



Power House of HPP in Radavci, Kosovo

THE ENERGY IN ALBANIA



Qendra e Eficiencës së Energjisë Shqiptari-E
Albania-EU Energy Efficiency Centre



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Inside this Issue

- HYDROENERGY RESOURCES IN KOSOVA
- ENERGY COMMUNITY TREATY - ELECTRICITY AND GAS ROADMAP
- PROJECT “ACCELERATION OF THE COST-COMPETITIVE BIOMASS USE FOR ENERGY PURPOSES IN THE WESTERN BALKAN COUNTRIES”

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HYDROENERGY RESOURCES IN KOSOVA

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

4. Preliminary Study of Financial Benefits

A financial benefit study for every potential site to be identified was done. At this preliminary financial phase, the hydro potential to be used was decided and shall be given the best variant for the realization of the project from the private investors. After gaining the right for the development of the project from the private investors, it is necessary to make a complete feasibility study and gather all of the necessary documents to assure the financing of the project and then the physical implementation of the project will start. In the preliminary feasibility study, all the topographic, meteorological, geographical maps and those of economic and social development were used. The planning process was done in three phases named: (i) Preparatory Investigation at respective maps, (ii) Knowing of the Terrain at all the Potential Sites where the future 20 centrals shall be constructed, and (iii) Preliminary Benefits.

This information was secured from the responsible institutions and the Ministries, like Communes, Ministry of Environment and Space Planning, Ministry of Energy and Mines, Institute of Hydrology, KEK, Central Office of Statistics and other similar institutions. The supporting groups established from the MEM, lead by the head of the Departments Strategy and Development, Energy, Renewable Resources Division were also included in finding and gathering the necessary

information.

5. Recognition Study of the most Important Areas

The study was spread on all the hydro sources and in all the Kosova's territory. The aim of the study was to highlight the hydrological potentiality existing in those water resources, the possibility to use them for the production of electricity, without harming other sectors of economy. The study was more concentrated on the hydro potential for small or medium HPP as objects that could be easily constructed, in a short period of time and without harming the environment or other fields. By the construction of these HPP, the natural streams will remain unchanged, these solutions are cheaper and do not try to regulate the flows and to fulfill other water needs. Through these HPP, the production of electricity will depend on the natural flows during the year. At the beginning, the study was spread at all the rivers or their main branches. At the first and general comparisons, the rivers with small water quantities or not enough geodesic potentiality were excluded. In these studies, at this phase were excluded also the mountain torrents at high quotes, this for the difficulties in constructing and using them especially during the winter freezing. These sources will remain as studying possibility at a latter phase.

At the begining, it was thought to include about 15 rivers, with 25 HPP variants in the study. Through the first comparisons and visits to the sites, a part of them was excluded. At this stage, 18 HPP were analyzed up to a preliminary scheme-idea. For the rivers presenting more hydro-energetic interest, the schemes were compiled for their entire or partial use. For these rivers, those parts of the river that are hard to use or could result in high costs were excluded - as well as in order not to intervene in the environment, such as some of the areas of present interest for mountain tourism. In the study, even those parts of the river that are inhabited, where social or environmental problems could be raised were excluded. From the analysis of the topographic and hydrologic materials, the rivers and the HPP that might be interesting to be studied further on were found. The studies done could bring some concentration to some zones that have apparently hydro-energetic parameters, such as: Area 1 - North-west Peje-Junik, Area 2 - South-east Dragash-Prizren, Area 3 - North of Mitrovica, Area 4 - East of Llapi.

Area 1, is very interesting. In this area the rivers have more flow and what is more important, even the geodesic potential is considerable, so the hydro energetic gradient (kWh/km²) is at maximum. From all the rivers of the area an average production of about 194 million kWh/year could be gained, separated between the rivers:

- Lumëbardhi of Peja with a yearly production of 79 million kWh/year.
- Lumëbardhi of Deçan with about 64 million kWh/year.
- Lumëbardhi of Lloçan with about 14 million kWh/year.
- Erenik river with about 37 million kWh/year.

Area 2 is ranked second, based on the hydro energetic gradient. From all these rivers an average yearly production of about 69 million kWh/year could be attained, separated between the rivers:

- Plava River with about 36 million kWh/year.

- Lumëbardhi of Prizren with about 7 million kWh/year.
- Lepenc River with about 26 million kWh/year.

Area 3 is ranked third, regarding the hydro energetic gradient. The rivers Bajaska and Bistrica (Batare) are included in it. An average of about 7 million kWh/year could be attained from these rivers. This area from the hydro energetic gradient point of view is 9 times poorer than Area 1. Area 4 is the poorest area regarding the hydro-energetic aspect, with a ranking about 12 times lower. The river that presented some interest in this area is the river Kaçandoll. About 3 million kWh/year could be gained from this river.

It should also be stressed that among the new HPP there are 5 existing HPP not operating or in operation. The HPP still operating are: Kozhnjer and Ujman. Ujman HPP, with a capacity of 2 x 17.5 MW at an average annual production of 76 GWh, it is the only big HPP that is also used for other scopes. Ujman HPP is the propriety of Ibër-Lepenc hydro-system and operates in the frame of the Kosova power system. Beside the production of electricity, the accumulation of water is used for other destinations (irrigation, drinking and industry). In order to activate, modernize and increase the power of Kozhnjer HPP, the KEK, signed on 29.04.2004, by special procedure, two contracts with the company Triangle General Constructors from New York: Leasing contract, and Power Purchase Agreement. After the start of the operations, it is expected that: the HPP annual production will be: 20,756 MWh/year, and installed capacity 8 MW. The project realization is finished and since 18.11.2005 the central is operating.

The total hydro-technique potential that can be used from the HPP is 75.22 MW and the energy that can be produced is 344.6 GWh.



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ENERGY COMMUNITY TREATY - ELECTRICITY AND GAS ROADMAP

The Treaty for establishing the Energy Community has been entered in force on the 1st of July 2006. The long-term objective of the Treaty is effective competition delivering real benefits for electricity and gas to consumers, throughout Energy Community, a stable regulatory framework facilitating investments, secure supplies, choice, and energy suppliers able to market their services to all consumers across the Energy Community. Compare to the western Participating Countries (Italy, Greece, Austria etc.) the eastern Contracting Parties of the Treaty (Albania, Montenegro, Bosnia and Herzegovina, Kosova, Macedonia, etc.) are characterized by small emerging markets, poor interconnection of their networks, unregulated electricity transit and limited production as well. This

situation and the treaty provisions implied that electricity and gas roadmaps to be prepared and adopted by all Contracting Parties. After a common approach of the Parties with Energy Community Secretariat, they were prepared and finally approved by the last Ministerial Council (17 November 2006 in Skopje) the Electricity and Gas Roadmaps for each Contracting Party, including Albania. The Roadmap is composed of three parts: structure, action plan and check list or guidelines for each action, both in electricity and gas issue. The structure of the Roadmap contains six chapters, from which the first one aims to ensure that provisions of the EC Directives for electricity and gas, are transposed. The information required in this chapter is a reference to the national legislation, indicating both the legal disposition and the relevant articles, in case that the Directive's provisions are adopted accordingly.

The overall deadline for the transposition of the electricity and gas acquis is the 1st of July 2007, except for the eligibility calendar, which is January 2008 for non-household consumers and January 2015 for household consumers. The relevant acquis to be transposed during that period of time are in regard with General Rules, Generation, Transmission and Distribution Unbundling, Transparency of Accounts, Access to the System as well as Final Provisions. There are a lot of provisions included in the subchapter General Rules of acquis, which are addressed in our existing legal framework, such as provisions on the Imposition of Undertaking, Customer Protection, Public Service Obligation, Security of Supply and Technical Rules. The Customer Protection issue is addressed by both the Customer Protection Law and the Power Sector Law, but is not fully compatible with EU standards. We have foreseen in the Roadmap a particular action in order to review the Customer Protection Law, and to make it fully compatible with EU Directive, by the end of May 2007.

The Public Service Obligation requirements of the relevant acquis are defined by the Power Sector Law and also by the Grid Codes and Type of Contract, adopted by the Albanian Electricity Regulatory Body (ERE). The Security of Supply issue is addressed by the Power Sector Law, the National Strategy of Energy and the Transitory Market Model adopted by the Government of Albania (GoA), in 2004. But we have updated the Market Model during 2007, in order to make it fully compatible with Energy Community Treaty requirements. The Technical Rules subchapter is covered by the Power Sector Law, the Transitory Market Model and Grid Codes approved by ERE, in 2005. In Generation Area they are two very important provisions of the EU Directive to be filled in; Authorization and Tendering Rules for new generation capacities. The Authorization procedures for generation capacities are covered by the Power Sector Law. Based on their provisions, the ERE grant licenses for the construction, installation and operation of the Power Plants. The ERE has adopted for this purpose Licensing Practices and Procedures, since 2004.

The Tendering Rules for new capacities are included in a new Concession Law which was prepared by GoA and has to be adopted by the Parliament, within March 2007. There are foreseen a lot of interventions to implement the provisions of the EC Directives regarding Transmission and Distribution System Operators, such as designation, tasks, unbundling, dispatching,

balancing, transparency, etc. The Albanian Transmission System Operator (TSO) was established in July 2004, pursuant to the Power Sector Law. The TSO general tasks are defined by the Power Sector Law as well as its amendments. The TSO tasks are addressed also by the Transmission Code, approved by the ERE. The TSO is unbundled in its legal form, organizational and decision making and the Market Operator is situated within it. In the Roadmap is predicted to complete full TSO ownership unbundling by the end of 2006 and later to develop its Market Operator functions. The Albanian Distribution System Operator (DSO) existing status is in the form of Distribution Division within KESH. The DSO tasks are defined by the Power Sector Law and by the Distribution Code, approved by the ERE. There is a very important action included in the Roadmap regarding restructuring and consolidation of the DSO, before its unbundling and privatization, within 2007. During the reviewing of the Transitory Market Model we have to consider a distribution public supplier option related to the provision of network services and electricity supply to regulated customers.

The Market Rules adopted by the ERE define responsibilities regarding Dispatching, Balancing and Use of Interconnectors. On the other side Confidentiality provisions are addressed by the Grid Codes, as well as by the Market Rules. The Power Sector Law envisages the unbundling of accounts of transmission and distribution competition activities. But we have to continue with a practice of an independent audit and publishing of the accounts of all electricity undertaking. The Third Party Access (TPA) to Transmission and Distribution Grids is in place according to stipulation from the Transitory Market Model and Market Rules.

Based on the Power Sector Law provisions, the ERE has approved Cost Reflective Methodologies to determine Network Tariff Access. The access to the network is allowed on the basis of transparency and non discrimination. In the frame of Market Structure we have to promote competition in the power sector and extend cooperation between the ERE and the Competition Authority. Following the generation unbundling and privatization, we have to take measures for improvement of market competition applying analytical techniques consistent with the best practices. The promotion of further structural developments of the KESH and the finalization of a detailed action plan for the implementation of the National Strategy of Energy, by 2015, is another intervention foreseen in our Roadmap.

In the Wholesale Market issues, the development of a balancing market and an auxiliary services market as well as the implementation of the Transitory Market Model, remain very important actions of the Roadmap. In this prospective a continuous review of the Market Rules in parallel with Market Model, has to be done. In the retail market issue we have to ensure that all non household customers will be granted the eligibility status, as from January 2008 according to the Treaty, Annex 1, Paragraph 2. Regarding that Treaty provision, we have to bring out appropriate decisions concerning the market opening and permit to all non households consumers to take electricity from wherever they want, from 1st of January 2008, without any additional costs or consequences that prevent them to change their suppliers.

In Tariff Reform and Affordability issues, we have to continue our tariff reform on the basis of cost-reflectivity and to compensate vulnerable customers for the increase of tariff according to recently introduced subsidized scheme, approved by the GoA.

The Gas Roadmap has the same structure as the Electricity Roadmap, but in the case of Albania the gas sector is undeveloped and we have to start from the beginning. In the Action Plan, there are foreseen a number of actions, starting from the institutional and legal framework as well as the concept of the gasification of the country, taking into account the conclusions and recommendations of the Gas Study, under the lead and auspices of the World Bank and KfW.



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PROJECT “ACCELERATION OF THE COST-COMPETITIVE BIOMASS USE FOR ENERGY PURPOSES IN THE WESTERN BALKAN COUNTRIES”

1. Background

The ongoing reforms in the energy sectors of the Western Balkan Countries (WBC) call the social problems to the top of the political agenda. Price increases in electricity and fuels are of the greatest public concern, occupying also the political attention of the governments. Although the environmental issues hold the international attention and, especially, given environmental standards necessary for the EU accession, they have not risen to an equivalent level of political importance. The WBC are rich in Renewable Energy Sources, among them most promising being forest and agricultural residues and process wastes. There is an important need to put forward an effective tool to cope with these problems and to contribute to the security of energy supply of the countries and the region as a whole: deployment of the use of a wider range of biomass products for energy purposes. Furthermore, in the WBC, the opportunities for sustainable and competitive production of biomass fuels from forest and agricultural residues and wood processing waste have to be first investigated and then utilized.

Under such circumstances, feeling the responsibility of the role to play, the Albania-EU Energy Efficiency Centre (EEC) in collaboration with the Black Sea Regional Energy Centre (BSREC) of Bulgaria, the Centre for Economic, Technological and Environmental Development (CETEOR) of Bosnia & Herzegovina, the Energy Institute “Hrvoje Pozar” (EIHP) of Croatia, the Macedonian Geothermal Association (MAGA) of Macedonia, the National Agency for New Technology, Energy and Environment (ENEA) of Italy, and the Faculty of Mining and Geology at the University of Belgrade (UB, FMG) of Serbia and financially supported by European Community, in the frame-

work of the project “Acceleration of the Cost-Competitive Biomass Use for Energy Purposes in the Western Balkan Countries” (ACCENT), intends to carry out a set of activities to support the solution of the above-mentioned issues.

2. Project Description

The purpose of the ACCENT project is to develop cost competitive and environmentally friendly solutions for small and medium-scale biomass fuels production, distribution and use in the residential sector and SMEs in the WBC. The project aims to significantly contribute to the attainment of the environmental benefits resulting from the replacement of fossil fuels by biomass, which by no doubts have both local and European dimensions. The local, European and global environmental benefits, find their expression in mitigation of the climate change, improvement of the environmental parameters, assistance to the WBC to comply with the multilateral environmental agreements. In the context of the expected EU membership of these countries, the increased share of biomass fuels will contribute to the EU compliance with the Kyoto Protocol and other EU obligations. In addition, the deployment of biomass use for energy purposes have versatile positive impact and will contribute not only to the security of energy supply of the WBC, but also to the achievement of the EU targets after the forthcoming EU membership of these countries. For the WBC, except the benefits related to the environment and the EU membership, the identification of economically feasible options that meet the energy needs would favour the WBC and the EU producers of technologies for production and combustion of various biomass fuels and will strengthen the mutual trade and the varied economic activities.

These purposes will be achieved through the following activities:

- Review of the residential heating and heat production in SME-s in the WBC.
- Assessment of opportunities for production of wood chips, bio-briquettes, and bio-pellets in the WBC.
- Identification of optimal combustion technologies in the WBC.
- Analysis of the impact of the expanded use of biomass fuels in the WBC.
- Identification of opportunities to encourage the energy utilization of biomass in the WBC.
- Dissemination of information and project results.

In Albania, all activities of this project are implemented by EEC under the leadership of BSREC and in close coordination with CETEOR of Bosnia & Herzegovina, EIHP of Croatia, MAGA of Macedonia, ENEA of Italy, and UB, FMG of Serbia.

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



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