

## ENERGY

### *Summary Project Fiche*

**Project n°:** LI9806.01, LI9806.02, LI9806.03

**Title:** Energy Strategy – investment, TA and legal framework

**Location:** Vilnius and Ignalina, Lithuania

**Objectives:**

- To assist the Government in the development and implementation a medium-to-long-term Energy Strategy;
- To assist in the approximation of energy legislation and convergence of energy policy to that of the EC;
- To facilitate the implementation of the EC Directives on compulsory strategic oil reserves (by investment support);
- To provide assistance to the Energy authorities on the European integration and international economic relationship issues including a comprehensive training programme for energy sector staff;
- To provide advice and assistance in planing, supervision and management of the EC programmes
- Strengthen independence of VATESI nuclear regulator authority;
- To advise VATESI on specific issues of nuclear safety under request of the Government of Lithuania.

**Description:** The project will consist of three sub-project activities:

*LI9806.01 TA Support to Lithuanian Nuclear Power Safety Inspectorate (VATESI) and its Technical Support Organisations (VATESI TSOs), including Peer Review of Safety Analysis Documentation for Licensing of Ignalina NPP Unit 1*

VATESI itself is a growing organisation, which is expanding its activities with respect to the performing of the licensing process of Ignalina NPP. Support to VATESI and TSOs within the scope of the project should include the appropriate training in specific areas of regulatory activities and safety analysis documentation review, as well as supplying of necessary equipment. Training shall be provided in the areas, which are listed below:

- Nuclear safety assessment and safety review of NPPs,
- Licensing of nuclear facilities,
- Quality assurance,
- ISI, Equipment qualification, ageing assessment,
- Radiological safety and radioactive waste management,
- Emergency preparedness,
- Other related tasks.

*Expert support.* Resources available within the scope of this task of project would be used for western expertise support during review of safety analysis documentation. Western experts nominated for certain tasks of VATESI activities would support VATESI's expert teams and its TSOs during the review of Safety analysis documentation. *Financial support.* Financial support within the scope of this task would be used to cover expenses related with foreign and Lithuanian TSOs participation in performing regulatory review of specific tasks of safety assessment documentation. *Training* shall be followed by procurement of necessary hardware and software for the VATESI and VATESI TSOs. *A specific component* within this project will also include a continuation of the high level advice to the VATESI in nuclear safety questions.

#### *LI9806.02 TA for Study on Social Costs of decommissioning of Ignalina Nuclear Power Plant*

As part of the overall medium term plan for an Energy Strategy in Lithuania, including the decommissioning of Ignalina, a study will be financed to look at the social costs of decommissioning Ignalina (INPP). This is particularly important as the region where the INPP is located (Visaginas) is relying mainly on Ignalina for employment. This study will also look at potential reconversion schemes for the area, including tourism potential.

#### *LI9806.03 Support to the Implementation of the Energy Strategy and EU Accession programme for the Energy Sector (Including Construction of State Reserve Heavy Fuel Oil Storage in Vilnius)*

The Ministry of Economy/Energy Agency will benefit from the assistance and expertise during implementation of the Energy Strategy and elaboration of a long-term energy legislation approximation plan and related legislative drafts and development programmes. The project also would assist in co-ordination and implementation of the European Commission's and other energy support programmes. The basic workload will be dedicated to the approximation of legislation, identifying and overcoming obstacles to Lithuania's compliance with the Community in the Energy Sector. Construction of the HFO storage facilities will allow conformity with International Energy Agency requirements and requirements of EC Directives 68/414/EEC and 72/425/EEC to maintain strategic reserves of at least 90 days' consumption requirements. The sub-project represents a continuation of previous Phare support for the construction of storage and will include the infrastructure building of the facility, HFO transfer pipeline, HFO pumping station, etc.

#### **Institutional framework**

The overall responsibility and coordination of the project will lie with the Ministry of Economy/Energy Agency and with VATESI.

#### **Budget:**

* In cases of co-financing only	Investment	Institution Building	Total Phare (=I+IB)	Recipient*	IFI*	TOTAL *
TA Support to VATESI and its TSOs, including Peer Review of Safety Analysis Documentation for Licensing of Ignalina NPP Unit 1	0.5	0,5	1.0			1.0
TA for Study on Social Costs of decommissioning of Ignalina NPP		0.5	0.5			0.5
Support to the Implementation of the Energy Strategy and EU Accession programme for the Energy Sector (Including Construction HFO State Storage)	2.8	0.7	3.5		2.7	6.2
<b>TOTAL</b>	<b>3.3</b>	<b>1.7</b>	<b>5.0</b>		<b>2.7</b>	<b>7.7</b>

#### **Implementation arrangements**

The CFCU will be the implementation unit but responsibility for the preparation of ToRs and the technical implementation of the project will rest with the Energy Agency within the Ministry of Economy.

It is anticipated that the projects will be divided into four contracts for tendering purpose due to the different activities required. The (03/1) Support to the Development and Implementation of the EU

Accession programme in Energy Sector and (02) TA for Study on Social Costs of decommissioning of Ignalina NPP projects would be tendered as two single service contracts.

The (01) TA Support to VATESI and its TSOs, including Peer Review of Safety Analysis Documentation for Licensing of Ignalina NPP Unit 1 project would be tendered as single service contract with limited supply elements including a possible twinning component, if appropriate. The (03/2) Construction of State Reserve Heavy Fuel Oil Storage in Vilnius project would be tendered as single supply (works) contract. All projects would be issued for international tender through the CFCU to ensure fair competition and implemented by the Energy Agency within the Ministry of Economy.

### **Implementation schedule**

Start of tendering	Start of project activity	Completion
(01) October 1998	January 1999	July 1999
(02) October 1998	January 1999	December 1999
(03/1) June 1998	November 1998	June 2000
(03/2) September 1998	January 1999	October 1999 (October 2000)

### **Equal opportunity**

There is no restriction on the participation of women in this sector's activity. Variation on the ratio between women and men in the separate project activity involved could be resulted just by limited availability of staff.

### **Environment**

The possible environmental impact for the Construction of State Reserve Heavy Fuel Oil Storage project has been evaluated by JSC "Lietuvos Statybos Projektas" (Design Company) – the Report can be obtained from, the Ministry of Construction and local Environment protection authorities during the project design/evaluation stage. No negative impact is expected. A formal environmental assessment is not required for the TA support to Lithuanian VATESI and its TSOs and TA for Study on Social Costs of decommissioning of Ignalina NPP projects as the investment outlined in the fiche is in human resources and capacity building and not capital projects. However, the implementation of the TA support to Lithuanian VATESI and its TSOs project would allow the significant increase safety of Ignalina NPP, improve VATESI and INPP staff qualification in nuclear safety assessment, radiological safety and radioactive waste management, etc. as well as in the project TA for Study on Social Costs of decommissioning of Ignalina NPP environmental consideration will be integrated as a formal part of the study.

### **Rates of return**

Construction of the HFO storage project. Rates of return (both IRR and ERR) can only be calculated if facility (or part of it) would also be used for operational purpose (not for emergency only). In the case, when ½ of facility capacities would be used as operational, IRR=14% (for all project). The limited supply element within the TA support to Lithuanian VATESI and its TSOs project are part of institutional building activity and indication on IRR and ERR for that is not applicable. TA for Study on Social Costs of decommissioning of Ignalina NPP is an institutional building project and indication on IRR and ERR for that is not applicable.

**Investment criteria**

All projects are catalytic in their effects, by stimulating the sector activity and attraction IFIs and other international donors e.g. Swedish and Danish assistance. In addition, the TA, which is a part of Construction of the HFO storage project will stimulate the increasing of institutional capacity of the Ministry of Economy and Energy Agency by participation in EC programmes, assistance in the legislation approximation, identifying and overcoming obstacles to Lithuania's compliance with the Community in the Energy Sector.

The Construction of the HFO storage facilities are sustainable because they will allow conformity with International Energy Agency requirements and requirements of EC Directives 68/414/EEC and 72/425/EEC to maintain strategic reserves of at least 90 days' consumption requirements. It is also provides additionality due to attraction of additional investment from IFIs and the project is mature and ready with all the design documentation and technical – economical calculations have been prepared.

The TA, which is a part of this project will stimulate the increasing of institutional capacity of the Ministry of Economy and Energy Agency by participation in EC programmes, assistance in the legislation approximation, identifying and overcoming obstacles to Lithuania's compliance with the Community in the Energy Sector. TA support to Lithuanian VATESI and its TSOs will increase institutional capacity and independence of VATESI. TA for Study on Social Costs of decommissioning of Ignalina NPP will provide real social costs for decommissioning of INPP and possible solutions related to that problem for the area. The projects are mature and ready for commission and all the task descriptions have been prepared.

**Conditionality and sequencing**

The projects are conditional on the approval of the revised National Energy Strategy by the Government. If funding is forthcoming from other sources for the Social costs study, or there are delays in the approval of the NES its project money will be transferred to VATESI. Approval is expected in the summer of 1998 and this will trigger the commencement of these projects. Human resources have already been allocated to the Energy Agency within the Ministry of Economy and VATESI for these projects to allow their successful implementation. Conditionality for the Construction of the HFO storage project is the State budget money allocation, foreseen in the Public Investment Programme for 1998.

<b>Annex 1</b>			Programme name: and number: LI9806	Date of drafting:
<b>LOGFRAME PLANNING MATRIX FOR Strategy - Investment, TA and Legal Framework</b>			Contracting period expires: Oct 2000	Disbursement period expires: Oct 2001
<i>Project Number LI 9806</i>			Total Budget:7.7(MECU)	Phare contribution: 5.0 (MECU)
<b>Wider Objective</b>	<b>Indicators of Achievement*</b>	<b>How, When and By Whom Indicators Will Be Measured</b>	<b>Assumptions and Risks</b>	
1. Development and implementation of a comprehensive, long term strategy based on efficiency and diversification 2. Strengthen independence of VATESI (nuclear regulator authority)	1. Progress with implementation of the Energy Strategy; 2. Reports on activities performed;	NPAA implementation deadlines checked by the Government and EC officials	1. Project will assist to the positive developments of the energy sector and integration to EU 2. Speed of reforms in energy sector	
<b>Immediate Objectives</b>	<b>Indicators of Achievement*</b>	<b>How, When and By Whom Indicators Will Be Measured</b>	<b>Assumptions and Risks</b>	
1. To assist the Government in amending and implementing a medium-to-long-term Energy Strategy 2. To assist in approximation of energy legislation and convergence of energy policy to that of Community 3.To facilitate the implementation of the EC Directives on compulsory oil reserves (by investment support) 4.To provide assistance to Energy authorities on the European integration and international economic relationship issues including a comprehensive training programme for energy sector staff 5. To provide advice and assistance in planing, supervision and management of the EC programmes 6. To support VATESI structure 7. To support the VATESI TSO's 8. To advice VATESI in specific issues of nuclear safety under request of the Government	1. Progress with implementation of the Energy Strategy; 2. Implemented 1 <sup>st</sup> stage of the Programme for energy legislation approximation; 3. Facilitated implementation of the EC Directives on compulsory oil reserves by completion of the infrastructure facilities for the State reserve HFO storage,  4.Reports on assistance and training performed; 5. Reports on assistance performed; 6. Reports on assistance performed, equipment supplied and activities implemented; 7. Reports on assistance performed, equipment supplied and activities implemented; 8. Reports on assistance and training performed;	1. NPAA implementation deadlines checked by the Government and EC officials 2. According to the work programme of the law harmonization commission on energy, checked by the Government 3. Ministry of Economy according to the actual works completed 4-5 Ministry of Economy and CFCU checking the reports 6-8 VATESI, reports and actual situation, delivery and installation of equipment	Competent implementation team contracted Financial constrains Speed of reforms Possible lack of competent staff	

Outputs	Indicators of Achievement*	How, When and By Whom Indicators Will Be Measured	Assumptions and Risks
<p>Component 1 Complete training on specific nuclear safety issues for VATESI and TSO's staff, complete revision of Safety analysis documentation for licensing Unit 1, Ignalina NPP (June 1999), Installed the specific and standard hardware and software for VATESI and TSO's ( June 1999).</p> <p>Component 2 High level advice to the Government in specific nuclear issues (Jan. 1999 – Nov. 1999);</p> <p>Componnet 3 Progress with implementation of the Energy Strategy; Implemented 1<sup>st</sup> stage of the Programme for energy legislation approximation; Successful and wider participation in EC energy related programmes; Complete infrastructure facilities for the State reserve HFO storage, Oct. 1999</p>	<p>Component 1 Report on completion of training on specific nuclear safety issues for VATESI and TSO's staff, Report on completion of revision of Safety analysis documentation for licensing Unit 1, Ignalina NPP (June 1999), Installed the specific and standard hardware and software for VATESI and TSO's (June 1999)</p> <p>Component 2 Reports on High level advice to the Government in specific nuclear issues (Jan. 1999 – Nov. 1999);</p> <p>Component 3 Compliance with the Implementation plan of the Energy Starategy Measures; Legislation adopted by Parliament; Number of successfully implemented EC energy related programmes; Installed the infrastructure facilities for the State reserve HFO storage, Oct. 1999</p>	<p>Lithuanian and EC officials – NPAA, Government programme deadlines Legislation in place, published in "State News" According the work programme will be checked by consultant and responsible Government officials Reports constantly supervised by the responsible authorities</p>	<p>All tasks successfully completed Increased safety of Ignalina NPP Increased capability and competence of VATESI Financial, economical, administrative constrains, when implementing the legislation</p>

Inputs	Indicators of Achievement*	How, When and By Whom Indicators Will Be Measured	Assumptions and Risks
<p>Component 1 High level expertise, TA, and training to the Government, VATESI and its TSO's on specific nuclear issues, Jan. 1999 – Nov. 1999.</p> <p>Component 2 High level expertise and TA to the Government (Ministry of Economy) in legal, EC policy, management, EU integration, international economic and technical issues, during the period Nov. 1998 – June 2000;</p> <p>Component 3 Construction of the infrastructure facilities for State reserve HFO storage, Sept. 1998 – October 1999; Grant of 5.0 MECU from Phare;</p> <p>Projects will be implemented by the Ministry of Economy / Energy Agency and VATESI.</p>	<p>Component 1 Training on specific nuclear safety issues for VATESI and TSO's staff, complete revision of Safety analysis documentation for licensing Unit 1, Ignalina NPP, (1.0 MECU)</p> <p>Purchase of Specific and standard hardware and software for VATESI and TSO's (0.5 MECU).</p> <p>Component 2 High level expertise and TA to the Government (Ministry of Economy) in legal, EC policy, management, EU integration, international economic and technical issues (0.7 MECU)</p> <p>Component 3 Construction of the infrastructure facilities for the State reserve HFO storage (2.8 MECU),<sup>3</sup></p>	<p>Expert team present, supervised by the Steering Committee</p> <p>Works supervised by consultant, according contract</p> <p>Assistance supervised by the competent VATESI representatives</p>	<p>Timely start and smooth implementation</p> <p>Risk of procedural and contractual delays</p>

\* Must be **quantified** and **measureable**

# TIME IMPLEMENTATION CHART FOR PROJECT NUMBER LT980501

	1998												1999												2000												2001																																			
	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D																								
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<b>Cashflow graph</b>													1.68												0.67												0.84												0.9 0.53												0.28											
<b>(linked to milestones over project life cycle)</b>																																																																								

**Annex 4**

COMMITMENT (CONTRACT) SCHEDULE									Drafting date: April '98
Sub-project: LI9806									Planning period: 1998
Programme Title: Energy strategy									
Projects: Expected Contractual Commitments (Quarters)									Allocation
				Planned					Cost estimate
	I 98	II 98	III 98	IV 98	I 99	II 99	III 99	IV 99	MECU
TA to VATESI					1,000	1,000	1,000	1,000	1,000
Study on cost of decomm.Ignalina				0,500	0,500	0,500	0,500	0,500	0,500
Heavy Fuel Storage Plant + IB				0,700	3,500	3,500	3,500	3,500	3,500
TOTAL				1,200	5,000	5,000	5,000	5,000	5,000

DISBURSEMENT (PAYMENT) SCHEDULE									Drafting date: April '98
Sub-project: LI9806									Planning period: 1998
Programme Title: Environment institutional development									
Projects: Disbursement (Payment) Schedule Quarters									Allocation
				Planned					Cost estimate
	IV 98	I 99	II 99	III 99	IV 99	I 2000	II 2000	III 2000	MECU
TA to VATESI				0,500	0,500	1,000	1,000	1,000	1,000
Study on cost of decomm.Ignalina			0,250	0,500	0,500	0,500	0,500	0,500	0,500
Heavy Fuel Storage Plant + IB			1,180	1,850	2,690	3,220	3,500	3,500	3,500
TOTAL			0,430	2,850	3,690	4,720	5,000	5,000	5,000

## **ANNEX 6**

*LI9806.03*

### **Heavy Fuel Oil Storage Plant:**

A technical feasibility evaluation of the “Heavy Fuel Oil Storage Plant in Vilnius” was prepared by the Lithuanian Institute of Construction Planning in 1992-1994, financed by “Lithuanian Energy”.