

European Commission,  
DG TREN

Mid-term evaluation of the  
decommissioning  
assistance to Lithuania  
and Slovakia provided  
under the protocols to the  
Treaty of Accession

Final Report

September 2007



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<b>Acronym</b>	<b>Definition</b>
AoC	Assembly of Contributors
BIDSF	Bohunice International Decommissioning Support Funds
BNPP	Bohunice Nuclear Power Plant
BNPP V1	BNPP consists of two plants: V1 and V2. V1 consists of Unit 1 and 2 of BNPP and is in the process of being closed down
CDP	Conceptual Decommissioning Plan
CPMA	Central Project Management Agency
DG	Directorate General
DG BUDGET	Directorate General for Budget
DG ELARG	Directorate General for Enlargement
DG REGIO	Directorate General Regional Policy
DG RELEX	Directorate General for the External Relations
DG TREN	Directorate-General for Energy and Transport
EBRD	European Bank for Reconstruction and Development
EC	European Commission
EDIS	Extended Decentralised Implementation System
EIA	Environmental Impact Assessment
EU	European Union
FDP	Final Decommissioning Plan
G7	Group of Seven (Seven industrialized nations of the world, formed in 1976 (Canada, United States of America, France, Germany, Italy, Japan, United Kingdom); now known as G8 (with Russia)
IDSF	International Decommissioning Support Funds
IIDSF	Ignalina International Decommissioning Support Fund
INPP	Ignalina Nuclear Power Plant
JAVYS	Jadrová vyrad'ovacia spoločnosť,
JC	Joint Committee
MW	Mega watt
MoFA	Ministry of Foreign Affairs
MS	Member State
NDAP	Nuclear Decommissioning Assistance Programme
NPP	Nuclear Power Plant
NRA	Nuclear Regulatory Authority
PHARE	Poland Hungary Assistance for the Reconstruction of the Economy
PI	Programmed Instrument
PMU	Project Management Unit
RATA	Radioactive Waste Management Agency
RSC	Radiation Protection Centre
SE	Slovenske elektrarne
SEIDF	State Enterprise Ignalina NPP Decommissioning Fund
SEPS	Slovenska elektrizacna prenosova sustava, a.s
TA	Technical Assistance
VATESI	Lithuanian State Nuclear Safety Inspectorate
WTO	World Trade Organisation

## Executive summary

### Purpose of evaluation

This Mid-term evaluation on the decommissioning assistance provided to Slovakia and Lithuania under the protocols to the Treaties of Accession concerns the on-going allocation of EU funds to address the consequences of the closure of two nuclear power plants; Ignalina NPP (Lithuania) and Bohunice NPP V1 (Slovakia). The evaluation is based on a review of the programme and project documents, site visits and interviews with key experts. It makes judgements on the set-up and implementation system of the assistance programme as well as the progress made in implementing projects under the programme.

*EU Decommissioning assistance to Lithuania.* The assistance is channelled via the Ignalina International Decommissioning Support Fund, managed by the EBRD, and the Programmed Instrument - a nationally-managed funding system (two instruments).

Prior to accession in 2004, the EU had contributed €210 Million. During the 2004-2006 period, EU assistance amounted to €320 Million. The new funding allocation has been fixed at €37 Million for the whole 2007-2013 financial perspective (€34 Million at the 2004 price).

*EU decommissioning assistance to Slovakia.* The assistance is channelled via the Bohunice International Decommissioning Support Fund, managed by the EBRD (one instrument).

During the 2004-2006 period, the EU assistance amounted to approximately €90 Million. For the 2007-2013 financial perspective the proposed funding is fixed at €23 million for the whole financial perspective.

### Organisation

The evaluation took place between January and July 2007 and was carried out by COWI A/S using a standard mid-term evaluation methodology. A Project Steering Group, chaired by the European Commission (DG TREN, H2), met four times (Project kick-off meeting, inception meeting, interim meeting and final meeting) to provide feedback and guidance to the evaluation team. Readers should note that the report presents the views of the Consultant, and are solely his responsibility, and do not necessarily coincide with those of the Commission. It should be noted that the legal base recently has been modified, and that the conclusions drawn in this report do not take these modifications into account.

Evaluation process	<p>The key steps of the evaluation process have been:</p> <ul style="list-style-type: none"> <li>• To review background descriptions (regulations, articles, etc.)</li> <li>• To undertake fact-finding missions to Lithuania and Slovakia, focussing on programme set-up and gaining an overview of the project portfolio</li> <li>• To interview other key actors, first and foremost DG TREN and EBRD</li> <li>• To analyse the programme set-up</li> <li>• To analyse the project portfolio and to review selected projects</li> <li>• To report the key findings and recommendations.</li> </ul>
The overall conclusion: Mainly positive results	<p>It is the overall conclusion that the EU decommissioning assistance programme to Lithuania and Slovakia is 'a mixed bag' but one which primarily shows positive results - as the NPPs in question either are or will be shut down and kept in safe maintenance as envisaged, and as the decommissioning processes, facilitated to a large extent by EU assistance to the two countries are underway.</p> <p>The evaluation addressed the relevance and utility of the projects (implemented so far) and it indicates positive impacts and a (likely) high degree of sustainability. A majority of the projects has been well implemented in so far as the results match the objectives. The costs of the projects, to the extent that it could be assessed within this evaluation (the evaluation was limited in scope and addressed mainly projects that were completed at the time of evaluation), are fair when compared to the results. The evaluation noted, however, the delays seen in implementing some of the projects, and it questions the effectiveness and efficiency of certain projects in both countries (e.g. deliverables within the PMU projects).</p> <p>The main vehicle for channelling the assistance is through the EBRD managed International Decommissioning Support Funds (one in each country) where the EC is the main but not the only donor. In one country, the assistance is further provided by an independent vehicle, called the Programmed Instrument which operates under the national procurement rules. The evaluation found plenty of justification for the initial decision of (factually) delegating the implementation of the programme to the EBRD, ranging from the existence of structured processes and the technical and administrative experience of EBRD to the lack of administrative capacities (priority) at DG Enlargement (later DG TREN) and the lack of practices and structures in the countries. The evaluation raises the question of the necessity to maintain two assistance vehicles in one country.</p>
Framework conditions	<p>The evaluation shows that the decommissioning assistance programmes to the two countries have evolved, and that the following conditions and developments have had an impact hereon:</p> <ul style="list-style-type: none"> <li>• a relatively <u>loose policy framework</u> - as the objectives stated in the two protocols and related Council Regulations are very broad;</li> <li>• <u>a strong cooperation between the EBRD and the European Commission</u> - as the EBRD is managing most of the EU financial assistance;</li> <li>• complicated and <u>unique decommissioning planning processes</u> - as there are few if any similar processes to learn from;</li> </ul>

- Increased clarity of national priorities - as national decommissioning strategies and underlying conceptual decommissioning plans have been adopted during programme implementation;
- The framework conditions have changed substantially during the course of the programmes' existence - as Lithuania and Slovakia have moved from the EU applicant to the EU MS status; national organisations responsible for funding decommissioning activities were established; structured public procurement process established; nuclear sector reorganised-privatisation in Slovakia;
- An increasing level of real commitment from the two countries towards closure and decommissioning of their NPPs allowing for streamlined project planning and implementation.

In light of the changed framework conditions, and bearing in mind that this is a mid-term evaluation with the overall purpose to investigate whether the future implementation of decommissioning assistance could be even more effective, the evaluation has raised the question if, at a certain time in the future, Lithuania and Slovakia could be entrusted with responsibility for the implementation of the decommissioning assistance programme (with the Commission exercising ex-post control). The evaluation recognises that it is relevant to initiate such a discussion but it draws no conclusion in this regard. It notes that some, but not all, key actors in the countries are willing to discuss such a change - which in fact illustrates another feature of this evaluation, namely that the stakeholders involved hold varies views and interpretations of the programme and how it should be managed. There is certainly no consensus around the table.

The need for an EU strategy on decommissioning assistance

Finally, while it might be understandable from a historical perspective, that the decommissioning assistance programmes to the two countries were based on broad non-exclusive objectives - acknowledging that the Protocols 4 and 9 to the Treaty of Accession essentially were political agreements between the respective countries and the EU - this evaluation nevertheless suggests that the European Commission develops a generic decommissioning assistance programme strategy showing criteria, chronology, principles and conditions for EU assistance in this field. Further EU guidelines could also help beneficiary countries in the planning and in the long-term implementation of the EU decommissioning assistance programmes.

Recommendations

In light of the evaluation findings the following are recommended:

- That the EC develops a consistent strategy with goals and criteria for the decommissioning assistance programme(s), against which any ongoing and future assistance could be judged and evaluated. The strategy should include objectives for any related energy system and social measures that are justified as a consequence of the shutting down of 1<sup>st</sup> generation units that (were) operate(d) in countries becoming members of the EU.
- To assure that any assistance provided is consistent and complementary with the national activities (implemented via national decommissioning funds and/or other national means).

- With the consideration that the conceptual decommissioning plans for both Bohunice and Ignalina were developed and decommissioning strategies selected in both countries, a more accurate estimate of actual decommissioning and related energy sector costs (against which the needs for financial assistance commitments could then be assessed) should be developed.
- The EC shall consider to modify the implementation rules for the provision of assistance to allow for adjustments with actual costs dynamics for the decommissioning activities (e.g. to allow for lower utilization in the years when only preparatory activities take place).
- Investigate measures that could lead to an increased effectiveness and efficiency of the activities of the PMUs operating within the International Decommissioning Support Funds.
- Investigate the merits of having two assistance vehicles operating in parallel (in Lithuania) with a view to possibly integrating these, while preserving the benefits offered by each.
- In light of the changing framework conditions, it is suggested to carry out an assessment to identify an optimal vehicle for providing assistance in the future.

Overview of specific conclusions

A condensed presentation of the conclusions of the evaluation questions are given in the table below.

*Table 1 Overview of conclusions (rating: satisfactory, acceptable, unsatisfactory, no assessment)*

<b>Evaluation question or theme</b>	<b>Brief presentation of findings</b>	<b>Rating</b>
Rationale and objective of the decommissioning assistance programme (effectiveness, programme level)	Rationale: to provide assistance to countries facing an extraordinary financial burden in closing down NPPs  Objectives: To support the decommissioning process and to promote a range of related energy sector measures - further specified into a number of sub-objectives. The objectives are loosely formulated	Acceptable  There is a clear rationale for the assistance.  The objectives - are in line with the rationale, but making the objectives more operational would be advantageous
Have programme objectives been met? (effectiveness, programme level)	No clear answer can be given due to a lack of clear focus and priorities at programme level. However, the overall objective of facilitating decommissioning has been met.  The specific objectives are met to a varying	Acceptable



Evaluation question or theme	Brief presentation of findings	Rating
	<p>and as yet unknown degree (only few projects were completed). As the relevance and utility of the ongoing and planned projects are satisfactory, it is reasonable to expect that the overall level of goal-fulfilment will be acceptable.</p> <p>The majority of projects are funded within decommissioning activities particularly within areas related to the preparation for dismantling. The number of energy sector projects is limited for both countries</p>	
<p>Are the two instruments used in Lithuania complementary to each other? (effectiveness, programme level)</p>	<p>The instruments are complementary in nature and focus.</p> <p>Although no direct overlaps between projects undertaken by two instruments were found, no evidence of systematic coordination activities could be found, either. There is no formal requirement of coordination.</p> <p>The managing organisations of the Programmed Instrument (CPMA) and the Ignalina IDSF (PMU) appear to (sometimes) have different expectations as to the focus of the assistance.</p> <p>The different rule-sets sometimes complicate implementation of interlinked projects.</p> <p>It is not clear as to what was the logic of funding interlinked activities via two funding mechanisms.</p>	Acceptable
<p>Is the EU decommissioning assistance to Lithuania and Slovakia based on a coherent strategy? (effectiveness, programme level)</p>	<p>It is not based on a comprehensive decommissioning assistance strategy.</p> <p>The implementation of the assistance would therefore benefit from the development of a programme-level strategy for the decommissioning assistance programmes addressing the rationale of providing assistance, overall objectives, goals and criteria for funding, responsibilities of recipient countries, institutional set-up, etc.</p>	Unsatisfactory
<p>Is the overall programme designed in an efficient manner? (efficiency, programme level)</p>	<p>The assistance is primarily implemented via EBRD managed multi-donor International Decommissioning Assistance Funds to which EU is the main contributor.</p> <p>The system was established in a pre-EU membership context, necessitating the competences of EBRD as the Commission services did not have, at that time, the priority and administrative capacity to manage the decommissioning assistance programme. The framework conditions have changed substantially which makes it</p>	<p>Acceptable</p> <p>Clear advantages of existing system, but also potentials of a revised system - these are not fully documented as part of the</p>

Evaluation question or theme	Brief presentation of findings	Rating
	relevant to initiate a discussion on an alternative set-up - although the evaluation draws no conclusion in regard to this	evaluation
Efficiency of procurement systems? (efficiency, programme level)	The IIDSF and BIDSF procurement systems are both based on the EBRD procurement rules which are in line with WTO agreements. The Fund rules of the IIDSF and the BIDSF does limit procurement of services and goods to contributing countries including the EU Member States and countries of operation of the funds.	Satisfactory
Relevance of projects (relevance, project level)	The projects implemented so far are highly relevant for the decommissioning process.	Satisfactory
Effectiveness of projects (effectiveness, project level)	The effectiveness assessment (to the degree that it can meaningfully be undertaken due to few projects being completed at the time of evaluation) shows an acceptable or satisfactory level of effectiveness. However, many deliverables of the PMUs (especially Slovakia) see significant delays.	Acceptable/ satisfactory
Efficiency of projects (efficiency, project level)	The increased efficiency of the PMU projects is asked for.  The other projects show broadly acceptable or satisfactory level of efficiency, although it is felt that a better preparation could enhance the efficiency. Efficiency is in some case clearly increased with the intensive involvement of local companies.	Project dependent
Utility (utility, project level)	At this stage, the projects already implemented adequately respond to current needs. The EU decommissioning assistance programme is appreciated by recipients for its responsiveness towards national needs. Modalities for selection of projects are, to a certain extent, sensitive to national needs. Nevertheless, for this to remain so in the future (with more active roles of complementary national funding) increased coordination is suggested.	Satisfactory
Impact (impact, project level)	The current project portfolio is likely to generate a positive impact as they clearly are useful and important (the projects selected for early application are key projects which allow for the start of dismantling operations)  Impacts of some ongoing projects cannot be assessed.	Satisfactory
Sustainability (sustainability, project)	The sustainability of the projects is likely to be high.	Satisfactory

Evaluation question or theme	Brief presentation of findings	Rating
level)	(However, as the sustainability of projects can only be detected only 3-5 years after completion, the assessment is tentative).	
Consistency (programme and project level)	The consistency of the EU decommissioning assistance programme, with related policies, has been reviewed to be high.	Satisfactory

## 1 Introduction

### Background

This *Mid-term evaluation of the decommissioning assistance provided to Slovakia and Lithuania under the protocols to the Treaties of Accession* concerns the on-going allocation of EU funds to address the consequences of the closure of two nuclear power plants; Ignalina NPP (Lithuania) and Bohunice NPP V1 (Slovakia).

The Unit in charge of Nuclear Energy and Waste Management (Unit H2) of the Directorate-General for Energy and Transport (DG TREN) is responsible for the implementation of the EU decommissioning assistance programmes in the two countries. It has requested the mid-term evaluation to enable judgements on the set-up and implementation system of the assistance programme as well as the progress of implementing projects under the programme.

### Organisation

The evaluation is carried out by COWI A/S under the existing COWI Service Framework Contract with DG TREN covering Ex Post and Mid Term Evaluations (Ref. TREN/A1/17-2003 Lot 2) for DG TREN. The evaluation took place between January and July 2007.

A Project Steering Group chaired by the European Commission (DG TREN H2) met four times (Project kick-off meeting, inception meeting, interim meeting and final meeting) to provide feedback and guidance to the evaluation team.

Readers should note that the report presents the views of the Consultant, which are solely their responsibility, and do not necessarily coincide with those of the Commission. It should be noted that the legal base recently has been modified, and that the conclusions drawn in this report do not take these modifications into account.

### The issue

The fact that the closure of NPPs presents an exceptional financial burden, the European Union, as part of the Treaty of Accession of Lithuania and Slovakia to the European Union, committed itself to provide significant financial assistance. The Community assistance is to be used to support the decommissioning of the closed units as well as related energy sector measures and the maintenance of an adequate safety culture. In both countries, the assistance is delivered through International Decommissioning Support Funds (IDSF), managed by the European Bank for Reconstruction and Development

(EBRD). In Lithuania, the assistance is partly delivered via a PHARE-based instrument, called the Programmed Instrument.

#### Purpose of the evaluation

It is the overall objective of the evaluation:

- To verify that the assistance is based on a coherent strategy;
- To show the overall results of the assistance programme;
- To formulate a set of recommendations for improvement in order to comply more effectively and efficiently with the assistance's global objective.

In doing so it will evaluate the set-up and organisation of the assistance programme(s), the objectives, delivery mechanisms and its overall progress. The project portfolio sponsored by the assistance programme will, as an integrated part of the evaluation, be reviewed. The scope of the evaluation covers principally all completed and some on-going projects funded until the end of 2006.

#### Methodology

The methodology has been developed following a standard EU evaluation approach to mid-term evaluation and adjusted in light of the overall aim and the specific objectives of this evaluation. Throughout the report a key term is 'the decommissioning assistance programme' for Ignalina NPP (Lithuania) and Bohunice NPP (Slovakia), respectively. It is defined as the framework for the EU assistance to Lithuania/Slovakia and it includes the objectives, the instruments, the funding, and the organisational set-up of the implementation system.

Please note that for a variety of reasons (such as different reactor types and socio-economic contexts), the two cases are not necessarily comparable, and the report should therefore not be seen as a direct comparison of the decommissioning assistance programmes for the two countries.

#### Specific evaluation questions

A number of specific evaluation questions have been formulated so that the evaluation themes of effectiveness, efficiency, utility, sustainability, impact and consistency are covered. The evaluation questions are motivated and specified throughout the report which also is structured on the basis of the evaluation questions.

**Questions regarding the programme.** The effectiveness of the programme is analysed via a description of the programme set-up, the programme objectives and a goal fulfilment assessment. A judgement on the efficiency of the programme is made on the basis of comparing the existing delivery mechanism with an alternative set-up and by reviewing tendering systems.

**Questions regarding the projects.** The project portfolio is described to show the status, characteristics and priorities at project level. Also the effectiveness and efficiency of selected projects have been assessed as well as the impacts

and the sustainability of the achievements. Being a midterm evaluation, however, it follows naturally that the evaluation questions related to effectiveness and efficiency are more fully covered than questions on sustainability and impact.

#### Evaluation process

The key steps of the evaluation process have been:

- To review background descriptions (regulations, articles, etc.)
- To undertake fact-finding missions to Lithuania and Slovakia, focussing on programme set-up and gaining an overview of the project portfolio
- To interview other key actors, first and foremost DG TREN and EBRD
- To analyse the programme set-up
- To analyse the project portfolio and to review selected projects
- To report the key findings and recommendations.

#### Structure of report

The report structure is derived from the evaluation themes. Chapters 2 and 3 cover effectiveness and efficiency at programme level (drawing also at project review findings), while chapters 4-6 primarily presents the results of the project reviews. Chapter 7 gives overall conclusions and recommendations.

Four appendixes are attached. Appendix 1 lists persons/institutions interviewed; Appendix 2 contains a list of materials consulted; Appendix 3 provides background information on the decommissioning process in Lithuania and Slovakia, including an overview of involved actors and time tables. Appendix 4 contains an elaboration of the consistency assessment.

## 2 Effectiveness of programme

### Purpose of chapter

This chapter assesses the effectiveness of the assistance programmes for Lithuania and Slovakia by answering the following evaluations questions:

- What are the rationale and overall objectives of the European Community's decommissioning assistance and to what extent are these met?
- What were the reasons for channelling the EU decommissioning assistance through Ignalina and Bohunice IDSFs and what are the strengths and weaknesses of these instruments?
- Specifically for Lithuania, why was the Programmed Instrument chosen as an additional instrument, and are the two instruments used in Lithuania complementary?
- Overall, is the EU decommissioning assistance programme to Lithuania and Slovakia based on a coherent strategy?

### 2.1 Objectives of the EU assistance programme

#### 2.1.1 Objectives - Lithuania

### Protocol No 4 on the Ignalina Nuclear Power Plant

The intention of the EU decommissioning assistance to Lithuania is to provide assistance to a country which is facing an extraordinary financial burden in connection with closing down a nuclear power plant. The overall objective is thus to facilitate the decommissioning process via provision of financial and technical assistance targeting, first and foremost, decommissioning costs and energy sector activities. While nuclear safety received particular attention during the pre-shutdown period, in the context of EU enlargement negotiations, the candidate countries agreed to an early closure of their first generation reactors. Protocol 4 of Accession Treaties expresses the readiness of the EU to provide financial assistance for decommissioning assistance and energy sector measures to Lithuania to reduce the financial burden of closing Unit 1 before 2005 and Unit 2 by the end of 2009.

The objectives of the Ignalina decommissioning assistance programme are presented in Protocol no. 4 in the form of a list of broad decommissioning and

energy sector categories which are eligible for support. The objectives are listed in the table below.<sup>1</sup>

Table 2 *The objectives of Ignalina Programme, cf. Protocol 4 and Council Regulation 1999/2006*

Overall objective	Objectives	Sub-objectives
Shut down of Unit 1 in 2005 Shut down of Unit 2 in 2009 Safe decommissioning process and modernisation of energy sector	To support decommissioning measures	Activities directed at the dismantling of the Ignalina NPP and the treatment and storage or release of all waste arising
		Permanent disposal of radioactive (or toxic) waste
		Support to plant personnel in maintaining a high level of operational safety prior to closure and during the decommissioning
		Technical assistance to regulatory bodies and contribution of maintain INPP safety culture
	To support energy sector measures	Environmental upgrading in line with the acquis of conventional production capacity
		Restructuring, upgrading and modernization of the energy production, transmission and distribution sectors
		Enhancing the security of energy supply (includes any new generating capacity other than through up-rating)
		Improving energy efficiency (reduction of final-user consumption)

#### Ignalina IDSF objectives

The objectives of the Ignalina IDSF are consistent to those of the Protocol, namely to finance the provision of goods, works and services necessary to support the decommissioning work and to implement measures in the energy sector of Lithuania which are consequential to the closure and decommissioning of INPP and which would assist the necessary restructuring, upgrading and modernisation of the energy production, transmission and distribution sectors as well as to improve energy efficiency.

<sup>1</sup> Article 2 of Council Regulation 1990/2006: 'The Ignalina Programme shall cover, inter alia, measures to support the decommissioning of the Ignalina nuclear power plant without deterioration of nuclear safety, measures to support the nuclear safety authorities in safety assessment and licensing of decommissioning projects, measures for environmental upgrading in line with the acquis and for modernising conventional production capacity to replace the production capacity of the two reactors at the Ignalina plant and other measures which stem from the decision to close and decommission this plant and which contribute to the necessary restructuring, upgrading of the environment and modernisation of the energy production, transmission and distribution sectors in Lithuania as well as to enhancing security of supply and energy efficiency in Lithuania'.



## The character of the objectives

The character of the objectives must be noted:

- The objectives have not been supplemented with guidelines on relative allocations, hence it is not possible, on the basis of the protocol, to establish a clear hierarchy of priorities. The broad set of objectives might raise questions on whether the level of policy guidance given by the Protocol and the corresponding regulation, is sufficient. Clearer programme and policy guidelines might be useful for the long-term implementation of assistance to align expectations between the EU and Lithuania.
- The two objectives can be specified into eight sub-objectives.<sup>2</sup> The list of sub-objectives is not exhaustive, as the protocol text says that the programme 'inter alia', shall cover these areas. This shows the broad and flexible nature of assistance.

In conclusion, much room for manoeuvre is left to the actors involved in the implementation of IDSFs. This applies particularly to the Lithuanian authorities which are the driving force in advancing projects and which have the possibility to suggest projects clearly targeting the needs of the country. This could be difficult if strict a priori allocation of priorities were established. Also to be noted is the fact that the Assembly of Contributors, being the key decision-maker (see section 2.3 below on the implementation system), decides on a regular basis whether given projects are within the scope of the Fund Rules, the Protocol texts and the political intentions underlying the protocol; hence the Assembly of Contributors provides an on-going interpretation of the protocol text.

### **CONCLUSION on the rationale and objectives of the decommissioning assistance to Lithuania**

**Rationale:** To provide assistance to a country facing an extraordinary financial burden in closing down its NPP.

**Objectives:** To support the decommissioning process and to promote a range of related energy sector measures - further specified into a number of sub-objectives. The objectives are loosely formulated, and have not been supplemented with guidelines on relative allocations; hence it is not possible, on the basis of the Council Regulation 1990/2006, to establish a clear hierarchy of objectives, and to assess with precision, if the objectives have been met.

The overall objectives - however broad - are in line with rationale, but focusing those towards becoming more operational would be advantageous from an implementation perspective.

<sup>2</sup> Although they are not defined as sub-objectives in the regulation but rather presented as a list of areas that can be supported.

<p>Protocol No 9 on the Bohunice Nuclear Power Plan V1</p>	<p><b>2.1.2 Objectives - Slovakia</b></p> <p>The rationale and the overall objectives of the EU decommissioning assistance to Slovakia are basically the same as for Lithuania, with the exception that the Bohunice assistance programme does not explicitly mention support to plant personnel for safety reasons. In Protocol 9 of the Accession Treaties, the Government of Slovakia states its commitment to the closure of BNPP Unit 1 by 31 December 2006 and Unit 2 by 31 December 2008, and the EU, its readiness to provide financial assistance as an extension of the pre-accession aid planned under the PHARE programme in support of Slovakia's decommissioning efforts. EU assistance amounts to €90 Million for the period 2004 - 2006<sup>3</sup>. The Government of Slovakia has committed itself to provide the co-funding needed for decommissioning<sup>4</sup>.</p>
<p>Problem with the long-time perspective</p>	<p>Slovakia is only now in the process of finalising a national decommissioning strategy (expected by end of 2007), and it is facing a particular challenge in its overall planning therein that decommissioning activities cannot start before 2011 when the decommissioning license is granted. It means that the likely expenditure for the planned decommissioning activities, as provided by the Ministry of Economy, could only add up to approx. 40% of the available BIDSF funds. Therefore, Slovakian authorities have the concern that allocated BIDSF funds may expire prior to the time where they are actually needed for specific decommissioning activities. However, this does not mean that the Slovakian authorities will not propose alternative projects, e.g. in the energy sector, in order to benefit of the BIDSF, and part of the funding will be spent also on the preparation of the documentation for the decommissioning license (to be issued by the National Regulatory Authority).</p>

**CONCLUSION on the rationale and overall objectives of the decommissioning assistance to Slovakia**

The conclusion is similar to the one given for Lithuania

## 2.2 The main achievements

This section presents an overview of the main achievements of the EU decommissioning assistance to the two countries. The assessment of the level of goal fulfilment cannot be precise due to the nature of objectives but the below list of achievements/projects indicate the overall direction of activities as compared with (sub)objectives.

<p>Overall objective partially achieved</p>	<p><b>2.2.1 Achievements - Lithuania</b></p> <p>The shutdown processes (unit #1 before 2005 and Unit #2 before 2009) and the decommissioning process are underway. As the decommissioning process could not immediately start, the unit #1 is kept in a safe state (no incidents or accidents reported) mainly through the project PI.04.01: Safe maintenance of</p>
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<sup>3</sup> Cf. Protocol 9 on the Bohunice V1 nuclear power plant in Slovakia.

<sup>4</sup> COM(2004) 624 final. Proposal for a Council Regulation on the implementation of Protocol No 9 on the Bohunice V1 nuclear power plant in Slovakia.

INPP Unit 1 during decommissioning phase #1 (and subsequent follow-up projects programmed annually). The table below lists the implemented, ongoing and planned projects - all in all 18 projects funded by IIDSF and 26 projects (to be) funded by the Programmed instrument (those projects are usually much smaller in scope and value).

*Table 3 Overview of main achievements - Ignalina Programme*

<b>Implemented, ongoing or planned projects (against the sub-objectives)</b>
<p><b>Dismantling and the treatment of all waste</b></p> <ul style="list-style-type: none"> <li>• PMU Phase 1, incl. A1 Final Decommissioning Plan (FDP) and Decommissioning Project documentation, DASR and DEIAR (DP(0))</li> <li>• INPP DPMU phase 2 - 2005 (Services, equipment, consumables and operating costs)</li> <li>• INPP-DS phase 2 - 2006 (Services, equipment, consumables, operating costs , special technical and legal services)</li> <li>• INPP-DS phase 2 - 2007 (Services, equipment, consumables, operating costs , special technical and legal services)</li> <li>• Heat only boiler station</li> <li>• Documentation archive system</li> <li>• Engineering and licensing documentation for dismantling of the high pressure emergency core cooling system, building 117/1</li> <li>• Free release measurement systems and facility</li> <li>• Tools and equipment for radiological characterization</li> <li>• PI.04.01 Decommissioning Service in 2005</li> <li>• PI.04.01 Decommissioning database (B17) Phase 1</li> <li>• PI.05.02.01 Decommissioning Services in 2006</li> <li>• PI.05.02.01 Radiological Characterisation Lab</li> <li>• PI.05.02.01 Site works and other services</li> <li>• PI.05.02.01 General datasets for EC under Article 37</li> <li>• PI.05.02.01 Continuation of Decommissioning Database (Phase 2)</li> <li>• PI.06.01.02 Decommissioning Service</li> <li>• PI.06.01.03 Radiological Characterisation</li> <li>• PI.06.04.01 The Decommissioning Training Centre - Phase 1</li> </ul>
<p><b>Permanent disposal of waste Interim storage for INPP's spent fuel</b></p> <ul style="list-style-type: none"> <li>• Interim storage for INPP's spent fuel</li> <li>• Solid waste management and storage facilities</li> <li>• PI.04.01 Preparatory infrastructure (3 activities, site selection and infrastructure related)</li> <li>• PI.05.02.02 Landfill for VLLW</li> </ul>

<b>Implemented, ongoing or planned projects (against the sub-objectives)</b>
<p><b>Support to plant personnel (safety)</b></p> <ul style="list-style-type: none"> <li>• PI.04.01 Safe Maintenance in 2005</li> <li>• PI.05.03.01 Safe Maintenance 2006</li> <li>• PI.05.03.02 Support to MoSS&amp;L</li> <li>• PI.06.01.01 Safe Maintenance</li> <li>• PI.06.04.01 Decommissioning Training Centre (Phase 1)</li> </ul>
<p><b>Technical assistance to regulatory bodies</b></p> <ul style="list-style-type: none"> <li>• PI.04.02 Project Cycle Management Support</li> <li>• PI.04.02 Review of legal framework</li> <li>• PI.04.02 TA from EU d/c organization</li> <li>• PI.04.02 Public communication</li> <li>• PI.05.01.01 Support to VATESI</li> <li>• PI.05.01.02 Support to RPC</li> <li>• PI.06.03.01 Institutional Capacity in LT</li> </ul>
<p><b>Environmental upgrading</b></p> <ul style="list-style-type: none"> <li>• Flue gas desulphurisation and dust collection plants, Part 1</li> <li>• PMU (Flue gas desulphurisation and dust collection plants, Part 1)</li> </ul>
<p><b>Restructuring energy production</b></p> <ul style="list-style-type: none"> <li>• Installation of shunt reactor of 180 Mvar at INPP's substation Ast-330 Kv</li> <li>• PI.06.02.02 Visaginas Electricity Network</li> </ul>
<p><b>Energy supply</b></p> <ul style="list-style-type: none"> <li>• Steam boiler station (SBS)</li> <li>• Steam and hot water pipeline renovation</li> <li>• Purchase of coated steel pipes for the gas-main Pabrade-INPP/Visaginas</li> <li>• Construction works for the gas-main Pabrade-INPP/Visaginas</li> <li>• PI.06.02.01 Visaginas District Heating</li> </ul>
<p><b>Energy efficiency</b></p> <ul style="list-style-type: none"> <li>• No projects</li> </ul>

### 2.2.2 Achievements - Slovakia

Overall objective partially achieved

The overall objective - to shut down and decommission Bohunice NPP (unit #1 in 2006 and Unit #2 in 2008) were (partially) addressed. Bohunice Unit #1 was shut down on 31.12.2006. Important activities relating to the objectives include establishment of the PMU for the decommissioning, but also one for the energy-related projects. The safe maintenance of the plant prior to the decommissioning is, in Slovakia, the responsibility of the owner of the plant (JAVYS). Also noteworthy, Slovak national decommissioning fund began its operation, where the full benefits of the increased coordination between the BISDF and National funds are to be seen at a later stage.

All in all about 25 projects funded by the BIDSF and related to the decommissioning process were implemented, are underway or in advanced stages of preparation, and a further 2 projects are related to the energy objective.

Table 4 Overview of main achievements - Bohunice Programme

<b>Implemented, ongoing or planned projects (against the sub-objectives)</b>
<p><b>Dismantling and the treatment of all waste</b></p> <ul style="list-style-type: none"> <li>• Project Management Unit Consultant, Phase 1</li> <li>• Reliable Heat and Steam Supply: Reconstruction of the Auxiliary Boiler Station at the Bohunice Site</li> <li>• Reconstruction of Area protection system AKOBOJE (project on hold)</li> <li>• Update Conceptual Decommissioning Plan</li> <li>• Environmental Impact Assessment</li> <li>• Sampling and Analysis of Resins</li> <li>• Sampling and Analysis of RA Sediments</li> <li>• Modification of Heating and Steam Distribution System</li> <li>• Documentation configuration management system</li> <li>• Decommissioning Database</li> <li>• The V1 NPP Decommissioning 1st Stage Plan &amp; Other Documentation</li> </ul>
<p><b>Permanent disposal of waste</b></p> <ul style="list-style-type: none"> <li>• Container for Evaporator Concentrates</li> <li>• Treatment and Conditioning of Historical Waste</li> <li>• Enlargement of the National Repository at Mochovce</li> <li>• Feasibility study for Treatment of Metallic waste &amp; Procurement of portable fragmentation and decontamination equipment for metallic and building materials</li> <li>• Increasing of existing fragmentation and decontamination facilities</li> <li>• Interim Storage of RAW at Bohunice site</li> <li>• Free Release of Decommissioning Materials</li> <li>• Storage Casks for Spent Fuel</li> </ul>
<p><b>Operational safety/Support to plant personnel (safety)</b></p> <ul style="list-style-type: none"> <li>• Reconstruction of the Public Warning and Notification System</li> <li>• Relocation of Emergency Response Centre</li> <li>• Spent Fuel Management</li> <li>• Development of comprehensive documentation necessary for V1 NPP Decommissioning Licensing Phase and Decommissioning Implementation Phase</li> </ul>
<p><b>Technical assistance to regulatory bodies</b></p> <ul style="list-style-type: none"> <li>• No projects</li> </ul>
<p><b>Environmental upgrading</b></p> <ul style="list-style-type: none"> <li>• No projects</li> </ul>
<p><b>Restructuring energy production</b></p> <ul style="list-style-type: none"> <li>• Energy project PMU (part of the Krizovany substation grant)</li> <li>• Reconstruction of Krizovany 400KV Substation</li> </ul>
<p><b>Energy supply</b></p> <ul style="list-style-type: none"> <li>• No projects</li> </ul>
<p><b>Energy efficiency</b></p> <ul style="list-style-type: none"> <li>• No projects</li> </ul>

**CONCLUSION on extent to which the programme objectives have been met**

No precise answer can be given due to the unclear focus and vaguely defined priorities at programme level. However, the overall objective of facilitating the decommissioning process has been met to a high degree.

The specific objectives are being met to a varying but not yet known degree as few projects are completed. The relevance and utility of the projects are satisfactory (see later), and it is therefore reasonable to expect that the level of goal-fulfilment will be acceptable.

The majority of projects are funded within decommissioning activities, particularly related to dismantling. The number of energy sector projects is limited for both countries.

**2.3 The implementation system**

In both countries, IDSFs operated by EBRD play a key role in the decommissioning process but the systems used differ in that the Programmed Instrument mechanism is used as a complementary mechanism in Lithuania. This section first presents the two IDSFs and then the Programmed Instrument.

**2.3.1 Assistance via Ignalina IDSF and Bohunice IDSF**

General description of the functioning of IDSFs

To assist Lithuania and Slovakia with the decommissioning process, the European Community, together with several European countries<sup>5</sup>, set up for a period of 10 years with a possibility of continuation the Ignalina International Decommissioning Support Fund (IIDSF) and the Bohunice International Decommissioning Support Fund (BIDSF) in 2001 with EBRD as fund manager. Although the two IDSFs are multi-donor based funds, the EU contribution is absolutely essential. It amounts to app. 92% of total contribution to the IIDSF and to 98% of total contribution to the BIDSF.

EBRD as fund manager

With the Chernobyl accident of 1986 in fresh memory, the G7 1992 Munich Summit made a comprehensive offer of assistance to operators of Soviet designed NPPs, to enhance safety, both through safety culture improvement and of hardware modernisation. The EBRD was chosen as the prime delivery mechanism for assistance in the nuclear sector, through a specific internal entity called the Nuclear Safety Account. This was also to provide assistance to other areas in the nuclear sector, namely Chernobyl related cleanups and facilities as well as to cleanup activities in Northwest Russia. The significant experience and competence of the EBRD in implementing projects in the nuclear sector was well known. The EBRD was therefore seen as the fitting organisation to implement the IDSFs in a candidate country. It was felt that the presence of the EBRD would add efficiency to the implementation system and thereby stimulate constructive cooperation with the Lithuanian and the Slovakian authorities.

To be noted that when the IDSFs for Lithuania and Slovakia were established, DG RELEX (former DG 1A) then-responsible Commission DG, did not have the priority and administrative capacity, in terms of e.g. human resources to manage the decommissioning assistance programme. In 2001, DG ELARG was

<sup>5</sup> Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Luxembourg, the Netherlands, Norway, Poland, Spain, Sweden, Switzerland and the United Kingdom

involved as the Commission service in charge of accession negotiations with candidate countries.

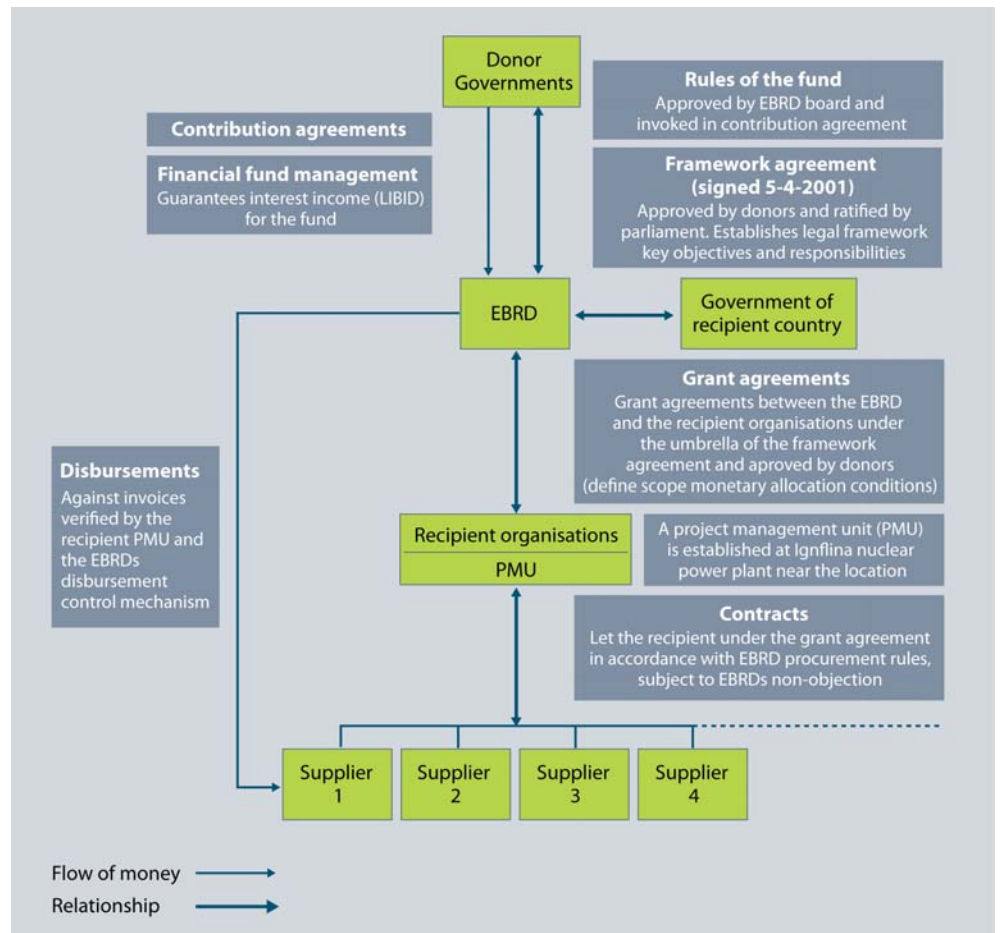
#### Fund management

The Ignalina IDSF and the Bohunice IDSF are managed by EBRD under the supervision of the Assembly of Contributors which is chaired by the Commission, as the largest contributor. The purpose of the Funds is to accept and make use of funds provided by Contributors. The key fund management features, valid for both of them, are:

- The Assembly of Contributors is the top decision-making body (it makes strategic decisions, approves work programmes, monitors progress, etc.). Decisions are based on a consensual decision-making style (cf. the Fund Rules, article 4 on Governance) and, while consensual decision-making prevents the EC from being outvoted, it also prevents the EC from exercising full authority over its 92% plus contribution. The Assembly of Contributors conducts 2-3 meetings per year in addition to informal meetings and consultations between meetings.
- Whereas the IDSFs have been established following an initiative by the EC they are none the less multilateral Funds. Their mandate is included in the respective Fund Rules. And even though the Fund Rules also contain the closure commitments made by the Accession countries, the Funds are not formal instruments under the Accession Treaties.
- The funds operate on the basis of Fund Rules approved by the Assembly of Contributors and the Board of EBRD. There has so far been no separate framework agreement between the EBRD and the EU as the Fund Rules effectively have been the framework agreement established with the EU; a basis which so far has been acceptable to the EU but which nevertheless is being strengthened via a 'Memorandum of Understanding' consolidating the current cooperation.
- In 2001, the EBRD as Fund Manager entered into Framework Agreements with the governments of Lithuania and Slovakia. The Framework Agreements are approved by donors and ratified by the governments. They establish the legal framework, key objectives and responsibilities, and constitute the 'umbrella' for the individual project specific Grant Agreements.
- The EBRD enters into Grant Agreements for each project or set of projects with recipient organisations.
- The EC contribution is committed by annual decisions - called the contribution agreements - on which the funds are transferred.

The structure of key relations is shown in the following figure. The recipient is responsible for all contracting with suppliers, while EBRD pays directly to the contractor after agreement close, thus, EBRD does not pay funds through the recipient.

Figure 1 Key relationships and financial flow of EBRD funds (IIDSF and BIDSF)



Strengthening EU influence

From 2007 there will also be a Nuclear Decommissioning Assistance Programme (NDAP) Committee (as required under Article 5 of Council Regulation 1990/2006: 'Measures and financial assistance under the Ignalina Programme shall be approved in line with Article 4 of Council Decision 1999/468/EC of 28 June 1999 laying down the procedures for the exercise of implementing powers conferred on the Commission'). It is a committee of experts from member states and not a body of the IIDSF. The NDAP committee aims at increased coordination with recipient countries (similar initiative is in place for BIDSF). The NDAP committee will be able to draw on national experts in the field of decommissioning who can provide an expert opinion on decommissioning strategy and the related breakdown in individual projects proposed for EU funding/assistance.

Funding - IIDSF and BIDSF

The following table shows that the funds available to Lithuania via the IIDSF are more than three times the amount of the funds available to Slovakia via the BIDSF. This difference is linked to the impact that the closure of the plant has on the economy of the country (installed capacity - 3000 MW for the Ignalina plant against 880 MW for the Bohunice V1 plant, and relative share in



electricity production - about 85-90% in Lithuania whilst about 35 % in Slovakia, etc.).

As is demonstrated in section 4.1 below, a majority of identified projects are in preparatory phases in Slovakia (BIDSF) and only certain activities are in the process of being implemented or already completed. In Lithuania (IDSF), the decommissioning process is at a more advanced stage.

*Table 5 IDSF Funds - Recorded contribution as per November 2006*

<b>Country</b>	<b>IDSF - Lithuania - €</b>	<b>BIDSF - Slovakia - €</b>
Austria	1.500.000	1.500.000
Belgium	1.636.000	-
Denmark	2.686.000	1.612.000
European Union	479.500.000	156.000.000
Finland	1.500.000	-
France	1.500.000	1.500.000
Germany	6.500.000	-
Ireland	833.000	833.000
Luxembourg	1.500.000	-
Netherlands	1.500.000	1.500.000
Norway	1.500.000	-
Poland	1.500.000	-
Spain	1.500.000	1.500.000
Sweden	5.895.000	-
Switzerland	1.909.000	1.500.000
United Kingdom	1.500.000	1.500.000
<b>Total</b>	<b>512.459.000</b>	<b>167.445.000</b>
Cumulative interest income (12/06/00 - 31/10/06)	15.826.000	2,903.000
<b>Total funds available</b>	<b>528.285.000</b>	<b>170.348.000</b>

Source: Ignalina International Decommissioning Support Fund, Draft Eleventh Work Programme, IDSF-06-06, 17 Nov. 2006; Bohunice International Decommissioning Support Fund, Draft Eleventh Work Programme, BIDSF-06-09, 17 Nov. 2006.

## Project Selection

Decommissioning support projects are selected on the basis of a three-step (Slovakia) or two-step (Lithuania) selection and approval procedure involving national authorities, the EBRD as well as the Assembly of Contributors with the aim at ensuring coherence with the assistance programme objectives as well as national policies, strategies and needs within the framework of IDSF eligible projects. At the first technical level, the PMU (The project management units were established with the main beneficiary in both Lithuania and Slovakia, as technical supporting units which operate under the supervision of the EBRD) establishes a list of projects on the basis of needs related to decommissioning

and in accordance with the energy policy. The list is submitted to the Joint Committee (however, without a formal decisional role) that undertakes an assessment of projects' eligibility before tabling the list of projects at the donor's meeting for the final selection and approval by the Assembly of Contributors. Please note that the Joint Committee was never established in Lithuania.

#### Strengths and weaknesses

It is a recognised strength of the Ignalina and Bohunice IDSFs that they can utilise EBRD's knowledge base (incl. the nuclear safety account management). The competences, including well established rules and procedures, as well as oversight functions could be utilised and relied upon, to assure efficacy of the programme implementation. Further, some of the interviewees have found that the bank must be appreciated for its well established procurement procedures and for its experience in handling big investment projects. EBRD's rules and procedures are at the same time flexible enough to be used for implementation of projects of a different character, and for changes due to modification of focus and/or decommissioning strategy. As can be seen from the project reviews, the funds have successfully selected relevant projects with a satisfactory level of utility and sustainability, while however the PMU projects in both countries are rated low on effectiveness (extensive delays) and efficiency (see further chapters 4 and 5).

#### **CONCLUSION on the reason of selection of instruments to deliver the EU decommissioning assistance:**

The set-up in **Lithuania** with two instruments (the IIDSF and the Programmed Instrument) was based on three reasons:

- The set-up was established in a pre-EU membership context, necessitating not only the competences of EBRD but also a supplementary mechanism to be used to provide direct support to the staff of the NPP, as requested by Lithuania.
- The significant experience of the EBRD in the field of nuclear assistance was known, and it was concluded that the presence of the bank would add efficacy and transparency into the implementation system.
- Commission services did not have, at that time, the administrative capacity (priority) to manage the decommissioning assistance programme.

The set-up in **Slovakia** was based on the same three reasons as for Lithuania. However, Slovakia does not have an instrument similar to the Programmed Instrument.

#### Direct assistance to Lithuania

### **2.3.2 Assistance via the Programmed Instrument**

The mechanism of assistance to the beneficiary country directly from the EU, the 'Programmed Instrument', is currently available for Lithuania with up to about 15% of annual EU allocations, 2004 - 2006, being provided through this route. This assistance addresses safety culture, maintenance and social-related issues, as well as those decommissioning projects which for reasons of practical expediency (e.g. the use of the workforce of the plant to perform the dismantling) could be managed by the Lithuanian authorities.

#### Rationale of two mechanisms solution

The initial rationale of the choice of the two-funding-routes cannot be detected from written material, but must be seen in a historical context.<sup>6</sup> The Ignalina Programme was established by Protocol 4 of the Act of Accession, assistance on decommissioning and consequential measures in the energy sector had already been provided under the PHARE programme over the preceding five years. In 1999 when this assistance started, Lithuania was still only a candidate country with no defined date for, or indeed certainty of accession into the European Union - thus the assistance was provided effectively through the ex-ante control of the Commission Delegations to the beneficiary countries.

The negotiations for Lithuania's terms of accession concentrated on the scale and scope of support while not developing an alternative mechanism. No other mechanism being suitable, the matter was deferred by maintaining a precise status quo of the pre-accession agreement, i.e. two funding routes - principally the Ignalina IDSF but including a continuation of the support also through the PHARE-based instrument.

In 2004, Lithuania requested the European Commission to provide direct support to the staff of Unit 1 who would be involved in the post-closure safe maintenance of the plant in the shut down but fuelled condition. This could be done at the time only through the Programmed Instrument.

#### Functioning of the Programmed Instrument

The key features of the functioning of the PI are, first, a clear distinction between programming and financing. The Ministry of Economy is the programme and project developer and coordinator in Lithuania while the Ministry of Finance is the financial controller. The CPMA is the contracting authority, see text box below. Project fiches are prepared by beneficiary organisations; sent to the Ministry of Economy and then to the European Commission for approval. The projects are implemented by the CPMA which enters into a financing agreement with the beneficiary. Funding is forwarded from the EU Commission to the Ministry of Finance and then to the CPMA. The programmed instrument is used for the financing of a broad set of projects, such as direct support of INPP staff (grants) - safe maintenance activities and decommissioning services (wages payments to app. 560 employees), site and local infrastructure projects (e.g. railway connections, energy sector measures Visaginas town), regulatory support to VATESI and support to the Ministry of Economy - in the form of a Decommissioning Management Support Team providing assistance to the Ministry of Economy in project identification, programming and project preparation.

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<sup>6</sup> This section based on Harrison, 2007

*Text box 1 The Central Project Management Agency CPMA*

The Central Project Management Agency, CPMA, was established by the Ministry of Finance in 2003 via merger of the Housing and Urban Development Foundation and the (PHARE-established) Central Financing and Contracting Unit. This Agency promotes the implementation of investments and management of projects (preparation, selection, appraisal, procurement, contracting, and control). CPMA manages Structural Funds measures, PHARE, Schengen, Transition Facility and other programmes under EDIS. CPMA staff has grown rapidly in recent years up to app. 130 employees.

A perceived strength of this instrument is that any type of action can be undertaken, provided that the action was approved by the Ministry of Economy and that the implementing agency (CPMA) is satisfied with procedures and transparency in the use of funds (the 'Safe maintenance' project, where the salaries of INPP Unit #1 employees are being paid was used as example of a project that could be implemented by PI, but not by the IIDSF. Further discussion, however revealed that in the mean time also the IIDSF *could* implement such a project). The PI system also requires the production of regular Monitoring Reports thus ensuring transparency. Finally, the Programmed Instrument adds to the creation of capacity and awareness within Lithuanian public administration. For the decommissioning-related projects, that usually have long lead and implementation times, PI's strict two-year deadline for contracting and a three year deadline (currently negotiated up to four years) for project completion, is an important hindrance. Finally, the decentralised nature of the system requires that it is established within the national legal framework. For a variety of reasons, (see Harrison, 2007) this was not fully implemented before 2007. Consequently, during 2006 no contracts or grant agreements could be made.

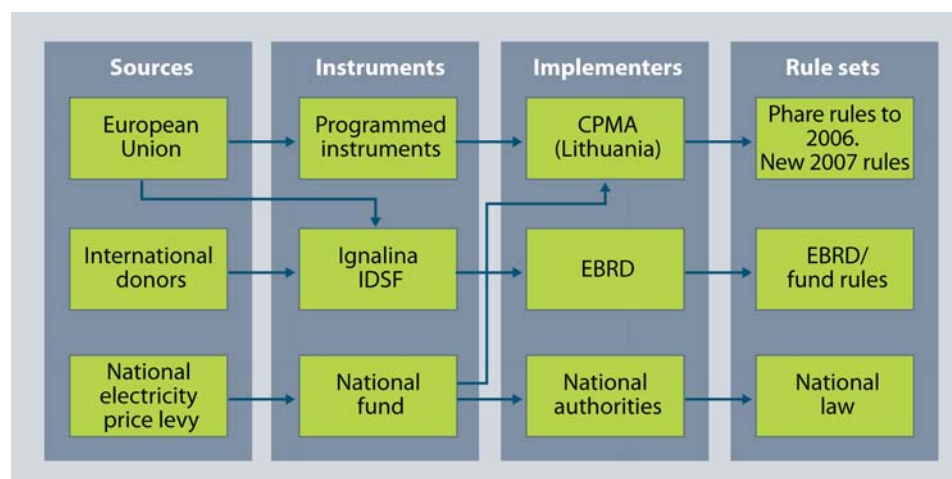
Complementarity

With two funding routes in Lithuania the possibility exists that they could complement each other but also that overlaps or unfilled coordination needs could exist. On this, the evaluation has shown that, until now, the instruments have been complementary: a 'different-instruments-to-different-problems' solution. The IIDSF, for instance, has been more suitable for funding investment projects, but is less flexible in handling non-investment projects, and was thus at a certain time reluctant to meet the wishes of the Lithuanian government to use EU assistance to fund Ignalina NPP staff payment.

Different expectations as to the communication, coordination and cooperation between the managing organisations of the Programmed Instrument, the CPMA and the Ignalina IIDSF/PMU have been noted. Currently, the level of cooperation is low, and there are no formal coordination meetings/forums. EBRD has indicated that for the benefit of an effective division of work, interfaces between the two instruments should deliberately be kept at a low level, nevertheless from the side of the CPMA and DG TREN there is an interest in more coordination and alignment.

The Programmed Instrument and the Ignalina IDSF (Fund Rules) have carried with them different rule sets (both programming and procurement), and this is also the case with the national fund operating on basis of a national electricity price levy, cf. below figure.

Figure 2 Overview of implementation structures, illustrating the context of the EU decommissioning assistance



Source: 'Problems in Planning the Early Closure of Ignalina Nuclear Power Plant', presentation given by Birutė Teskevičienė, Ministry of Economy, Republic of Lithuania, at IAEA International Conference in Athens, 2006.

It has been noted (e.g. Harrison & Teskevičienė, 2006) that this added complexity leads to further complications in the planning and implementation of projects - especially if interlinked projects are financed differently. The interview with key Lithuanian authorities confirmed that it is sometimes frustrating that project developers have to adapt to different rule sets, and the issue has been raised, whether it would be useful to have a uniform system with one rule set managed by one organisation.<sup>7</sup>

**CONCLUSION** on complementarities of the two instruments:

The instruments have been complementary in their nature and focus.

Although no direct overlaps between projects undertaken by two instruments were found,

<sup>7</sup> According to senior Programme Manager Peter Harrison, the Decommissioning Management Support, the different rule-sets complicates planning and implementation of projects - especially when interlinked projects are financed differently. Examples hereof are: 1) Differing timescales for the technical assistance provided to the nuclear regulators; 2) Examples of the requirement to draw up the same documentation in different formats, 3) problems with overall monitoring - monitoring of activities under the Programmed Instrument is through an EC-attended committee modelled on the PHARE 'Joint Monitoring Committee'. Monitoring of IIDSF projects is through the Assembly of Contributors. As a result, no single committee ever sees the entire programme, and the INPP Decommissioning Service complain about duplicate reporting.

no evidence of systematic coordination activities could be found, either. There is no formal requirement of coordination. The managing organisations of the Programmed Instrument (CPMA) and the Ignalina IDSF (PMU) appear to (sometimes) have different expectations as to the focus of the assistance.

The different rule-sets sometimes complicate implementation of interlinked projects. It is not clear as to what was the logic of funding interlinked activities via two funding mechanisms.

## 2.4 Overall assessment of coherence of strategy

'Coherent strategy'?

The ToR of the evaluation asks for an assessment if the EU decommissioning assistance is based on 'a coherent strategy'. In doing so it is to be recognised that there is no specific legislation on nuclear installation safety at EU level, nor does an acquis on decommissioning assistance exist as such. 'Building blocks' for understanding of the level of coherence of the programme strategy are, therefore, first and foremost the two protocols (providing overall directions while not being specific); the related council regulations which provide some guidance at the operational level and the documents outlining the EUs cooperation with EBRD on the management of the IDSFs (Fund Rules, Memo of Understanding). Also to be noted is the practice of requiring the beneficiary countries to formulate implementation plans (e.g. Final Decommissioning Plans). The above-mentioned documents and regulations all provide some guidance on the implementation of the decommissioning assistance programmes and they represent therefore a move towards a programme strategy. The progress in establishing a strategy is indicated by the fact that the recently prepared proposal for regulation for Slovakia (COM(2004)0624 Final) gives the most comprehensive description of principles for decommissioning assistance.

Assessing coherence against criteria

In the below table it is summarised to what degree the EU decommissioning assistance programmes are based on a coherent strategy (using low-medium-high scoring for each criteria). The benchmark for this assessment is derived on the basis of various EU methodological papers on ex-ante evaluation (DG REGIO, 2005) and programming in the framework of Structural and Cohesion Fund programmes (DG REGIO, 2006). The messages of these papers can be condensed to a requirement for a programme to contain: The rationale of the programme/intervention; a focused strategy with clear objectives; a description of the implementation system (roles/responsibilities), and policy consistency.

Table 6 Assessing if the EU assistance is based on a coherent strategy

Criteria	Requirements	Lithuania findings	Slovakia findings	Assessment
The rationale of the programme	Clear and explicit rationale of the strategy	Protocol 4 of the Accession Treaty and related Council Regulation explain briefly the rationale	Protocol 9 of the Treaty and related proposal for a Council Regulation explain briefly the rationale	LT: Medium SK: Medium
	Based on a clear needs assessment	A needs assessment has not been prepared at EU level but Decommissioning Plans are prepared by Lithuanian authorities (they do not include an energy needs assessment). Application of two level project selection procedure should ensure beneficiary needs	A needs assessment has not been prepared at EU level but Decommissioning Plans are prepared by Slovakian authorities. Application of three level project selection procedure ensures beneficiary needs	LT: Medium SK: Medium
The objectives	Clear objectives	Overall objectives are described in the Protocol 4	Overall objectives are described in Protocol 9	LT: Low SK: Low
	Clear priorities derived from the objectives and output targets	Protocol 4, and related Council Regulation, does not contain clear priorities  Priorities are determined via two level project selection procedure	Protocol 9, and related proposal for a Council Regulation, does not contain clear priorities.  Priorities are determined via three project selection procedure	LT: Low/medium SK: Low/medium
The implementation system	Sufficiency of financial resources must be evaluated	The long-term sufficiency of resources difficult to evaluate because of time-span. It is not the intention that EU shall cover all costs	The long-term sufficiency of resources difficult to evaluate because of time-span. It is not the intention that EU shall cover all costs	N/A
	Description of responsibilities and roles, incl. reporting requirement	There is not a single EU document outlining the implementation system.  A Memorandum of Understanding with EBRD  Ignalina IDSF Fund Rules  Phare-regulation and national legislation (for the Programmed Instrument)	There is not a single EU document outlining the implementation system.  A Memorandum of Understanding with EBRD  Bohunice IDSF Fund Rules	LT: Medium SK: Medium
	Competent implementation agents are determined	A set-up with an EBRD managed Ignalina IDSF and the Programmed Instrument was established	A set-up with an EBRD managed Bohunice IDSF was established	LT: Medium/high SK: Medium/high
Policy consistency	Coherence with Community policies and national policies	Ex-ante assessment was not done - consistency appears nevertheless to be high (see Section 6.4)	Ex-ante assessment was not done - consistency appears nevertheless to be high (see Section 6.4)	High
	Policy risk identified	A final agreement on the time perspective of funding has not been concluded. Lithuania might expect to receive funding for several years to come, but others might expect the funding to terminate by the end of the 2007-2013 financial	A final agreement on the time perspective of funding has not been concluded. Slovakia might expect to receive funding for several years to come, but others might expect the funding to terminate by the end of the 2007-	Low

Criteria	Requirements	Lithuania findings	Slovakia findings	Assessment
		perspective	2013 financial perspective	

### Paradoxical conclusion

A paradoxical conclusion is reached: The EU Decommissioning Assistance to Lithuania and Slovakia does not benefit from a fully harmonised decommissioning policy and a programme strategy - but the overall implementation of the assistance is nevertheless progressing relatively well, cf. the overview of the main achievements. While it is better to have a de-facto working programme than a nice-looking policy framework without action this mid-term evaluation should nevertheless be seen as an opportunity for DG TREN to promote the improvement of the decommissioning legislation and to develop a programme strategy for decommissioning assistance programmes.

The next step should therefore be to develop a genuine programme level strategy that contains a description of the overall objectives of providing decommissioning assistance, principles on the cooperation between the EU and beneficiary countries, overall eligibility criteria, principles relating to the implementation set-up and principles for the time-horizon of EU decommissioning assistance against the time-horizon of decommissioning processes. The development of a programme strategy is useful also in light of the fact that decommissioning assistance has become a separate budget line for the 2007-2013 financial perspective.

**CONCLUSION** whether the EU decommissioning assistance to Lithuania and Slovakia is based on a coherent strategy:

It is not based on harmonised waste management and decommissioning policy. The implementation of the assistance would benefit from the development of a programme-level strategy for the decommissioning assistance programmes addressing the rationale of providing assistance, overall objectives, goals and criteria for funding, responsibilities of beneficiary countries, and the institutional set-up.



### 3 Efficiency of the programme

Purpose of chapter	<p>Efficiency is the extent to which the desired effects are achieved at a reasonable cost level. The establishment of clear and meaningful benchmarks for making judgements on efficiency of a unique programme is notoriously difficult, and this chapter does not give a precise efficiency assessment but provides two different perspectives on efficiency:</p> <ul style="list-style-type: none"> <li>• A brief review of the tendering systems applied by the IDSFs and the Programmed Instrument</li> <li>• A discussion whether an alternative programme set-up could have been more efficient.<sup>8</sup></li> </ul>
Benchmarks	<p><b>3.1 Comparing tendering systems</b></p> <p>The aim of this section is to assess the IIDSF and BIDSF procurement systems and the procurement rules of the Programmed Instrument. An assessment of the two systems' compliance with the following procurement features will be made:</p> <ul style="list-style-type: none"> <li>• Coherence with EU Procurement rules and WTO,</li> <li>• Eligibility,</li> <li>• Availability procurement criteria (rules and policies),</li> <li>• Availability/publishing of procurement notices,</li> <li>• Encouragement of competition among suppliers.</li> </ul> <p>These benchmarks are considered to reflect the procurement legislation to have been implemented by the two new EU Member States and the WTO - referred to as an internationally agreed standard for procurement.</p>
IDSF's Tendering system	<p>The IIDSF and BIDSF procurement rules are defined in the respective Fund rules<sup>9</sup> and have been officially agreed by the Assembly of the Contributors for</p>

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<sup>8</sup> It is a conventional element of a programme evaluation to consider the programme set-up itself on the simple reason that programmes can always be organised in different ways, and by asking what-would-have-happened-if questions the evaluation can verify the plausibility of the existing set-up or suggest set-up improvements.

<sup>9</sup> Source: IDSF Fund Rules, BIDSF-01/01-Rev1 and IIDSF-01/01-Rev1 - 15 October 2004

each Fund at the time of set up and as revised 15 October 2004. The procurement rules are identical for the two IDSFs and based on EBRD procurement Rules and Policies<sup>10</sup>.

Under the Framework Agreement with the specific countries, which has also been approved by Assembly of Contributors, the EBRD enters a grant agreement with the recipient organisation (e.g. the nuclear power plant, gas or electricity company). The recipient organisation establishes a Project Management Unit (PMU) to provide necessary assistance with regard to management and procurement etc. The required works, goods and services will be procured by the PMU in accordance with the IDSF rules. It is the recipient organisation/PMU who launches the individual procurement procedure for each project (subject to EBRD non objection).

The eligibility criterion in the Fund Rules is limited to goods and services produced in or supplied from countries of the Contributors (including EU Member States) and the EBRD countries of operation. This eligibility criterion was agreed upon by the Assembly of Contributors and the assembly can decide to expand the eligibility criteria given 'special circumstances'.

Table 7 *Assessment of the IDSF Procurement rules*

Assessment criteria	Are the IDSF Procurement rules coherent with EU Procurement rules and WTO?
Eligibility criteria	From countries of the Contributors including EU Member States and the EBRD countries of operation with the possibility to open up for more countries.
Availability procurement criteria (rules and policies)	EBRD Procurement Rules and Procedures are available on the EBRD web site
Availability/publishing of procurement notices	Procurement notices are made on the EBRD web site and the Official Journal
Encouragement of competition among suppliers	EBRD Rules and Policies states the principle of awarding contracts based on open competition referring to WTO agreement

#### Programmed Instrument

Before May 2004 there was a special PHARE programme for decommissioning and consequential measures in the energy sector, implemented according to PRAG. The Programmed Instrument came into existence as the national funding route of the Ignalina Programme the first programming year being 2004. Thus all procurement under the Programme Instrument follows the EU Public Procurement Directive as transposed into the national Public Procurement Law.

<sup>10</sup> Source: EBRD Procurement Rules and Policies, August 2000

Table 8 Assessment of the Programmed Instruments procurement rules

Assessment criteria	Are the Programmed Instrument rules coherent with EU Procurement rules and WTO?
Eligibility criteria	EU Public Procurement Directive as transposed into the national Public Procurement Law
Availability procurement criteria (rules and policies)	National and EU procurement rules are publicly available
Availability/publishing of procurement notices	Procurement notices are made in the Official Journal or in local media depending on the size of projects
Encouragement of competition among suppliers.	In line with EU Rules and WTO

**CONCLUSION** on efficiency of the procurement systems of the IDSF's and the Programmed Instrument

The IIDSF and BIDSF procurement systems are both based on the EBRD procurement rules which are in line with WTO agreements.

The Fund rules of the IIDSF and the BIDSF does limit procurement of services and goods to countries of the contributors including the EU Member States and countries of operation of the fund.

The Programmed Instrument is implemented as a Community instrument and it is the national procurement rules (EU procurement directive) which are used.

### 3.2 Considerations on an alternative implementation system

Is it likely that an alternative set-up - a system where the two countries are entrusted with responsibility for the implementation of the assistance programmes with the Commission exercising ex-post control - can improve the efficiency of the programme set-up? A preliminary answer to this question is found by first showing that some of the reasons which initially motivated the design of the implementation systems in Lithuania and Slovakia have changed. Secondly, the viewpoints of relevant national authorities towards a modified system are reflected.

Some of the initial reasons have changed

The initial rationale for the choice of the decommissioning funding routes (IIDSF, the Programmed Instrument and BIDSF) was earlier summarised as "a conglomerate of reasons" (cf. section 2.3 ) such as the historical context (pre - EU membership context), the intention to benefit from the significant experience of the EBRD within the field of nuclear safety, and lack of administrative capacity (priority). The below table summarises to what extent the initial assumptions are still valid - and it is an initial observation that there have been significant changes in the context of the decommissioning assistance program; most importantly that Lithuania and Slovakia are now members of the European Union while the implementation systems have remained unaltered.

Table 9 Assessment of the initial reasons of choosing the set-up

The initial assumption / reason	Is the assumption still valid for Lithuania and Slovakia?
Lithuania / Slovakia not EU MS / restrictions in assistance forms	No Both Lithuania and Slovakia are EU MS
No capacity to manage EU funds was developed at that time	No. Both Lithuania and Slovakia have build up administrative capacity to handle EU structural funds, agricultural funds and the Schengen Funds (only Lithuania)
EBRD experience and competence in nuclear safety sector	Lithuania: Yes The competence and efforts of EBRD are generally appreciated as a reason for progress in the decommissioning assistance Slovakia: <i>Partly</i> Slovakia has not always been equally appreciative as regards progress in the decommissioning process of BNPP V1
Lack of management capacity by concerned Commission services	Yes. DG RELEX and DG ELARG did not have the administrative capacity (priority at the time) to manage funds nor is it the priority of DG TREN to administer the funds

### Perception of relevant authorities

In light of the changed framework, the national authorities have been asked to self-assess their competences and interest in managing the EU decommissioning assistance programmes, if the programmes were managed under centralised-indirect management rules, i.e. a situation where a national agency, under the supervision of the national authorities, acts on behalf of the European Commission to implement a programme which is fundamentally centralised.<sup>11</sup> The assumption behind a change such as this would be that the countries should *gradually* build the administrative and technical capacity to administer the funds themselves so that they could *gradually* manage a still higher share of EU funding.

The Lithuanian authorities interviewed acknowledged the complexity of running the decommissioning assistance programme and realised that there is a need to further build capacity. Some of them do therefore not consider it relevant to alter the implementation system. At the same time, Lithuania has and is successfully managing other EU funds and there is a perception among other key actors in the country that it will be able to manage decommissioning projects, just as the CPMA indicated that it does not see the administering of

<sup>11</sup> Such a system can be used in a Member State; and it is focused on the relationship between the national agency (only) and the Commission rather than the national public administration and the Commission.

the decommissioning assistance programme as principally more complicated than the administering of other programmes.

Slovakian authorities were mostly of the opinion that adequate fund management and administration competences are present within the national administration and that Slovakian authorities would be able to administer the decommissioning funds. Some problems with the actual functioning of the BIDSF have been voiced, mostly relating to delays and high costs of running the PMU, see chapter 4 and chapter 5. It was also acknowledged that in previous years political and public support for the closure of BNPP V1 has been lacking in Slovakia and that the cooperation/coordination with BIDSF is not fully effective. So, while the positive aspects of the IDSFs' operations are appreciated by the two countries, there appears nevertheless to be an interest in the countries to investigate the solution where funds are managed to a greater or to the full extent by the countries.

It is thus a second observation that some - but not all - key actors within the countries have indicated a willingness to enter into dialogue with the DG TREN on the consequences and requirements that will follow if the EU decommissioning assistance to a larger degree is administered by the countries. Please note that the relevant authorities did not, at any time, formulate this as a formal request or as a final conclusion.

**CONCLUSION** whether an alternative set-up can improve the efficiency of the programme:

Some of the original reasons for designing the implementation system have changed, and some - but not all - key actors in the countries have in light hereof, and based on their self-assessment of capacity to handle EU funds, indicated a willingness to enter into a dialogue with DG TREN on the future set-up, including the possibility to have a larger amount of the assistance channelled directly to the countries. It is therefore relevant to initiate a discussion on an alternative set-up - although the evaluation draws no final conclusion in this regard.

## 4 Effectiveness of the projects

### Purpose of chapter

Assessing effectiveness at project level implies the systematic comparison of project objectives with project results, including timely project completion. This has been approached in three steps: Firstly, an overview of the project portfolio is provided; secondly, certain projects were selected for a closer review; and the selected projects were finally reviewed in some detail. The chapter thus answers the following evaluation questions:

- How can the entire project portfolio be characterised and what priorities are reflected by the project portfolio?
- What are the objectives of the projects and to what degree are the objectives met? How well do the projects contribute to overall programme objectives?

### 4.1 Project portfolio review

This project portfolio review provides an overview of the decommissioning assistance programme and the specific Grant Agreements and projects funded under BIDSF, IIDSF and the Programmed Instrument. The Grant Agreements have been clustered according to the sector to which they belong - defined on the basis of the programme objectives. The project portfolio for the Programmed Instrument is presented in a separate sub-chapter. Furthermore, to be noted, each Grant Agreement consists of one or more projects and these are presented according to type of activity (works, services and supplies) as well as activity status in the following sub-chapters.

### Grant Agreements by sector/objective

The Grant Agreements have been categorised as either decommissioning or energy.

Table 10 Number of IIDSF Grant Agreements by sector

Sector	Lithuania IIDSF	Slovakia BIDSF	Total
Decommissioning	7	10	17
Energy Sector	2	1	3
<b>Total</b>	<b>9</b>	<b>11</b>	<b>20</b>

A clear majority of Grant Agreements relate to decommissioning activities, whereas 3 out of 20 Grant Agreements concern the energy sector.

#### Grant Agreement status

The following Table provides an overview of the two IDSF decommissioning programmes, presenting the Grant Agreements in accordance with:

- Planning - the projects are in preparatory or tendering stage
- Under implementation - one or more projects are ongoing
- Completed/Closed - all projects are completed

*Table 11 Status on the implementation of Grant Agreements*

Status	Lithuania IIDSF	Slovakia BIDSF	Total
Planning	0	2	2
Implementation	6	8	14
Closed	3	1	4
<b>Total</b>	<b>9</b>	<b>11</b>	<b>20</b>

The majority of Grant Agreements are in the implementation stage with approximately 30% in preparatory phases or completed. Three Grant Agreements have been completed in Lithuania and one in Slovakia.

#### Project Status

The 20 Grant Agreements can be broken down into 43 projects comprising a variety of activities. The following table present the status of these 43 projects.

*Table 12 Status of project, numbers*

Project Status	Lithuania IIDSF	Slovakia BIDSF	Total
Planning	1	13	14
Implementation	9	7	16
Completed	8	5	13
<b>Total</b>	<b>18</b>	<b>25</b>	<b>43</b>

\* In planning preparatory or procurement stage

In Slovakia, 5 projects have been completed out of a total of 25 defined projects. Another 13 projects are in the pipeline and 7 projects are classified as under implementation. In Lithuania, 8 projects have been completed, 9 are being implemented and currently 1 project is in the planning stage.

#### Type of projects

The majority of projects relate to services (19 out of 43), however, in terms of funding most commitments will be made to supply and works activities, due to their nature.

Table 13 Projects according to type, numbers

Type of projects	Lithuania IIDSF	Slovakia BIDSF	Total
Services	6	13	19
Works	7	9	16
Supply	5	3	8
<b>Total</b>	<b>18</b>	<b>25</b>	<b>43</b>

Projects by objectives/sub-sectors

In the following two sections, the project portfolio is clustered using funding mechanisms, in accordance with the objectives and sub-sectors defined and in accordance with Protocols 4 and 9. The Programmed Instrument is presented in the third sub chapter.

#### 4.1.1 Project Portfolio - IIDSF, Lithuania

Grant agreements

For Ignalina, 9 Grant Agreements have been made to date (May 2007), with the State Enterprise Ignalina Nuclear Power Plant (7 agreements), Lietuvos Dujos AB (1 agreement) and AB Lietuvos Elektrine (1 agreement).

Table 14 List of Grant Agreements, IIDSF Lithuania (Source EBRD)

Title of Grant Agreements*
1. Ignalina Nuclear Power Plant Decommissioning Project Management Unit - Phase 1, 2001 - 2004
2B. Ignalina NPP Decommissioning Support Investment Packages
3A. INPP Decommissioning Support Investment Package - Solid Waste and Storage Facility
4. Gas Pipeline from Pabrade to Visaginas and Ignalina NPP
5. Lithuanian Power Plant Environmental and Related Technical Upgrading
6. Ignalina Nuclear Power Plant Decommissioning Project Management Unit Phase 2 - 2005
7. Ignalina Nuclear Power Plant Investment Packages - Part 3
8. Ignalina Nuclear Power Plant Decommissioning Project Management Unit Phase 2 - 2006
9. Ignalina Nuclear Power Plant Decommissioning Project Management Unit Phase 2 - 2007

\* Recipients: Ignalina NPP (1, 2B, 3A, 6, 7, 8, 9); Lietuvos Dujos AB (4); AB Lietuvos Elektrine (5).

Number of projects by objectives

It has been noted that the objectives, as specified in the Council Regulation 1990/2006, do not set priorities. It is therefore interesting to see de-facto prioritising, cf. table below, shows that a clear majority of the projects relate to decommissioning activities.



Table 15 Number of projects\* by sub-objectives, Lithuania

Objective and sub-sector	IIDSF
Dismantling NPP	9
Disposal radioactive waste	2
Operational Safety, plant personal	0
TA Regulatory Bodies	0
<b>Total Decommissioning Activities</b>	<b>11</b>
Environmental upgrading	2
Restructuring and modernisation	1
Security of Energy Supply	4
Energy Efficiency	0
<b>Total Energy Sector Activities</b>	<b>7</b>
<b>Total</b>	<b>18</b>

\* It should be noted that the nature and size of projects varies significantly; they are therefore not directly comparable.

Amount of funding  
by objectives

The majority of the funds were spent on or planned for decommissioning activities, whilst the energy sector projects received €103 million or approximately 20% of the IIDSF, cf. the table below.

Table 16 Commitments to Lithuania by sector, May 2007, Million €

Sector	Grant Agreements	Contract value	Disbursement
Decommissioning	410,8	372,5	110,6
Energy Sector	103	101,1	45,3
<b>Total</b>	<b>513,8</b>	<b>473,6</b>	<b>155,9</b>

Of the 513,8 Million Euro committed to Grant Agreements by May 2007, 473,6 Million Euro had been contracted and 155,9 Million Euro had been disbursed.

#### 4.1.2 Project Portfolio - BIDSF - Slovakia

Grant agreements

For Bohunice 11 Grant Agreements have been signed, with JAVYS (10 agreements) and one agreement with SEPS.

Table 17 Grant Agreements for Slovakia (Source EBRD)

Title of Grant Agreements, BIDSF*	
1	Project Management Unit Consultant, Phase 1
2	Reconstruction of Krizovany 400KV Substation
3	Reliable Heat and Steam Supply: Reconstruction of the Auxiliary Boiler Station at the Bohunice Site
4	Reconstruction of Area protection system AKOBOJE
5	Development of Bohunice V1 NPP Decommissioning Documentation
6	Additional Transportation means for Liquid Historical Raw from the V1 NPP to the Existing Treatment Facilities
7	Development of comprehensive documentation necessary for V1 NPP Decommissioning Licensing Phase and Decommissioning Implementation Phase
8	Modification of Heating and Steam Distribution System
9	Spent Fuel Management
10	Feasibility study for Treatment of Metallic waste & Procurement of portable fragmentation and decontamination equipment for metallic and building materials
12	Reconstruction of the Public Warning and Notification System; Relocation of Emergency Response Centre; Storage Casks for Spent Fuel; The V1 NPP Decommissioning 1st Stage Plan & Other Documentation

\* Grant Recipients: JAVYS (previously GovCo) (1, 3, 4, 5, 6, 7, 8, 9, 10, 12); SEPS (2);

In addition to the above list of Grant Agreements, an additional 3 Grant Agreements are in the pipeline or being agreed upon at the time of writing.

Projects compared to objective

The majority of projects concern decommissioning activities whereas 6 projects have been identified in the energy sector.

Table 18: Number of projects\* by objective and sub-objective, Slovakia

Objective and sub-sector	BIDSF
Dismantling NPP	11
Disposal radioactive waste	8
Operational Safety, plant personal	4
TA Regulatory Bodies	0
<b>Total Decommissioning Activities</b>	<b>23</b>
Environmental upgrading	0
Restructuring and modernisation	0
Security of Energy Supply	2
Energy Efficiency	0
<b>Total Energy Sector Activities</b>	<b>2</b>
<b>Total</b>	<b>25</b>

\* It should be noted that the nature and size of projects varies significantly.

The majority of Grant Agreements and projects relate to decommissioning activities, and to date approximately 75% of the funding has gone hereto. The 2 energy sector projects receive 19,2 million Euro. This balance may shift depending on the nature and number of future Grant Agreements.

Table 19 Grant Agreements to Slovakia by sector, May 2007, Million €

Sector	Grant Agreements	Contract value	Disbursement
Decommissioning	73,5	23,4	16,1
Energy Sector	24,0	19,2	15,4
<b>Total</b>	<b>97,5</b>	<b>42,6</b>	<b>31,5</b>

Of the 97,5 Million Euro committed to Grant Agreements per May 2007, 42,6 Million Euro has been contracted and 31,5 Million Euro has been disbursed.

#### 4.1.3 Project Portfolio - Programmed Instrument - Lithuania

Programmed  
Instrument

The Programmed Instrument is only employed in Lithuania and has so far primarily funded projects on safety culture, maintenance and social related issue. The following table shows the projects that have been completed, are under implementation or are planned. Three projects activities under the Programmed Instrument relate to direct support of plant staff at Ignalina (2004, 2005 and 2006), to maintain the reactor systems in a safe condition while the fuel is present or is in the process of being removed.

Table 20 List of project activities and agreements, Programmed Instrument

2004 Projects	Status
PI.04.01 Safe Maintenance of Ignalina NPP Unit 1 during 2005 Decommissioning Phase 1	
- Safe Maintenance in 2005	Closed
- Decommissioning Service in 2005	Closed
- Preparatory infrastructure (several)	Ongoing
- Decommissioning database (B17)	Ongoing
PI.04.02 Strengthening Capacity in LT to Manage the Ignalina Programme	
- Project Cycle Management Support	Ongoing
- Review of legal framework	Ongoing
- TA from EU d/c organisation	Ongoing
- Public communication	Ongoing
2005 Projects	Status
PI.05.01.01 Support to VATESI	Ongoing

2004 Projects	Status
PI.05.01.02 Support to RPC	Ongoing
PI.05.02.01 Decommissioning Services in 2006	Closed
- Radiological Characterisation Lab	Closed
- Site works and other services	Ongoing
- General datasets for EC under Article 37	tendering
- Continuation of Decommissioning Database (B17)	Ongoing
PI.05.02.02 Landfill for VLLW	Preparation
PI.05.03.01 Safe Maintenance 2006	Ongoing
PI.05.03.02 Support to MoSS&L	Preparation
2006 Projects	Status
PI.06.01.01 Safe Maintenance	Ongoing
PI.06.01.02 Decommissioning Service	Ongoing
PI.06.01.03 Radiological Characterisation	Planning
PI.06.02.01 Visaginas District Heating	Planning
PI.06.02.02 Visaginas Electricity Network	Planning
PI.06.03.01 Institutional Capacity in LT	Planning
PI.06.04.-- Supplementary support facility	Planning
PI.06.04.01 Decommissioning Training Centre (Phase 1)	Planning

The majority of projects relate to Decommissioning activities and more specifically to activities related to the dismantling of the nuclear power plant.

Table 21 Number of projects\* by objective and sub-objective, Lithuania

Objective and sub-sector	Programmed Instrument
Dismantling NPP	11
Disposal radioactive waste	7
Operational Safety, plant personal	2
TA Regulatory Bodies	0
<b>Total Decommissioning Activities</b>	<b>20</b>
Environmental upgrading	0
Restructuring and modernisation	4
Security of Energy Supply	2
Energy Efficiency	0
<b>Total Energy Sector Activities</b>	<b>6</b>
<b>Total</b>	<b>26</b>

\* It should be noted that the nature and size of projects varies significantly; they are therefore not directly comparable.

Finally, for the three year period 2004 to 2006, 47 Million Euros were committed to projects under the Programmed Instrument of which 7 Million Euros were targeted at energy sector projects. To date (May 2007), 13 Million Euro have been disbursed through the Programmed Instrument.

Table 22 Programmed Instrument commitments by sector, May 2007, Million €

Sector	Project Commitments	Disbursement
Decommissioning	40	13
Energy Sector	7	0
<b>Total</b>	<b>47</b>	<b>13</b>

**CONCLUSION** on priorities reflected by the project portfolio:

The majority of projects are funded within decommissioning activities particularly with areas related to dismantling. The number of energy sector projects is limited for both countries.

The diversity of projects, both in type and size, reflects the objectives of the decommissioning assistance programme, the implementation instruments available and specific needs in the two countries.

Out of 11 Grant Agreements under BIDSF, one concern the energy sector, receiving approximately 25% of the total committed funding. Under IIDSF, the decommissioning activities in Lithuania amounts to app. 80% of the total available funds, the remaining 20% going to energy sector activities. The vast majority of projects are under implementation or completed in Lithuania.

A majority of project activities within the framework of the Programmed Instrument is currently under implementation or in the planning phase. There are no finalised projects under the Programmed Instrument but four finalised activities within some of the projects.

## 4.2 Review of selected projects

The availability of documentation (reports, etc) that would be needed to support the review in accordance with the methodology chosen was the critical issue. The selection of projects was therefore mainly limited to projects that were completed and where in addition TORs, Inception reports, Progress reports, etc. and the Final reports inclining the assessment of expenditures were available. Nevertheless, to broaden the perspective of the evaluation, some of the projects that were in an advanced stage of completion were also evaluated. The projects that are in early stages of implementation, would enable only a partial review under the methodology and were not selected (this was e.g. the case with two major projects at IIDSF, the Spent fuel store and Solid waste management facility). The following projects were reviewed:

IIDSF-projects,  
Lithuania:

- **IIDSF - 001 Project Management Unit - Phase 1, 2001 - 2004.** The primary objective of the project is to support Ignalina NPP in preparing Units 1 and 2 for decommissioning during the period 2001-2004 (for phase #1). The objective is to provide services and support related with the

engineering documentation for the preparation of the decommissioning of the Units 1 and 2, as well as support to the licensing process. The project shall develop and monitor the implementation of the INPP Units 1 and 2 decommissioning support investment packages.

- **IIDSF - 001 Project Management Unit - Phase 2, 2005.** The objective of the project is the continuation of the activities of the PMU, with more emphasis on the initiation and the management of the actual implementation project related with the decommissioning of INPP.
  - **IIDSF - 002B, Ignalina NPP Decommissioning Support Investment Packages.** The purpose of this project was to supply a new Steam Boiler Station to be built at INPP and a heat-only boiler station in the vicinity of Visaginas. The steam boiler is to supply both hot water and steam to the INPP, for the period of next 20 years (after the shutdown of INPP) to enable performance of decommissioning activities within INPP buildings. The boiler is also to provide steam heated water for the district supply network.
  - **IIDSF - 007 Ignalina Nuclear Power Plant Investment Packages - Part 3.** The purpose of this project is to modernise the INPP technical documentation archive to provide the reliable access to the archive documentation stored and generated during decommissioning as required for a period of at least 100 years.
- Programmed Instrument projects, Lithuania:
- **PI - PI.04.01 Safe Maintenance of Ignalina NPP Unit 1 during 2005 Decommissioning Phase 1.** The objective of the project is twofold: (i) to maintain Ignalina NPP unit #1 in a safe state and (ii) to provide the support for planning and preparation of projects to support the decommissioning in Phase #1 activities.
- BIDSF projects, Slovakia:
- **BIDSF 001 Project Management Unit Consultant, Phase 1.** The objective is to provide the necessary conceptual engineering and project management resources and deliverables for the timely and most cost-effective planning, execution, management, co-ordination and monitoring of all aspects of the implementation of the pre-decommissioning support projects funded and/or co-funded with the resources of the BIDSF during the phase 2003-2007, to appropriate internationally recognised safety standards.
  - **BIDSF 002 Reconstruction of Krizovany 400KV Substation.** The project encompassed two components; one the preparatory work (consultancy services and specialized engineering) and the actual reconstruction of the 400 kV substation in Krizovany. The project enables secure power supply from other energy sources in Slovakia after reactor shut-down.
  - **BIDSF 005 Development of Bohunice V1 NPP Decommissioning Documentation.** Main objective of the project was to develop the documentation that is necessary in accordance with prevailing Slovak

legislation, including Updated Conceptual Decommissioning Plan (UCDP), EIA and related public consultation process.

- **BIDSF 006 Additional Transportation means for Liquid Historical Raw from the V1 NPP to the Existing Treatment Facilities.** The objective of this project is to provide transportation means and sampling of liquid RAW stored in V1 NPP storage tanks. The project was split in two parts, one for the supply (container) and another, again split in two, to undertake the sampling, measurement and analysis.
- **BIDSF 008 Modification of Heating and Steam Distribution System.** After final shutdown, the generation of heat from V1 NPP will be terminated. Some technological and heating system of V1 NPP and SE VYZ (waste treatment facility) will require another heat supply source. Modification of existing heating and auxiliary steam distribution system is required. The project objective is to adapt the Heating and Steam Distribution System post shutdown situation.

The projects were reviewed based on available project information e.g. terms of references, inception reports, progress reports and final reports. In addition the team has carried out several interviews during site visits to the NPPs. A standardised Project Review Format was used to review the projects.

The projects are rated as Satisfactory, Acceptable, Unsatisfactory, or Cannot be assessed. Brackets around the rating indicate a particular level of uncertainty as to the rating.

#### Projects - Lithuania

The table below summarises the results of the project review followed with a brief explanation of the main results on effectiveness.

*Table 23 Effectiveness assessment, projects, Lithuania*

Project	Rating	Comments
IIDSF - 001 Project Management Unit - Phase 1, 2001 - 2004	Acceptable/ unsatisfactory	Significant delays for some deliverables.
IIDSF - 001 Project Management Unit - Phase 2, 2005	Acceptable/ unsatisfactory	Significant delays for some deliverables.
IIDSF - 002B, Ignalina NPP Decommissioning Support Investment Packages	Acceptable	Anticipated project outputs delivered, however, with six months of delay
IIDSF - 007 Ignalina Nuclear Power Plant Investment Packages - Part 3	Satisfactory	Project outputs delivered as envisaged, however, slightly delayed
PI - PI.04.01 Safe Maintenance of Ignalina NPP Unit 1 during 2005 Decommissioning Phase 1	Acceptable	Project outputs delivered almost as envisaged (see below)

## Main observations:

- The effectiveness of the 'IIDSF - 001 Project Management Unit - Phase 1, 2001 - 2004' was affected by delays in implementation of several tasks. While numerous deliverables were completed on time (e.g. Draft FDP, Draft DEIAP, D 16), some experienced slight to moderate delay (e.g. Peer review for B8, DSAR, DEIAR,; contract award for the B5/CA01, B5/CA02, B6/CA03), but few experienced significant delay (e.g. Approval of the PDP, DEIAP. The delays on this project (naturally) affected the successor project. It has to be noted that this project, being the first activity related with decommissioning at Ignalina NPP experienced difficulties in organisation and in some cases in understanding of the aim at the side of the beneficiary.
- The project 'PI - PI.04.01 Safe Maintenance of Ignalina NPP Unit 1 during 2005 Decommissioning Phase': While maintaining Unit #1 in a safe state cannot be exactly called 'decommissioning', this project provided an essential input that allowed for the decommissioning of the plant, when the conditions (e.g. construction of facilities, such as the spent fuel building) are fulfilled. The results of the project are positive: safety of plant was preserved and few (small) projects launched. However, while the number of people employed for 'safe maintenance' seems excessive (see chapter 5), it is obvious that the project introduced significant positive social effects that was also mentioned to the evaluation team by local authorities.

## Projects - Slovakia

The table below summarises the results of the project review followed with a brief explanation of the main results.

Table 24 *Effectiveness assessment, projects, Slovakia*

Project	Rating	Comments
BIDSF 001 Project Management Unit Consultant, Phase 1	Unsatisfactory	Delays related with practically all the deliverables of the PMU (see below).
BIDSF 002 Reconstruction of Krizovany 400KV Substation	(Acceptable)	Project still ongoing, hence final assessment cannot be given
BIDSF 005 Development of Bohunice V1 NPP Decommissioning Documentation	Satisfactory	Project delivered in time and to client satisfaction. The results were used to select decommissioning strategy
BIDSF 006 Additional Transportation means for Liquid Historical Raw from the V1 NPP to the Existing Treatment Facilities	(Acceptable)	Could be questioned whether transport container was needed now or existing container could be used in the interim period
BIDSF 008 Modification of Heating and Steam Distribution System	Cannot be assessed	Project implementation not yet started



The main observation is the following:

- The effectiveness of the 'BIDSF 001 Project Management Unit Consultant, Phase 1' is affected by delays in implementation. The delays started occurring very early in the project, possibly pointing to too optimistic planning, but also a series of externalities that were impacting the project. In addition to management, the PMU project was to define the basis and the details to allow for the overall planning of the decommissioning strategy and process (e.g. projects D3 and D8). Both of those were delayed, thus affecting the rest of the PMU activities. Moreover, the changes in the focus but also in organisation of the sector in Slovakia (privatisation, change of ownership, national responsibilities, etc.) all weighted on the effectiveness of this project as this is the lead project for (practically) all other project to be implemented within the BIDSF. All this also lead to a (possibly) disproportional high utilisation of the resources. It has to be noted that after main activities were completed, and the re-organisation of the sector completed (as well as the Unit #1 shut down) the overall effectiveness of the PMU's activities seems to be improving.

**CONCLUSION** on the effectiveness and relevance of the projects reviewed

The effectiveness assessment (as far as could be gauged from the limited number of completed projects) shows that there is an acceptable or satisfactory level of effectiveness with the exception of the PMU projects in Lithuania and Slovakia - both of which have seen delays.

As part of the effectiveness assessment, all projects were also assessed for their relevance and alignment with the programme objectives (not reported on in the above overview). The results are positive as the projects for the most part are highly relevant.

## 5 Efficiency of the projects

### Purpose of chapter

Efficiency is the extent to which the desired effects are achieved at a reasonable cost and hence measures the relationship between the resources employed and results gained. When dealing with unique projects it is difficult to establish firm benchmarks, and a judgement might therefore often have to be made on the basis of less clear-cut criteria such as expert assessments on whether the funds have been wisely spent.

### Projects - Lithuania

The table below summarises the results of the project review followed with a brief explanation of the main results

*Table 25 Efficiency assessment, projects, Lithuania*

Project	Rating	Comments
IIDSF - 001 Project Management Unit - Phase 1, 2001 - 2004	Acceptable/unsatisfactory	Based on information available, see below
IIDSF - 001 Project Management Unit - Phase 2, 2005	Acceptable/unsatisfactory	Based on information available, see below
IIDSF - 002B, Ignalina NPP Decommissioning Support Investment Packages	Acceptable	Heating system at Bohunice was cheaper, but the scope also different
IIDSF - 007 Ignalina Nuclear Power Plant Investment Packages - Part 3	Satisfactory/acceptable	The specifics of the installations make it difficult to compare. Efficiency appears good
PI - PI.04.01 Safe Maintenance of Ignalina NPP Unit 1 during 2005 Decommissioning Phase 1	Acceptable/unsatisfactory	High staffing level of 'safety maintenance'

### Main observations:

- The low rating of 'IIDSF - 001 Project Management Unit - Phase 1, 2001 - 2004' reflects the fact that the nominal costs of the PMU (13 MEUR over 3 years) appears high for a project management unit that was staffed with about 10 people. However, it needs to be noted that the PMU activities encompass the development of the Decommissioning plan for INPP, other engineering support services as well as the licensing support. While, the Final Decommissioning Plan was originally issued in May 2002, its approval was only obtained in May 2004 indicating that adjustments were

necessary to support the 'immediate dismantling' concept of decommissioning. This PMU is nominally more expensive than the BIDSF PMU (13 vs. 8 MEUR), but its scope is also broader. When compared with other PMUs (e.g. within TACIS nuclear safety), the costs may seem high, but also some of the projects have been first of a kind, requiring more preparatory work. In conclusion, while one needs to recognize that this PMU was successful and managed to prepare and obtain agreement of all parties (incl. regulator) of the FDP as well as to launch several decommissioning investment projects, it came at a relatively high price.

- For the 'IIDSF - 001 Project Management Unit - Phase 2, 2005', the above discussion on the PMU Phase 1 applies as well. For the yearly operation of the PMU (10 consultants and home office staff) the costs is close to 5 MEUR. While justification could be found for the Phase 1 - higher costs due to engineering services for the FDP and licensing activities - that work was largely over, and the yearly costs remain the same.
- For the 'PI - PI.04.01 Safe Maintenance of Ignalina NPP Unit 1 during 2005 Decommissioning Phase 1"', the staff costs (6 million for about 550 people) are low in comparison. The same applies to material costs (4 million euros). However, a total of 456 staff to provide 'Safe maintenance' for a unit where only some systems are in operation looks excessive. On the payrolls there are still e.g. 25 and 23 senior and reactor operators, respectively, but also 6 hot cell operators, more that 50 people in the turbine department (the turbine plant is not needed for safe maintenance) etc. It almost looks that the same staffing is needed as for the full operation of the plant. While it has to be recognized that the social element is an important one (Ignalina NPP is by far the biggest employer in the area), the question is raised whether it would be more appropriate to have some of the staff that is now employed on 'safe maintenance' retrained and/or transferred to other activities.

## Projects - Slovakia

The table below summarises the results of the project review followed with a brief explanation of the main results.

Table 26 *Efficiency assessment, projects, Slovakia*

Project	Rating	Comments
BIDSF 001 Project Management Unit Consultant, Phase 1	Acceptable/ Unsatisfactory	See below
BIDSF 002 Reconstruction of Krizovany 400KV Substation	(Acceptable)	Lack of interim and final reports to make judgement. Tenders came in at 20% less than the budget indicating good efficiency
BIDSF 005 Development of Bohunice V1 NPP Decommissioning Documentation	Satisfactory	Efficiency appears good, however, no similar project to compare costs with
BIDSF 006 Additional Transportation means for Liquid Historical Raw from the V1 NPP to	Satisfactory	To the extent that information could enable an assessment. Costs appear to be similar to those on

Project	Rating	Comments
the Existing Treatment Facilities		Slovak market (probably lower than at the broader European market)
BIDSF 008 Modification of Heating and Steam Distribution System	(Acceptable)	Contracting is in process hence project costs not known. The project budget appear reasonable

#### Main observations:

- The reviewed projects (with one exemption, see below) are assessed to be reasonably efficient. The review process has shown that only rarely can outturn costs be compared with similar projects because there are few projects to compare with.
- The low rating of the project 'BIDSF 001 Project Management Unit Consultant, Phase 1' is mainly due to large delay in launching the projects, where costs of the PMU continue to accumulate with relatively low implementation rate. From October 2003 to February 2007, the overall costs of the PMU were 8.706.748,81 Euro, but during this period, only 5 projects were contracted. As discussed in the previous chapter, much of this is due to the need to develop the basis and initial plans for decommissioning as well as due to reorganisation of the nuclear sector in Slovakia, but it is still felt that the efficiency of the work of the PUM allows for improvements. The review also identified that the PMU has relatively large turnover of staff, and some positions were vacant for longer time, both possibly affecting the efficiency.

#### **CONCLUSION** on efficiency of projects

The efficiency of the PMU projects has been less than satisfactory. Some of the problems can be related to external causes, but it is also felt that the internal efficiency of PMU could be enhanced. The other projects show an acceptable or satisfactory level of efficiency. The level of efficiency is in some cases clearly increased with the involvement of local (Slovak) companies.

## 6 Utility, Impact, Sustainability, Consistency

Purpose of chapter

This chapter addresses evaluation questions related to:

- **Utility:** To what extent do the effects of projects correspond with the needs to be addressed?
- **Impact:** To what extent do the projects make a difference, i.e. directly advance the decommissioning process?
- **Sustainability:** How robust and lasting are the positive results? (in principle this can only to be evaluated some years after project completion)
- **Consistency:** To what extent is the EU decommissioning assistance programme consistent with other EU policies?

### 6.1 Utility

Projects - Lithuania

The table below summarises the results for Lithuania of the project reviews followed with a brief explanation of the main results.

Table 27 *Utility assessment, projects, Lithuania*

Project	Rating	Comments
IIDSF - 001 Project Management Unit - Phase 1, 2001 - 2004	Satisfactory	The project fulfils the actual need for the decommissioning.
IIDSF - 001 Project Management Unit - Phase 2, 2005	Satisfactory	The project fulfils the actual need for the decommissioning.
IIDSF - 002B, Ignalina NPP Decommissioning Support Investment Packages	Satisfactory	As the unit2 are shutdown, INPP site would be left without heating and water - both are necessary for implementation of decommissioning activities

Project	Rating	Comments
IIDSF - 007 Ignalina Nuclear Power Plant Investment Packages - Part 3	Satisfactory	The project was to enable provision for proper documentation availability, and as such allows for dismantling operations of highest accuracy
PI - PI.04.01 Safe Maintenance of Ignalina NPP Unit 1 during 2005 Decommissioning Phase 1	Acceptable	The justification for retaining 456 staff to fulfil the need of "safe maintenance of the INPP" could not be corroborated from the project documents

#### Main observations:

- The projects solve pressing problems and are adequate responses to needs. The rating on utility is therefore positive. This finding is in line with the impression left by the interview with Lithuanian stakeholders according to which the EU assistance overall is sensitive to Lithuanian needs, and that the project preparation modalities ensure sensitivity.
- The project on the payment of INPP staff was often mentioned by Lithuanian stakeholders as an indication of the responsiveness of the EU decommissioning assistance programme, as it has greatly contributed towards alleviating social depression in the Visaginas municipality. However, the need for maintaining 456 staff for safety maintenance is, in the view of the reviewer, not fully documented, and the need should be monitored at regular intervals. If the current plant's licence requires such a large staff, then initiatives should be undertaken to modify the scope of the licence (e.g. form operational state to possession only).

#### Projects - Slovakia

The table below summarises the results for Slovakia of the project reviews followed with a brief explanation of the main results.

Table 28 *Utility assessment, projects, Slovakia*

Project	Rating	Comments
BIDSF 001 Project Management Unit Consultant, Phase 1	Acceptable	The needs of project management competence obviously validate the project; however, the specific implementation could have been more sensitive to needs (e.g. using to a higher degree the accumulated knowledge locally, also reducing the costs)
BIDSF 002 Reconstruction of Krizovany 400KV Substation	Satisfactory	Project clearly addresses one of the programme priorities
BIDSF 005 Development of Bohunice V1 NPP Decommissioning Documentation	Satisfactory	The needs are defined as per specific requirements of Slovak legislation

Project	Rating	Comments
BIDSF 006 Additional Transportation means for Liquid Historical Raw from the V1 NPP to the Existing Treatment Facilities	Satisfactory	Needs were understood well by local companies.
BIDSF 008 Modification of Heating and Steam Distribution System	Satisfactory	Needs framed on fact that that operation of waste processing plant would not be possible after shutdown

#### Main observation:

- The Slovakian projects reviewed perform well on the utility dimension. To be noted, the finalisation in 2007 of an updated Conceptual Decommissioning plan for BNPP V1, as well as an overall national decommissioning strategy potentially allows for increased attention to national needs within the planning of decommissioning activities.

#### **CONCLUSION** on utility of decommissioning programmes in Lithuania and Slovakia

There is a high level of utility of the reviewed projects.

This conclusion can most likely be generalised from the sample of review projects from the entire decommissioning programmes. It is thus our impression from the interview that the recipient countries appreciate the EU decommissioning assistance programme for its responsiveness towards national needs, and the modalities for selection of projects which are sensitive to national needs

## 6.2 Impact of the projects

### Projects - Lithuania

The table below summarises the results for Lithuania of the project review followed with a brief explanation of the main results.

Table 29 *Impact assessment, projects, Lithuania*

Project	Rating	Comments
IIDSF - 001 Project Management Unit - Phase 1, 2001 - 2004	Satisfactory	The post-project situation is clear: The FPD is developed and agreed upon. Several individual projects were launched.
IIDSF - 001 Project Management Unit - Phase 2, 2005	Satisfactory	The project fulfils its role in the process of preparation and implementation of the industrial projects
IIDSF - 002B, Ignalina NPP Decommissioning Support Investment Packages	Satisfactory	The boiler is in operation and provides heat and water to the INPP facilities during decommissioning
IIDSF - 007 Ignalina Nuclear Power Plant Investment Packages - Part 3	Satisfactory	The project is delivered and intended results have taken place
PI - PI.04.01 Safe Maintenance of Ignalina NPP Unit 1 during 2005	Satisfactory	Main impact is in launching preparatory projects that would allow for the implementation of the actual

Project	Rating	Comments
Decommissioning Phase 1		large scale decommissioning and waste processing activities. The main impact is also in establishment of a strong Decommissioning Service Division at the INPP that may be expected to lead the activities for many years in the future.

**Main observation:**

- The reviewed projects are relevant, reflect existing needs and are likely to have a lasting impact on the decommissioning process.

**Projects - Slovakia**

The table below summarises the results of the project review followed with a brief explanation of the main results.

*Table 30 Assessment of impacts, projects, Slovakia*

Project	Rating	Comments
BIDSF 001 Project Management Unit Consultant, Phase 1	Acceptable/ unsatisfactory	If the project (PMU) manages to launch all the projects that are assigned to it, this will have a positive impact on the overall programme. The delays have reduced the impact of the project
BIDSF 002 Reconstruction of Krizovany 400KV Substation	(Acceptable)	Project still ongoing. Its post-projects impact likely to be positive on distribution system
BIDSF 005 Development of Bohunice V1 NPP Decommissioning Documentation	Satisfactory	The project was used to select the decommissioning strategy, hence had a high impact
BIDSF 006 Additional Transportation means for Liquid Historical Raw from the V1 NPP to the Existing Treatment Facilities	Satisfactory	Will enable faster transport of waste to processing/storage
BIDSF 008 Modification of Heating and Steam Distribution System	(Satisfactory)	The expected impact is an essential step to enable shutting down of the V1 NPP

**Main observation:**

- The reviewed projects are relevant, reflect existing needs and are likely to have a lasting impact on the decommissioning process.

**CONCLUSION** on impact of decommissioning programmes in Lithuania and Slovakia  
The impact of the reviewed projects is satisfactory.



### 6.3 Sustainability

#### Projects - Lithuania

The table below summarises the results of the project review followed with a brief explanation of the main results.

Table 31 Sustainability assessment, projects, Lithuania

Project	Rating	Comments
IIDSF - 001 Project Management Unit - Phase 1, 2001 - 2004	Satisfactory	The sustainability of the PMU is not an issue but the existence of this project creates the sustainability of other activities
IIDSF - 001 Project Management Unit - Phase 2, 2005	Satisfactory	Sustainability of the PMU is not an issue but the existence of this project creates sustainability of other activities
IIDSF - 002B, Ignalina NPP Decommissioning Support Investment Packages	Satisfactory	The project does not need any further enhancement or other projects to achieve its full benefit
IIDSF - 007 Ignalina Nuclear Power Plant Investment Packages - Part 3	(Satisfactory)	For the project to assure its benefits, all data should be transferred to the new archive system
PI - PI.04.01 Safe Maintenance of Ignalina NPP Unit 1 during 2005 Decommissioning Phase 1	Satisfactory	Most parts of the project are clearly sustainable and will establish the basis for future projects. The sustainability of the safety maintenance component is difficult to assess (requires a socio-economic study)

#### Main observation:

- The sustainability of the reviewed projects can only be tentatively assessed. However, the assessment shows that the projects are likely to show a satisfactory degree of sustainability.

#### Projects - Slovakia

The table below summarises the results of the project review followed with a brief explanation of the main results.

Table 32 Sustainability assessment, projects, Slovakia

Project	Rating	Comments
BIDSF 001 Project Management Unit Consultant	Acceptable	The sustainability of the PMU is not an issue but the existence of this project creates the sustainability of other activities
BIDSF 002 Reconstruction of Krizovany 400KV Substation	(Acceptable)	Project is not reliant on any future projects and its sustainability likely to

Project	Rating	Comments
		be high
BIDSF 005 Development of Bohunice V1 NPP Decommissioning Documentation	Satisfactory	The project was the basic step in launching the decommissioning activity.
BIDSF 006 Additional Transportation means for Liquid Historical Raw from the V1 NPP to the Existing Treatment Facilities	Satisfactory	Project will be used (built around) during decommissioning
BIDSF 008 Modification of Heating and Steam Distribution System	(Satisfactory)	The project is independently sustainable as it establishes condition to allow shutting down V-1 plant

#### Main observation:

- The sustainability of the reviewed projects can only be tentatively assessed. However, the assessment shows that the projects are likely to show a satisfactory degree of sustainability.

#### **CONCLUSION** on sustainability of decommissioning programmes in Lithuania and Slovakia

In principle, the sustainability of projects can be detected only 3-5 years after completion. Hence the sustainability assessments undertaken as part of this review are tentative and have a forecasting nature. The assessment shows that the projects are likely to show a satisfactory degree of sustainability.

## 6.4 Consistency of the decommissioning assistance

Consistency with 'neighbour' policies

The question of nuclear energy as an option within the EU in the future is complex and related to multiple and sometimes contradictory concerns about nuclear security of energy supply, competitiveness and CO<sup>2</sup> emissions reductions, while ensuring that nuclear safety and security are paramount in the decision-making process. These concerns are addressed individually in EU policies and strategies.

This section aims at determining to what degree the EU decommissioning assistance is consistent with relevant EU policies. The following key policies are considered: G7, the Lisbon Strategy, the Energy Policy, and the EU Sustainable Development strategy. The assessment addresses the question of to what degree will the assistance support and contribute to the fulfilment of the objectives. For each policy area a qualitative assessment has been made and indicators have been proposed that can be used in the future to check for consistency. The table below summarises the assessments. For a further elaboration of the consistency assessment see Appendix 4.

Table 33 Overview and summary of findings on consistency

Policies and to compare against	EU Decommissioning Programme	Consistency
<i>G7 policy on decommissioning</i>		
The fastest possible closure of the oldest nuclear power plant types	INPP and BNPP are deemed non-upgradable and are being closed down with aim of decommissioning.	✓
The modernisation of more recent NPP types with backfitting potential	N/A	N/A
A comprehensive restructuring of the energy sector in the concerned countries	The programme addresses modernization and enhancing of the security of energy supply	✓
<i>EU Energy Policy</i>		
Reducing greenhouse gas emissions from developed countries by 30% by 2020	Energy measures supported include modernization of the energy production, enhancing the security of energy supply and improving energy efficiency	✓
Improving energy efficiency by 20% by 2020		
Raising the share of renewable energy to 20% by 2020	The programme does not explicitly mention renewable energy but may strengthen renewable energy	(✓)
Increasing the level of biofuels in transport fuel to 10% by 2020.	N/A	N/A
<i>The renewed Lisbon Strategy</i>		
Delivering stronger and lasting growth. Creating more and better jobs, via investment in education, research and innovation, employment policies to get people into work and guaranteeing a secure and sustainable energy supply	The programme compensates for the consequences. Closure should be carried out in the manner which best helps to sustain development in line with the Lisbon Strategy, - mitigate social problems and compensate the loss of energy production	✓ Lithuania (✓) Slovakia
<i>EU Sustainable Development Strategy</i>		
Climate change and clean energy	(As under EU Energy Strategy)	✓
Sustainable Transport	N/A	N/A
Sustainable consumption and production	(As under EU Energy Strategy: energy efficiency)	✓
Conservation and management of natural resources	N/A	N/A
Public Health	N/A	N/A
Social inclusion, demography, migration	N/A	N/A
Global poverty	N/A	N/A

**CONCLUSION** on consistency of decommissioning programmes with other EU policies

The consistency of the EU decommissioning programmes with 'neighbouring policies' has been reviewed to be high.

## 7 Conclusions and recommendations

Purpose of chapter	This chapter presents the main conclusions and a number of recommendations is given. The chapter also contains an overview table summarising the conclusions on each of the key evaluation questions.
The overall conclusion: Mainly positive results	<p>It is the overall conclusion that the EU decommissioning assistance programme to Lithuania and Slovakia is 'a mixed bag' but one which primarily shows positive results - as the NPPs in question either are or will be shut down and kept in safe maintenance as envisaged, and as the decommissioning processes, facilitated to a large extent by EU assistance to the two countries are underway.</p> <p>The evaluation addressed the relevance and utility of the projects (implemented so far) and it indicates positive impacts and a (likely) high degree of sustainability. A majority of the projects has been well implemented in so far as the results match the objectives. The costs of the projects, to the extent that it could be assessed within this evaluation (the evaluation was limited in scope and addressed mainly projects that were completed at the time of evaluation), are fair when compared to the results. The evaluation noted, however, the delays seen in implementing some of the projects, and it questions the effectiveness and efficiency of certain projects in both countries (e.g. deliverables within the PMU projects).</p> <p>The main vehicle for channelling the assistance is through the EBRD managed International Decommissioning Support Funds (one in each country) where the EC is the main but not the only donor. In one country, the assistance is further provided by an independent vehicle, called the Programmed Instrument which operates under the national procurement rules. The evaluation found plenty of justification for the initial decision of (factually) delegating the implementation of the programme to the EBRD, ranging from the existence of structured processes and the technical and administrative experience of EBRD to the lack of administrative capacities at DG Enlargement (later DG TREN) and the lack of practices and structures in recipient countries. The evaluation raises the question of the necessity to maintain two assistance vehicles in one country.</p>
Framework conditions	The evaluation shows that the decommissioning assistance programmes to the two countries have evolved, and that the following conditions and developments have had an impact hereon:

- a relatively loose policy framework - as the objectives stated in the two protocols and related Council Regulations are very broad;
- a strong cooperation between the EBRD and the European Commission - as the EBRD is managing most of the EU financial assistance;
- complicated and unique decommissioning planning processes - as there are few if any similar processes to learn from;
- Increased clarity of national priorities - as national decommissioning strategies and underlying conceptual decommissioning plans have been adopted during programme implementation;
- The framework conditions have changed substantially during the course of the programmes' existence - as Lithuania and Slovakia have moved from the EU applicant to the EU MS status; national organisations responsible for funding decommissioning activities were established; structured public procurement process established; nuclear sector reorganised-privatisation in Slovakia;
- An increasing level of real commitment from the two countries towards closure and decommissioning of their NPPs allowing for streamlined project planning and implementation.

In light of the changed framework conditions, and bearing in mind that this is a mid-term evaluation with the overall purpose to investigate whether the future implementation of decommissioning assistance could be even more effective, the evaluation has raised the question if, at a certain time in the future, Lithuania and Slovakia could be entrusted with responsibility for the implementation of the decommissioning assistance programme (with the Commission exercising ex-post control). The evaluation recognises that it is relevant to initiate such a discussion but it draws no conclusion in this regard. It notes that some, but not all, key actors in the recipient countries are willing to discuss such a change - which in fact illustrates another feature of this evaluation, namely that the stakeholders involved hold varies views and interpretations of the programme and how it should be managed. There is certainly no consensus around the table.

The need for an EU strategy on decommissioning assistance

Finally, while it might be understandable from a historical perspective, that the decommissioning assistance programmes to the two countries were based on broad non-exclusive objectives - acknowledging that the Protocols 4 and 9 to the Treaty of Accession essentially were political agreements between the respective countries and the EU - this evaluation nevertheless suggests that the European Commission develops a generic decommissioning assistance programme strategy showing criteria, chronology, principles and conditions for EU assistance in this field. Further EU guidelines could also help beneficiary countries in the planning and in the long-term implementation of the EU decommissioning assistance programmes.

Recommendations

In light of the evaluation findings the following are recommended:

- That the EC develops a consistent strategy with goals and criteria for the decommissioning assistance programme(s), against which any ongoing and future assistance could be judged and evaluated. The strategy should include objectives for any related energy system and social measures that

are justified as a consequence of the shutting down of 1<sup>st</sup> generation units that (were) operate(d) in countries becoming members of the EU.

- To assure that any assistance provided is consistent and complementary with the national activities (implemented via national decommissioning funds and/or other national means).
- With the consideration that the conceptual decommissioning plans for both Bohunice and Ignalina were developed and decommissioning strategies selected in both countries, a more accurate estimate of actual decommissioning and related energy sector costs (against which the needs for financial assistance commitments could then be assessed) should be developed.
- The EC shall consider to modify the implementation rules for the provision of assistance to allow for adjustments with actual costs dynamics for the decommissioning activities (e.g. to allow for lower utilization in the years when only preparatory activities take place).
- Investigate measures that could lead to an increased effectiveness and efficiency of the activities of the PMUs operating within the International Decommissioning Support Funds.
- Investigate the merits of having two assistance vehicles operating in parallel (in Lithuania) with a view to possibly integrating these, while preserving the benefits offered by each.
- In light of the changing framework conditions, it is suggested to carry out an assessment to identify an optimal vehicle for providing assistance in the future.

#### Overview of specific conclusions

A condensed presentation of the conclusions of the evaluation questions are given in the table below.

*Table 34 Overview of conclusions (rating: satisfactory, acceptable, unsatisfactory, no assessment)*

<b>Evaluation question or theme</b>	<b>Brief presentation of findings</b>	<b>Rating</b>
Rationale and objective of the decommissioning assistance programme  (effectiveness, programme level)	Rationale: to provide assistance to countries facing an extraordinary financial burden in closing down NPPs  Objectives: To support the decommissioning process and to promote a range of related energy sector measures - further specified into a number of sub-objectives. The objectives are loosely formulated	Acceptable  There is a clear rationale for the assistance.  The objectives - are in line with the rationale, but making the objectives more operational

Evaluation question or theme	Brief presentation of findings	Rating
		would be advantageous
<p>Have programme objectives been met? (effectiveness, programme level)</p>	<p>No clear answer can be given due to a lack of clear focus and priorities at programme level. However, the overall objective of facilitating decommissioning has been met.</p> <p>The specific objectives are met to a varying and as yet unknown degree (only few projects were completed). As the relevance and utility of the ongoing and planned projects are satisfactory, it is reasonable to expect that the overall level of goal-fulfilment will be acceptable.</p> <p>The majority of projects are funded within decommissioning activities particularly within areas related to the preparation for dismantling. The number of energy sector projects is limited for both countries</p>	Acceptable
<p>Are the two instruments used in Lithuania complementary to each other? (effectiveness, programme level)</p>	<p>The instruments are complementary in nature and focus.</p> <p>Although no direct overlaps between projects undertaken by two instruments were found, no evidence of systematic coordination activities could be found, either. There is no formal requirement of coordination.</p> <p>The managing organisations of the Programmed Instrument (CPMA) and the Ignalina IDSF (PMU) appear to (sometimes) have different expectations as to the focus of the assistance.</p> <p>The different rule-sets sometimes complicate implementation of interlinked projects.</p> <p>It is not clear as to what was the logic of funding interlinked activities via two funding mechanisms.</p>	Acceptable
<p>Is the EU decommissioning assistance to Lithuania and Slovakia based on a coherent strategy? (effectiveness, programme level)</p>	<p>It is not based on a comprehensive decommissioning assistance strategy.</p> <p>The implementation of the assistance would therefore benefit from the development of a programme-level strategy for the decommissioning assistance programmes addressing the rationale of providing assistance, overall objectives, goals and criteria for funding, responsibilities of recipient countries, institutional set-up, etc.</p>	Unsatisfactory
<p>Is the overall programme designed in an efficient manner? (efficiency, programme level)</p>	<p>The assistance is primarily implemented via EBRD managed multi-donor International Decommissioning Assistance Funds to which EU is the main contributor.</p>	<p>Acceptable</p> <p>Clear advantages of existing</p>



Evaluation question or theme	Brief presentation of findings	Rating
level)	The system was established in a pre-EU membership context, necessitating the competences of EBRD as the Commission services did not have, at that time, the priority and administrative capacity to manage the decommissioning assistance programme. The framework conditions have changed substantially which makes it relevant to initiate a discussion on an alternative set-up - although the evaluation draws no conclusion in regard to this	system, but also potentials of a revised system - these are not fully documented as part of the evaluation
Efficiency of procurement systems? (efficiency, programme level)	The IIDSF and BIDSF procurement systems are both based on the EBRD procurement rules which are in line with WTO agreements. The Fund rules of the IIDSF and the BIDSF does limit procurement of services and goods to contributing countries including the EU Member States and countries of operation of the funds.	Satisfactory
Relevance of projects (relevance, project level)	The projects implemented so far are highly relevant for the decommissioning process.	Satisfactory
Effectiveness of projects (effectiveness, project level)	The effectiveness assessment (to the degree that it can meaningfully be undertaken due to few projects being completed at the time of evaluation) shows an acceptable or satisfactory level of effectiveness. However, many deliverables of the PMUs (especially Slovakia) see significant delays.	Acceptable/ satisfactory
Efficiency of projects (efficiency, project level)	The increased efficiency of the PMU projects is asked for.  The other projects show broadly acceptable or satisfactory level of efficiency, although it is felt that a better preparation could enhance the efficiency. Efficiency is in some case clearly increased with the intensive involvement of local companies.	Project dependent
Utility (utility, project level)	At this stage, the projects already implemented adequately respond to current needs. The EU decommissioning assistance programme is appreciated by recipients for its responsiveness towards national needs. Modalities for selection of projects are, to a certain extent, sensitive to national needs. Nevertheless, for this to remain so in the future (with more active roles of complementary national funding) increased coordination is suggested.	Satisfactory
Impact (impact, project level)	The current project portfolio is likely to generate a positive impact as they clearly are useful and important (the projects	Satisfactory

Evaluation question or theme	Brief presentation of findings	Rating
	<p>selected for early application are key projects which allow for the start of dismantling operations)</p> <p>Impacts of some ongoing projects cannot be assessed.</p>	
Sustainability (sustainability, project level)	<p>The sustainability of the projects is likely to be high.</p> <p>(However, as the sustainability of projects can only be detected only 3-5 years after completion, the assessment is tentative).</p>	Satisfactory
Consistency (programme and project level)	<p>The consistency of the EU decommissioning assistance programme, with related policies, has been reviewed to be high.</p>	Satisfactory

## Appendix 1 List of persons interviewed

Institution	Persons
<i>European Commission</i>	
DG TREN, H2	Ute BLOHM-HIEBER, Head of Unit Nuclear Energy and Waste Management
DG TREN, H2	Richard CLARKE, Section Head decommissioning support and policy
DG TREN, H2	Roberto PASSALACQUA, Nuclear Energy and Waste Management
DG TREN, H2	Thomas KIRCHNER, Project Manager, Nuclear Energy, waste management and Transport
DG TREN, H2	Simon WHITE, Project Manager
DG TREN, Legal Cell	Carlotta CONTARINI
DG TREN, Budget Cell	Olivier LEFEBVRE
DG Enlargement, D3	Lucien CECILLE
<i>EBRD</i>	
Nuclear safety department	Vince NOVAK, Director
Nuclear safety department	Balthasar LINDAUER, Deputy Director
Nuclear safety department	Gunther GRABIA, Senior Manager
Nuclear safety department	Kees KETELAAR, Senior project manager
<i>Lithuanian authorities / stakeholders</i>	
Ministry of Economy	Birutė TEŠKEVIČIENĖ, Director, Nuclear Energy & Rad. Waste Management Dept. Asta ŽALNIERIŪTĖ, Senior Specialist, Ignalina NPP Decommissioning Division Arturas DAINIUS, Undersecretary
Decommissioning Management Support Team	Peter HARRISON, Senior Programme Manager Skirmantas PILECKAS, Programme Manager Tomas LIUKAITIS, Legal Expert
Vatesi (Nuclear Safety Regulator)	Ovidijus ŠEŠTOKAS, Head of Subdivision for Special Projects Vidas PAULIKAS, Head of Decommissioning & Radiation Protection Div.
Radiation Protection Centre	Gintautas KLEVINSKAS, Head of Supervision & Control of Nuclear Facilities Div.
Ministry of Social Security & Labour	Antonas PIMPĖ, Deputy Head of Labour Market Division
Central Project Management Agency	Linas KORALIOVAS, Senior Project Manager Rasa SURAUČIENĖ, Head of PHARE & EU Special Programmes Division Viktoras SIRVYDIS, Director

<b>Institution</b>	<b>Persons</b>
Ignalina Nuclear Power Plant	Eugenijus GRUMSKAS, Finance Director Viktor SHEVALDIN, Director General
INPP Decommissioning Service	Saulius URBONAVIČIUS, Head of Service
Visaginas Municipality	Vytautas RAČKAUSKAS, Mayor of Visaginas
Elektrenai Power Station	Pranas NOREIKA
<i>Slovakian authorities / stakeholders</i>	
Ministry of Economy	Marián NANIAS, General Director, Section of Energy Alena ZAKOVA, Director, Department of International Relations in Energy Mária HUSAROVA, Principal State Counsellor, Department of International Relations in Energy Jozef CHUDEJ, Principal State Counsellor, Department of International Relations in Energy
National Nuclear Fund (NNF).	Stefan SCHMIDT, Chairman, Board of Governors Vladimir SLUGEN, Vice-chairman, Board of Governors Vladimir GRUJBAR, Member of the Board of Governors Jan SOVCIK, Director Milos KOZMA
Nuclear Regulatory Authority (NRA)	Peter UHRIK, Director General, Department of Safety Evaluation and Inspection Activities. Zuzana HOVADIKOVA, Legislative and Legal Department
JAVYS, a.s	Miroslav OBERT, NPP Management Miroslav BOZIK, NPP Management Pavol HIZA, PMU director Jozef HUTTA, V1 Division Director Anton PAJTINKA, Lead expert
Slovenska elektrizacna prenosova sustava (SEPS) Transmission System Operator	Juraj DOSEK, Head of EU projects, Investment Department

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## **Appendix 3 Decommissioning in Lithuania and Slovakia**

## Background information - decommissioning process and policy in Lithuania and Slovakia

This appendix provides background information on the two nuclear power plants, the decommissioning strategies chosen, the EU-funding, and an overview of actors involved.

### Lithuania - Ignalina NPP<sup>1</sup>

Ignalina Nuclear Power Plant (INPP) is Lithuania's only nuclear power plant. It is located in the North-Eastern part of Lithuania, near the borders with Latvia and Belarus, 39 km from the town of Ignalina and 130 km from the capital of Vilnius. At 6 km from the power plant lies the town of Visaginas (32 600 inhabitants) which is the residence of most of the INPP employees.

INPP includes two third generation RBMK-1500 reactors. In most respects, the Lithuanian plant's design is quite similar to its Russian-designed predecessors. Following Chernobyl accident, safety modifications, including limiting reactor power to 1250 MWe were introduced. The plant can be refuelled on line and uses slightly enriched nuclear fuel. Each nuclear fuel assembly is located in a separated cooled fuel channel. There are 1661 such channels. The design lifetime of the units is 30 years. The construction of a third unit started but was cancelled in 1989.

INPP is a state owned enterprise established by the Lithuanian Ministry of Economy. It is a corporate entity and has the ultimate responsibility of the safe operation of the plant and the development and implementation of a quality assurance program.

Total employment in INPP is 3 351 people in 2005, including 546 employees at Unit 1 and 2 805 employees at Unit 2. In the period from 1999 to 2005 the number of personnel was reduced from 5 300 to 3 500. Commencing in 2005, INPP is reducing the overall employment level by about 300 employees annually.

### Closure decision

On 2 October 1999 the Lithuanian parliament approved the new national energy strategy, which states that Unit 1 of INPP is to be closed before 2005. In compliance with the strategy, in 2000 the Ignalina Unit 1 Decommissioning Law was adopted. Also in 2000 the international donor conference stated its intention to support Lithuania to close the first Unit of Ignalina NPP. The closure commitments were included in Protocol no 4 to the Accession Treaty which entered into force on 1 May 2004.

Table 1 Key dates in closure of INPP

	Unit 1	Unit 2
Closure decision taken	1999	2002
Shut down date	31 December 2004	2009
Status	Closed	Will be closed
Expected end of decommissioning process	2030	2030

<sup>1</sup> General background information is borrowed from *Analysis of Environmental, Economic and Social Issues Linked to the Decommissioning of Nuclear Installations, Country report: LITHUANIA*, prepared by Plejades, 2006.

### Decommissioning strategy

The Preliminary Decommissioning Plan (1999) analysed three decommissioning strategy options: immediate, deferred dismantling and entombment. After extensive discussion, in 2002, the Government of Lithuania, basing its opinion on the need to prevent the country from long-term social, economical, financial and environmental consequences and, not least, having in mind to use INPP staff in decommissioning activities, selected an option of *immediate dismantling* (Harrison, 2006; Semeniene, 2006). This strategy establishes the basis for the Final Decommissioning Plan, and it applies to both units.

Decommissioning of the INPP will end in a 'Brown Field' status of the site. Several radioactive waste storage facilities will be erected and operated on the INPP site. The 'Brown Field' status for the INPP is planned to be achieved by year 2030, meaning that the total duration of the decommissioning activities will be about 26 years, from final shut down of Unit 1.<sup>2</sup>

'Green field' conditions for the entire INPP is only expected sometime after 2050 as storage of the spent fuel and radioactive waste at the INPP site is planned to last beyond 2050, depending on the availability of final disposal facilities. This implies a control period for the INPP site that extends beyond 2050.

A detailed strategy for decommissioning and waste management for INPP site was established through the Final Decommissioning Plan (2005). The plan contains the specific steps to be undertaken within the decommissioning process, but also provides for the preliminary scheduling, costs, resources and manpower needs, etc.

#### *Text box 1 Timetable for Ignalina NPP decommissioning process*

1983	Unit 1 in operation
1987	Unit 2 in operation
1999	National Energy Strategy approved - Unit 1 to be shut down before 2005
2000	Ignalina International Decommissioning Fund established
2000	Law on Decommissioning Unit 1 at INPP is adopted
2001	Framework Agreement between Lithuania and EBRD relating to the activities of the Ignalina International Decommissioning Support Fund
	The Government approves INPP Unit 1 Decommissioning Programme
2002	National Energy Strategy is updated - Unit 2 to be shut down 2009
	The Government adopts identifies immediate dismantling as decommissioning method
2003	The Seimas passes law on Additional Employment and Social Guarantees for INPP employees
2004	Unit 1 shutdown (31/12/2004)
2005	Decommissioning Programme 2005-2009 approved (technical, environmental, socio-economic)
2005-2009	Preparation for dismantling
2010-2030	Dismantling and related works

*Source: VATESI (2006), Teskeviciene & Harrison (2006).*

<sup>2</sup> *Brown Field status* is a condition, within certain legal exclusions of real property, the expansion, redevelopment or reuse of which may be complicated by the presence of a hazardous substances. *Green Field status* is a term used to describe an end point wherein a parcel of land that had been in industrial use is, in principle, restored to the conditions existing before the construction of the plant.

### EU-funding

Before accession in 2004, the EU had already contributed, from the PHARE budget line, €210 Million to the decommissioning of Ignalina NPP, principally through the Ignalina IDSF. In the 2004-2006 period, the Community assistance amounted to €320 Million, with a majority (€273 Million) of the assistance being allocated via the IDSF mechanism. Funding has been fixed equivalent to €37 Million for the whole 2007-2013 financial perspective (€734 Million at the 2004 price); hence the assistance will continue approximately at current levels of EU assistance (as that in the Ignalina Protocol i.e. of the order of €100 Million per year).

### Overview of actors involved

The actors can be grouped in three categories: European Commission, Ignalina IDSF/EBRD, and national actors.

Table 2 *Actors in decommissioning - Lithuania*

European Commission	The DG TREN (H2) is responsible on behalf of the European Union for the implementation of the Ignalina Programme. Until accession in 2004, DG Enlargement was responsible for implementation including accession preparation/negotiations.
Ignalina IDSF/EBRD	The Assembly of Contributors to the Ignalina IDSF is the main decision-making body. The EBRD Nuclear Safety Department is the daily responsible for the management of the fund. In Lithuania, the INPP has established a project management unit (PMU).
National actors	<p>The Ministry of Economy is the owner of Ignalina NPP and appointed by the Government to ensure overall coordination and management of the EU- and national decommissioning funding; hence it is the key programming institution in Lithuania.</p> <p>Central Project Management Agency (CPMA) is established by the Ministry of Finance responsible for the management of sovereign loans, and funds from the EU, including the decommissioning assistance channelled via the Programmed Instrument.</p> <p>Ignalina NPP is the operator of the nuclear power plant and responsible for decommissioning of the nuclear site. Ignalina NPP has established a specialized Decommissioning Service at the plant and will conduct most of the dismantling activities with its own workforce</p> <p>The Radioactive Waste Management Agency (RATA) is responsible for the disposal of radioactive waste generated by the decommissioning.</p> <p>VATESI has responsibility to approve decommissioning documentation produced by Ignalina NPP.</p> <p>The Radiation Protection Centre (RSC) has the formal responsibility to approve decommissioning documentation produced by Ignalina NPP</p> <p>The Ministry of Social Security &amp; Labour is responsible for implementation of social measures</p> <p>The State Enterprise Ignalina NPP Decommissioning Fund (SEIDF) sponsors decommissioning activities based on electricity levy</p>

### Slovakia - Bohunice NPP

Bohunice Nuclear Power Plant (BNPP) is located in Western Slovakia, near the town of Trnava and is one of two NPPs in Slovakia; the other one being Mochovce NPP. Until the closure of one reactor on 31 December 2006, four 440 MW nuclear reactors were in operation at BNPP organised in two units, BNPP V1 and BNPP V2.

The two BNPP V1 WWER 440-230 reactors are older Soviet-designed pressurised water reactors that were commissioned in 1978 and 1980 respectively. Between 1994 and 2000, BNPP V1 units were sub-

ject to large scale modernisation, that raised the safety level of the plants to the best of its class. Nevertheless, safety of those reactors, including the fact that they lack the containment, makes them inappropriate for the long term operation. The two V2 reactors WWER 440-213 are of more recent vintage, incorporating advanced safety features, including containment. Those units were commissioned in 1983 and 1985.

At the BNPP site there is another facility, the Bohunice A1 NPP, 110 MW HWGCR reactor. It was closed in 1977 following an accident. Since that time it is under decommissioning.

Until recently, the owner of Bohunice NPP was the state utility Slovenské Elektrárne (SE, a.s.). Under Resolution no. 758/2000 of 27 September 2000, the Slovak government carried out a restructuring of SE, a.s, that ended up in a sale of SE to ENEL of Italy. As a preparation for the sale, a reorganisation was carried out, where Bohunice site was divided in V-2 (that was sold, together with rest of the SE) and V-1, A-1 and waste management facilities, that became a government owned company JAVYS.a.s.

JAVYS employs, in BNPP V1, 466 staff, as of November 2005 . This includes 69 employees in the safety division, 104 employees in the management division 11 employees in the Technical Support Division and 282 employees in the Operational Division.

After closure of the BNPP V1, staff who are now in operations could support the decommissioning activities at the site. Due to rapidly expanding economy in Slovakia and expected completion of Mochovce NPP units 3&4, closure of BNPP V1 is not expected to lead to employment problems.

### Closure decision

During the EU accession process the Government of the Slovak Republic agreed to close BNPP V1 Unit 1 by 31 December 2006 and Unit 2 of by 31 December 2008. These units will be decommissioned as stated in Resolution No. 801/1999 dated 14. September 1999. The closure commitments were included in Protocol no 9 to the EU Accession Treaty entering into force on 1 May 2004, and EU committed supporting funds for the closure.

Table 3 Key dates in closure of Bohunice NPP V1 reactors

	Unit 1	Unit 2
Closure decision taken	1999	1999
Shut down date	2006	End 2008
Status	Closed	Will be closed
Expected end of decommissioning process	2025	2025

### Decommissioning strategy

According to Slovak legislation, the decommissioning strategy should be defined in a Conceptual Decommissioning Plan. An Environmental Impact Assessment of the decommissioning process is also necessary. A 'V1 NPP Conceptual Decommissioning Plan' (CDP) and the 'Environmental Impact Assessment report of V1 NPP Decommissioning' (EIA) have been developed within the framework of the BIDSF<sup>3</sup>. The Conceptual Decommissioning Plan assesses three decommissioning strategy options, all to result in the site released for unrestricted use: one immediate and two deferred dismantling options.

<sup>3</sup> <http://www.ebrd.com/country/sector/nuclear/overview/funds/eianpp.pdf>

Based on a multi-criteria analysis, the CDP/EIA recommends immediate decommissioning as the most attractive strategy option.

Based on public hearings, comments and judgements of authorities and institutions involved, the Ministry of Environment issued (March 2007) the final statement with recommendation and conditions as to how to proceed with immediate decommissioning of Bohunice NPP V1 reactors<sup>4</sup>. V1 NPP Decommissioning will be completed by removal of all unnecessary and non-utilisable buildings and equipment and the release of the site for further use. The following table provides an overview of the major milestones in the Bohunice NPP V1 decommissioning process.

*Text box 2 Timetable for Bohunice NPP decommissioning process*

1972	Date of construction start unit 1 and unit 2
1980	Commercial operation Unit 1
1981	Commercial operation Unit 2
1999	Decision on shut down Unit 1 and 2 through the adoption of Resolution No. 801/99 of the Slovak Government of 14. September 1999.
1999	New National Energy Policy of the Slovak Republic approved - Unit 1 and 2 of BNPP V1 to be shut down in 2006 and 2008 respectively
2001	Bohunice International Decommissioning Fund established
2001	Framework Agreement between the Slovak Republic and EBRD relating to Bohunice International Decommissioning Support Fund, legally binding and effective as of 15 August 2002.
2002	Conceptual Decommissioning Plan of BNPP V1
2006	BNPP V1 Unit 1 shutdown (31/12-2006)
2006	Updated Conceptual Decommissioning Plan of BNPP V1
2007	Final Statement by Ministry of Environment; immediate dismantling of BNPP V1 recommend
End 2008	Complex Proposal of Strategy of Back-end of the Fuel Cycle
End 2008	Planned BNPP V1 Unit 2 shutdown (31/12-2008)
2007 - 2009	Preparation for Unit 1 dismantling
2008 - 2011	Preparation for Unit 2 dismantling
2012 - 2015	First stage of decommissioning: dismantling and related works
2015 - 2025	Second stage of decommissioning: dismantling and related works. Site release.

*Source: Abstract of the V1 Conceptual Decommissioning Plan, 2006.*

The Ministry of Economy and the National Nuclear Fund is currently finalising a national nuclear safety strategy due to be published mid-2007. This Strategy will include decommissioning activities in Slovakia up to the end of the century<sup>5</sup> and will include the decommissioning of Bohunice and the Bohunice IDSF strategy. This action reflects the change in Slovakian administration and acceptance of the BNPP V1 closure and will be an important step for increased corporation and utilisation of Bohunice funds.

### **EU Funding**

Before accession in 2004, the EU had already contributed €90 Million to the decommissioning of the Bohunice NPP V1, through the PHARE programme. In the period immediately after accession, 2004-

<sup>4</sup> Abstract of the V1 Conceptual Decommissioning Plan, 17 November 2006

<sup>5</sup> Interview with the National Nuclear Fund, 26 March 2007.

2006, the Community assistance amounted to approximately €100 Million, with a majority of the assistance being allocated via the BIDSF mechanism, cf. the following table.

Table 4 EU decommissioning assistance to Slovakia, 1999-2013, Million €

Year	Programme / Fund	Total (Million €)
1999 - 2003	PHARE Programme	90
2004 - 2006	EU Decommissioning Programme / BIDSF (EU: € 100 Million; Other countries € 11,45 Million. To be noted that also the IDSFs were paid from PHARE budget lines)	111,45
2007 - 2013*	EU Decommissioning Programme / BIDSF	423
<b>Total</b>		<b>624,45</b>

Source: Info provided by the Ministry of Economy, 2007.

For the budget cycle 2007-2013, Council Regulation 2004/0624 sets out the implementation of support to the decommissioning of Bohunice NPP. It foresees a continuation of EU assistance to the decommissioning of the Bohunice NPP V1 and funding is fixed to €23 million for the whole financial perspective.

In Slovakia, the funding sources for the decommissioning of BNPP V1 are Bohunice International Decommissioning Support Fund, State budget of the Republic of Slovakia and the National Nuclear Fund.

### Overview of actors involved

The actors relevant to BNPP decommissioning in Slovakia can be grouped in three categories: EU Commission, Bohunice IDSF/EBRD, and national actors.

Table 5 Actors in decommissioning - Slovakia

European Commission	DG TREN (H2) - <i>This is the same as for Ignalina IDSF</i>
BIDSF/EBRD	The Assembly of Contributors (AoC) to the Bohunice IDSF - <i>This is the same as for Ignalina IDSF</i>  The Joint Committee (JC) consists of EBRD and the Slovak Authorities, but is not formally involved in project selection. It is a forum for exchange of project implementation, and is involved in the appraisal of projects to be tabled before the AoC. It consists of representatives from MoE, EBRD, NNF, MoFA, JAVYS, SEPS; MoF, Nuclear Regulatory Authority (NRA). Only the MoE, NNF, MoF, NRA, JAVYS, and EBRD have a voting right.
National actors	The Ministry of Economy is the central body of state administration in charge of the state owned part of the nuclear power industry. It is responsible for policy making in the energy sector and for nuclear energy, management of nuclear fuel and storage and disposal of radioactive waste.  The Project Management Unit (PMU) manages, co-ordinates, monitors and controls the implementation of projects supported under the BIDSF and provides engineering, procurement and other services. The PMU is staffed by experts from the IEES Consultant and personnel from Slovenska Elektrarne and JAVYS.  Jadrová vyraďovacia spoločnosť, a.s. (JAVYS) is the operator of the Bohunice V1 NPP. It is a government company and undertakes a programme of pre-decommissioning projects as well as measures in the energy sector which are consequential to the final shutdown of the NPP to be financed and/or co-financed by the BIDSF.  The National Regulatory Authority supervises nuclear safety of nuclear facilities and ensures that nuclear energy facilities in Slovakia are designed, built, operated and decommissioned according

	<p>to legislation. It is in charge of the licensing/certification of the decommissioning process.</p> <p>Slovenske elektrarne, a.s. (SE)<sup>6</sup> generates, sells, distributes, imports and exports electricity. It is the operator of two nuclear power plants, including BNPP V2, two thermal power plants, and 34 hydroelectric power plants. The SE is a joint stock company<sup>7</sup>.</p> <p>Slovenska elektrizacna prenosova sustava, a.s (SEPS) is the Slovakian transmission system operator. It is a 100% state owned company. The company was established consequential to the privatisation of the S.E.</p> <p>The National Nuclear Fund finances decommissioning of nuclear installations and handling of spent fuel and radioactive waste on the basis of contributions of NPP operators, transfer and distribution network, fines, interests on fund deposits, voluntary contributions, subsidies from EU funds, international organisations, financial institutions, and subsidies from the state budget.</p>
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<sup>6</sup> Prior to its privatisation, Slovenské Elektrárne, a.s. was the national power generation utility in Slovakia accounting for over 80 per cent of power generation in the country.

<sup>7</sup> The National Property Fund owns 34% of SE shares whereas ENEL (Italian company) owns 66% of SE shares.



# **Appendix 4    The consistency assessment**

## Elaboration of the consistency assessment

### **Consistency of the decommissioning assistance**

This note aims at determining to which degree the EU decommissioning assistance is consistent with the following key policies: G7, the Lisbon Strategy, the Energy Policy, and the EU Sustainable Development strategy<sup>1</sup>.

### **G7 Multilateral Actions Programme**

At the 1992 G7 Summit, the G7 agreed on the 'Multilateral Actions Programme to enhance nuclear safety in the CEEC and NIS'<sup>2</sup>. The aim of this action programme was to achieve

- the fastest possible closure of the oldest nuclear power plant types,
- the modernisation of more recent NPP types with backfitting potential, and
- a comprehensive restructuring of the energy sector in the concerned countries.

Since then, the safety of nuclear power plants in Eastern Europe has become an important topic for the annual World Economic Summit meetings of the G7 (subsequently, G8) states. Promoting clean energy and achieving sustainable development is continuously stated as a common purpose of the G8 states.

The EU decommissioning programme relates - in effect - directly to the G7 recommendations as laid down in the Multilateral Actions Programme. The INPP Units 1 and 2 and the BNPP Units 1 and 2 were deemed in a condition not able to be upgraded to the necessary EU safety standards and therefore the reactors are being closed down with the aim of decommissioning. The decommissioning processes initiated involve removing all of the radioactivity and residual contamination to restore the sites to their original states.

The Slovakian and Lithuanian programmes also comply with the restructuring of the energy sector in addressing the following measures:

- Restructuring, upgrading and modernization of the energy production, transmission and distribution sectors
- Enhancing the security of energy supply (includes any new generating capacity other than through up-rating)
- Improving energy efficiency

The question of clean energy and sustainable development will be further discussed under the assessment of the programmes vis-à-vis EU's energy policy and the Sustainable development policy.

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<sup>1</sup> The assessment of consistency is impeded by the fact that no common EU decommissioning policy with a clear rationale, focused strategy, clear objectives and priorities to provide a benchmark for measurement exists. Hence, it is currently not possible to measure the final outcome of EU's decommissioning assistance on the other policies.

<sup>2</sup> <http://www.g7.utoronto.ca/summit/1992munich/communique/nuclear.html>

## EU Energy policy

The basis for an European energy policy was set out by the European Commission in a recent Green Paper<sup>3</sup> and in a Strategic Energy Review<sup>4</sup>. The proposed EU Energy Policy operates with targets and objectives related to:

- Reducing greenhouse gas emissions;
- Improving energy efficiency;
- Raising the share of renewable energy;
- Increasing the level of biofuels in transport fuel.

Energy use is the major source of green house gas emissions and emissions of acidifying substance in Europe. Although, total energy-related greenhouse gas emissions fell substantially in Europe between 1990 and 1999, due mainly to economic difficulties and restructuring in Central and Eastern Europe and the EECCA, total energy consumption is expected to rise as economies recover. According to Plejades (Slovakia, 2006, Lithuania, 2006) this is also the situation expected in Slovakia and Lithuania. The closure of nuclear power production creates an even greater need for increased energy efficiency and growth in renewable energy sources in order to prevent an increase in fossil fuels consumptions and CO<sup>2</sup> emissions. One of the overall objectives of the Lithuania and Slovakia programmes is to provide financial and technical assistance targeting energy sector activities which should be carried out in consistency with the EU acquis.

Lithuania: Proposal for a council regulation for the implementation of Protocol 4:

*Article 2: The Ignalina Programme shall cover, in particular, measures to support the decommissioning of the Ignalina nuclear power plant, measures for environmental upgrading in line with the acquis and for modernising conventional production capacity to replace the production capacity of the two reactors at the Ignalina plan and other measures which stem from the decision to close and decommission this plant and which contribute to the necessary restructuring, upgrading of the environment and modernisation of the energy production, transmission and distribution sectors in Lithuania as well as to enhancing security of supply and energy efficiency in Lithuania.*

Also with regard to Slovakia, Proposal for a council regulation for the implementation of Protocol 9:

*Recital 5b) Community budget appropriations for decommissioning should not lead to distortions of competition, in relation to power supply companies, on the energy market in the European Union. These appropriations should also be used to finance measures to compensate the loss of production capacity in line with the relevant acquis concerning: i) renewable energy sources; ii) energy end-use efficiency; iii) security of electricity supply.*

and

*Article 2 The Community contribution to the programme under this Regulation shall be granted for the purpose of providing financial support for measures connected with the decommissioning of the Bohunice V1 nuclear power plant, including: i) measures for environmental upgrading in line with the acquis; ii) measures for setting up new production capacity and for modernising existing production capacity to replace the production capacity of the two reactors at the Bohunice V1 power plant; iii) other measures which stem from the decision to close and decommission this plant and which, in compliance with, and by implementing the applicable acquis, contribute to the necessary restructuring, upgrading of the environment and modernisation of the energy production, transmission and distribution sectors in Slovakia as well as to enhancing security of supply and energy efficiency in Slovakia*

Energy measures supported under the Programmes are:

- Environmental upgrading of conventional production capacity

<sup>3</sup> A European Strategy for Sustainable, Competitive and Secure Energy: COM(2006) 105 final, 8.3.2006.

<sup>4</sup> COM(2007) xxx, 10.01.2007.

- Restructuring, upgrading and modernization of the energy production, transmission and distribution sectors
- Enhancing the security of energy supply (includes any new generating capacity other than through up-rating)
- Improving energy efficiency (reduction of final-user consumption)

Hence, rhetorically, the aim and the objectives of the programmes thus emphasise sustainable energy supply as an intrinsic part of programme objectives. This indicates that the programmes in principle are drafted under due consideration to the possible environmental impacts related to alternative energy generation flowing from the proposed programme initiatives of decommissioning. Whether, in practice, EU's Decommissioning Programmes will result in a net reduction of green house gas emissions will depend on:

- the energy sources with which the decommissioned nuclear energy capacity is replaced; i.e. the degree to which nuclear energy is replaced with equally CO<sub>2</sub> free technologies.
- the degree to which energy savings succeed. The fact that the programmes support energy saving will contribute in reaching the emission reduction targets.

### **Lisbon Strategy**

The Lisbon Strategy was reviewed during the Spring European Council March 2005, in which EU leaders agreed on the renewed Lisbon Strategy prioritising growth and jobs. The Commission 2006 Annual Progress Report on the Lisbon Strategy "Time to move up a gear" further identifies four priority actions, being: i) investment in education, research and innovation; ii) freeing up SMEs; iii) employment policies to get people into work; and iv) guaranteeing a secure and sustainable energy supply.

The EU decommissioning programmes to Lithuania and Slovakia have implications that relate to economic and social aspects of concern in the Lisbon strategy. Direct consequence of reactor shut down at BNPP and INPP, all other things being equal, are:

- the loss of jobs, and
- the reduction in energy generation capacity.

In addition, following from the latter, an indirect consequence may be a rise in energy prices, leading to lost competitiveness and ultimately a loss of jobs in particular in energy intensive industries.

The European Commission (in the case of Slovakia, the Parliament in its proposal for amendments to the proposal for a council regulation on the implementation of Protocol 9) in its decommissioning programmes recognises the essential correlation between energy and economic and social development. This correlation is explicitly addressed in the programmes as budget appropriations should also be used to finance measures to

- compensate the loss of energy production capacity, i.e. the establishment of alternative national supply and increased energy efficiency, and
- in the case of Lithuania, to mitigate social problems, e.g. through measures to be financed under the PI, such as training and change of qualifications of employees making them qualified to take on other jobs.

In Slovakia, no such measures are described, however, the Slovakia Programme makes direct mention of the Lisbon strategy:

*8a) In order to compensate for the consequences of the early closure, the decommissioning of the Bohunice V1 nuclear power plant should be carried out in the manner which best helps to sustain development and growth in Slovakia in line with the Lisbon Strategy<sup>5</sup>.*

In conclusion, the EU decommissioning programme is in consistency with the Lisbon strategy.

### **EU Sustainable development strategy**

The European Council of June 2006 adopted an ambitious and comprehensive renewed Sustainable Development Strategy, 2005 - 2010<sup>6</sup> (SDS) for an enlarged EU. It builds on the Gothenburg strategy of 2001 and is the result of an extensive review process that started in 2004. The SDS aims to bring about a high level of environmental protection, social equity and cohesion, economic prosperity and active promotion of sustainable development worldwide. The strategy sets overall objectives, targets and concrete actions for seven key priority challenges until 2010: Climate change and clean energy, Sustainable transport, Sustainable production and consumption, Public health threats, Better management of natural resources, Social inclusion, demography and migration, Fighting global poverty, To improve synergies and reduce trade.

The EU Decommissioning Programmes contain aspects relating to the key priorities of Climate change and clean energy and Sustainable production and consumption.

The programmes support the close down and decommissioning of NPPs in spite of the fact that nuclear power is an important CO<sub>2</sub> free energy source.

The EU objective of replacing aging and unsafe power generating facilities is a response to environmental and human health concerns such as reactor safety, radioactive waste transport and disposal, and nuclear proliferation rank higher. However, in order for the programmes to comply with the SDS, reduced clean technology capacity should be replaced with equally clean new capacity.

A number of supported measures are assessed to have potential positive impact on air and climate factors including:

- actions promoting renewable energy
- actions promoting a "lower carbon economy"
- actions promoting energy efficiency - changes consumption and production patterns.

No directions for activities are identified to have unambiguous negatively impact on air and climate factors. A successful energy efficiency scheme means that some spending on energy translates as a net saving resulting in increased competitiveness and better living conditions for Slovakian and Lithuanian

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<sup>5</sup> According to officials at the BNPP V1 and INPP, a major part of decommissioning activities are likely to be performed by the plant personnel. Also, according to Plejades (Slovakia, 2006) the closure of BNPP V1 is not expected to lead to major social problems in the region. The region is in a fortunate position in that, the Trnava region is a well developed industrial region, where the unemployment rate is below the national average; car production is expected to increase resulting in some 3,000 jobs created which can absorb BNPP staff; proximity to Bratislava also provides job opportunities; and finally, anticipated completion of the not far situated Mochovce NPP units 2 and 3 may offer job for professionals specialised to work in the nuclear sector

<sup>6</sup> COM(2005) 658 final, 13.12.2005: Communication from the Commission to the Council and the European Parliament - On the review of the Sustainable Development Strategy - A platform for action

citizens. Provided that alternative energy supply will be based on renewable energy, the EU decommissioning programmes to Slovakia and Lithuania will contribute positively to the EU SDS.

### Summary of findings

Overall, the EU Decommissioning Programmes for Slovakia and Lithuania are found to have the potential to be consistent with other EU policies.

Policies and to compare against	EU Decommissioning Programme	Consistency
<i>G7 policy on decommissioning</i>		
The fastest possible closure of the oldest nuclear power plant types	INPP and BNPP are deemed non-upgradable and are being closed down with aim of decommissioning.	<input type="checkbox"/>
The modernisation of more recent NPP types with backfitting potential	N/A	N/A
A comprehensive restructuring of the energy sector in the concerned countries	The programme addresses modernization of the energy production and enhancing the security of energy supply and improving energy efficiency	<input type="checkbox"/>
<i>EU Energy Policy</i>		
Reducing greenhouse gas emissions from developed countries by 30% by 2020	Energy measures supported under the Programmes are, in particular modernization of the energy production, enhancing the security of energy supply and improving energy efficiency	<input type="checkbox"/>
Improving energy efficiency by 20% by 2020		
Raising the share of renewable energy to 20% by 2020	The programme does not explicitly mention renewable energy but may strengthen renewable energy	<input type="checkbox"/>
Increasing the level of biofuels in transport fuel to 10% by 2020.	N/A	N/A
<i>The renewed Lisbon Strategy</i>		
Delivering stronger and lasting growth Creating more and better jobs, via investment in education, research and innovation, employment policies to get people into work and guaranteeing a secure and sustainable energy supply	The programme compensates for the consequences. Closure should be carried out in the manner which best helps to sustain development in line with the Lisbon Strategy, such as mitigate social problems (training, upgrade qualifications of employees), and compensate the loss of energy production capacity, i.e. establishment of alternative national supply	<input type="checkbox"/> Lithuania <input type="checkbox"/> Slovakia
<i>EU Sustainable Development Strategy</i>		
Climate change and clean energy	(As under EU Energy Strategy)	<input type="checkbox"/>
Sustainable Transport	N/A	N/A
Sustainable consumption and production	(As under EU Energy Strategy: energy efficiency)	<input type="checkbox"/>
Conservation and management of natural resources	N/A	N/A
Public Health	N/A	N/A
Social inclusion, demography and migration	N/A	N/A
Global poverty	N/A	N/A