain of expertise. On average

[1] the Total Waste Generation Index (the TWGI) is calculated according to the following formula:
TWGI = 5000 * m1 + 500 * m2 + 50 * m3 + 1 * m4
where m1, m2, m3 and m4 are the amounts of waste of corresponding danger classes (classes 1, 2, 3 and 4, respectively), generated y the producer.

each inspector has 15 days per year of training courses, shared in generalities and in his own domain of expertise.

The Ministry must define a policy of training for the Inspectors and must begin to apply it as soon as possible. Each inspector must define each year with his hierarchy his own annual programme of training.

3.2.2 To dispose of the necessary means

The Inspection must dispose of the necessary means for a maximum of controls. It supposes to be equipped with vehicles and computers. For a just-in-time information about the news of the regulation and so, the inspectorates must be equipped with modern communication tools: phone (with invoices paid in time), fax, internet, and even mobile phone when there's a emergency situation. The communication of the regulation news must be managed in aim to ensure each one receives in time the new texts and instructions from the Ministry. The objective must be as soon as possible:

- 1 computer for each inspector;
- phones, fax and mobile phones in each inspectorate;
- internet access in each inspectorate;
- 1 car (in good state) for 2 inspectors;
- supplies budget;
- management of the information: systematic diffusion of new or updated regulations, access to a pollution database, …

Today the Inspection has laboratories. There's too many laboratories and each one has not the means to dispose of a modern equipment. The existing equipment of these laboratories is sized for % or ‰ investigations using chemical reagents dosage methods. Nowadays, regulations and investigations for pollutions require ppm (part per million) if not ppb (part per billion) analysis. These corresponding equipments are not available in the laboratories of the inspection. The existing laboratories use Ukrainian standards, describing the methods in accordance with their equipment. The analysis with modern laboratory equipments are described in international standards (ISO), European standards (CEN) or national standards. For the moment, these international standards are not recognized by the Ukrainian office of standardisation. This question must be answered preliminarily to any investment in laboratory equipment.

3.2.3 To review the scale of the fines

The maximum fine is today calculated as 5 times the minimum salary. A fine of 80 UAH cannot be dissuasive for an industrial company ! The maximum fine should be calculated on the basis of the incomes of the company, with a fixed minimum amount.

3.2.4 To review the procedure of prosecution

The Inspection has its own programme of control and monitoring. The inhabitants can complain of pollution or troubles. It can be to the Inspection, to the Security Service, to the Prosecutor, to the Mayor, to the Governor, to the Deputy. The Inspection has to examine the complaints, to carry on inquiries, audits, controls, and to report to the authorities.

Actually the procedure requires different samplings and analysis with strict rules which are to heavy in comparison with the means of the Inspection. The procedure must be adapted to the means of the Inspection, naturally staying fair for the facilities, and periodically revised with the evolution of the means.

3.3 Improvement of the passportization of the facilities

Within some conditions a facility has to ask an authorization from the administration. It's usually called a "permit", in Ukraine it's called a "passport". The company has to provide a study and a description of the means it will use in aim to control its emissions of pollution.

The level of these studies is largely weak for two causes: good studies are expensive and good studies require highly qualified study offices. The IPPC Directive can inspire a reform of the procedure of passportization and of the content of the files submitted to the administration.

An other factor must be taken into account. The protection of underground water requires geological and hydrogeological studies. The necessary data are belonging to the Geology Administration and are considered as Defence Secret. It must be decided to free the part of this information which is necessary for the studies of local impact on underground water.

At least, everywhere the permitting procedure includes a consultancy of the neighbours: inhabitants, local authorities. Such a disposition must be progressively included in the procedure. Progressively because it supposes to improve the public awareness about these questions.

3.4 Development of consulting and engineering

As we said previously, the level of skills of the existing offices (studies, engineering, consulting) must be improved in aim to improve the quality of the projects and the studies.

This can be reached with a budget for public orders (studies for the Ministry or for local administrations) and fair calls for tender. The ISO 9000 certification of these offices can be pushed and helped. At least, co-operations, licensing agreements, joint ventures with Western offices must be encouraged.

As soon as possible, the standards and norms missing in the Ukrainian standards must be taken as they are in the international standards: ISO, CEN, ASTM[2]; or national, and applied in the new projects.

[2] Formerly known as the American Society for Testing and Materials, ASTM International provides standards that are accepted and used in research and development, product testing, quality systems, and commercial

3.5 Development of an industry of waste

The waste disposal is a market and some investors will soon be interested by this market. The State must develop the means in aim to control the quality of the job, the protection of the environment and the respect of the regulations. It must also help the creation of the market.

3.5.1 Progression of prices

A special attention must be paid to the tariffs and prices of the waste disposal. The enterprises cannot pay the EU prices for their waste and nobody will be able to oblige them to pay a price they economically cannot pay. So it's better to start with low cost waste and technologies as the sanitary landfill, the regeneration of solvents and oils, the incineration in cement plants. As we said, an alternative for the other waste is to create temporary storage facilities.

3.5.2 Development of secondary raw materials

In the industry, it's usual to consider all the by-products of the process as waste although they can be a raw material for another industry. The difficulty is to find which other company can need these by-products. So a useful way has been developed in EU with Stock Exchange of Waste and it became much more easy for some years with internet. Each one can offer his waste or look for secondary raw materials.

3.5.3 Development of recycling

Industry and commerce use a huge quantity of packaging as pallets, cardboards, plastic films, plastic foams, steel ribbon, and so. The international trade is quickly developing and these waste will nearly be more and more huge for the waste management. It has been proved it's relatively easy to organize a selective collection of these materials directly at the work places they are produced as waste. The relevant recycling industries must be developed and this good practice must be encouraged.

3.5.4 Waste transportation

To carry waste is a job. A lot of industrial waste are submitted to the UN regulation of the transportation of dangerous goods. For the State, it fundamental to be sure that a waste goes to an authorized disposal facility. So the waste transportation must be considered as a particular economical sector by itself and the State should arouse the creation of very professional companies.

transactions around the globe. ASTM standards constitute a wide international consensual approach about these problems as a “state of art”.

3.5.5 Quality of the job

The existing procedure of passportization and the means of control of the Inspection are for the moment unsatisfying. It will be improved. A particular attention must be paid to the development of the certification (ISO 9000 and ISO 14000) of the waste treatment facilities.

3.5.6 Call for pilot projects

The creation of the market can be helped as France did with ADEME. As a first step when a new regulation is announced but not yet applicable, ADEME launched a call for proposal with the allocation of subsidies to the selected projects. It's like that the first sorting facilities have been created. Even this year (2004) it has been done for new technologies for tyres recycling.

4 Methodology

4.1 Development and adjustment of the regulation

It must be kept in mind that a regulation is only a brick in a complex building, more in matter of environment.

Scientific knowledge: first the problem must have been identified as a problem and the scientific community must have brought elements of understanding of the problem. To suspect a molecule to pollute is one thing. To be able to describe the mechanism of attempt to the health of the organisms or to the balance of the ecosystems, which dose and in what conditions, is necessary in aim to define limits.

Technical solutions: once the problem identified and known, it requires technical solutions.

Industrial solutions: if technologies have been adjusted and validated, then it's needed that enterprises (or organizations) should be able to operate them and at an affordable price.

Regulation: it is possible to define norms, limits, to control a problem sufficiently understood, disposing of validated technical remedies, when there's a sufficient offer on the market in aim to satisfy the new needs generated by the regulation.

Control: to meter the emissions or the receiving middle must be available. It supposes the existence of analytical means, analytical standards, laboratories able to realize these measures.

Police: it must be possible to control and to penalize the infringements. Nobody invests an annuity in environment and the regulation is only applied by the fear of being caught. So it's needed an inspection (administration) disposing of the human and material means to accomplish its mission.

Sanction: it must be a system of sanction with procedures of investigation, of evidence, of judgement. For pecuniary penalties, it must be a system of recovery gradual but enforceable at last resort.

Recourse: everybody can be wrong, including the inspection and the courts, so it must be disposed of appeal court and supreme court.

For each main part of the regulation a working group must be constituted of a panel of experts, high officers of the involved administrations but also field inspectors, industrialists and representatives of the civil society.

The working group must prepare a programme for the regulation defining step by step the level of the regulation and the necessary means to apply it. In a lot of cases the regulation should announce the measures that should be applicable one or two years in advance in aim to let to the companies the time to implement the equipments or to the professionals the time to develop the required services.

4.2 To synchronize the jobs

The Inspection needs some time to implement each new regulation. So it's not realistic to ask the Inspection to implement too much new regulations simultaneously.

On the other hand, the preparation of one regulation, as we said, needs to develop a lot of components (technologies, analysis equipments, standards, etc.). So a main task of the Ministry will be to create a coordinating unit managing the general programme of development of the regulation and checking the advancement of the tasks of all the working groups.

4.3 Organisation of the Ministry

The Ministry should dispose of the following directorates:

- Direction of the Forecast

In charge to establish waste statistics and pollution statistics, to provide forecasts, to manage the codifications, to exchange data with other countries and international organisations

- Direction of the Science

In charge to animate and to develop the research activities about waste and pollution in Ukraine, to manage a database of experts able to help the Ministry in their scope of knowledge, to develop the network of laboratories (public and private) and the standards in environmental analysis

- Direction of the Inspection

In charge to provide the sufficient organisation of the Inspection all over the territory, including recruitment, training, salaries, equipments, and so

- Direction of the Prevention

In charge of the development of the regulation and of the organisation of the means to face the emergency situations

- Direction of the Nature

In charge of the management of the natural spaces (national and regional parks, coastal areas) and of the monitoring of environment

- Direction of the Communication

In charge of the development of public awareness

- Direction of International Relations

In charge of the co-operations, the participation in international organisations, the preparation of international agreements

5 Actions

5.1 Creation of the institutes producing and managing the knowledge

5.1.1 ADEME

5.1.1.1 Role in France

The Agency of the environment and control of energy was created by the law N° 90-1130 of December 19, 1990, amalgamating the agencies of waste, of the control of the energy and the quality of the air:

It is created an establishment of the State with industrial and commercial matter called "Environment and control of energy Agency". This public establishment exerts actions, particularly as of orientation and animation of the research, of provision of services, information and incentive in each following field: the prevention and the fight against the pollution of the air, the control of the waste production and their elimination, their recovery and their valorisation and the prevention of the pollution of the grounds; energy and raw materials savings, and the development of renewable energies, in particular of vegetable origin; the development of the clean and sparing techniques; the fight against the sound harmful effects.

ADEME is thus a public establishment to which the State delegates the care to act near the actors, public or private, to obtain concrete progress in the field of the environment.

In the sector of waste, the public authorities are strongly engaged in the way of a reduction of the landfilling of waste, with the profit of recycling and valorisation of waste. ADEME must thus promote the development of the capacities of selective collection and treatment, particularly by the local authorities, and ensure the timelessness of the chains of valorisation. To facilitate the outlets of the matters to recycle and reduce the invoice " waste " of the taxpayers/consumers, it seeks a reduction of the costs at all the stages. In the same way, it continues its efforts on the valorisation of the fermentable matters, aiming particularly to guarantee a sanitary and agronomic quality of the composts manufactured. It supports finally the evolution of the behaviours of the companies and the households, for a reduction of the production of waste to the source, by a better design of the products and a reduction in packing. Moreover, ADEME reinforces its interventions in favour of a collective management of the common industrial wastes and of the setting of valorisation chains of at the end of the lifetime products (vehicles, piles and accumulators, electric household appliances...).

To be effective, ADEME must act in synergy with multiple actors with whom it crosses its objectives and its sets of themes. By the action of its regional delegations, it contributes to a strong mobilization around projects which support an harmonious regional development and creation of jobs. Its effectiveness is reinforced by passing contracts with the Departments in the field of waste and the Regions within the framework of the contracts of State-Region plan.

As for diagrams of transport or household waste disposal or quality of the air, the Agency approaches thus with more close to the decision makers and the

users. In the same spirit, the regional delegations work with the professional federations and the consular Chambers. At the national level, the Agency cooperates with private or public actors such as EDF[3], GDF[4], the offices of HLM[5] and the financial establishments, for the setting in œuvre and the generalization of exemplary practices. Lastly, in international, ADEME takes part in the installation and the animation of international networks gathering the homologous agencies, the Club of the European Agencies of control of energy (EnR Club), of the Mediterranean agencies (Medener), the European Council for an Energy Efficient Economy (ECEEE), Erma in the agricultural field. All these projects, alliances, or co-operations, which engage the Agency over several years, aim at diffusing towards an increasingly broad whole of decision makers, a culture of the sustainable development.

To increase the diffusion of the exemplary practices and the results of the studies, research and experiments which it contributed to develop, ADEME leads an active policy of communication towards various targets. It makes known with the decision makers, with the elected officials and with the relays of opinion, the stakes of the control of the energy and the environmental policy and sensitises them at the legal limits and the international engagements such as those taken in Kyoto. Scientific and technical information, thanks to regular publications and demonstrations, is in addition intended to the engineers and to technicians of the companies and the communities. To the address of general public, the Agency contributes to the dissemination of knowledge on the comprehension of the phenomena of pollution, on the improvements induced by the committed actions and on the performances of the technologies used daily by the citizens (car, equipment of the house). For that, it uses new information technologies, like its Internet site, and takes part in various public demonstrations or operations of communication. This information is also disseminated by way of press and the publication of documents of sensitising.

The means of ADEME come from the State Budget and from the TGAP (General Tax on Polluting Activities), and exceptionally from contracts for international programmes (as Tacis contracts).

ADEME employs (as size order) 1000 people, shared in technical centres (waste in Angers, air in Nice), regional delegations and headquarter in Paris.

To conclude, ADEME is the operational pole of the Ministry of Environment.

5.1.1.2 An Ukrainian Agency of Environment

Among the tasks of the State in the domain of the environment protection, one cannot be easily done by the Administration: to promote better behaviours and practices. It's there there's the usefulness of such an agency.

The roles of the UAE (Ukrainian Agency of Environment) should be:

- **Pole of knowledge of technologies**: to inventory and to qualify the existing technologies (local and international), to help to the development of new (local) technologies, to inform about and to assist the operators in the choice of a technology;

[3] The state company of electricity
[4] the state company of gas
[5] companies of low rent housing

- **Development of methodologies**: in synchronization with the new (or projects of) regulations, development of methodologies for the application (as for the regional strategic planning);

- **Coordination of the scientific research**: knowledge of the national potential of research in environment, coordination of the State budget subsidies in the frame of a multi-annual programme of research, assistance for international co-operations, financing of thesis;

- **Assistance to the Ministry**: collaboration for the preparation of the new regulations (expertise in implementation on the field), programmes of assistance to the subjects (local authorities, private companies, …) for the implementation;

- **Public awareness**: to prepare the materials for national campaigns of communication, to realize national campaigns of communication, to manage a national documentation centre, to provide translations of main foreign documents, to provide English translations of the main Ukrainian documents;

- **International co-operations**: participation in the international networks gathering the homologous agencies, participation in the technical assistance contracts.

5.1.2 INERIS

5.1.2.1 Role in France

INERIS (National Institute of the Industrial environment and Risks) has been created in 1990. It's a public establishment under the authority of the Ministry of Environment.

INERIS leads activities of research, of expertise on demand for the public powers and the industrialists. It combines the experimental approach, the modelization, the methodological approach of risks, and the return of experience for a better understanding of the phenomena at the origin of the risks.

The missions of INERIS are:

- Evaluation and prevention of the accidental and chronic risks for human and environment linked to the industrial facilities, the chemical substances and the underground facilities;

- Expertise for the public policies (help to the central administration and to the regional levels), for the industrialists (impact studies, …) and the local authorities;

- Research to answer to the main questions arising in its domains of activity (health-environment, industrial safety, protection of the ecosystems) in partnership with the other actors of the French research.

The domains of activity of INERIS are:

- Chronic risks: evaluation of the sanitary and environmental long term risks of the chemical substances;

- Accidental risks: prevention and expertise of the risks linked to the industrial activities (explosion, fires) and to the transportation means (tunnels, bridges) of the dangerous goods;

- Risks of the ground and the underground: modelization and evaluation of the geo-technical risks, monitoring and diagnosis of the sites, hydrogeology of the environment, evaluation of the risks linked to the emissions of gas in confined middle and of biogas:

- Certification: certification and evaluation of the equipments, systems and products used for the industrial safety (controls, expertises and audits) (marks CE, Ex, NF);

- Valorisation and training: patenting of the research results; training (catalogue of >100 training programmes) of Inspectors, engineers of the industry, executives of the local authorities; publishing of technical and scientific publications; development of the database of regulations (on line on the website (http://aida.ineris.fr); development of the Hygiene Safety Environment integrated management.

INERIS is equipped with one of the most important laboratories (at national level) of physico-chemical analysis. This laboratory has the particularity to be considered as the last resort laboratory: at the first level, analysis are done by private laboratories, in appeal (or counter-expertise) there are regional or local laboratories of the administrations, in last resort it's the laboratory of INERIS. The laboratory of INERIS has also the task to develop new standards for the analysis.

IERIS gathers >400 people (among them 180 engineers and scientists) as engineers, chemists, physicians, doctors, eco-toxicologists, veterinarians, economists, statisticians, experts in risk assessment.

To conclude, INERIS is the scientific pole of the Ministry of Environment.

5.1.2.2 An Ukrainian Scientific Pole of Environment

The priorities assigned to an USPE (Ukrainian Scientific Pole of Environment) should be:

- **Laboratories**: creation of the "reference" laboratory of Ukraine for environment and anthropogenic risks; refereeing analysis; implementation of the international standards for analysis; development of Ukrainian standards for analysis; participation in the international working groups for new international standards; homologation of the analysis equipments; training of the employees of private or public laboratories;

- **Risks**: development of a national know-how in risk assessment;

- **Expertise**: creation of a corps of Ukrainian experts in all the domains of the anthropogenic risks (inside the USPE and within a network of outside experts);

- **Research**: establishment of a first programme of research according to priorities defined with the Ministry and the scientific community;

- **Diffusion**: creation of a website and of an Ukrainian "peer-review" papers;

- **Training**: programme of training sessions on risk management and environment management.

5.1.3 AFSSE

5.1.3.1 Role of AFSSE

The French Agency of Sanitary Environmental Safety has been created in 2001. it's under the both supervision of the Ministry of Health and the Ministry of Environment. AFSSE answers the need to enhance the capacities and the coherence of the expertise on the impact of the whole environmental factors on health, because this expertise was insufficient and scattered in too numerous bodies.

On one hand, AFSSE has its own scientific capacity of expertise and synthesis, and its own means (administrative and financing) to lead contractual partnerships with public bodies, universities, research centres, even private companies or study offices involved.

On the other hand, AFSSE is in charge to mobilise the national capacity of expertise and to coordinate the existing bodies.

AFSSE answers to questions from the government but may also self-seize of any question about the sanitary impact of the environment. It prepares notices which are public as soon they are transmitted to the government.

If INERIS has a role to study the effect of anthropogenic activities on environment, AFSSE has the role to study the effect of the environment on health. A main point is that the public opinion is expecting that the evaluation of the effects of the anthropogenic activities on human health should be fully independent, carried on by scientists independent of the public powers, the politics and the industrialists.

5.1.3.2 An Ukrainian Scientific Institute of Health-Environment

The high level of degradation of the state of the environment in Ukraine pleads for the creation of an USIHE (Ukrainian Scientific Institute of Health-Environment). Ukraine must develop its own capacity in the assessment of the effects of the pollution on the public health. This knowledge is necessary to solve the most emergency situations and to fix the priorities of the policy of the environment. For example, if we transpose the Russian study of 1994 (on the contamination of the water resource inherited from the soviet era), it can be assessed that the contamination of the tap-water causes >10,000 deceases per year and as many genetic malformations. But it was a Russian study and such studies must be carried on in Ukraine.

The priorities assigned to an USIHE should be:

- **Expertise**: development of methodologies for the assessment of the impact of the environment conditions on the public health; development of scientific tools for the assessment of the transfers of pollution (modelization of air transfers, surface water transfers, underground water transfers);

- **Research**: establishment of a first programme of research according to priorities defined with the Ministry and the scientific community and in coordination (or within) the international programmes of research on low-dose effects (UN and EC);

- **Diffusion**: creation of a database in local language of health effects of the chemicals (including translations of the international knowledge as it can be found in the US Environmental Protection Agency or in the UNECE), of a website and of an Ukrainian "peer-review" papers;

- **Training**: programme of training sessions on health effects of environmental conditions.

5.1.4 Research centres and universities

It's necessary to inventory the research centres and research units able to develop science and technology for the waste treatment.

A clear objective must be highlighted: the Ukrainian research in environment must reach the international level.

5.2 Creation of the structures of training

5.2.1 CFDE

It's necessary to organize the training of the inspectors at a national level, and for that it's useful to create a National Centre of Training in Environment. The model of the French CFDE can be applied.

The CFDE (French Centre of Documentation on Environment) is a service of the Permanent Assembly of the Chambers of Commerce and Industry (website: www.acfci.cci.fr) which is the national establishment federating and animating the Chambers of commerce and Industry. The CFDE is the organism of training of the Inspectors of Environment and also of the enterprises.

- Training in CFDE

CFDE carries on since 1969 the continuous training ,of the engineers, technicians, executives of the industrial and services enterprises, the administrations and the public bodies, in the different technical and regulatory domains of the environment.

The lessons are given by >250 professionals of environment coming from the administrations, the public bodies, the industry, the study offices, the universities and scientific centres. Some training sessions are organised jointly with organisms as BRGM, INERIS.

Along one year as 2001, more than 100 sessions have been carried on, amounting 235 days and 1500 trainees. This last figure may be compared with the number of Inspectors which is around 1200.

- A documentation service

  - Regulation alert by e-mail: free of charge service delivered on mailing list pointing out the new published texts and their subject;

- Regulation database: enviroveille.com
- Publishing and sales of papers and books as:

  Reviews "Courrier de l'environnement industriel" (Courier of industrial environment) and "Courrier de l'eau" (Courier of water),

  Compendium of jurisprudence on IPPC (licensed facilities)

  Thematic regulations compendia

  Plan Environment Enterprise (PEE): methodological guides for the implementation of an environment policy in the enterprise

After an audit of the skills and competencies of the inspectors, the National Centre of Training in Environment must define with the State Inspection a long term programme with concrete objectives. This programme will be then developed in a yearly catalogue of training sessions. This catalogue should be sent to the Regional Inspections in aim to build the particular programme of each inspector with objectives of acquisition of competencies.

5.2.2 Universities and Engineers Schools

Ukraine needs quickly (<10 years) some thousands of environment engineers. A particular attention must be paid to inventory the existing departments of universities and technical schools on which it's possible to build the education of the necessary engineers.

6 Regulation Programme

We have joined a list of existing texts in Annex 1: Regulation texts. As we have said, it's not that laws or orders are missing. The main question stays to apply them. Nevertheless, some improvements should be carried on.

6.1 Licensed facilities

The notion of licensed facility appears in the IPPC Directive (Integrated Pollution Prevention and Control). The principle is that the highest hazardous industrial facilities must be authorized by the Administration on the base of serious studies.

If we consider the Order N° 151 On Approval of Instruction Regarding the Procedure for Reviewing Applications and Issuing Permits for the Generation, Storage, Transportation, Use, Burial, Destruction and Utilization of Poisonous Substances, Including Toxic Industrial Wastes, Biotechnology Products, and Other Biological Agents, we can read:

Permit on generation, storage, transportation, use, burial, destruction and utilization of poisonous substances (hereinafter "permit") shall be a document by means of which an authorized body of MEPNS permits the applicant (…) to undertake on a determined territory and at a determined time a certain kind of activity (…) dealing with a specified type of poisonous substance, requiring obligatory compliance with the conditions that guarantee safety for the health of the population and the environment.

7 Annex 1: Regulation texts

We have used for this study the following texts in Ukrainian or in English.

Theme	Type	Year	N°	Subject	U	E
Powers				Constitution	■	
	Resol	1995	0554	List of Hazardous activities	■	
	Law	1997	0280	On Local Self-Government bodies	■	■
	Resol	1997	0244	Implementation of European directives	■	■
	Rep	1998	0188	State Policy of Ukraine in Environmental Protection		■
	Law	1999	0586	On Local level of State Administration	■	■
IPPC	Law	1995	0045	Ecological Expertise	■	■
	Order	1995	0151	Permitting Hazardous substances		■
	Order	1996	0173	Sanitary Construction rules	■	
	Resol	1997	0701	Inspection: encouragement of employees		■
	Resol	1998	0244	Regulation of the Inspection		■
	Resol	1998	1218	Regulation Waste generation & waste disposal limits		■
	Pres D	1998	1420	Technogenous risks		■
	Decr	1998	1420	Feuille de route pour application		■
	Circ	1998		Programme Inspection pour 1998		■
	Resol	1999	0303	Environmental pollution duties		■
	Law	2000	1642	Ecological Expertise	■	
	Law	2000	1775	Licensing specific activities	■	
Protection of Nature	Law	1990	0561	Land Code		■
	Law	1991	1264	Protection of Environment	■	■
	Law	1993	3041	On Fauna		■
	Law	1994	3852	Forest Code	■	
	Law	1994	4004	On the well being of the population	■	
	Resol	1996	0237	Civil Safety Organisation		■
	Resol	1996	1147	Protection of the Nature	■	■
	Order	1997	0171	Soil Pollution	■	
	Law	1998	0180	On protection of plants		■
	Resol	1998	0391	Monitoring		■
	Law	1999	1127	Mining activities		■
	Law	2000	1809	Catastrophes		■
	Law	2000	1908	Ecological Emergency Area		■
	Law	2000	1989	Natural Areas	■	■
	Law	2001	2333	Protection of Azov Sea and Black Sea	■	
	Law	2001	2665	On Oil and Gas		■
	Law	2001	2768	Land Code	■	
	Law	2001	2894	On Fauna	■	
	Law	2002	2975	Metallurgical & Mining Complex		■

Waste	Order	1993	0035	Payment of quotas		■
	Order	1995	0151	Permits hazardous waste	■	
	Resol	1996	0113	Frontier control of waste		■
	Resol	1996	0354		■	
	Resol	1997	0647		■	
	Resol	1997	0668	Recycling Program	■	■
	Resol	1997	1016	Transboundary Waste Movements		■
	Order	1997	0164	Waste Nomenclature	■	
	Law	1998	0187	On Waste	■	■
	Resol	1998	0656		■	
	Resol	1998	1216	Inventory of Waste Disposal	■	■
	Resol	1998	1217	Abandoned Waste	■	■
	Resol	1998	1218	Waste Inventory	■	■
	Law	1999	0212	On Scrap Metal	■	■
	Law	1999	0803	Ratification of Basel Convention	■	
	Resol	1999	0408	Packaging Waste		■
	Resol	1999		Waste Acceptance		■
	Order	1999	0012	Landfills Passport instruction	■	
	Order	1999	0041	Waste registration forms	■	
	Law	2000	1644	Hazardous cargoes		■
	Resol	2000	1698	Permitting for recycling activities	■	■
	Resol	2001	0183	Secondary Materials	■	■
	Resol	2001	0756	Permitting for waste disposal	■	■
	Resol	2001	0915	Recycling	■	■
	Order	2001	0052	Licensing of waste disposal	■	
	Order	2001	0203	Ukrekokomresurcy	■	
	Order	2001	0224	Packaging waste	■	
	Resol	2002	1393	Ukrekokomresurcy	■	■
	Resol	2003	0082	Secondary Materials	■	■
	Resol	2004	0265	SDW National Programme	■	■
	Law	Draft		Dangerous objects		■
Water	Law	1995	0213	Water Code	■	
	Resol	1996	1100	Discharge in natural middles		■
	Order	1997	0230	State forms for statistics	■	
	Law	2002	2918	Drinking water	■	
Air	Law	1992	2707	Ambient Air Protection	■	
	Order	1995	0154	Permitting of Air Emissions		■
	Order	1995	0364	Permitting of Air Emissions	■	■
	Resol	1996	1139		■	
	Order	1996	0075		■	
	Order	1996	0076		■	

8 Annex 2: Order 2003-0001

(Unofficial translation)

Attachment 1

To Order of the Minister of Ecology
and Natural Resources of Ukraine
1/1 of Jan.8, 2003

Political Priorities,
Strategic Directions and Mechanisms for Implementing the State Policy
in environment protection, efficient use of natural resources,
ecological safety, hydrometeorological, topographic,
geodetic and cartographic activities

1 Political Priorities

Efforts of the Ministry of Ecology and Natural Resources of Ukraine in implementation of the state policy will be aimed at provision of ecological safety, strengthening of mineral and raw materials potential, efficient use of natural resources, reproduction and maintenance of the ecological balance on the territory of Ukraine through:

1.1 Provision of ecological safety of nuclear facilities and radiological protection of the population and the environment, minimization of the consequences of Chernobyl disaster;
1.2 Improvement of ecological conditions of rivers, in particular of the Dnieper river basin, and enhancement of quality of drinking water;
1.3 Stabilization and improvement of ecological conditions of the cities and industrial centers of Donetsk-Pridnieprovskiy region;
1.4 Construction of new and upgrading of existing communal waste water treatment facilities;
1.5 Prevention of pollution of the Black and Azov Seas, improvement of their ecological conditions;
1.6 Installation of a balanced system of utilization of natural resources and introduction of environment friendly technologies in industry, power sector, construction, agriculture and transport;
1.7 Preservation of biological and landscape diversity, development of national parks and preservations;
1.8 Implementation of measures aimed at mitigation of the impact of global environmental problems on environmental conditions in Ukraine, implementation of decisions of the 2002 Johannesburg World Summit on Sustainable Development, widening of Ukraine's international cooperation in this area;
1.9 Widening and strengthening of mineral and raw materials potential, efficient use of natural resources;
1.10 Provision of hydro-meteorological information, forecasts and warnings about hazardous natural hydrometeorological events to the state authorities, branches of national economy and population;
1.11 Provision of better cartographic and geoinformation to the national economy, science, education and defense;
1.12 Increase in fundamental and applied studies of the Earth geometry and gravitation field.

2 Strategic directions of the state policy

The main objective of the current national policy is achievement of a substantial improvement in the Ukraine's environmental conditions (anthroposphere, sociosphere, technosphere, biosphere, atmosphere, hydrosphere, lithosphere), installation of ecological and environmental preconditions for sustainable development of the nation.

It is envisaged that there will be the following strategic directions in the work of the Ministry for 2003-2005:

Safety of anthroposphere:

2.1 ecologization of all spheres of vital functions of the population within the context of national safety of Ukraine;
2.2 support of adoption of the law on ecological education, wide introduction of educational programs and teaching techniques in environment protection and safe environment;
2.3 introduction of the system of ecological education for civil servants, decision makers and officials that are responsible for decision making on local, regional and national levels.

Safety of sociosphere:

2.4 further elaboration of the legislative process and legal base in the area of environment protection, acceleration of the process of harmonization of the Ukraine's environment protection legislation with international requirements, especially with those of EC;
2.5 strengthening of legal, scientific, economic, technological aspects of the environment protection component within the overall process of transition of the country towards sustainable development;
2.6 implementation of measures aimed at mitigation of negative impact of global ecological problems on the ecological conditions of Ukraine;
2.7 prevention of unsanctioned import of ecologically unsafe technologies, substances, materials and genetically modified products into Ukraine.

Safety of technosphere:

2.8 further elaboration of the system of collection, processing, analysis and dissemination of information on conditions of hazardous sites and facilities and on of occurrence of hazardous natural and technogenic events;
2.9 enhancement of efficiency of measures for prevention of hazardous situations and mitigation of their impact;
2.10 enhancement of ecological safety of nuclear facilities and sites of nuclear waste accumulation, provision of better protection of population and environment against radiological impact, mitigation of consequences of the Chernobyl disaster;
2.11 installation of a balanced system of natural resources utilization and of an adequate structure of production potential in industry, energy sector, construction, agriculture and transport.

Safety of atmosphere

2.12 mitigation of negative impact of global climatic changes and transborder migration of pollution on the conditions of the Ukraine's atmospheric basin;
2.13 introduction of ecologically safe technologies;
2.14 protection, stabilization and improvement of the conditions of atmosphere in the cities and industrial centers, in particular in Donetsk-Pridnieprovskiy region;

Safety of hydrosphere:

2.15 introduction of integrated water resources management aimed at their protection and rehabilitation to the year 2005 (pursuant to the decisions of the 2002 Johannesburg World Summit) acceleration of transition to water resources management based on the basin principle;
2.16 improvement of ecological conditions of rivers and underground water of Ukraine, in particular of the river Dnieper basin, improvement of quality of drinking water;

Geology and utilization of fossil resources;

2.17 widening and strengthening of the raw materials and fossils base of existing enterprises that use fossil resources (oil, natural gas, coal, uranium, iron, titanium, non-metals and construction materials) mined in Ukraine;
2.18 setting up the raw materials and fossil resources base of existing enterprises that use imported raw materials (lead, zinc, copper, tin, tungsten, molybdenum, tantalum, niobium, phosphates, etc.) and the raw material base of new for Ukraine mineral resources (lanthanides, itrium, scandium, platinoids, gold, diamonds) for aviation and space industries, precision instruments, electronics and other sectors;
2.19 geological research and assessment of the fossil and raw materials base of the Black and Azov Seas basins;
2.20 development of the most important areas of geological research aimed at provision of supply of the modern geological products and fossils for the national economy;
1.2 solution of ecologo-hydrogeological problems of large mining regions of Ukraine;

Hydrometeorological activities:

2.21 insuring of reliable functioning of the system of hydrometeorological monitoring and monitoring of environmental pollution using the base national grid;
2.22 insuring reliable functioning and technological development of the system of forecasting and hydrometeorological monitoring.

Topographic, geodetic and cartographic activities:

2.23 implementation of national topographic, geodetic and cartographic projects, provision of astronomo-geodetic, gravimetric, and cartographic services;
2.24 development of proposals related to the national system of geodetic grid, altitudes and gravimetric measurements and also provision of protection of geodetic grid points;
2.25 provision of topographic, geodetic and cartographic support for the national land reform, implementation of national and regional programs, implementation of measures aimed at environment protection, development of efficient use of natural resources, tourism, recreation, etc.

3 Main measures aimed at implementation of the state policy

1. Organizational and personnel management

3.1 to significantly increase efficiency of management of the Ministry of Ecology and Natural Resources, to enhance professionalism, discipline and deliverables;
3.2 to conduct polling of different groups of population in different regions and with different occupations in order to spot critical ecological safety areas and availability of resources;
3.3 to provide regular ecological education to managerial cadres;
3.4 to enhance efficiency of the operation of the Ministry of Ecology and Natural Resources.

2. Economic and legal support

3.5 to improve economic mechanisms of environment protection management through application of the system of fines, levies, licensing, ecological audit and insurance;
3.6 to select for every sector and every region a critical ecological problem and to insure its solution through application of modern innovative, ecologically safe, resource saving technologies (of domestic design only).

3. Logistics

3.7 to introduce the regime of strict economy of all resources;
3.8 to facilitate introduction of resource saving technologies and to increase comprehensive utilization of all types of resources;
3.9 to widely use the mechanism of combined project financing and investment as such that proved its efficiency under the condition of scarce budget funding;
3.10 to give top priority to modernization and re-equipment of the system of hydrometeorological monitoring and forecasting.

3 Information and communication support

3.11 to inform on a regular basis sector committees of the parliament, bodies of the executive power, self-governments and general public on current environmental conditions;
3.12 to restore stable functioning of the national system of environmental monitoring and to provide collection and processing of the data on environmental conditions with the view of prevention of ecological emergencies;
3.13 to inform on a regular basis general public, relevant bodies of executive and legislative power and international community on implementation of environmental programs, on upgrading of industries, etc.

Legal Support

3.14 drafting of the Ecological Code of Ukraine;
3.15 adoption of the new version of the Natural Resources Code;
3.16 rating of payments under the system of quotes for environment pollution;
3.17 development of the system of payments for utilization of main types of natural resources;
3.18 development of the mechanism of incentives for investments in environment protection projects;
3.19 development of the national system of ecological audit and insurance;
3.20 establishment of the National Ecological Fund;
3.21 development of the mechanism of incentives for research and development and innovation in environment protection;
3.22 provision of scientific and legal support for implementation of the principles of harmonization of public life on the basis of philosophy of noosphere.

Minster of Ecology and Natural Resources of Ukraine (signed) V. Shevchuk

Ministry of Ecology and Natural Resources of Ukraine

Resolution

Jan. 16, 2003City of KievNo. 6 –r

On execution of Order 1/1 of 08.01.03
On Setting Priorities in Activities and Management
of the Ministry of Ecology and Natural Resources for 2003

In order to ensure implementation of political priorities, strategic directions and mechanisms of implementation of the state policy in the area of environment protection, efficient utilization of the natural resources, environmental safety, hydrometeorological, topographic, geodetic and cartographic activities set forward by the Minister of Ecology and Natural Resources, Shevchuk V.Ya., and organization of the work of the Ministry of Ecology and Natural Resources in 2003 (Ministerial Order 1/1 of 08.01., 2003) I hereby decree to set up the Commission for development of working plans, which will include:

Gotsuvskiy SV.State Secretary, Chairman of the Commission
Lizun S.O.First Deputy State Secretary
Gritsenko A.V.Deputy State Secretary
Karman Z.M.Deputy State Secretary
Matorin E.M.Head of the Department of Ecological Safety Regulation

Movchan Ya.I.	Head of the Department of Regulation, Utilization and Reproduction of Natural Resources
Ostapenko A.D.	Head of the Section of Complex Analysis and Forecasting of the Department of Ecological Policy
Tolkachev V.A.	Head of the Department of International Relations and Programs
Misura M.M.	Head of Personnel Department
Gurskiy D.S.	Head of the National Geological Service
Makarenko I.D.	Head of the National Geodetic, Cartographic and Land Survey Service
Lipovskiy V.M.	Head of the National Hydrometereological Service
Svirid P.O.	Head of the National Ecological Inspection
Leonenko V.B.	Head of the National Preservation Service

Translated by S. Kalinichenko