

## Foreword

I would like to congratulate the Twinning project Regulatory and Legal Strengthening of Energy Regulation in the National Electricity Regulatory Commission of Ukraine (NERC) on the completion of its activities.

This project contributed significantly to making EU and Ukraine achieve some of their commitments in the EU-Ukraine Action Plan and the Energy Memorandum of Understanding, in particular by enhancing the functioning and regulation of Ukraine's energy and its integration to the EU's.

This Twinning project has provided valuable assistance to the NERC and its staff, by increasing its capacity as Regulator and by introducing best practices and harmonisation with the EU's norms and standards.

The project is also noteworthy because it was the first Twinning project to be launched in Ukraine and in the Eastern European Neighbourhood area. The Twinning concept began in 1998 in the context of the preparation of the European Union for enlargement. It was conceived as an instrument for targeted co-operation to assist candidate countries in strengthening their capacity to implement EU legislation as future Member States.

The success of the project has increased the interest in Twinning in Ukraine with 10 projects currently operational and more than 20 currently in the pipeline. The experience gained in its implementation is significantly improving the quality of the whole Twinning programme in Ukraine.



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## EU-funded Twinning Project: "Regulatory and Legal Capacity Strengthening of Energy Regulation in NERC"

UA/2006/PCA/EY/02

This project concerns the first EU-funded Twinning in the energy sector in Ukraine and in the CIS.

The Member State implementing institution is the Italian Regulatory Authority for Electricity & Gas (AEEG), joined in a consortium partnership by the Austrian Regulator (E-Control) and the Czech Regulator (ERU) and the Beneficiary Country institution benefiting from the Twinning is the National Energy Regulatory Commission (NERC) of Ukraine.

The overall objective of the project aimed at promoting the institutional strengthening of the National Energy Regulatory Commission of Ukraine and to assisting in the longer term development and implementation of international best practice of regulation in the energy sector consistent with progress in and development of the Internal Energy Market.

The specific purpose of this Twinning project was to contribute significantly to:

- ➔ the capacity of the National Energy Regulatory Commission of Ukraine to ensure the proper development and implementation of primary and secondary legislation, regulations and adaptive decision making in the field of Energy Regulation in line with development of the EU internal market and corresponding requirements for regulatory authorities and best practices as applied in some regulatory authorities in the EU Internal Energy Market;
- ➔ the accumulation of adaptive and technical knowledge and skills of the personnel of the National Energy Regulatory Commission of Ukraine in line with the future implementation of the new model of the Wholesale Electricity Market.

The project activities focused in the following six areas:

1. Institutional Strengthening of the National Energy Regulatory Commission of Ukraine
2. Review of and Harmonisation with the EU Energy Legislation
3. Multi-Year Incentive-Based Regulation and Benchmarking
4. Development of a Quality of Service Regulation Programme
5. Selected support in the Monitoring of the Wholesale Electricity Market (WEM)
6. Selected support in the Unbundling process

## Introduction

Ukraine is in the process of joining the South-East Europe Energy Community. Upon accession, Ukraine would have the obligation to implement the *acquis communautaire* on electricity, gas, environment as well as rules on competition and state aid in line with the Treaty establishing the Energy Community and according to a given timetable. The issues of energy market regulation in line with the provisions of the EU Directive are considered to be the most important ones in the list of obligations to be taken by Ukraine.

Ukraine has already embarked upon a process that will assist it with meeting the Energy Community obligations, with a number of important legal and regulatory provisions having been implemented that aim to ensure that the energy market's functioning is in compliance with the requirements of the *acquis communautaire*. Nevertheless, although there is compliance in some aspects of the EU *acquis*, there are certain gaps in Ukraine's legislation that, in particular, have been addressed by this Twinning project.



*Kick-off Workshop & Ceremony - 29th May 2007*

## Institutional Strengthening of the National Energy Regulatory Commission of Ukraine

The Twinning project contributed to the strengthening of the National Energy Regulatory Commission of Ukraine through a review of its existing regulation and through the drafting of a Law on "Energy Regulation" encompassing international best practice and EU Directives. In particular, the analysis done in the framework of the project showed inconsistencies and gaps in the Draft Law on the Public Energy Regulator with respect to regulatory legislation included in the EU directives, identified possible conflicts with the Ukrainian legislative framework and provided a comparative analysis of earlier legislative concepts with regard to harmonisation with the EU legislation, financial autonomy and regulatory independence, regulatory powers in tariff determination, quality of supply, market monitoring and unbundling.

A thorough examination of the internal regulation of the National Energy Regulatory Commission of Ukraine was also made with specific reference to organisation and management; regulatory decision making, and the consultation process.



*Kick-off Workshop & Ceremony - 29th May 2007*

## Review and Harmonisation of EU Energy Legislation

Existing Electricity Law was reviewed for its convergence with the EU Directives providing detailed convergence document identifying gaps and inconsistencies between the Ukrainian and the EU electricity legislation with proposed necessary changes to it. A Convergence Table detailing the gaps between the Ukrainian and EU legislation was developed, and relevant amendments suggested. Where amendments required significant changes in Ukrainian legislation beyond the means of the current project, these were replaced by Explanatory notes.

Library and Intranet site of the Italian Regulatory Authority for Electricity & Gas were presented to the Staff of the National Energy Regulatory Commission of Ukraine. Following examination of the existing information and data management systems in the National Energy Regulatory Commission of Ukraine it was revealed that major flaws in the IT system require a major overhaul of the system. Therefore, the Member State team proposed an IT Project, to enable the National Electricity Regulatory Commission of Ukraine to sustain the Twinning project activities and their daily ones, and prepared an Outline Terms of Reference to be used as a basis for a tender to upgrade the IT system. A Database Library for the National Energy Regulatory Commission of Ukraine, with all the relevant documents in English and Ukrainian, was developed and posted in their system.



*Study Tour in Italy - 8th-14th July 2007*

## Multi-Year Incentive-Based Regulation and Benchmarking

The National Energy Regulatory Commission has been charged by the Cabinet of Minister to develop a new distribution tariff methodology, introducing incentives and benchmarking.

The Twinning Partners worked very intensively and closely on this issue which brings transparency for operators and consumers alike, especially in regard to identifying cross subsidies and encouraging the promotion of investments in the Oblenergos.

In particular, the experts analysed the characteristics and efficiency of the tariff and price regulation, data availability for the determination of the Regulated Asset Base (RAB) and for benchmarking purposes. As a result, a technical document on the efficiency of the existing tariff, price regulation and evaluation of alternative proposals as well as a template for data collection was developed. Estimation of cost drivers and efficiency frontiers by COLS and SFA methodology was undertaken. The software package LIMDEP 9.0 was purchased and licensed to the National Energy Regulatory Commission, to assist them to perform the relevant calculations effectively and efficiently.

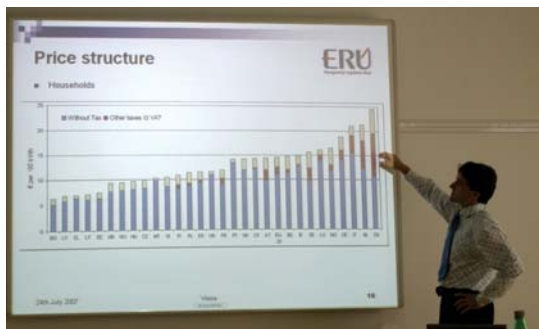
The most appropriate parameters were identified for the determination of the Rate of Return (WACC) and the assessment of alternative approaches for the evaluation of the Regulated Asset Base applicable to Ukraine. Analysis of the data base for evaluation of the regulated asset base was completed and simulation results presented for several approaches. The Member State Team developed a prototype incentive regulation model for Oblenergos' distribution tariffs ready to be implemented.

On tariff design, the Member State experts made recommendations regarding voltage levels, tariff structure, and removal of cross subsidies. Development of tariff design activities followed the availability of technical data on a number of customers and on the capacity requirements of different customer classes. A first full version of the tariff model was applied to the data of Dnipro Oblenergo and to two other Oblenergos (Poltava and Chernigov).



*Study Tour in Austria - 23rd-27th July 2007*





The Member State team examined the interplay between distribution tariffs and tariff design. As a result, the National Energy Regulatory Commission of Ukraine issued a Resolution with a new tariff methodology incorporating a quality of service element in the tariff for the first time in Ukraine.

*Incentive-Based Regulation and Tariff Design Workshop - 16th December 2008*

## Development of a Quality of Service Regulation Programme

Quality of Service Regulation in Ukraine is currently inexistent or minimal. Top European experts on the subject assisted the National Energy Regulatory Commission of Ukraine to understand the issues, their implications and, through intense activity, enabled the Beneficiary to issue various Ordinances to collect meaningful data and improve monitoring. These Ordinances were rolled out to the Oblenergos in different quarters up to a full year. Further issues addressed were the audit process and the mapping of a ten year agenda for the full development of Quality of Service Regulation in Ukraine.

Evaluation of Quality of service regulation at National Energy Regulatory Commission was undertaken through a number of workshops to discuss improvement of the monitoring system, which resulted in issuing by the National Energy Regulatory Commission of the Ordinance n. 86-p.



*5th Project Steering Committee Meeting - 29th July 2008*

The insufficient quality of the interruption data will slow down the application of quality of supply regulation in Ukraine. It was nevertheless possible to prepare a Consultation Paper outlining a road map for quality of service regulation to be applied once the data base has sufficiently improved. The National Energy Regulatory Commission of Ukraine has assembled the results of the Consultation with the Oblenergos on monitoring of interruptions and issued a revised resolution.

The insufficient quality of the monitoring data systems currently used by most Oblenergos, does not allow proceeding with design details of Quality of Service Regulation within the Project's lifetime.

The reliability of the interruption data based on National Energy Regulatory Commission's Ordinances 118-p and 172-p was rather insufficient. A number of routine methods for detecting bad data were identified to facilitate their recognition by the Ukrainian Regulator. Procedures were discussed to improve the reliability of the data including the use of a uniform EXCEL interruption register for all Oblenergos, and a Manual prepared with a clear definition of the information to be collected.

The practice of auditing in Italy was presented and discussed in relation to its applicability to Ukraine. The MS Team assessed the preliminary results of the review on auditing of interruptions carried out by the EU experts on selected Oblenergos.

The assessment of quality of service regulation in the Ukrainian regulator's 10 year Regulatory Agenda was completed and a draft of a ten years agenda for the introduction of Incentive Service Quality Regulation in Ukraine prepared.



*RTA & RTA Counterpart raising awareness of Twinning in Ukraine to the wider public through an interview with Radio Liberty - September 2008*

## Selected support in Monitoring of the Wholesale Electricity Market (WEM)

Ukraine is in the process of transiting its current Wholesale Energy Market to a Bilateral Contract model alongside the open markets in European countries where the sector is more liberalised. In this respect, the Twinning project assisted Ukrainian regulator and other stakeholders such as EnergoRynok to understand the functioning of several European markets, from the more liberalised to the recently established, affording participants a complete and in-depth understanding of these markets, leading to the definition and design of a Market Monitoring Programme for Ukraine for the upcoming transitional period of their market.

A basic understanding of the wholesale energy market's functioning and the related market monitoring processes was obtained through meetings with the National Energy Regulatory Commission, the EnergoRynok, Centrenergo and other sector stakeholders, as well as with reference to the report of the World Bank financed project on the reform of the wholesale energy market.



*Market Monitoring Workshop - 22nd October 2008*

## Selected support in the Unbundling process

Unbundling, though necessary for the transparent regulation of the sector, is still undeveloped in Ukraine: there is no legislation in this respect and in particular, the National Energy Regulatory Commission is not tasked to pursue it as is in most European countries. Therefore, in order to prepare the Ukrainian Regulator in its future role, the Twinning Partners made them aware of different experiences in the

EU, focusing on different approaches to unbundling, methods of asset revaluation, recognition of unbundling costs and the role played by the Regulator.

The Twinning Partners have also assisted the National Energy Regulatory Commission to develop, design and test a questionnaire for the separation of costs between distribution and supply (Accounting Unbundling) and prepared a guideline for the accounting rules to be applied by the Oblenergos.

The activities in this project component were reviewed to better reflect the current powers of the National Energy Regulatory Commission. The focus was on the role of the Regulator in the implementation of more advanced unbundling options, giving due consideration to the existing legal framework, ownership regime, fiscal and other technical and economic aspects. The Member State Team presented the experience in the Czech Republic focusing on different approaches to unbundling, methods of asset revaluation, recognition of unbundling costs and the role played by the Regulator. Further examination was made to the potential role of the National Energy Regulatory Commission in the observance and design of the Compliance program and Management unbundling.

Extensive discussions were held with the NERC Regulatory Working Group to develop a proposal for a uniform and simplified costs allocation between different activities of distribution and supply. A set of seven questionnaires was prepared for collecting accounting data from the Oblenergos on a uniform basis and drivers were identified to allocate indirect, central and common costs to business lines. These were discussed during several sessions with a selected number of Oblenergos. Examination of the work in progress on the cost allocation between distribution and supply led to the conclusion that the Oblenergos are unable to provide all the data in the absence of clear regulatory norms, given the significant adaptations of their financial management and accounting software that this would require. Work on the Questionnaire exercise with the Oblenergos was examined again by holding a one day training session performed by the Member State Team. The session was dedicated to examining the Questionnaire returns in adequate detail and to providing use-



*Accounting Unbundling Workshop - 3rd February 2009*



ful practical examples. On this basis the Oblenergos repeated the exercise using best estimates, where precise data was not available, and the repeated exercises produced very good results proving that this simplified Questionnaire is user friendly and viable as a first step to accounting unbundling in Ukraine. The Ukrainian Regulator intends to roll out this method of accounting reporting to all Oblenergos for a trial period and if successful will make it standard practice.

The Member State Team also provided assistance to the NERC Regulatory Working Group in the preparation of Guidelines for a National Energy Regulatory Commission's decision on uniform rules to be applied in the separation of costs electricity distribution from supply.

## Training

The Twinning project provided numerous and valuable training in various aspects to NERC Working Groups, Staff from various departments, stakeholder participants from Ukrainian institutions and energy companies.

Apart from the basic training on EU legislation and other technical aspects in the energy sector provided during the Study Tours to Italy and Austria to 22 NERC Commissioners and Staff, in depth training was provided in the following areas:

- a) EU Directives on Electricity, including the Third Package;
- b) EU Regulatory legislation;
- c) Incentive based regulation, including its benchmarking application, and tariff formulation;
- d) Quality of Service Regulation;

- e) Competitive Electricity Markets and their Monitoring Systems in several European countries;
- f) Unbundling (Accounting Unbundling in particular) concepts as applied in various European countries and the role of the Regulator in the Unbundling process.

A special training was performed by the European School of Regulation for 30 NERC Staff on regulatory issues with particular focus on European Electricity Markets and Border Congestion Management. At the end of the course all participants were awarded a diploma.

Training in English language was also funded by the EU and provided to a number of NERC participants, for over a year and at different levels; since the Twinning project had determined early on, that the language barrier was a significant hurdle to the successful implementation of Twinning in Ukraine. This training has since be rolled out to all the Ministries and Institutions implementing Twinning.

*Training by the Florence School of Regulation - 17th February 2009*





*7th Project Steering Committee Meeting - 3rd February 2009*

## **Conclusions**

The Twinning Project was a challenging but rewarding experience for all involved. It has introduced in Ukraine and other CIS countries an instrument of co-operation between the European Union and its neighbours, established a dialogue aimed at introducing European best practices and standards and opened the road to harmonisation amongst its Institutions.

Within the specific activity with the National Energy Regulatory Commission, the project assisted in the strengthening of its regulatory capacity, transferred a significant amount of know-how and increased the skills of its Staff in several technical areas.

This Twinning Project is seen as a pioneer in Ukraine, as its implementation provided many tools, lessons learnt and insight for the implementation of the numerous other Twinning Projects which have now been launched in Ukraine and in the Black Sea Region.