EAP Task Force

Linkages between Environmental Assessment and Environmental Permitting in the Context of the Regulatory Reform in EECCA Countries

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Terms and Abbreviations

BAT	Best Available Technique
EECCA	Eastern Europe, Caucasus and Central Asia (*Armenia, Azerbaijan, Belarus, Georgia, Moldova, Kazakhstan, Kyrgyzstan, Russia, Tajikistan, Turkmenistan, Ukraine and Uzbekistan*)
EA	Environmental Assessment (EIA + SEA, in relation to EECCA designates SER + OVOS)
EIA	Environmental Impact Assessment
EIS	Environmental Impact Statement
ELV	Emission Limit Value
EMP	Environmental Management Plan
EP	Environmental Permitting
IFI	International Financial Institution
IPPC	Integrated Pollution Prevention and Control
MAC	Maximum Allowable Concentration
NEPA	National Environmental Policy Act (of the United States)
OECD	Organisation for Economic Co-operation and Development
OVOS	Assessment of Environmental Impacts (from Russian "*otsenka vozdejstvija na okruzhajushchuju sredu"*)
SEA	Strategic Environmental Assessment
SER	State Environmental Review (or "Ecological Expertise"), "*gosudarstvennaya ekologicheskaya expertiza"*
UNECE	United Nations Economic Commission for Europe

Executive Summary

This paper has been developed with a view to assist reforms of environmental assessment and environmental permitting in EECCA countries. It starts with defining these two policy instruments and discussing the features of best international practice and the current trends of development of EA and EP.

EA is defined as a process of systematic analysis and evaluation of environmental impacts of a proposed activity, consultation with affected parties and due consideration of the results of this analysis and consultation in planning, authorising and implementing the activity. It is based on three key principles of anticipation, integration and participation and is normally undertaken through a systematic procedure containing a number of distinct stages. This paper deals with environmental impact assessment (EIA) which applies to individual projects.

EP is a procedure by which an authorisation is granted to a facility or individual to perform an activity under specific legal conditions deemed necessary to ensure the protection of environmental quality and public health. This paper deals with EP systems focusing on pollution and waste management. EP is one of the oldest environmental policy tools. It is still very widely used in both developed and developing countries, and its development follows trends towards more integration, flexibility and transparency.

Though EA and EP have some similarities, in effective environmental regulatory systems, they have very distinct functions and characteristics. Their differences relate to the **coverage** (EA applies to all environmentally significant activities, whereas EP applies to significant point sources of pollution), **timing** of application (EA is applied earlier in project planning, whereas EP can also be applied to existing facilities), **environmental focus** (EA focuses on all significant issues, whereas EP focuses mostly on legally regulated pollution and waste matters), **integration** (EA is integrated, whereas EP is typically medium or sector-specific), **consideration of alternatives** (which is largely a function of EA but not EP), links to **decision-making** (binding in case of EP and non-binding in case of EA) and the **roles of different actors** (EA typically involves a wider circle of actors).

This paper introduces the notion of a "**co-ordinated EA and EP system**", where EA and EP have scopes of application appropriate to their distinct characteristics and where there are strong two-way linkages between the two tools. The most significant of these linkages include consideration of EA findings during evaluation of EP and enforcing EA recommendations (presented in a form of an Environmental Management Plan (EMP)) together with permit conditions.

Analysis of EA (SER and OVOS) and EP systems in EECCA shows that both instruments are different from the ones used in developed countries. The EA systems do not have a clear focus on major environmentally significant developments and are overly technocratic. The EP systems are not integrated, not transparent and have too narrow a focus. Taken together, they do not meet the criteria for a co-ordinated EA/EP system as described above. In particular, SER performs both functions of environmental permitting and EA, whereas some other key functions of EP and EA are not performed. In addition, the links between OVOS and EP and between SER and EP of existing facilities are often weak.

Reforming SER/OVOS and EP in EECCA may be undertaken through a variety of legal and institutional measures such as ensuring that OVOS addresses issues important for EP and that OVOS findings are used in issuing and renewing permits. Many of these measures have been discussed by EA and EP professional communities in EECCA, but their implementation faces a number of constraints, e.g., the lack of interest and commitment to environmental policy reforms. Nevertheless, the paper mentions a number of emerging opportunities for undertaking such reforms and also suggests a "soft" path based on continuous networking and capacity building which will, in a long term, result in more effective EA and EP in EECCA.

1 Introduction: Scope and Purpose of the Paper

The recent reforms of environmental policies in countries of Eastern Europe, Caucasus and Central Asia (EECCA) have aimed to address environmental problems in new political and economic conditions and increase conformance with best international practices. In particular, the reforms focused on environmental assessment (EA) and, more recently, environmental permitting (EP). However, the reforms of these two key regulatory instruments have not always been co-ordinated and, sometimes, overlooked the international experience of EA and EP.

The goal of this paper is to discuss the relationship between EA and EP in effective environmental governance systems and to develop recommendations for a co-ordinated reform of these instruments in EECCA. The paper is based on reviewing EA, EP and their relationship in developed countries (in particular, in the EU) and in EECCA.

A draft of this paper was presented at the regional expert meeting organised by the EAP Task Force Secretariat in Moscow on 11th of April, 2003. The meeting was attended by more than 40 government officials and non-government experts from ten EECCA countries, as well as experts from the Czech Republic, Denmark, the Netherlands, Poland, the UK, and several international organisations. Its major findings were approved by the participants, while specific recommendations discussed at the meeting were used in preparing the final version of this paper.

The second chapter of the paper describes the internationally accepted principles and procedures of EA and EP. The third chapter compares EA and EP and develops a notion of a *coordinated EA/EP system* with strong linkages between the two instruments, each of them addressing distinct and appropriate tasks. The fourth chapter analyses the co-ordination of EA and EP in EECCA. The fifth chapter suggests possible directions for co-ordinated reform of EA and EP in EECCA, and contains overall conclusions and recommendations.

2 Environmental Assessment and Environmental Permitting

2.1 ENVIRONMENTAL ASSESSMENT

2.1.1 Definition and General Principles

Environmental assessment (EA)[1] *is a process of systematic analysis and evaluation of environmental impacts of a proposed activity, consultation with affected parties and due consideration of the results of this analysis and consultation in planning, authorising and implementing the activity.* The procedure for environmental assessment was first stipulated by the National Environmental Policy Act of 1970 in the United States. Since then, more than 100 countries, jurisdictions and international organizations have introduced EA in various forms.

National EA systems vary in relation to the scope and coverage of EA procedures, principal responsibilities for EA, and arrangements through which it is linked to decision-making. Despite these differences, effective EA systems are based on the key principles of prevention, integration and participation.

The principle of **prevention** means that EA is undertaken *prior* to making key design choices and principal decisions authorising the proposed activity and that EA findings are *used* for design and decision-making. One of the mechanisms of implementing the prevention principle is **analysis of alternatives**. The consideration and comparison of several alternative ways of achieving the goal of the proposed activity enables a choice based on the EA findings.

The **integration** principle implies integrated consideration of all types of environmental and related health and socio-economic impacts of proposed activities. This principle is based on the understanding that dividing the environment into 'media' (air, water, soil, biota, etc.) is largely artificial. The objectives of environmental assessment are to evaluate the integral response of the socio-natural environment to the impacts of the proposed activity. The integration principle is implemented through considering all types of impacts within the framework of a single procedure and documenting them in a single document, as well as through highlighting the links between media-specific impacts.

Finally, the principle of **participation** reflects the fact that EA cannot be reduced to purely scientific research, but also involves finding socially acceptable solutions. Environmental impacts potentially affect a large number of people and institutions, many of whom do not have formal competence over the planned activity. The principle of participation presumes that these parties have a right to participate in decision-making processes through the EA procedure. The opinion of affected parties should be taken into account, alongside experts' findings, in formulating and utilising the outcomes of the EA process.

There are three prominent trends in recent development of EA world-wide. First, EA tends to be conducted earlier in the planning cycle. It helps to overcome some limitations of the project-level EIA and to strengthen the integration of sustainability concerns into planning decisions.

[1] The concept of Environmental Assessment includes Environmental Impact Assessment (EIA) of individual projects and Strategic Environmental Assessment (SEA) of policies, plans and programmes. ***This paper will use the term EA to designate primarily project-level assessment (in developed countries) and the corresponding SER/OVOS system in EECCA***.

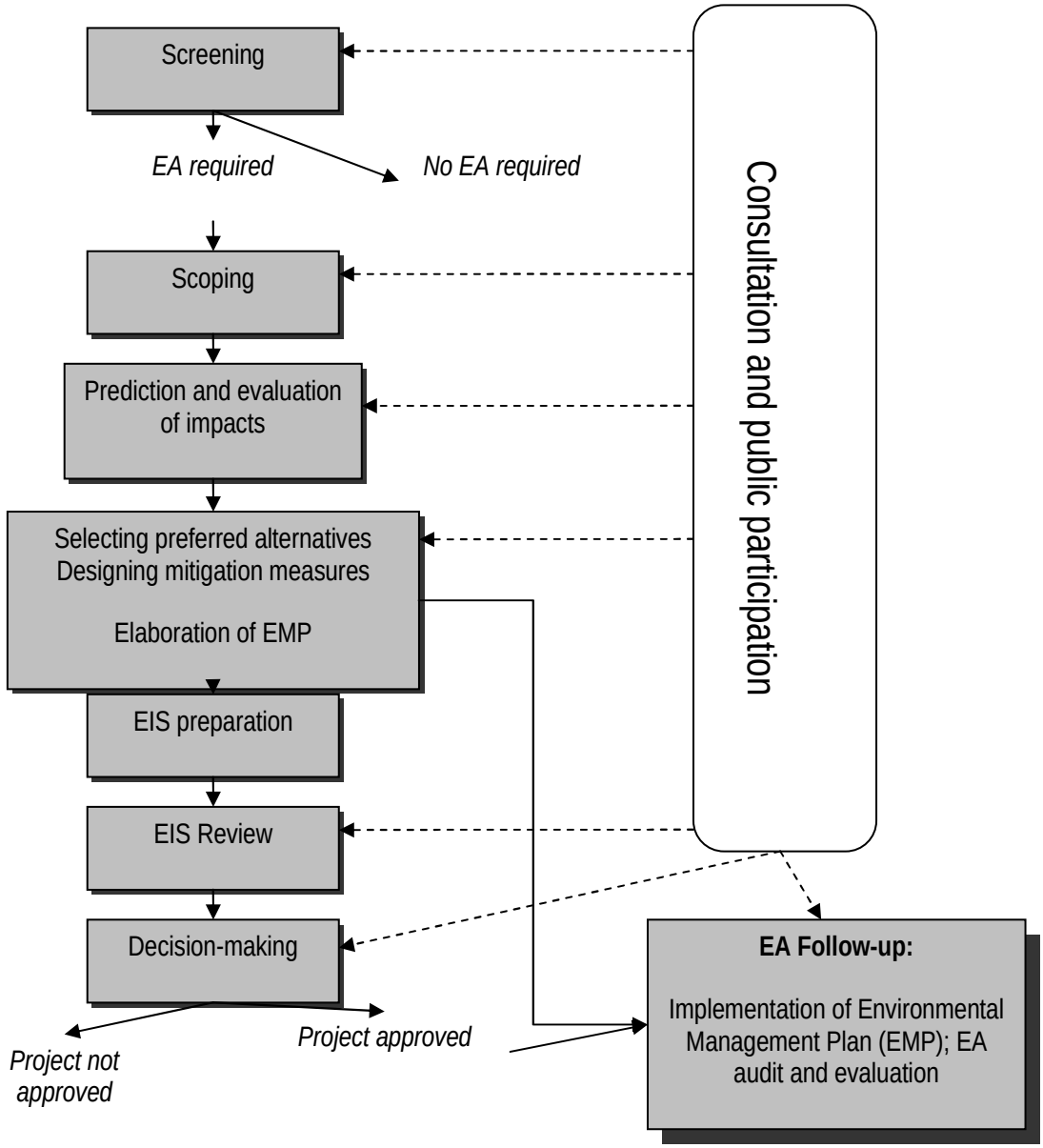
Secondly, EA tends to address a wider range of issues, such as human health and social impacts, which is deemed to be necessary to facilitate sustainable development.

Finally, there is increased attention to the "follow-up" stages of EA and its integration with environmental management tools of existing activities, such as EMS. This is done in recognition of the fact that EA can only be effective if its recommendations are followed through the project lifetime.

2.1.2 Procedure and Key Elements of Environmental Assessment

Figure 1 represents the widely recognised generic (project-level) EA model. In actual national EA systems names and sequence of different stages may vary. Two or more stages may be merged together or additional stages added. However, experience shows that an effective (project-level) EA procedure should contain all of these stages and elements in one form or another.

Figure 1. Generic Scheme of the Project-Level EA Process



1. The EA process starts from **screening**, i.e., making a decision on the need for and the most appropriate form of EA. Such a decision may be based on a legal list of activities for which EA is mandatory and/or a case-by-case preliminary assessment.

2. **Scoping** aims at identifying significant environmental impacts which should be studied in detail, selecting the key alternatives which will be analysed and compared during the EA, developing a public consultation and participation plan, defining a composition of the EA team. Scoping may result in preparing "EA Terms of Reference", or an "EA Programme", which may need to be formally endorsed by relevant authorities and made available to the public.

3. **Prediction and evaluation of expected environmental impacts** is the heart of EA. It aims at identifying not only the causes of impacts (such as emissions and discharges), but also their effects on environmental components (water, air, soil, landscape, and ecosystems) and interactions between these

elements. Not only the physical magnitude, but also the significance of all these impacts should be determined.

4. **Developing mitigation measures.** The information on environmental impacts should be used to choose between different alternatives and design mitigation measures aimed at reducing negative impacts. 'Mitigation' means prevention or reduction of impacts or compensating for the damage to the environment and may involve siting, choice of production or pollution control technology and off-site protective or compensatory measures.

5. At the next stage, EA findings are documented in an **Environmental Impact Statement (EIS)** in order to facilitate informed decision-making and to communicate the information about the planned activity and its environmental impacts to affected parties. The EU EA Directive (85/337/EEC amended by 97/11/EC) requires that an EIS includes information listed in Box 1.

Box 1. Content of the EIS (EA Report) required by the EU EA Directive

a. Description of the project, including in particular:
- a description of the physical characteristics of the whole project and the land use requirements during the construction and operational phases,
- a description of the main characteristics of the production processes, for instance, nature and quantity of the materials used,
- an estimate, by type and quantity, of expected residues and emissions (water, air and soil pollution, noise, vibration, light, heat, radiation, etc.) resulting from the operation of the proposed project.

b. An outline of the main alternatives studied by the developer and an indication of the main reasons for this choice, taking into account the environmental effects.

c. A description of the aspects of the environment likely to be significantly affected by the proposed project, including, in particular, population, fauna, flora, soil, water, air, climatic factors, material assets, including the architectural and archaeological heritage, landscape and the inter-relationship between the above factors.

d. A description[2] of the likely significant effects of the proposed project on the environment resulting from:
- the existence of the project,
- the use of natural resources,
- the emission of pollutants, creation of nuisances and elimination of waste, and the description by the developer of the forecasting methods used to assess the effects on the environment.

e. A description of the measures envisaged to prevent, reduce and, where possible, offset any significant adverse effects on the environment.

f. A non-technical summary of the information provided under the above headings.

g. An indication of any difficulties (technical deficiencies or lack of know-how) encountered by the developer in compiling the required information.

6. Many national systems include a separate stage of the EA process where **consultation and public participation** takes place. Typically, during this period, the EIS or draft EIS is openly accessible to all affected parties and the general public who can forward their comments to the developer and authorities. The EIS can also be sent to statutory consultees to obtain official standpoints and comments on the proposed activity. It is a frequent requirement to conduct public hearings at this stage and incorporate their record in the EA documentation. Consultation and public participation may not, however, be limited to one stage of the EA process (see Figure 1). For example, at the scoping stage, public concerns may determine some of the impacts to be listed for further study.

[2] This description should cover the direct effects and any indirect, secondary, cumulative, short, medium and long-term, permanent and temporary, positive and negative effects of the project.

7. **EIS review** is conducted by a special independent commission (e.g., in the Netherlands), licensed experts appointed on a case-by-case basis by the Ministry of Environment (e.g., in Slovakia) or directly by environmental authorities (e.g., in most EECCA countries) in order to ensure that EIS is of sufficient quality to be used in decision-making. Affected parties and the general public often have a right to participate in such review.

8. **Using EA findings in decision-making**. The main goal of environmental assessment is to facilitate the incorporation of environmental factors, alongside technical and economic ones, in decision-making. The findings of EA may be used in a variety of decisions, for example:

   - by designers in choosing between design options and in designing mitigation measures;
   - by developers in selecting a way of implementing the planned activity from several alternatives or deciding to abandon this activity;
   - by investors in deciding on funding the proposed activity;
   - by environmental authorities in imposing environmental permit conditions on the proposed activity;
   - by other state and local authorities in making decisions on authorising the proposed activity.

9. The main objective of the **EA follow-up** is to ensure that the actual impacts do not significantly deviate from predictions and that mitigation measures are implemented as prescribed by the EA. In some systems, such follow-up is legally required, in others it is conducted informally or voluntarily by developers or researchers. EA follow-up is frequently formalised through the requirement to develop an **Environmental Management Plan (EMP)** which may be a binding document detailing how mitigation measures proposed in the EIS are to be implemented.

2.2 ENVIRONMENTAL PERMITTING

2.2.1 Definition and General Principles

Environmental permitting is a procedure by which an authorisation is granted to a facility or individual to perform an activity under specific legal conditions deemed necessary to ensure the protection of environmental quality and public health.

Thus defined, environmental permitting encompasses a very wide range of procedures, including licensing of various environmental significant activities, such as operating a waste disposal facility or an environmental monitoring laboratory. This paper focuses on environmental permitting in a more narrow sense, as a tool for regulating pollution, waste generation and natural resource use associated with industrial and other economic activities.

Environmental permits is one of the oldest environmental regulatory tools established in the mid-19th century in England through the introduction of the Alkali Act aimed at limiting emissions of 'noxious and offensive gases' from alkali works. Soon thereafter environmental permitting was equipped with its major concepts: the "Best Practicable Means," a predecessor of the Best Available Technique (BAT) approach, and a statutory emission limit initially introduced for hydrogen chloride.

Historically, environmental permitting focused on specific industries, environmental media and substances. This approach is still dominant in both developed and developing countries. For example, the EU has issued a large number of Directives regulating release of specific substances or operation of specific installations.

In addition to protecting the environment through ensuring that acceptable levels of emissions and discharges are not exceeded, effective environmental permitting systems have also performed the following functions:

- Keeping track of environmental performance of environmentally significant activities; such information can be used for a variety of environmental policy purposes, such as emission trading schemes;
- Providing the public with information about releases of pollution into the environment;
- Stimulating technical innovation and adoption of cleaner production by industries.

Environmental permitting has significantly evolved over its more than 150 year history and especially in the recent decades. The most prominent trends of this evolution have included (a) shifting from "end-of-pipe" pollution control to pollution prevention; (b) increasing emphasis on integrated permitting; and (c) introduction of participatory elements. These principles were reflected in the EU Integrated Pollution Prevention and Control (IPPC) Directive (Directive 96/61/EC).

Shifting the emphasis **from end-of-pipe pollution control to pollution prevention** is a trend common for many environmental regulatory instruments (already mentioned in Section 2.1 in relation to EA). The IPPC Directive promotes this principle through the requirement that operators of installations subject to IPPC adopt waste minimisation and energy efficiency approaches, prevent accidents and use BAT. BAT relates not only to pollution control, but also to production technologies, and the way in which the installation is designed, built, maintained, operated and decommissioned[3].

Box 2. Integrated Pollution Prevention and Control (IPPC) Directive of the EU

The EU common rules on permitting for industrial installations are set out in the so-called IPPC Directive of 1996. IPPC stands for *Integrated Pollution Prevention and Control*. In essence, the IPPC Directive is about minimising pollution from various point sources throughout the European Union. All installations covered by *Annex I* of the Directive (these are major installations of environmentally significant industrial branches such as power and chemical production) are required to obtain an authorisation (permit) from the authorities in the EU countries. Unless they have a permit, they are not allowed to operate. The permits must be based on the concept of *Best Available Techniques* (*BAT*) as well as other criteria, such as conforming to the Environmental Quality Objectives (EQOs). In practice, BAT may mean quite radical technical improvements, making it very costly for companies to adapt their plants to BAT. To impose new and considerably tougher BAT rules on all existing large installations in the European Union could jeopardise many European jobs. Therefore, the Directive grants these installations an eleven year-long transition period counting from the day that the Directive entered into force.

[3] **European Integrated Pollution Prevention and Control Bureau** (http://eippcb.jrc.es/) exists to catalyse exchange of technical information on best available techniques under the IPPC Directive and to create reference documents (BREFs) which must be taken into account when the competent authorities of Member States set permit conditions based on BAT.

The fifteen EU Member States had until the end of October 1999 to adjust their national legislation in line with the Directive. However, at the time of the writing some Member States have not yet reported to the European Commission that this has been done and some countries have still only partially transposed the Directive.

Source: European Commission (2003)

The second trend is toward "**integrated**" **permitting**, addressing pollution of all environmental media. Integration, which is in the very title of the EU IPPC Directive, means, first of all, that in awarding a permit the environmental impact of a facility should be considered in its entirety rather than medium by medium. In particular, interpretation of BAT should be based on minimisation of pollution and waste to *all* media. The second meaning of integration is that the operation permit is awarded as a result of one "integrated" procedure rather than issuing several permits for air, water, waste disposal, etc[4].

Finally, the third trend towards **transparency and participation** evolves in response to recognition that environmental permitting should not be a purely technocratic procedure, but rather should reflect values and opinions of affected communities. Moreover, there are important international commitments in the field of public participation and access to information (e.g., the Aarhus Convention) that should be respected in permitting systems. As a result, most modern EP systems (including the IPPC Directive) require that both permit applications and permits themselves, as well as monitoring reports from regulated facilities be available to the public. Moreover, the IPPC Directive stipulates setting up a publicly accessible European Pollutant Emission Register (EPER) which would collect data on the release of about 50 major pollutants from more than 20,000 industrial installations.

2.2.2 Procedure and Key Elements of Environmental Permitting

In order to perform these functions, an EP system should include a structured systematic procedure for awarding, enforcing and renewing permits, containing the following generic stages and elements:

1. **Identification of activities that require environmental permits.** Typically these would be industrial or agricultural facilities with significant[5] environmental impacts. Depending upon the national legislation, these could require different environmental permits to operate.

2. **Preparing the permit application.** This stage, normally undertaken by the developer (or operator) should include identifying, documenting, and submitting to the competent authority the information as required by the law. Box 3 lists typical permit application requirements under an integrated permitting scheme. In some EP systems (e.g., in Estonia) permit applications should be publicly available.

[4] IPPC Directive requires that when these permits be issued by several bodies, through a "fully co-ordinated" procedure.

[5] "Significant environmental impact" is a concept often used in both EA and EP. There are many approaches to defining what "significant" is in a more or less objective manner. For example, "significant" might mean exceeding legal thresholds or causing public concerns. Different formal and informal methods for defining significance are used depending upon specific contexts. Relevant national legislation should normally specify what kinds of facilities are "significant" in a sense that they need to obtain environmental permits to operate.

Box 3. Information typically required for inclusion in an integrated permit application

- ✓ Description of the site, the facility and relevant technological processes;
- ✓ Raw materials requirements;
- ✓ Release of pollutants, including generation of noise and vibration;
- ✓ Measures on accident prevention;
- ✓ Information on the environmental management system;
- ✓ Information on measures to improve energy efficiency, resource conservation and waste minimisation;
- ✓ Information on managing environmental impacts at the stage of commissioning;
- ✓ Information on managing environmental impacts at decommissioning;
- ✓ Demonstration of all the above against BAT.

Source: OECD (2003a)

3. **Evaluating the permit application.** This element, normally undertaken by environmental authorities with input from the public, aims to verify whether the proposed activity meets the requirements of the relevant permitting system. Such requirements may include environmental quality objectives, specific technology and siting standards, or more general conditions such as BAT. For example, the EU IPPC Directive prescribes that installations falling within its scope not cause "significant pollution" and demonstrate the use of BAT.

4. **Awarding the permit.** Environmental permit is an authorisation for the facility to operate under certain conditions. This authorisation may be granted or refused based on evaluation of the permit application. The permit conditions should be explicitly stated in the publicly available permit document, which may include the information listed in Box 4. Permit conditions may be negotiated with the developer/operator as part of the permit review process. Both the developer/operator and the public should have a right to appeal the decision.

Box 4. Information that may be included in environmental permits (permit conditions)

- ✓ Technologies to be used;
- ✓ Limits of raw material abstraction;
- ✓ Emission Limit Values (ELVs) for pollution of air, land, and water;
- ✓ Limits for sewer discharges, heat release, noise and vibration;
- ✓ Waste management, including minimisation, storage and disposal;
- ✓ Energy efficiency measures and targets;
- ✓ Measures for accident prevention and control;
- ✓ Monitoring, data management and reporting requirements;
- ✓ Decommissioning requirements.

Source: OECD (2003a)

5. **Monitoring, record-keeping, and renewal of permit conditions.** After the permit is awarded, implementation of permit conditions should be monitored. If some of these conditions are not implemented, the authorities may start enforcement actions. Normally, environmental permits need to be periodically renewed, which includes repeating steps 2-4 of the procedure in light of monitoring data, new information and evidence.

3 Relationship between Environmental Assessment and Environmental Permitting

3.1 COMPARISON OF EA AND EP

Both environmental assessment and environmental permitting are environmental regulatory tools that aim at preventing damage to the environment before it has occurred. They both follow structured systematic procedures of identifying and analysing significant environmental impacts and using the results of this analysis in making decisions related to the economic activity in question. They both affect the project cycle, including planning, design and implementation.

These similarities sometimes obscure the specifics of the two approaches, leading to inconsistencies in their application. At the same time, there are fundamental differences that justify the need for two distinct but complementary procedures.

1. **Coverage.** EA applies to a wider range of activities (including infrastructure projects such as road construction, harbour improvement, airports). EP, as dealt with by the current paper, primarily applies to significant point sources of pollution such as industrial installations or power plants. On the other hand, full-scale EA is usually appropriate only for major facilities, whereas permits are issued for smaller activities as well. Despite these differences in scope, in certain regulatory systems, the scope of application of EA and EP may be co-ordinated[6].

2. **Timing of application in relation to project cycle.** EA tends to apply at earlier stages of project planning[7]. Environmental permitting is applied to already existing facilities or facilities in their final design stages, while its monitoring and enforcement stages are undertaken during the facility operation. This difference in timing is becoming less profound as "*EA follow-up*" addresses Environmental Management Plans (including monitoring) throughout the project life-cycle.

3. **Environmental focus.** Environmental permitting normally focuses on well-defined environmental issues regulated by law, primarily on pollution, resource abstraction and waste management. EA tends to be more open-ended and can also consider any environmental issues of concern to the affected parties, including, for example, land-use, biodiversity, and historic and cultural heritage. EA specifically deals with those environmental impacts that are inadequately addressed by medium- or technology-specific standards, especially on indirect and cumulative impacts.[8]

4. **Integration.** Driven primarily by specific legal requirements, EP tends to be medium-focused. In contrast, the central principle of EA is integration, which means that effective EA procedures address all relevant environmental impacts within a single procedure and in a holistic and integrated way. However, as already mentioned, there is a strong trend towards integration of EP expressed, for example, in the EU IPPC Directive.

[6] For example, the EU EA Directive 97/11/EC requires EA for all facilities falling within the scope of the IPPC Directive 96/61/EC.

[7] Application of EA to operating facilities is extremely uncommon unless they are to undergo a major expansion or modification.

[8] An indirect impact is an impact on an environmental component which occurs through change in another component. Cumulative impacts are larger impacts resulting from many smaller impacts distributed spatially or temporarily.

5. **Consideration of alternatives and mitigation measures.** Since EA is applied earlier in the project cycle and addresses a broader range of environmental impacts, it is normally able to consider a wider range of alternatives and mitigation measures than EP. However, EA can only recommend rather than prescribe a specific alternative or mitigation measure. In connection with this, EA is often criticised for not ensuring environmentally optimal alternatives and not being able to enforce the most effective mitigation measures. In contrast, EP is typically able to consider only technological alternatives or the "no production" option. In many cases, EP does not involve evaluation of alternatives at all but rather prescribes either process (technology standard) or output (emission limit value) parameters. On the other hand, EP is normally linked to an enforcement mechanism which aims to ensure that permit requirements are complied with. As with previously discussed aspects, this distinction evolves over time. A variety of mechanisms (such as EMPs) are developed to ensure that EA findings are implemented. At the same time, such approaches as BAT increase the flexibility of EP and enable it to address a wider range of alternatives and mitigation measures.

6. **Link to decision-making.** EA is designed to *inform* rather than substitute existing decision-making processes. Many EA findings are normally uncertain or of qualitative nature, and its recommendations are non-binding and leave significant freedom of choice to decision-makers. The strength of the link between EA and decision-making varies from one system to another. In most regimes, EA is linked to decisions that are also influenced by socio-economic and other factors. In contrast, EP incorporates decision-making as its integral part and results in a legally binding requirement. Its focus is on determining whether specific (often quantitative) legal requirements (such as environmental quality standards) are met and, if not, the permit is normally refused.

7. **Roles of and interaction between actors.** EA was originally conceived as an instrument supporting developer's decision-making[9]. Though it has been linked to governmental decision-making (such as land-use permits) in various regulatory systems, it is still often used primarily to inform the developer or investor (e.g., EA procedures of IFIs). Another initial objective of EA has been to provide for public disclosure of environmental impacts of planned activities, hence its openness and focus on consultation with affected parties, including public participation. In contrast, the original purpose of environmental permitting was to ensure governmental control over certain environmental impacts. Hence, the government represented by permitting and enforcement authorities has been the main actor and the driving force in EP. EP regimes explicitly entitle the relevant authorities to regulate certain activities, whereas traditional EA regimes do not award authorities any special powers except regulating *procedural aspects* of the process, such as the quality of the documentation. This situation is changing as public participation and consultation requirements are becoming more prominent within environmental permitting.

An understanding of these differences and points of convergence between EA and EP is necessary for designing a co-ordinated EA/EP system as described in the next subsection.

3.2 CO-ORDINATION OF EA AND EP

Historically, EA and EP were introduced for different purposes and had, for a long time, functioned as distinct regulatory procedures in developed countries. The need for their co-ordination has crystallised over time in response to (a) increasing pressures to streamline environmental regulation through better co-ordination of regulatory tools ("streamlining" means saving time and reducing costs while maintaining

[9] The US NEPA required that major federal agencies (such as the Army Corps of Engineers) use EIS to incorporate environmental considerations in their decisions on major actions.

effectiveness and transparency); (b) growing understanding of their potential synergies and; (c) convergence of some of their elements such as public participation. The first factor is especially relevant for developing and transition countries which have limited capacities for environmental regulation and are in particular need of efficient, consistent and non-duplicating regulations.

This section introduces the notion of a *co-ordinated EA/EP system* that would meet the following two interrelated criteria:

- *The scope and purpose of application of EA and EP are appropriate to the nature of each instrument.*
- *There are strong links between EA and EP.*

These criteria are explained in more detail below with illustrations from different regulatory systems.

3.2.1 Appropriate Scope of Application

EA and EP should be applied in such a manner so as to maximise their distinct strengths discussed in Section 3.1 and to avoid duplication of their efforts. From a procedural perspective it means that both EA and EP should be:

a) Applied to appropriate categories of activities. In particular, full-scale EA should be applied to major infrastructure or industrial projects. The need for EA application may be determined based on a "screening list" which contains such categories of projects and on a case-by-case basis. EP should apply to point sources of significant pollution explicitly listed in regulations. Thus, EA and EP should have distinct, though overlapping coverage.

b) Applied at appropriate stages of project development. EA should be accomplished before major project decisions (on siting, principal alternatives, etc.) are made, though "EA follow-up" can continue into project implementation. EP applications should be prepared and evaluated after the nature of pollution sources and their likely impacts are precisely known, i.e. after the project design has been completed, or for already operating facilities. This means that EA should be typically applied *before* EP. Such procedural "sequencing" may also help to ensure that appropriate information from EA is used in EP (see the next section).

c) Focused on appropriate issues. While EA should be focused on all relevant environmental impacts and appropriateness of all mitigation measures, the specific focus of EP should be on pollution and waste management as regulated by specific legal norms. Thus, EA and EP should have distinct though overlapping areas of application.

3.2.2 Linkages between EA and EP

EA and EP should be linked both at the systemic level and at the level of individual procedures. This is commonly achieved through using information from one system or procedure in the other. These may include using information from EA procedures in EP, for example:

- Using EA findings (e.g., rates of waste generation, emissions, etc.) in preparing permit applications. For example, information gathered for inclusion in the EIS can be used in preparing a permit in accordance with the IPPC Directive requirements (see Box 5);

- Using EA findings in evaluating permit applications (e.g., determination of whether "significant pollution" is avoided in the context of the EU IPPC Directive)

- Using EA results as a general indication of acceptability of the proposed activity in awarding an environmental permit (e.g. in many countries an environmental permit cannot be awarded until the EA procedure is effectively completed);

- Including EA recommendations on mitigation measures and EMP, where appropriate, in permit conditions.

Box 5. Elements of the EIS (EA Directive, Annex 5) that can be used in preparing an EP application (IPPC Directive) within the EU

- ✓ Description of the facility and the main production processes;
- ✓ An estimate of the nature and quantity of the materials used, expected waste, and emissions of pollutants;
- ✓ Description of the site and directly affected environment;
- ✓ A description of the measures envisaged to prevent, reduce and, where possible, offset any significant adverse effects on the environment.

Source: Box 1 and Box 3

In order to facilitate this type of linkage, some countries (e.g., Estonia) require submission of the EIS (when it was prepared) as part of the EP application.

There should also be a reverse linkage, i.e., using information from the permitting system in EA procedures, for example:

- Using requirements of the relevant permitting regime as an indication that a proposed activity needs an EA. This is, for example, the approach taken by the EU EA Directive 85/337/EEC amended by Directive 97/11/EC which automatically requires EA for all new facilities falling within scope of the EU IPPC Directive 96/61/EC;

- Using EP requirements to determine the scope of EA (e.g., in relation to specific pollutants to be studied or in relation to a BAT test to be conducted);

- Using legal requirements (such as BAT) defined within the EP regime to characterise suitability of mitigation measures and significance of expected impacts within EA.

Linkages between EA and EP may be facilitated by integration of their certain elements, though formal integration is not a guarantee for ensuring strong linkages, in the same way as the absence of formal integration is not an obstacle for enhancing such links.

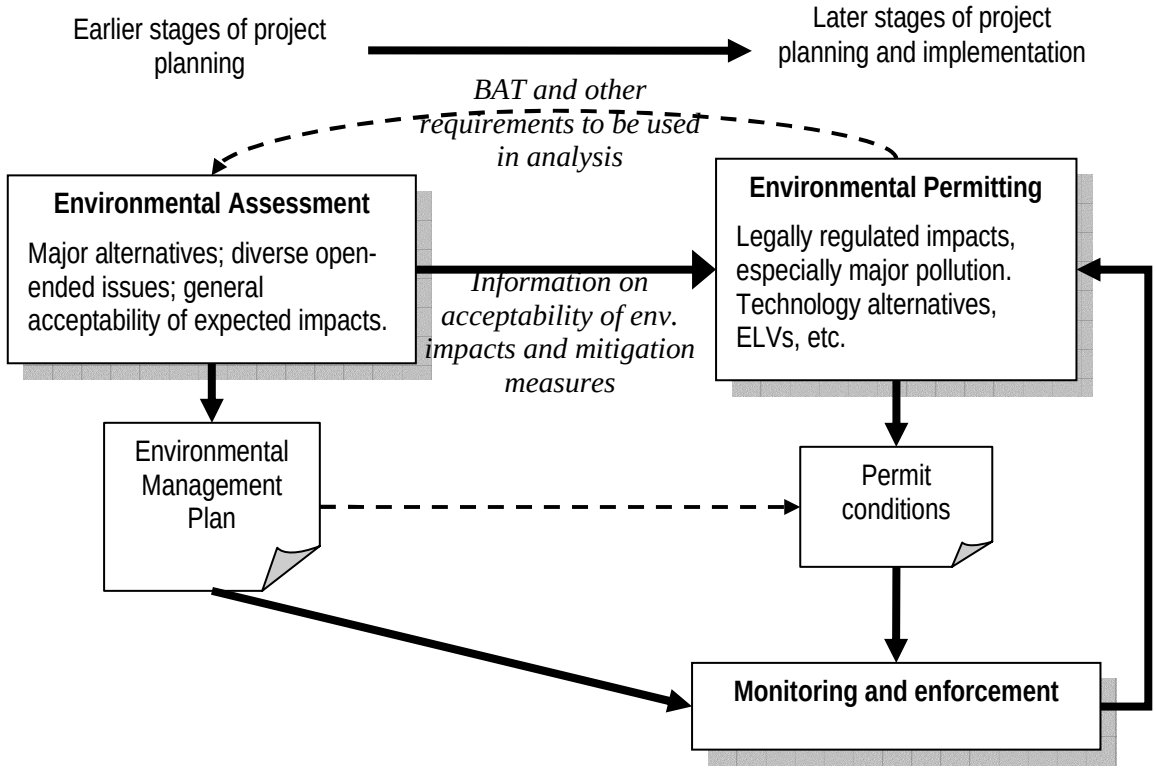
Procedural integration means merging certain stages or elements of the EA and EP procedures. For example, preparation of EA reports and EP applications is integrated in some systems, as well as public hearings for EA and permitting. Such integration is difficult to implement if EA and EP are applied to distinctly different stages of project planning in accordance with the principle discussed above. It may be easier to integrate implementing EA findings and recommendations (as expressed in EMP) and EP conditions within the same inspection and enforcement regime.

It is also relatively common to provide for *institutional* integration of EA and EP, where the same authorities may review the EIS and issue an environmental permit. Such integration is particularly

widespread in countries of Central and Eastern Europe. Even where EP authorities are distinct from EA "competent authorities", extensive consultation with permitting authorities in preparing and evaluating EISs helps to achieve many linkages discussed in Section 3.2.2.

Co-ordination of EA and EP is easiest to achieve through sequencing of these procedures, whereas EA is conducted at earlier stages of project planning and EP – at later stages and for existing facilities. Information from the former procedure is being fed into the latter one as shown on Figure 2.

Figure 2. Principal Ways of Co-ordinating EA and EP Systems



4 EA, EP and Their Co-ordination in EECCA

4.1 ENVIRONMENTAL ASSESSMENT IN EECCA

The generic principles and scheme of EA described in Section 2.1 have been implemented primarily in developed Western countries. The evolution of EA systems in the successor states of the former Soviet Union, further called EECCA countries, has assumed a somewhat different pattern.

With the disintegration of the USSR, all of these nations inherited the State Environmental (Expert) Review (SER or "ecological expertise") system. SER is a process of reviewing environmental aspects of proposed activities by "expert" commissions appointed by competent environmental authorities. Though SER was conceived in the late 1980s as a "socialist" analogue of EA, it was notably different from Environmental Assessment practised in Western societies. In particular, it did not have screening provisions, was focused on verifying compliance with sector- and medium-specific technical standards, rarely considered cumulative, synergistic and indirect impacts. Moreover, SER was initially an internal government procedure, non-transparent for outside parties, and not subject to independent procedural checks. SER resulted in a mandatory "Conclusion" which might endorse or prohibit the proposed development and lay out certain implementation conditions.

The concept of "Assessment of Environmental Impacts" ("*OVOS*", in the Russian abbreviation) was also developed in the USSR starting from the mid-1980s, largely inspired by EA in developed countries. OVOS is a procedure implemented by the developer to document potential environmental impacts arising from planned activities. However, contrary to SER, the concept of OVOS did not figure prominently in legislative documents and there was little public awareness of this requirement. As a result, developers have often neglected OVOS requirements.

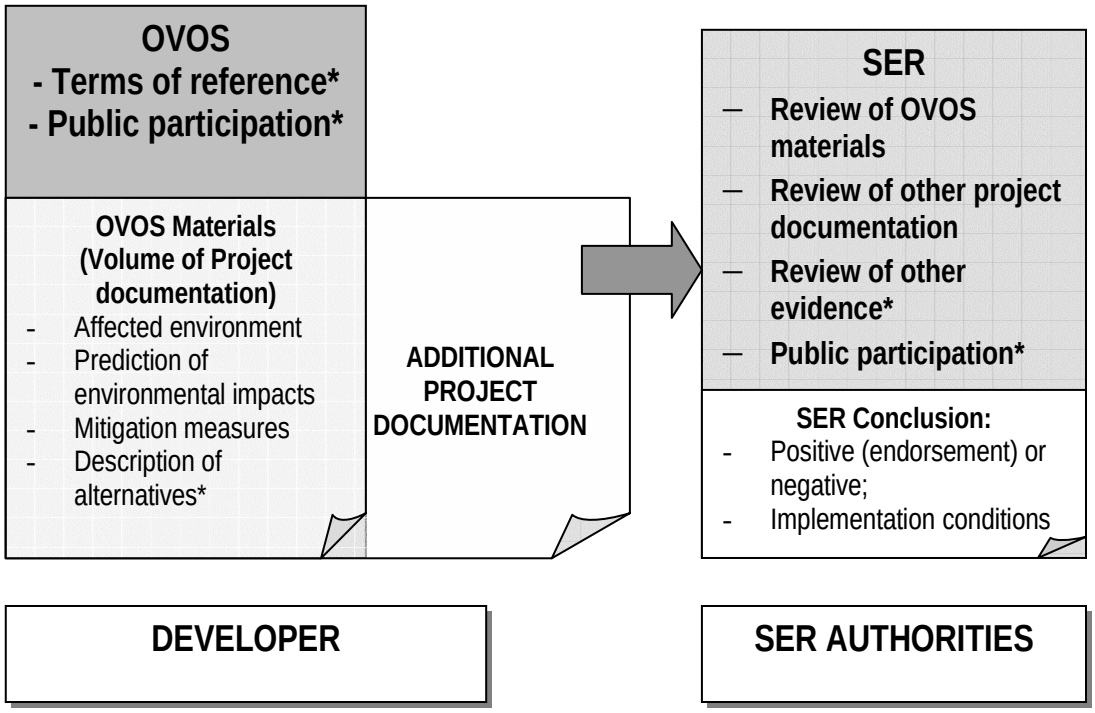
The relationship between OVOS and SER was not always well delineated, though in most systems findings of OVOS were to be included in the project documentation which was reviewed by SER. The most typical content of and links between OVOS and SER are shown, in a simplified form, in

Figure 3.

It is worth mentioning that both SER (as "*expertizas"* in general) and OVOS were originally developed within the Soviet system of planning and project design. Therefore, they are closely linked to the so-called planning and design rules[10]. This was the reason that both instruments required particularly close attention to observing construction standards and relatively less attention to operating conditions. This issue will be further discussed below in relation to the separation of functions and linkages between EA and EP in EECCA.

[10] For example, the first mention of OVOS in the USSR and some subsequent OVOS regulations in the Russian Federation were developed as part of SNiPs (Construction Norms and Rules) and SPs (Construction Rules), see, e.g., Cherp, A. (2000). EIA in the Russian Federation. Environmental Assessment in Developing and Transitional Countries. N. Lee and C. George. Chichester, Wiley.

Figure 3. Typical Simplified Content of and Relationship between OVOS and SER in an EECCA Country



Note: * - elements not always legally required and/or rarely implemented.

In the 1990s, following the disintegration of the USSR, all EECCA countries have undergone an unprecedented change in their political and economic regimes. In parallel, they had to tackle the vast legacy of environmental problems and struggle with threats to the environment arising from their accelerating integration into the global economy. These circumstances prompted a reform of EA systems in EECCA, largely inspired by the international experience and promoted by internal and external pressures for environmental responsibility and transparency in decision-making. Particularly important for EECCA countries were EA procedures of the World Bank, European Bank for Reconstruction and Development, Asian Development Bank, as well as the "Espoo" Convention on EA in a Transboundary Context UNECE (1992) and the Århus Convention on Access to Information, Public Participation in Decision Making and Access to Justice in Environmental Matters, UNECE (1998) to which most EECCA countries are parties.

The general goal of this reform has been to reduce the gap between the SER/OVOS systems and the internationally accepted EA standards. This intention has been reflected in more than 50 legal EA-related legal provisions adopted in EECCA during the 1990s. However, depending upon driving forces, capacities, and circumstances in particular EECCA countries, these reforms have proceeded with various speeds and in various directions.

Currently, all EECCA countries have laws requiring SER and, in certain cases, OVOS or its analogues, though these vary in consistency and comprehensiveness. Framework environmental protection laws existing in all EECCA countries require SER but rarely lay down any procedural details. Almost all EECCA countries have specific parliamentary acts regulating SER (and in some cases, OVOS). However, some of the recently drafted laws (e.g., in Azerbaijan) do not provide for significant modification of the

SER/OVOS procedures, whereas others (e.g., in Moldova, Russia) introduce prominent elements of the internationally accepted EA process.

Table 1. Key Differences between the Best International EA Practice and the SER/OVOS System Typically Used in EECCA Countries

Stage/element	"Classic" EA	SER/OVOS system
Screening	Focused on projects of major environmental significance	Applied, in some form, to the majority of proposed activities, including those with minor environmental significance
Consideration of environmental impacts	Focused on major environmental impacts, including indirect and cumulative ones as determined by a scoping procedure.	A separate scoping procedure is absent. Primarily covers impacts regulated by planning and design rules and standards. Acceptability of impacts is primarily decided on the basis of their conformity to legal rules and standards
Public participation	A transparent and participatory procedure	A more closed, state-led procedure with limited opportunities for participation
Links to decision-making	Linked to several planning and authorisation decisions	Linked to environmentally-focused decisions by SER

The EA *practice* in EECCA countries is even more diverse than the EA legislation. In most cases, it is closer to the inherited Soviet SER/OVOS procedures than to the "best practice" international requirements, even where the latter have been incorporated in national laws or guidelines. In those countries where specific EA laws were passed already in the early or mid-1990s, considerable practical experience has been accumulated. Dozens or even hundreds of thousands of SERs have been conducted since 1992. Reflecting upon this vast experience, countries like Russia are now introducing a "second generation" of EA legislation bringing their systems in closer conformity with the internationally accepted standards. In some other EECCA countries (e.g., in Kyrgyzstan and Uzbekistan), comprehensive EA laws were introduced only in the late 1990s or are still under consideration. The EA practice in those countries has necessarily been more limited, sometimes the only full-scale EA cases were conducted for a few major projects funded by international development agencies.

Thus, despite significant progress over the last decade, EA systems in EECCA still diverge from the internationally recognised EA standards in a number of areas (Table 1). The most notable directions of possible improvements are discussed in Chapter 5. For some EECCA countries the challenge is to consistently reflect these principles in their legislation, while for others many appropriate laws and regulations are already in place and the task is to create capacity for their practical implementation.

4.2 ENVIRONMENTAL PERMITTING IN EECCA

Particularities of environmental permitting in EECCA countries can be best explained and understood in their historic and current socio-economic context. First environmental permits appeared in the USSR already in the 1960s and their scope was significantly expanded in the 1970s and 1980s. These permits were administered by different agencies, such as the Ministry for Water Works ("*Minvodkhoz*") for abstraction of water and discharges into water bodies, the State Hydro-Meteorological Committee ("*Goskomhydromet*") for installations emitting air pollutants, and Sanitary-Epidemiological Service ("*SES"*) of the Ministry of Health for facilities associated with environmental or occupational health hazards. Many elements of environmental permitting were in place, but they were sector- and medium-specific, non-transparent and overly focused on end-of-pipe pollution control rather than on pollution

prevention. Enforcement of environmental permits was also problematic, since often the same state agency acted as both the operator and the regulator.

With the reform of the environmental protection system in the late 1980s some of these shortcomings were addressed. Most of the various permitting functions were given to the newly formed USSR State Committee for Environmental Protection which later evolved into the Ministry of Environment. However, initially this consolidation was purely formal and did not result in an integrated approach to permitting; each permit was considered in isolation from others. In addition, a new procedure of SER was introduced with the aim to provide for an independent (from the developer) integrated evaluation of proposed activities, conducted earlier in the project cycle and more open to the affected public. As already mentioned in Section 4.1, SER performed both environmental assessment and environmental permitting functions; however, the effectiveness of this procedure has varied.

The newly independent states inherited these environmental permitting systems after the disintegration of the USSR in 1991. Environmental permitting was weakened in the early 1990s due to the deregulation, administrative restructuring, and other obstacles associated with the reforms. Moreover, the external pressures for reforming environmental permitting have been weaker than in the case of EA because neither international financial institutions (the World Bank, the EBRD, the ADB) nor existing international conventions laid out specific EP requirements, as they did in relation to EA. Consequently, EP systems in EECCA countries have not been subject to even such modest reforms as the EA systems. As a result, most of the current permitting systems are not considerably different from the procedures inherited from the USSR and do not significantly vary among EECCA countries.

These permitting systems are historically based on the notion of *"maximum environmental load"* postulating that pollution up to a certain limit is "acceptable" (i.e., it does not cause significant damage to human health or ecosystems). In a simplified form, this concept is reflected in Maximum Allowable Concentrations (MACs) for individual pollutants in particular environmental media. Environmental permitting is primarily focused on establishing such Emission Limit Values (ELVs) for industrial installations that MACs are not exceeded.

The generic environmental permitting procedure in EECCA countries consists of the following principal elements:

- **Permit application.** Developer (operator for existing facilities) prepares a **permit application form** containing inventory of all emissions, discharges and waste flows, amounts of raw material abstraction, as well as a calculation of proposed ELVs and waste disposal limits. Such applications are submitted as part of the project description to the SER for new installations or periodically to environmental permitting authorities for existing facilities.

- **Evaluation of application and permit award.** Environmental permitting authorities evaluate applications and issue permits setting ELVs, waste disposal requirements, limits for raw material abstraction and conditions for environmental self-monitoring and reporting. For new facilities undergoing SER, there may be opportunities for public participation in this process. In case a facility cannot comply with the ELVs necessary to attain the MACs, temporary ELVs may be issued. In such cases, permits need to be renewed more frequently and the facility should have an Environmental Improvement Plan aimed at complying with the ELVs at some point in the future.

- **Monitoring, enforcement, renewal.** Permit conditions are monitored both by the operator and through inspections of environmental authorities. In case of non-compliance, permits may be revoked

or other sanctions imposed. The facility needs to renew environmental permits periodically[11] or in case there are significant modifications in the scale or nature of production processes.

Environmental permitting in EECCA countries is strongly linked to pollution charges which are normally imposed at a certain rate on all emissions and discharges below the facility's ELVs and at a much higher rate for emissions and discharges above the ELVs.

Thus, essential elements of environmental permitting do exist in EECCA countries; however, they do not fully conform to the current internationally accepted principles of environmental permitting as summarised in Table 2.

Table 2. International Principles and Trends in EP and Situation in EECCA

Aspect of EP	International principles and trends	Situation in EECCA
Scope and focus	From "end-of-pipe" to pollution prevention where EP addresses design, technology and management choice through the notion of BAT	Permits are primarily focused on ELVs and do not consider best available techniques. EP does not address abnormal operation, including accidents, rarely addresses environmental management in facilities, energy intensity, waste minimisation, or arrangements for decommissioning
Integration	The trend is to consider pollution of various media within an integrated permit procedure	Integration is minimal, interaction between various pollutants seldomly analysed, cross-media transfer of pollutants is not considered[12].
Participation	Participation of the affected public is promoted through availability of information and, increasingly, through consultation	The procedures are primarily technocratic with minimal consultation, especially for existing facilities.

In recent years, there have been notable efforts in some EECCA countries to address these shortcomings of their current EP systems. For example, the aim of harmonising their environmental regulation with that of the EU has stimulated interest in the IPPC Directive in Moldova, Russia, Georgia, and Ukraine. However, there is still much work to be done before the results of these intentions are reflected in legal arrangements, institutions and practice. For the time being, both environmental authorities and the industry still regard the environmental permitting as a purely administrative procedure that grants authorisation for emitting pollutants up to a certain level.

4.3 GENERIC MODEL OF CO-ORDINATING EA AND EP IN EECCA

As explained in previous sections, during the last decade, most EECCA countries have been reforming EA and EP systems inherited from the USSR. The EA systems have typically developed more rapidly in response to stronger external and internal driving forces. The degree of co-ordination between the EA and EP systems varies between the countries, but there are some common approaches and issues discussed in this section.

The key linkages between SER and EP in EECCA countries are schematically shown on Figure 4.

[11] For example, in Russia, environmental permits are typically renewed every five years or every year for facilities operating under temporary ELVs. New facilities are issued permits for the initial period of three years.

[12] For example, in Russia, a large scale facility needs to obtain up to seventy-eighty permits, 10-15 of which are issued (agreed) by environmental, occupational health and safety, emergency and other similar authorities.

The majority of new activities in most EECCA countries should undergo an SER procedure either at the feasibility study or at the project design stage. Project documentation submitted for SER typically contains an estimation of expected emissions, discharges and waste flows, as well as a description of pollution control and waste management at the planned facility. This information is used for issuing the first environmental permit typically valid for a period of 1-3 years, after which it should be renewed outside the framework of SER.

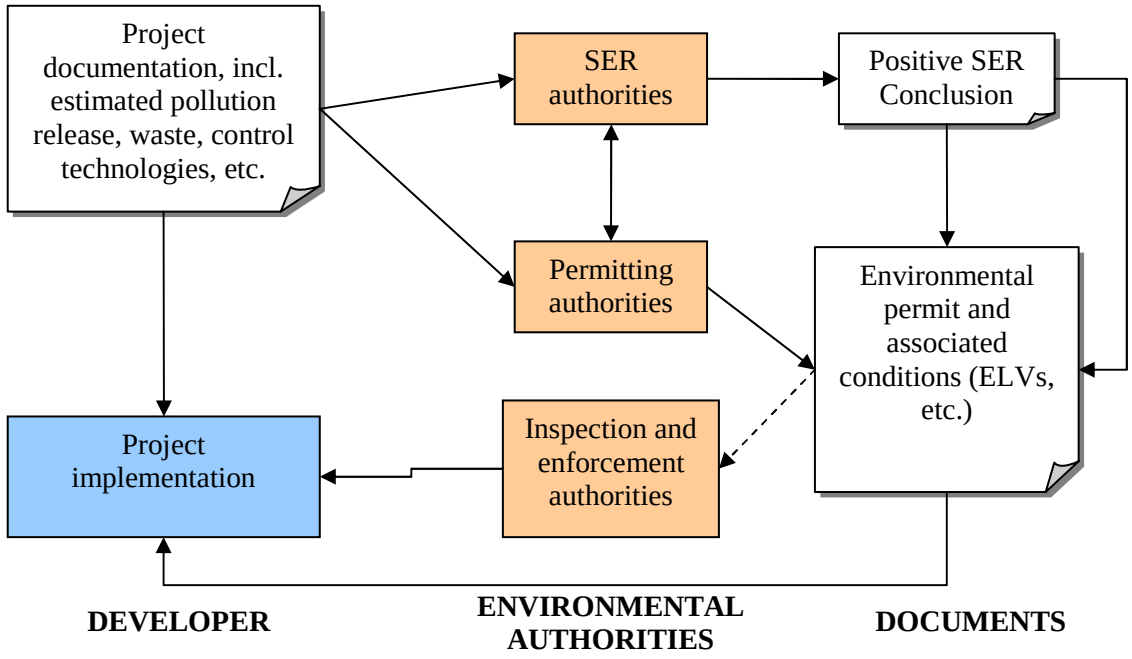
Issuance of the initial permit is strongly linked to the SER procedure. In addition to relying on the same documents (project documentation as submitted to SER), these procedures are institutionally integrated, so that the staff of relevant permitting authorities typically participates in SER or is extensively consulted during the procedure. Legally, a permit cannot be awarded if the SER Conclusion is not positive. On the other hand, because of the strong communication between the SER and permitting authorities[13], a SER Conclusion cannot, in practice, be positive if the proposed activity fails to meet EP requirements. When permits are awarded, initial permit conditions (including both ELVs and self-monitoring arrangements) are often derived from SER conclusions[14]. Monitoring and enforcement of these conditions is often institutionally and procedurally integrated with monitoring and enforcement of SER conclusions[15].

[13] They often form the same department within environmental protection bodies, as, for example, in Belarus and the Vologda region of the Russian Federation.

[14] For example, this is the practice in the Vologda region of Russia.

[15] Inspections of "state environmental control" should enforce SER regulations through verifying that (a) no activities are undertaken without a positive SER conclusion; (b) the activities are undertaken in accordance with designs endorsed by SER; (c) SER conditions, if any, are implemented. In practice (a) is implemented much more regularly than (b) and (c).

Figure 4. Simplified Scheme of SER and Issuance of an Environmental Permit for New Facilities in EECCA



4.4 ANALYSIS OF CO-ORDINATION OF EA AND EP IN EECCA

The criteria of a co-ordinated EA/EP system suggested in Section 3.2 are not fully implemented in EECCA countries. Partially this is a result of the shortcomings of the generic co-ordination model used in EECCA (described above), while partially this relates to deficiencies of practical implementation of this model.

4.4.1 Appropriateness of the Scope and Purpose of EA and EP in EECCA

As explained in Section 4.1, SER in EECCA is a major component of the EA system, roughly corresponding to the stage of EIS review in developed countries. As such, SER may be applied early in the project development cycle (e.g., at the feasibility study stage), may include the analysis of open-ended environmental issues, and discussion of a wide range of alternatives by project stakeholders. At the same time, by some formal features and, more importantly, in practice, SER has many characteristics of an *EP instrument* as used in developed countries. For example, in practice it applies to a wide range of activities at a final project design stage, focusing primarily on environmental issues regulated by the law and resulting in mandatory decisions.

OVOS, another component of the EA systems in EECCA, is more similar to EA as practised in developed countries. However, its practical use and impact on decision-making has so far been limited. Thus, the SER/OVOS system performs many functions of environmental permitting and some (but not all) functions of EA. This situation potentially results in inconsistencies within the SER system, especially when this system is reformed to correspond to the international EA requirements. Interestingly, the approaches to reform and development of the SER/OVOS system have always been inspired by the international EA

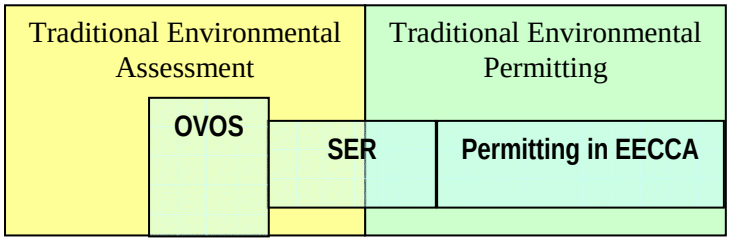
practice and have often been unsuccessful precisely because they could not offer advice on how to reform the "environmental permitting" elements of the system.

At the same time, the range of functions of EP in EECCA is narrower than in best international practice. For example, EP does not test technologies against BAT, does not address emergency response, and does not provide information to the public (see Section 4.2). Some of these issues are addressed within the SER framework.

Thus, it can be argued that in EECCA countries, some traditional functions of environmental permitting are split between SER and EP *per se*. Effectiveness of environmental regulation may suffer as a result of this approach, because SER systems do not have strong and flexible monitoring and enforcement mechanisms.

Figure 5 schematically represents functions of SER/OVOS and EP in EECCA, illustrating that SER performs both EA and EP functions, while traditional EP functions are split between SER and environmental permitting, and there are both EA and EP functions that are not performed.

Figure 5. Functions of EA and EP in Developed Countries and in EECCA.



4.4.2 Linkages between EA and EP

At the first glance, the linkages between SER and EP in EECCA are currently assured by procedural and institutional integration of their certain elements (e.g., permit applications for new facilities are reviewed by SER, a positive SER Conclusion is a pre-condition to issuing an environmental permit, etc.). However, many links within the EA/EP systems are still poorly developed.

For example, insufficient links between OVOS and SER often result in poor connections between OVOS and EP. This hinders the ability of EP systems to utilise OVOS findings for determining the acceptability of expected pollution, suitability of mitigation technologies, and opinions of affected parties. Moreover, the lack of connection between OVOS findings and EP conditions negatively affects implementation of OVOS recommendations.

In fact, even the linkages between SER Conclusions and EP conditions are not always sufficient. In part, this is due to the fact that EP conditions typically deal only with ELVs and monitoring arrangements, whereas SER Conclusions may cover a wider range of issues. In particular, the linkages between SER and EP may not work well when SER is conducted at an early stage of project planning (e.g., at the stage of feasibility study, as it is envisioned in the Russian regulations). At these stages, technologies and environmental settings are not defined in sufficient detail to establish meaningful permit conditions.

In addition, problems have been reported in ensuring sound links between SER and EP for *operating* facilities. While ELVs for new facilities, calculated on the basis of project documentation, are endorsed by SER and serve as the basis for initial environmental permits (valid for one to three years), subsequent ELVs are based on inventories of *real* pollution sources and may bear little resemblance to the ones that

were endorsed initially. If this is the case, the facility may in fact have environmental loads very different from the ones which were judged as acceptable by SER[16].

Enhancing or even maintaining the existing linkages between EA and EP may become especially challenging when the scopes of application of both instruments will change to correspond to best international practice (see Figure 5) and, thus, their functions may become more clearly separated.

[16] It is worth reminding that SER and OVOS originated as instruments of ensuring better compliance with planning and design rules (see section 4.1) and standards and, thus, have been less suited for addressing operating conditions and other issues of project implementation.

5 Recommendations, Opportunities and Constraints for Attaining Better Co-ordination of EA and EP in EECCA

This section discusses recommendations, opportunities and constraints for reforming EA and EP in EECCA countries in order to move closer to a "*co-ordinated EA/EP system*" as defined in Section 3.2. There are two key features of such a system: (a) appropriate scope of application of EA and EP and (b) strong linkages between EA and EP. Potential improvement toward these criteria is analysed in relation to existing weaknesses of co-ordination presented in Section 4.4, as well as in relation to individual shortcomings of EA and EP implementation in EECCA, as identified in Sections 4.1 and 4.2. Discussion of opportunities and constraints and identification of recommendations in Section 5.3 is based on the existing experience of environmental policy reform in EECCA and elsewhere.

5.1 Ensuring Appropriate Scope of EA and EP

As discussed in Section 4.1, the functions of SER and OVOS in EECCA are somewhat different from the functions of an effective EA system operating in accordance with best international practice. In order to reduce the gap between the two, a number of measures, such as listed in Table 3, are typically suggested.

Table 3. Commonly Suggested Directions of Reforms of EA Systems in EECCA

1. **More focus on OVOS.** Meaningfully applying EA earlier in the project development cycle should mean providing more legal and institutional support to the OVOS procedure which precedes SER.
2. **Screening.** Focusing full-scale SER and OVOS procedures on developments with potentially significant environmental impacts rather than applying a universal simplistic procedure to thousands of trivial projects.
3. **Public participation and responsibilities of developers.** Clearly defining and enforcing rights and responsibilities of developers and the public rather than operating "state-dominated" non-transparent and technocratic procedures.
4. **Comprehensiveness.** Ensuring that SER and OVOS address all significant environmental impacts and mitigation measures, not only those regulated by sector- and medium-specific standards and design rules.
5. **Links to decision-making.** Linking OVOS and SER findings to decision-making in the framework of sustainable development rather than making EA merely a stage of an environmental authorisation procedure.
6. **Follow-up.** Ensuring meaningful follow-up to OVOS and SER in the form of environmental auditing and monitoring, environmental management plans and environmental management systems linked to EA findings.

Source: von Ritter and Tsirkunov (2002) and Cherp (2001), see also Section 4.1

If successful, these reforms may significantly alter the functions of the SER/OVOS system. A reformed system will be able to address a wider range of impacts at earlier project planning stages, may de-emphasise consideration of smaller activities, and may increase attention to the project implementation stage.

At the same time, the scope and the nature of EP systems in EECCA is also likely to change as outlined in Table 4. Many EECCA countries seek convergence with the EU IPPC Directive. While full harmonisation

may not be feasible in the near future (see, e.g., OECD (2003b)), many modifications in line with Directive 96/61/EC are being discussed. In particular, EP requirements should encourage developers to use more environmentally friendly designs, EP should consider a wider range of issues (such as, for example, testing technologies against BAT, analysing management systems and decommissioning arrangements, see also Table 2) and involve such steps as public consultation. It is also likely that EP will become more integrated and more dependent upon complex analyses such as BAT for major facilities rather than merely calculation of ELVs based on MACs.

Table 4. Commonly Suggested Directions of Reforms of EP Systems in EECCA

1. **Diversification depending upon the nature and scale of activities.** More complex environmental permitting procedures are recommended for activities associated with significant environmental impacts. The rest of recommendations are primarily related to such "advanced" environmental permits.

2. **Consideration of a wider range of issues.** Environmental permitting should consider a number of issues in addition to currently analysed ELVs, including the choice of design and technology, energy and resource efficiency, management and monitoring systems, arrangements for decommissioning and accident prevention.

3. **Use of BAT.** Testing the planned activity against BAT should be used, especially for larger facilities, as part of permit evaluation.

4. **Integration.** Introducing a single permit for emissions/discharges into all environmental media and waste disposal or co-ordinating the existing separately awarded permits within one procedure.

5. **Public information.** Making permit applications and permit conditions publicly available, providing the public with the right to comment on and the right to appeal against permitting decisions.

Source: TACIS Project Team (2003), OECD (2003a), see also Section 4.2

It should be noted that bringing EA and EP into better conformity with best international practice would require significant modification of their functions (see Figure 5 in Section 4.4.1). In particular, some functions currently performed by SER may fall within the scope of the (reformed) EP system and, thus, additional measures might be needed to ensure clear separation of functions while maintaining strong linkages as explained in the next section.

5.2 Ensuring Proper Linkages between EA and EP

As noted in Section 4.4.2, the links between EA (especially OVOS) and EP in EECCA should be significantly strengthened. Developing such links should become increasingly important as both EA and EP evolve to assume diverse and more distinct functions. A summary of suggested measure to strengthen linkages between EA and EP in EECCA is given in Table 5.

In particular, as EP systems become more integrated, flexible, preventive and transparent, they are more likely to need OVOS findings to analyse the proposed activity against BAT, justify acceptability of expected pollution and provide input in defining other permit conditions. Similarly, reformed EP and EA systems can be linked at post-project stages when both permitting conditions and the EMP developed as a result of EA should be implemented. This linkage is really desirable if the facility has an Environmental Management System which may address both sets of requirements on a continuous basis.

Table 5. Suggested Measures to Strengthen Linkages between EA and EP in EECCA

1. **Consideration of requirements for environmental permitting in OVOS.** OVOS should facilitate the task of preparing and evaluating EP applications by considering, where appropriate, such issues as BAT, abnormal operation, decommissioning and acceptability of pollution load.

2. **Reference to OVOS findings in preparing and evaluating EP applications.** This may become especially relevant when the scope of EP systems is expanded to cover a wider range of issues and to provide for an integrated analysis.

3. **Linking SER conclusions and OVOS findings to permit conditions.** OVOS materials and SER Conclusions should be referred to in establishing permit conditions. This may be greatly facilitated if EMP or its analogues are defined within OVOS or SER.

Source: based on Sections 3.2.2 and 4.4.2 and recommendations of the expert meeting (Moscow, April 11, 2003)

5.3 ROADMAP FOR REFORM

The previous two sections outline some 14 recommendations (Table 3, Table 4 and Table 5) to bring the EA and EP systems in EECCA in better conformity with the best international practice. These recommendations are broadly shared by EA and EP experts from EECCA countries (see Box 6). It should be noted that many of these measures can and should be introduced in a co-ordinated fashion. For example, implementation of recommendation on linking OVOS findings and SER conclusions to permit conditions can only be effectively implemented if OVOS and SER procedures pay more attention to follow-up arrangements. The effectiveness of the public participation recommendations for EA and EP can clearly be enhanced if they are implemented in a co-ordinated manner.

Box 6. Key Conclusions of the Expert Meeting on EA and EP in EECCA (Moscow, April 11, 2003)

- SER constitutes an important element of environmental regulatory systems in EECCA countries and should be preserved.
- The role of OVOS and its linkage with SER should be strengthened.
- Using SER and OVOS results in permitting (evaluating permit applications and establishing permit conditions) should be made obligatory for environmental authorities.
- The transition to integrated permitting system (first through procedural integration, followed by introduction of technique-based regulation of large industrial polluters) is a high-priority reform that will also contribute to better coordination with EA.

Thus, in order to ensure a co-ordinated EA/EP system, the reforms of both EA and EP should be co-ordinated as schematically shown on Figure 6. This means that the reform measures should be sequenced in time and/or aligned to ensure their consistency. Benefits of a co-ordinated approach to reforms can be demonstrated in case of Georgia where the "synchronization" of the SER and EP laws in 1996 enabled co-ordination of the scope of application of SER, OVOS and EP (see also Table 6).

Figure 6. Co-ordinated Reforms of EA and EP Systems

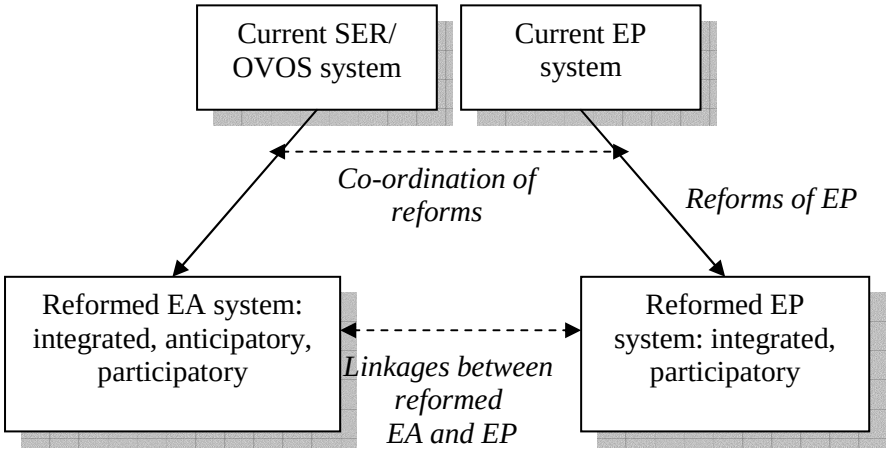


Table 6 gives examples of how recommendations on reforming EA and EP are addressed in various EECCA countries.

Table 6. Examples of Legal and Institutional Steps Facilitating the Reform of EA and EP in EECCA

Reform area	Specific reform measures	Examples from EECCA countries
Appropriate scope for EA (see Table 3)	1. **Increasing emphasis on OVOS** 2. **Ensuring screening** 3. **Ensuring public participation and defining responsibilities of developers** 4. **Expanding focus beyond normative issues** 5. **Improving links to decision-making** 6. **Introducing OVOS follow-up**	**Belarus:** The new OVOS Guidelines (2002) introduce screening and scoping, define public participation, require an extensive scope of OVOS investigations and stipulate post-project analysis. **Georgia:** OVOS is required only for selected activities (law on SER, 1996). **Moldova:** EA/ER law introducing a screening list and PP requirements. **Russia:** Screening for SER introduced in several regions. Federal OVOS Regulations (2000) require scoping, public participation and follow-up.
Appropriate scope for EP (see Table 4)	1. **Diversification depending upon the nature and scale of activities** 2. **Consideration of a wider range of issues** 3. **Use of BAT** 4. **Integration** 5. **Public information**	**Georgia:** EP is a consolidated document (Law on EP 1996). **Moldova:** A study on the feasibility of pilot application of IPPC requirements in the power sector. **Russia:** The notion of BAT introduced in the Federal Environmental Protection Law. Introduction of integrated permits is currently being explored.

Table 6 shows that some recommendations identified in Table 3 and Table 4 for reforming EA and EP individually are being implemented in various EECCA countries, while the possibility of implementing others is being discussed. Further efforts in these directions will ensure more appropriate scopes for EA and EP and, therefore, progress towards a co-ordinated EA/EP system. At the same time, the measures on strengthening linkages between EA and EP (suggested in Table 5) have not been so far explicitly addressed in EECCA. The implementation of these improvements should be timed with other modifications of EA and EP systems. A mixture of **regulatory** (e.g., modifying existing OVOS, SER and EP regulations), **procedural** (e.g., ensuring flows of information between SER divisions and environmental inspectorates), and **capacity-building** measures (e.g., producing guidelines for developers on how BAT can be addressed within the scope of OVOS) will be necessary for achieving success in this area.

5.4 REFORMS OF EA AND EP: OPPORTUNITIES, CONSTRAINTS AND SUGGESTED APPROACH

The blueprint for reform presented above may be used as general guidance for EECCA countries seeking to improve the co-ordination of their EA and EP systems in line with best international practice. However, most of the specific approaches and measures to achieve this objective can only be decided within the framework of a particular country's context, including the current state of environmental policies and institutions, as well as constraints and opportunities for their further development.

The experience in Central and Eastern Europe, EECCA and elsewhere has shown that major opportunities for environmental policy reforms are associated with:

- **Increasing political interest in complying with international environmental norms**, e.g., the EU regulations and requirements of international development agencies. For example, harmonisation with the EU IPPC Directive is considered to be among the principal objectives of EP reforms in many EECCA countries; most public participation requirements are introduced in both EA and EP systems as a response to the Aarhus Convention; and some EA reforms are influenced by the requirements of either Espoo Convention, the EU EA Directives or the procedures of the international financial institutions.

- Pressures from **the public and NGOs** for more openness and transparency of regulatory systems.

- Ongoing **administrative reforms**, often directed at streamlining existing legislation, combined with pressures of **investors** for reducing red tape, increasing clarity of regulations and their conformity with internationally accepted practices. For example, businesses in Russia have argued for reducing the number of permits required to construct or operate an industrial facility. Such reduction can be achieved by introducing an integrated environmental permit.

Potential environmental and economic benefits of some of the proposed measures should not be overlooked. For example, introducing BAT in the Russian Federation would have benefits in terms of conserving raw materials and energy, eliminating toxic raw materials and reducing the quantity and toxicity of releases.

At the same time, there are a number of constraints to implementing a successful environmental policy reform, including:

- Insufficient political and public commitment to environmental regulatory reform. National legislatures are unlikely to give environmental issues a sufficiently high priority, compared to economic and social ones. Second, there is apprehension among environmental officials as well as environmentally

concerned public that the reforms would make existing requirements less stringent, thereby compromising the goal of environmental protection[17];

- Satisfaction of certain parts of bureaucracy and industry with *status quo* when environmental legislation is often weak, confusing, and selectively enforced;

- Incompatibility of environmental policy tools developed in Western countries with administrative and managerial systems in EECCA, including environmental protection institutions often based on centralised, technocratic, and inflexible approaches;

- Inadequate capacity for development and implementation of modern environmental policy tools.

While each country should find its own approach to using specific opportunities and overcoming specific constraints for reform, some the following common reform principles can be formulated:

1. **Involving stakeholders.** A successful reform should be supported by major stakeholders. Therefore, a sound policy process should involve lawmakers, environmental and other authorities, NGOs, interested international organizations, representatives of industries and other relevant parties. Since this paper is about co-ordination of EA and EP, it is only natural to emphasise that SER authorities should be consulted in the reform of EP systems and vice versa.

2. **Integration with existing legislation and institutions.** Environmental regulatory reforms and their end-products should not be implemented in a vacuum, but should rather be closely integrated with existing laws and institutions. In most EECCA countries, it is generally recognised that simply re-writing legislation and restructuring administrative bodies may not always be feasible and would not necessarily produce desirable outcomes. This means, inter alia, that progress often needs to be achieved within the existing (or slightly modified) institutional and legal frameworks. In particular, EA and EP reforms should be closely linked with land-use, public health and urban development legislation, to mention a few examples.

3. **Utilising existing knowledge and experience.** A successful reform is based on a thorough analysis of the existing situation, international experience, as well as costs and benefits of potential alternatives. For example, such an analysis, also involving diverse stakeholders, was conducted by the World Bank and the Government of the Russian Federation to identify approaches for further development of the Russian EA system (see von Ritter and Tsirkunov (2002)). Other international projects should be drawn upon, as well.

4. **Gradual and iterative approach.** No policy can be designed and implemented correctly "from scratch." The reform may be more feasible and effective if implemented "stepwise." For example, the EAP Task Force (OECD (2003b)) suggests that while immediate full-scale implementation of the IPPC Directive's requirements in Russia is unfeasible, procedural improvements can be made already in the short term. The Russian experience also shows that the reform of the EA system may be advanced through trying certain innovations in individual regions rather than on the national level. It is important to carefully analyse the outcomes of reforms and adjust the reform path accordingly. The framework for such "pilot" applications and for analysis of their experience can also be provided by international collaborative projects.

[17] For example, most of the participants of the expert meeting discussing the draft of this paper agreed that proposing a radical review of the existing SER system may result in legislatures' abandoning or significantly weakening this instrument without providing viable alternatives (see Box 6).

5. **Capacity building.** There needs to be an increased emphasis on strengthening capacities of state bodies and other stakeholders for developing and implementing environmental policies. Development of operational guidelines for key actors in the EA and EP processes would help institutionalise the improved systems. National and international networks of key actors (environmental authorities, industry, academia, consultants, NGOs, etc.) exchanging their views, expertise, and experiences are also important contributors to building such capacity.

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