



THE ENERGY IN ALBANIA

Inside this Issue

- A PROPOSAL FOR FEED-IN TARIFFS FOR RENEWABLE ENERGY SOURCES IN ALBANIA
- A NEW GREEN BANK IN TIRANA
- REVIEW OF THE CURRENT ENERGY-RELATED LAWS AND REGULATIONS WITH AN IMPACT ON THE DEVELOPMENT OF THE SWH MARKET IN ALBANIA

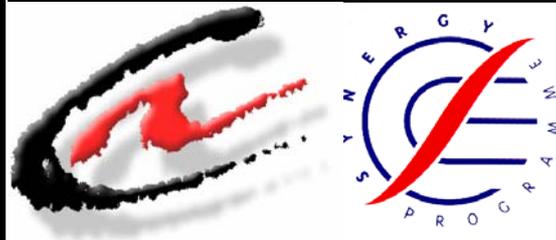
NEWSLETTER

published by the

“Albania-EU Energy Efficiency Centre” (EEC)

Address:

Blvd. “Gjergj Fishta”, No. 10, Tirana, ALBANIA
P.O. Box 2426
Tel: + 355 4 2233 835; Fax: + 355 4 2233 834
Email: info@eec.org.al
Internet: www.eec.org.al



THE ENERGY IN ALBANIA (NEWSLETTER)

Other issues are available on EEC website

PUBLISHED BY THE
“ALBANIA-EU ENERGY EFFICIENCY
CENTRE” (EEC)

ISSUE NO 53 • JUNE 2011

A PROPOSAL FOR FEED-IN TARIFFS FOR RENEWABLE ENERGY SOURCES IN ALBANIA

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

- *by bonus payment options:* high-efficiency systems (e.g., CHP); use of particular waste streams; repowering (i.e., replacing older wind turbine models, or hydro sites, with newer, larger or more efficient ones.); specific ownership structures (e.g., community-owned); use of innovative technologies; and vintage of installation (where a bonus is awarded if a project is installed before a certain date).

2. Market dependent tariff systems: The feed-in tariffs (FiTs) can be paid in the form of an additional premium on top of the electricity market price. These premium price FiTs can be categorised in 2 different dimensions:

- *by type of premium:* Constant and Sliding (caps and floors on total premium; caps and floors on total payment; and percentage based premiums);
- *by differentiation of premium:* by technology type, and by project size.

The differences of particular regimes range from whether or not a purchase obligation exists to the method used for the determination, and to the adjustment of the tariff level. Distinct concepts are applied to account for different generation costs within one technology (such as stepped tariff designs).

2. Proposed Methodology for Albania

Albania has on outdated energy infrastructure that has depreciated considerably due to inadequate investment and maintenance. The average age of HPPs in Albania is over 35 years. The last one built was the HPP Komani in 1985. In recent years, individual components of the electricity system have been further stressed by the rapid increase in energy demand and by structural transformation, as well as by increased consumption of energy imports as domestic supply decline. Insufficient metering, unpaid bills and illegal connections have dramatically increased electricity consumption and peak demand, thereby weakening the system and leading to underinvestment in the much-needed new generation and network capacities. Supply bottlenecks and demand imbalances have constrained electricity supply and reduced the stability and reliability of the grid. Chronic load shedding, black-outs and electricity rationing are common across the country. Finally, Figure 2 shows the impact of development of demand and generation on reserve margin in Albania.

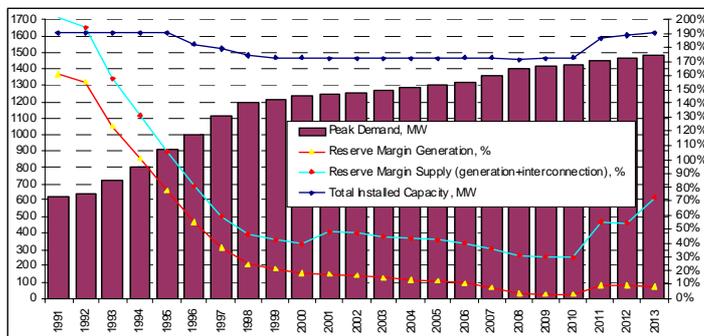


Figure 2. Reserve margin development

This chart highlights the background against which FiT policy should be judged. In addition to a need to meet the commitments to the targets specified in the EU RES Directive, Albania faces supply security concerns leading to a need to develop an effective policy to stimulate generation investment. This policy needs to optimise Albania's indigenous resources, suggesting a focus on hydro but other renewable resources need also to be considered.

3. Current Feed-in Tariffs Regime and Proposals

A draft specific law on renewables (not only on hydro resources) is needed and has been in the drafting stage since November 2009. The new law should address the barriers arising from existing legislation, including the creation of a more stable climate for private investors. The Albanian Policy Reform needs to consider:

- The tariff structure and pricing system.
- Administrative procedures.
- Deployment of a new technology.

1. Tariff structure and pricing system: Up to now, the tariffs for existing and new SHPP have been based on different formulas. For existing SHPPs, the ERE's decision No. 5, dated 26.01.2007 applies the following formula for tariff calculation:

$$PU = (PR - PT) * (1 - LD \%)$$

where: PU - Standard price for producers with installed capacity up to 15 MW; PR - Average retail price of electricity for tariff customers; PT - Transmission service tariff approved by the ERE; LD - Percentage of technical losses in the distribution network accepted by the ERE for the purpose of cal-

ulation of the unified price according to this formula. For new SHPP, Government Decree No. 27, dated 19.01.2007 applies. The Ministry of Economy, Trade and Energy (METE) developed a tariff formula to be applicable for new SHPP Concessions granted under the Concession Law of December 2006. For these new SHPPs, the Government Decree No. 27, stipulates that the ERE shall approve a unified tariff for all SHPPs given through concessions. The FiT is based on the import price of electricity for the previous year as follows:

$$PU \text{ (lek/kWh)} = \text{Weighting Average Price of Imports for preceding year in ct/kWh} * \text{Coefficient 1.1 (to take into account avoided losses)} * \text{Average Exchange Rate of Euro/lek for preceding year.}$$

This method is based on a simple formula and may be preferable for the regulator. Moreover, in taking into consideration the import price of electricity it links the tariff to avoided cost, which limits the cost to consumers. The average import price of electricity in the last six years has been volatile. The volatility has tended to deter banks which are expected to finance about 60 % of the capital in new investments. Imports over the last 8 years has been increased for the period 2002-2008 from 30.18 Euro/MWh up to 79 Euro/MWh and then on 2009 has been dropped to 41.15 Euro/MWh. It is worth noting that the import price grew continuously between 2002 and 2008 but fell significantly in 2009. This decline was related to the fall in demand in the whole Balkan region in the wake of the global financial crisis but was also affected by a very good hydro year in Albania and other Balkan countries. However, that significant decline in import price coincided with the analysis phase for several small hydro projects to which Albanian banks had considered offering loans. This price uncertainty is behind the relatively high requirement for equity share (40 %) in funding schemes for projects as well as higher loan interest rates. In the First Draft Law on Renewable Energy Sources (RES), only one formula will apply for existing and new SHPP:

$$PU = PR * (1 - LD\%) * Z$$

where: PU - Standard price for producers with installed capacity up to 15 MW; PR - Average retail price of electricity for tariff customers; LD - Percentage of technical losses in the distribution network accepted by the ERE for the purpose of calculation of the unified price according to this formula; Z - A coefficient higher than 1, set by the ERE according to the type of renewable energy used and considering also climate change aspects.

The application of the above formula for both new and existing SHPPs means that the import price will cease to be relevant; the FiT will depend instead on the retail price of electricity and the technical losses in the distribution network. The transmission fee will not be considered any more. The Z factor will increase the FiT according to the renewable energy source used. The following are the implications of new formulation:

- Domestic electricity price: This is currently below cost and can be expected to increase in future years, raising revenue for RES projects.
- Technical losses: These are currently high and can be expected to reduce in future years, which will raise the feed-in tariff paid.

2. ERE proposals: The ERE has just made suggestions to

METE on how FiTs should be determined. They assert that construction of small hydropower plants should be done by private investment. This is because the public financial resources to develop SHPP are insufficient. Engagement of private sector investment (domestic and international) is therefore one of the key opportunities for exploiting hydropower. This requires an attractive investment environment. The private sector has long shown great interest in construction of small hydropower plants. A considerable number of requests / proposals have already been approved and already 110 concessions have been processed since May 2007.

However, an incentive scheme is needed and the private investors will go and invest first in those countries that provide the most comprehensive package of incentives and the best regulatory regime for SHPP. Therefore, Albania needs to become more competitive in this field with other countries in the region. Private investors will invest in SHPP only if the internal rate of return is above the average offered in other sectors. Figure 3 shows the long term marginal unit cost of generating electricity for each SHPP, for each respective group (1-2,000 kW, 2,001-5,000 kW, and 5,001-15,000 kW). Figure 3 also shows the long term marginal and average unit cost for each group. These costs are respectively 4.975 •ct/kWh, 4.492 •ct/kWh and 3.919 •ct/kWh. The ERE suggests that in setting feed-in tariffs, Albania must take into account the following elements in the final calculations:

- The marginal cost method should be used in the establishment of FiT for SHPP, but must take into account also the relevant banking indicators to ensure early construction of SHPP.
- Feed-in tariff for SHPP should be set differently for three groups based on their installed capacity.
- All banks in Albania will look for a maturity period of 2 years (grace period) + 7 years (the loan repayment period). This will require a FiT higher than the calculated LRMC for each group.
- A rate of return of equity higher than 20% (value taken in analysis) will be needed to attract investors to this sector. This will require a FiT higher than the calculated LRMC for each group.
- FiT for SHPP must be consistent with fulfilment of the EU Directive targets for renewable sources based mainly on SHPP (the renewable technology with lowest cost).
- An inflation rate of 3-3.5 % a year (based on the recommendation of National Bank of Albania) should be included in the FiT.

Based on these principles, Figure 3 gives the calculated FiT for each size group.

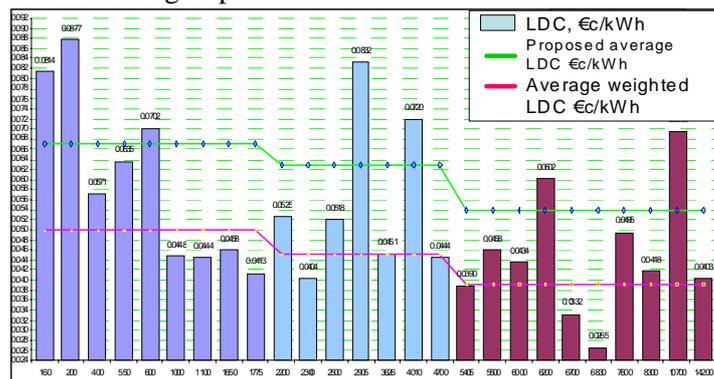


Figure 3. Long term marginal unit cost of generation and proposed FiT (•ct/kWh) (ERE Proposal, December 2010)

Given the above and based on comparison of the advantages and disadvantages of each method, the ERE proposes that the marginal unit cost should be 6.7 •ct/kWh, 6.3 •ct/kWh and 5.4 •ct/kWh. The comparison of these proposed FiT levels with those offered in other countries, shows that these levels are comparable to levels offered in other countries in Europe.

4. Overview of Options

In designing a support mechanism for renewable generation, there are several trade-offs that need to be considered. This sub-section reviews these trade-offs and looks at the options and how they might affect the design. Investors are looking for a predictable environment that reduces risk and guarantees a return on their investment. Consumers are looking for low cost electricity. Almost by definition, providing support to a particular set of generators through the tariff paid will not deliver least cost generation and therefore consumer cost must be higher (this statement, of course, assumes that there are no impediments to market-supported least cost investments). Generators (and banks) tend to favour a cost-plus approach whereby an assessment of investment and other costs is made and a feed-in tariff is then calculated to offer a guaranteed return over the life of the project. This certainty is argued as lowering the costs of the investment by reducing the risk premium demanded by banks and investors. But this approach offers greater certainty to investors in the supported technologies than to commercial investors in other generation who face normal market risk. This is particularly the case with newer technologies where costs are likely to fall for future investments due to efficiency gains. An alternative approach links future returns through feed-in to electricity prices so that, if low cost electricity comes to the market in future, the privileged generator is automatically paid slightly less.



Dr. Eng. Besim ISLAMI
Regional Energy Expert

A NEW GREEN BANK IN TIRANA

ProCredit Bank opens its green business center in Lapraka. This first investment of its kind in Albania aims at providing more client service quality and direct contribution to the environment protection. ProCredit Business Center in Lapraka, named The Green Business Center, aims to show a practical example of green buildings. This building is the first of its kind in Albania with a green advanced and contemporary technology. It is this technology that represents the main innovation and real change offered by this business center, as it is the only business center which focuses on the environment and efficient use of energy.

Responsiveness to environmental issues and energy efficiency has been articulated for a long time by ProCredit Bank, being

the first Bank in Albania since 2009 which promoted and offered loans to its clients for energy efficiency measures in their homes and businesses, accompanied by a technical expertise, necessary for the products of this type. In addition to this first initiative for clients, now the Green Business Center in Lapraka offers an opportunity to its clients and staff to become familiar with them, and also offers the opportunity to the Bank itself to implement these technologies in a broader range of systems and technical equipments currently offered in Albania and the region.

ProCredit Bank's motives for undertaking such a green initiative are many and various. First, not only does inefficient use of energy increase strain on the power network, but it increases air pollution associated with the production of energy and use of diesel generators during power failures, and also affects significantly the high costs of energy. However, energy costs savings aren't the only and main motivation of ProCredit Bank. Overall, it aims to promote a more responsible approach to urban development in Tirana. To this end, the green technology has used elements of various reconstruction fields such as building elements and insulation systems, electric and air conditioning systems, building management system etc.

The insulation and ventilation system ensures a supply of fresh air at the right temperature, and the lighting strategy maximises the presence of natural light. While the project centres around a forward thinking solution to energy efficiency, it integrates other environmental technologies, such as water recycling and responsible waste management. Water collected from the AC units and the bathroom sinks will be treated on site, and used to flush the toilets, further reducing the use of water. The Bank is committed to reduce or recycle the old materials as much as possible. The gypsum has been sent to a recycling plant where it will be reprocessed into new panels, the old façade windows are being used in a security box, the removed linoleum floors are being installed in camp houses near Vlora, and the message boards were sent to a local high school. Finally, the design team has integrated trees and bicycle parking to improve the urban environment, and encourage non-polluting transportation. All these elements also improve the comfort for visitors and workers.

By investing in the Green Center, ProCredit Bank is taking the lead to demonstrate its commitment to sustainable development, an approach that respects the environment, and improves people's lives. ProCredit Bank Green initiative does not end with Lapraka Project. Over time PCB Albania will monitor the performance of the equipment, and determine the environmental and economic benefits achieved. This will help to chose which of these technologies to use in the entire bank's future renovation projects of ProCredit Bank Albania's current or new business centres.



Violeta HAXHILLAZI (STEFA)
Member of Management Board

REVIEW OF THE CURRENT ENERGY-RELATED LAWS AND REGULATIONS WITH AN IMPACT ON THE DEVELOPMENT OF THE SWH MARKET IN ALBANIA

1. Introduction

Although Albania is endowed with a considerable potential of solar energy, and the promotion of use of RES has been one of the key objectives of the Albanian National Strategy of Energy and of Government's energy policies and actions, no specific law or other legislation on promotion of solar energy use has been enacted in Albania up to date. Actual market of solar thermal systems in Albania has been mostly developed thanks to individual decisions of private owners of houses and hotels, but no specific policy and legal actions have been taken by the Government for the development of this market. Actually, UNDP in cooperation with the Albanian Government are co-financing a specific project titles "Global Solar Water Heating Market Transformation and Strengthening Initiative: Albania country programme" under the joint UNDP/UNEP/ICA/GEF funded program "Global Market Solar Water Heating Market Transformation and Strengthening Initiative". One of the objectives of this project is to support the Albanian Government to develop and adopt necessary primary and secondary legislation for the promotion of SWH market in Albania.

On the other hand, the process of drafting a new RES law already started by the Ministry of Economy, Trade and Energy might be a good opportunity to introduce some legal measures or actions for this purpose. Given the importance that the new EU Directive 2009/28/EC on promotion of RES gives to the use of renewable energies in heating and cooling sector, the new Albanian legislation should follow the same direction.

2. Possible Legal Actions

Below are summarized the main legal actions that can be taken for promotion of RES in general and SWH in particular focusing on the existing or new pieces of legislations that may serve for this purpose.

1. Renewable energy targets: Power Sector Law and the Law "On production, transportation and trade of biofuels and other renewable transport fuels" set specific targets for use of RES for electricity generation and transport. A similar policy can also be followed for heating and cooling sector establishing general mandatory targets for all renewables to be used by this sector including specific targets for solar thermal energy. Such targets may very easily established either directly in the draft RES law itself or in the National RES Action Plan that is supposed to be developed and adopted by the Government.



Zija KAMBERI
Energy and Legal
Consultant

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