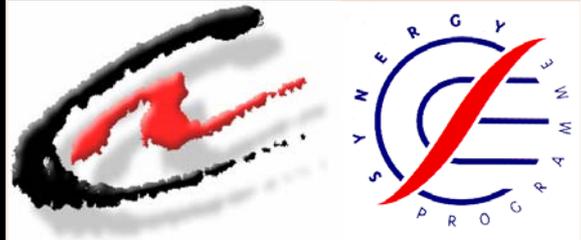


# THE ENERGY IN ALBANIA



## THE ENERGY IN ALBANIA (NEWSLETTER)

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### NEWSLETTER

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### PROJECT "ISSUES ON MODULAR PV SYSTEMS IMPLEMENTATION"

( .....Continued from previous issue..... )

#### 2. Activities and Expected Results

The project consists of several components with an effort to focus the work around some key issues. The main activities of this Project aims to:

- Demonstrate the Technical Performance, Economic Competitiveness, and Operational Viability of Stand-Along Modular PV Systems for Isolated Private and Public Users,
- Contribute to Improve the Living and Working Conditions of People in Isolated Areas,
- Stabilize the Rural Population in these Regions,
- Bring Important Economical Benefits for Agriculture and SME-s development in Greece and Albania.

The result of this project will be a "Guide for modular stand-alone PV systems" and databases with a.) techno-economic and b.) climatic data. This will be achieved through a set of inputs that will cover the unique parameters and characteristics - load and climatic conditions - for every facility. This way many of the technical problems that arise during the design and installation of small PV systems will be solved and simultaneously will promote their commercial exploitation. The ultimate goal is the definition of a sum of categories of modular PV systems that will include all the parts of a system, covering by this way every facility with installed capacity up to 10 kWp. That means that the modular PV systems will meet peak load up to 15-20 kW.

In the same time the "Guide for modular stand-alone PV systems" will help users to turn to such installations and will give appropriate support to technicians for designing, installing, and operating PV systems. This guide will help to reduce installation costs, to increase information as well as promote confidence on PV systems. The guide will be a useful tool for every potential user, public or private, and will be available in electronic format for anyone interested. This guide will be published if the necessary funds are available.

### 3. Final Remarks

The project has started in June 2003 and it is expected to be implemented within 24 months. This project is an important step for introducing to Albania activities for the design and installation of small PV systems, and further promote their commercial exploitation. This project can also be considered as very important in the dissemination of PV technology applications to different towns, communes and villages throughout Albania and consequently this project will bring steady improvements in the long term. The successful implementation of this project is very crucial to the further demonstration of such technology in Albania with a focus to the improvement of energy supply situation in Albania.

Furthermore, the collaboration between the Albanian and Greek institutions will contribute in exchange of information, experience and working methodologies between the institutions from both countries, and will give opportunity to gain new experience by carrying out the project. The project will also support the promotion of RES in Albania and Greece, especially in the field of PV systems.



**Dr. Eng. Edmond M. HIDO**  
Director  
Energy Efficiency Centre

## PROJECT "IMPACT OF THE WITHDRAWAL OF MODERN ENERGY ON URBAN POOR"

The project is financed by the UK Department for International Development (DFID) and led by GAMOS Ltd. in collaboration with three NGOs in Albania, Kyrgyzstan and Moldova. In Albania, the project has started in January 2003 and is implemented by Albania-EU Energy Efficiency Centre (EEC).

### 1. Background

After 13 years from the collapse of the communist block, the impact of the transition to market based economies has begun to manifest itself in a number of areas. In the area of energy, many urban communities relied heavily on electricity, which is provided by large, state funded generation, transmission, and distribution networks. In several countries, the transition to a market based electricity industry has not been smooth, and systems have fallen into decline through lack of management, maintenance, and investment. For example, losses of 35 % illustrate the condition of the distribution system in Albania; or generating capacity in

Moldova has fallen from 3.09 GWe in 1992 to 1.03 GWe in 1999, and both countries have turned from an exporter of power to relying on imports for a third of the nation's power. Several countries have embarked on power sector reform and private sector participation programmes as a first step towards making electricity industries attractive to investors. Issues to be addressed include upgrading generating and distribution capacity, reducing subsidies, and reducing non-technical losses.

It is likely that one consequence of reforms might be the withdrawal of modern energy from the urban poor; this can be either forced (supplies cut off) or voluntary (supplies become unreliable or prices become unaffordable). In either case, people have to make alternative arrangements for essential energy requirements, such as cooking. There are implications of this on livelihoods, e.g. environmental impacts of fuel-wood use, health impacts of burning fuel in dwellings designed for electricity use only, etc.

Energy is recognised as the most critical problem facing many eastern European countries, and the World Bank, IMF, and USAID are promoting power sector reform. At the same time, modern energy plays a critical role in the vulnerability context of the urban poor in these situations, and reduced access to energy (forced or voluntary) will impact all aspects of livelihoods including health. Although this link is becoming recognised, the emphasis of current policy is on opportunities for private sector participation at a large scale, and much work on power sector reform still focuses on economics (optimal targeting of subsidies).

Rationalization of electricity tariffs is considered as one of the most critical and crucial reforms for future development of Albanian Power Sector. In order to minimize the effects of this reform, the Power Sector Policy Statement requires the Ministry of Labour and Social Affairs and the Ministry of Finance, where is appropriate, to create a mechanism to ease the impact of rate increases upon low-income levels for established minimum levels of service.

### 2. Project Description

From the work with USAID on power sector reform in Albania, EEC has identified retired people amongst low-income families who are likely to be "losers" from reforms. Despite the introduction of tiered tariffs, they are concerned that there is no provision for the affects on the poor, and that a return to fuel-wood use is possible. Furthermore, 29 % of the urban poor in Moldova have experienced disconnections from power within the last 2 years, although most appear to have been reconnected. The need for a greater understanding of the impacts of power sector reform on the poor is increasingly recognised.

Within the above context, the project addresses long-term developmental sustainability. As economic reforms are implemented, including energy reforms, the project considers how the urban poor will be affected in short term. The project aims at addressing an important problem: improved access to clean energy in poorer households and communities. The project includes environmental themes as it deals with alternative livelihood strategies to cope with deteriorating modern energy supplies. The project consists of several components, which

support activities for research on the factors affecting energy supply to low-income households and communities in the principal cities of Albania, Kyrgyzstan and Moldova:

- Literature review,
- Gather secondary data and draw up research framework,
- Stakeholder interviews to gather preliminary data,
- Household surveys, data analysis and conclusions,
- Expert consultations and reporting,
- Dissemination activities, outputs published & distributed.

This project will research not only the impacts of withdrawal of modern energy, but also potential mechanisms/policies for mitigating these affects, including options beyond the power sector.

### 3. Activities under the Project and their Results

Initial surveys in Albania, Kyrgyzstan and Moldova confirmed that the potential social and economic impact of energy reform processes is huge. It is also evident that the full implications for the poor of liberalisation are yet to be realised. Tariff increases to date have been minimal and the electricity companies are dealing with the issues of non-payment and theft. Starting from January 2004, an Albanian household that consumes 400 kWh pays respectively 22.84 % and 29.6 % more compared to 2003 and 2002.

Data from household surveys of low-income urban communities in each country confirm the extent of the problems that reforms are intended to address. Electrical connection rates are high (97 % - 99 %) but payment rates are low (in Albania 20 % claim not to pay). Still there remain a significant proportion of users with no meters, 7 % in Moldova and Kyrgyzstan, while in Albania 40 % receive nominal rather than metered bills. Nevertheless, the authorities recognise the gravity of potential consequences of increased electricity costs. For example, the Albanian Ministry of Labour and Social Affairs will be administering additional funds to compensate for price increases or, the Kyrgyz Tariff Policy Project (funded by DFID) is working with the government to implement tariffs that take into account inter alia the social impact on the poor. However, social protection mechanisms proposed are based on existing systems i.e. existing registers for pensions, disability, unemployment benefits etc. Two main concerns have been voiced-will the extra money be enough (pensioners have been identified as a high risk group), and what will happen to households who fall through the social protection net?

Although household survey data has only recently been compiled, preliminary results confirm a general preference for gas for cooking (LPG and piped, depending on national markets). Although gas is also the dominant space heating fuel in Albania, use is low in Kyrgyzstan because gas is only piped to dwellings that also have district heating (i.e. there is no need to use gas for heating), and there is no bottled gas market to speak of - electricity and coal are used instead. Albania is the only country registering significant use of wood. Of more interest, and the main focus of the research, is to understand how people's fuel choices and use are likely to change as reforms start to bite. For example, in Albania over a quarter of survey respondents have changed fuels recently, with most changing from electricity to LPG. However, there is also a trend to substitute with wood for space heating, which carries

environmental consequences. This shift also has implications for local livelihoods, as many small retailers now sell gas cylinders. However, changing to cheaper fuels is only one possible response to increased electricity prices and enforced payment of bills-others include reducing energy consumption, and reducing other items of household expenditure.

The top priority for household spending is food-by a clear margin. Then come energy, clothing and travel; the order depending on energy prices e.g. energy is second in Albania. Civil society in these countries is young and tends to concentrate on issues of governance, agriculture, business, and education. Some local NGOs have successfully mobilised communities to engage with the authorities to secure energy infrastructure such as transformers and local distribution lines. Another priority area is legal literacy and consumers' rights, as people are now entering into contracts with commercial utility companies. However, as costs increase, NGOs dealing with the poor will increasingly find themselves having to deal with energy as a factor in household poverty.

### 4. Final Remarks

In Albania, the survey of low-income urban communities has been focused in suburban areas of Tirana. EEC has interviewed 210 poor households and the data is under elaboration. Now that the survey results have been obtained from all of the research countries, the project will carry out further analysis to evaluate the impacts on the poor of ongoing electricity privatisation process; how urban, low-income communities have been affected by recent changes since the introduction of market economy policies. It will then consider potential mechanisms and policies for mitigating these effects, including options beyond the power sector, etc. Finally, Gamos and EEC aim to publish and disseminate the project final results, and to advocate on urban energy issues.



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Project Manager  
Energy Efficiency Centre



**Dr. Nigel SCOTT**  
Director  
GAMOS Ltd

### APPRAISAL OF POSSIBLE INVESTMENTS AT ENERGY-INDUSTRIAL PARK OF VLORA

The Council of Territory Regulation of Republic of Albania by Decree No. 8, date 19.02.2003, approved the energy-industrial park of Vlora, which is expected to absorb important investments for Albania. This park has 650 hectares and are foreseen to be invested several important projects. A meeting, held on March, 12, 2004, was organized by the Albanian Chamber of Commerce in collaboration with Vlora Municipality to discuss those projects, including local authorities and main businessmen of Vlora. In the meeting took part also the Albanian

Prime Minister, Mr. Fatos Nano, the Minister of Industry and Energy, Mr. Viktor Doda, the Minister of Finance, Mr. Arben Malaj, the Minister of Economy, Mr. Anastas Angjeli, the Minister of Transport & Telecommunication, Mr. Spartak Poci, the Vice/Minister of Territory Regulation and Tourism, Mr. Artan Lamaj. The main projects which will be located in this energy-industrial park are: Thermal Power Plant (to be built in phases), AMBO Pipeline project (Burgas-Vlore), Hydrocarbons Storages, LPG Storages, LNG Storages, Refinery and others in industrial processing and energy field. The below figure shows primary settlement of these projects.



A detailed description for all possible investments in this area are given below.

### 1. The First Phase of Vlora TPP

Vlora TPP project has passed 4 stages of study:

*First stage:* Site selection for allocation of TPP.

*Second stage:* Financial full feasibility study of TPP.

*Third stage:* Environment impact assessment of TPP.

*Fourth stage:* Technical specifications of TPP.

Total investment of Vlora TPP is 112.6 million USD. Actually, the Albanian Team negotiated the financial part loaned by World Bank. Soon, it will be negotiated with EIB (European Investment Bank) and EBRD for other parts of financing. Based on the project proposal of WB, after signing the loan with the banks, it will be organised an international bid, forecasted during the period April-June 2004. During July-August 2004 is forecasted to be selected the international EPC (Engineering Procurement Contract) and during September-October 2004 is forecasted to start the construction of Vlora TPP. The construction period is forecasted to be 20-24 months.

### 2. Proposals for the Second Phase of Vlora TPP

The good climate at energy sector has created the conditions for the strategic investors to submit at Ministry of Industry and Energy (MIE), proposals to build a new TPP as the second phase of Vlora TPP (described above). The proposal of Ascot/Onyx for construction of a TPP as the second phase, has an installed capacity of 400 MW. This proposal was presented to MIE on December 2003. Although the proposal is at its initial phase, it should be emphasized that this proposal is wholly based on the study performed by US TDA for two units with capacity approximately 200 MW each one. Some of the parameters of this TPP are:

- The investment is estimated preliminary to be 271 MUSD,
- The construction period is foreseen to be 24 months since signing of Power Purchase Agreement (PPA),

- The price required by investor is 4.7 cent/kWh with an increase of 3 % over the coming years due to inflation,
- The required place for its construction by Ascot/Onyx is nearby the actually selected site for the first phase.

The advantages of this proposal are:

- The technology selected is actually the best in power market and the same with the technology to be used in the first phase,
- A capacity of 400 MW will fulfil the energy demand in Albania until 2015,
- Preliminary we can emphasize that the selected technology guarantees that the emissions will be according to international standards.

### 3. Proposal of GE-COSMO for Construction of a 1,200 MW TPP

The proposal of GE-COSMO (American Company) for construction of a TPP with installed power of 1,200 MW, as a second phase, is presented as an initial idea in October 2003. The proposal presents the idea of construction of a TPP, primarily for export and secondary to fulfil the Albanian electricity demand. Some technical-economical parameters of this energy project are:

- Storage and gasification center (the fuel will be LNG),
- The installed capacity is 1,200 MW,
- Power interconnection with Italy; the project implies that Albanian Power System will be linked by submarine DC line with Italy,
- The connection between this TPP & Albanian Power System; to realise this it is necessary the construction of a new 400 kV transmission line Vlora-Elbasan.
- These four sub-projects are necessary parts of the energy-industrial park and the investments will be approximately 1.2 billion USD.

Proposal's advantages:

- The technology selected is actually the best in power market and the same with the technology to be used in the first phase,
- A capacity of 1,200 MW will totally fulfil the energy demand in Albania until 2015,
- This proposal will adjust the balance between HPP & TPP of the Albanian Power System,
- It should be noticed that the technology selected guarantees standard emissions, especially when natural gas it is used.

Finally we can conclude that:

1. The first phase of TPP with the installed capacity of about 135 MW, financed by three banks (WB, EIB, EBRD) is guaranteed with low risk as well as with capital security.
2. For having a clear view, MIE has asked for detailed studies and continuity from both two offerers (Ascot/Onyx and GE-COSMO).

( .....continued on next issue..... )

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**Chairman**  
**National Agency of Energy**