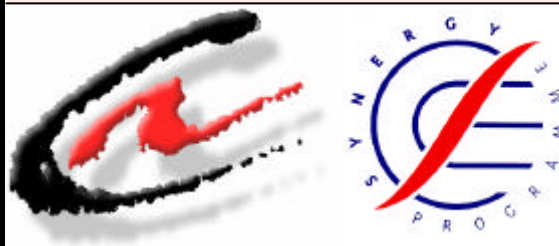


# THE ENERGY IN ALBANIA



## THE ENERGY IN ALBANIA (NEWSLETTER)

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### NATIONAL STRATEGY OF ENERGY

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

#### Second Part - Energy Scenarios

With the purpose of analysing and forecasting the development of the energy sector in the future as regards of energy supply and demand with energy sources compiled various scenarios representing the possible "path" for the future development of the energy system. Two scenarios have been analysed more in details:

- **The Passive Scenario:** according to which the Government measures in the frame of the Power Policy Statement for the short-term period (till 2006) are considered not rigorously applied according to the action plan. The scenario indicates that the non-implementation of the measures creates great difficulties and obstacles for the energy sector in general and the electricity sector, in particular. The Scenario provides a quantitative assessment of the energy demands and the cost to fulfill them, indicating the necessity for a rigorous implementation of the Power Sector Policy Statement, in order to avoid the total collapse of the energy system.

- **The Active Scenario:** The scenario implies the stability of the Albanian energy sector development in general and electricity sector, in particular, by rigorously implementing the Power Sector Policy Statement till years 2006-07. The Active Scenario describes the additional measures (besides those provided by the Statement) for the period year till 2007 and for the long-term period 2007-2015. It provides a quantitative description of the measures needed to increase the energy efficiency and to introduce alternative

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## NEWSLETTER

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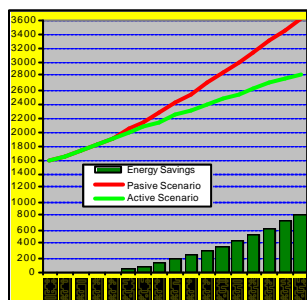
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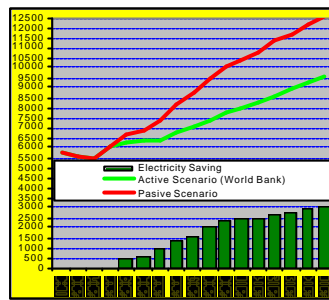
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sources in the energy system. The Scenario shows that these measures will transform the energy system into a supporting sector for the development of the Albanian economy and the growth of the general standard of life.

The calculation in the National Strategy of Energy are done by using a general model of energy adapted for the Albanian conditions, the LEAP software (Long Energy Alternative Planning), which ensure necessary analyses and give recommendations close to the Albanian reality. The software illustrates the different scenarios till 2015 and the consequences of the energy policy and external effects related to them. In order to use this software the specialists from the National Agency of Energy have been trained three times in Boston (SEI Institute) and Albania.

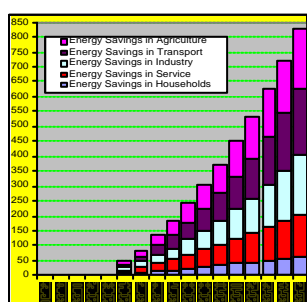


**Fig. 1. Forecast of energy demand and saving (ktoe)**

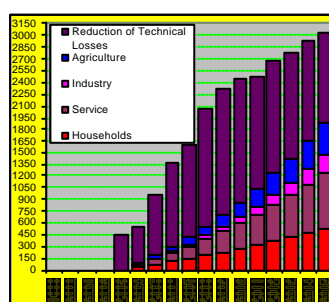


**Fig. 2. Forecast of electricity demand and saving (GWh)**

Based on sectorial analysis also realised by LEAP software, it is carried out the total amount of energy demand by each scenario and by each sector. As it is shown in Figures 1 and 2, are given the total energy demand forecast in general and electricity in particular by each sector and scenario. Regarding of the Passive Scenario; total energy demand goes up to 2800 ktoe in 2015. Concerning electricity demand respectively for Passive Scenario is 12,500 GWh and for Active one 9,500 GWh, in year 2015. Figure 3 shows energy savings according to active scenario and Figure 4 shows electricity savings according to different energy efficiency measures and analysis show a level of electricity savings of 3,056 GWh in 2015, with the main contribution from reduction of technical losses followed by savings in service, residential and industry.



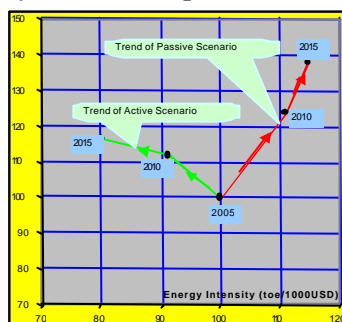
**Fig. 3. Energy saving in each sector according to both scenarios (ktoe)**



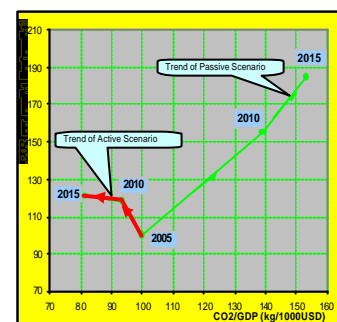
**Fig. 4. Electricity saving in each sector according to both scenarios (GWh)**

In Figures 5 and 6 are shown the trends for four very important indicators: the energy consumption per capita, the energy intensity, CO<sub>2</sub> per capita and CO<sub>2</sub> per GDP. The analysis demonstrates that the development of energy sector according to the Passive Scenario will lead to a growth of the energy consumption per capita by 38.1 % (an advantage), but in the same time it will increase significantly the energy intensity by 14.1 % (a disadvantage) in year 2015. The trend of both above indicators according to the Active Scenario is in the right direction

because by 2015 the value of energy intensity is expected to be 20.01 % lower than in 2005 (an advantage) and the value of energy consumption per capita is expected to be increased by 16.5 % compare to year 2005 (an advantage as well). Therefore, Albanian Government by approving the National Strategy of Energy submit itself to implement this very important document and to implement all steps in order that energy sector to be developed according to active scenario. In other words, the Albanian economy will consume less energy to produce the same output unit becoming more competitive and gaining more markets, creating more jobs and providing a higher welfare. The trade deficit will be reduced as well enabling the use of financial means for different investments in the Albanian economy. The analysis shows that both indicators (CO<sub>2</sub> emissions per capita and that per produced GDP) increase for the Passive Scenario demonstrating that this scenario is unacceptable from environment point of view. By year 2015, the emissions per capita are expected to increase by 84.8 % while the CO<sub>2</sub>/GDP indicator is expected to increase by 53.4 % compare to year 2005. As regards the Active Scenario, a development toward the right direction is expected, accompanied with a decrease of CO<sub>2</sub>/GDP indicator by 19.3 % and an increase of CO<sub>2</sub>/capita indicator by 20.5 % compare to year 2005. The increase of the second indicator is not a positive sign, but it should be underlined that the emissions decrease by 64.3 % compare to the Passive Scenario.



**Fig. 5. Trend of energy intensity and energy consumption/capita**



**Fig. 6. Trend of emission intensity and emission/capita**

The total cost of energy system according to the Passive Scenario is expected to rise from US\$ 211 million in 1999 to US\$ 1,210 million and in Active Scenario 876.4 million (2015). Very important issue to be highlighted is the fact that the ratio of energy cost between the GDP of the Albanian economy will increase from 9.51 % in year 1999 to 24.02 % for passive scenario (2015). Differently from the Passive Scenario, according to the Active Scenario the ratio of energy cost between the GDP of the Albanian economy is expected to increase from 9.51 % in 1999 to 17.20 % in year 2015. This fact constitutes another most important advantage of the Active Scenario. For that reason, to achieve all the goals and objectives resulting from the Energy Strategy, must be implemented the Strategy Action Plan.



**Dr. Eng. Besim ISLAMI**  
**Chairman**  
**National Agency of Energy**

## KIEV MINISTERIAL CONFERENCE "ENVIRONMENT FOR EUROPE"

During 21 - 23 May 2003, in Kiev (Ukraine) was held the 5<sup>th</sup> European Ministerial Conference "Environment for Europe". The Conference has been welcomed and greeted by the President of Ukraine Mr. Leonid Kuchma, high representatives of UNECE and EC Commissioner Ms. Margot Wallstrom. Albania has been represented at the Conference by a delegation headed by Minister of Environment, Mr. Lufter Xhuveli.

In its first Session, under the item "State of Environment", the issue of environmental policy and its integration has been treated; the Report on the State of Environment prepared by the Environmental European Agency has been promoted, and the experience from the process of Environmental Performance Review reports in many countries has been shared by the UNECE. At this Session a speech by the Minister of Albania, Mr. Xhuveli has also been given on behalf of the Government of Albania. Minister Xhuveli pointed out that environmental issues in Albania are actually getting a stronger support by the Government itself and from the other side civil society has become more & more aware, bringing an increased participation in the process of decision-making. Minister Xhuveli then has been focused on the issue of biodiversity and protected areas; he stressed the opinion that protection of biodiversity doesn't mean only protected areas; he expressed the will of the Government of Albania to increase the protected areas from 6 % being actually up to 15 % in 2008; he mentioned that a bigger attention has to be paid to the erosion, while very important ones are the issues of environmental legislation.

The Ministerial Conference then continued with the Extraordinary Meetings of the Parties of Convention on Transboundary Impacts of Industrial Accidents, of Convention on Environmental Impact Assessment in Transboundary Context and of Convention on Access to Information, Public Participation in Decision Making and Access to Justice on Environmental Matters, in order to adapt the final texts of the respective Protocols expected to be signed at the signing ceremony during the Conference. On behalf of the Government of Albania, Minister Xhuveli signed the Protocol on Strategic Environmental Assessment. The three Protocols will remain opened for signature up to the end of this year in the Headquarters of UN in New York.

Other significant issues treated during the sessions of the Ministerial Conference were Environmental Strategy for Countries of Eastern Europe, Caucasus and Central Asia; Pan-European Biological and Landscape Diversity Strategy; Education for Sustainable Development; NGO's participation; etc. There was even a session devoted to the energy-environment problems, which ended with the adoption of the Ministerial Statement on Energy Efficiency. This Statement after recognising that improved energy efficiency is fundamental to meeting many of our energy and environmental objectives; contributing to sustainable development; improving energy security and achieving many of our economic and social goals both nationally and internationally; states the decision of the Ministers and Heads of Delegations at the Kiev Conference to:

- Encourage national efforts to ensure that our environmental policies and programmes designed to mitigate climate change,

and to achieve the Kyoto targets for those who have them, properly in corporate energy efficiency objectives and measures;

- Improve integration of environmental concerns and energy efficiency into various areas of energy, economic and social policies. The interministerial cooperation, needed to achieve this, should be promoted;
- Support the use of transparent economic and environmental criteria in the comparison of energy efficiency and renewable projects throughout the whole energy cycle, from production to distribution and end use;
- Ensure that environmental considerations will be reflected, where appropriate, in decisions relating to energy policy, and in particular, in the process of restructuring and development of district heating schemes and CHP;
- Support continued reforms aimed at removing, where possible, energy price subsidies which have an adverse impact on the environment;
- Support the funding of activities directed at improving energy efficiency and promote cost effective energy efficiency projects through the use of flexible mechanisms defined under the Kyoto Protocol, in line with specific national and regional development priorities, objectives, circumstances;
- Develop and support, where appropriate, measures aimed at strengthening the participation of energy consumers, the private sector and non-government organizations in identifying priorities and implementing energy efficiency projects;
- Invite the Energy Charter Secretariat in cooperation with other relevant organizations to report through the UNECE on progress in implementing international energy efficiency provisions.

At the end, 5<sup>th</sup> Kiev Ministerial Conference adapted the Ministerial Declaration, where are presented the Achievements in the environmental field, Challenges to confront the adverse impact of present development inside and outside the region, Responses to make them happen, and the optimistic future of the process "Environment for Europe", which has started since 1991.



**M.Sc. Mirela KAMBERI**  
**Director**  
**Environmental**  
**Pollution Prevention**  
**Ministry of Environment**

### PROJECT "ENERGY PLANNING AND ENERGY EFFICIENCY IN KORCA DISTRICT"

#### 1. Background

The availability of energy supply in Albania is one of the key limitations on economic growth and poverty reduction. Electricity and other forms of energy are key inputs to support economic growth, income generation and job creation, industrial activities, commerce, services, communications and transport. During the Albanian transition period, the chronic shortage in power supply has taken forms of sharp crisis especially during

the winter periods. Although the installed national productive capacity is around 1,600 MW, since it is based highly on hydropower production, it lacks efficiency and operates under its nominal capacity because of shortage on water resources as a consequence of prolonged dry seasons.

Other reasons contributing to the worsening of the energetic situation include the lack of sizeable investment in power production, the delays in sector regulation, unbundling and liberalization, the mismanagement of demand and supply balance, the weak cost recovery, the subsidized electricity costs, the pattern of energy consumption, the losses in the power transmission and distribution networks and the level of abuses and non-payment of electricity bills, which is still high.

When focusing on the changes as regards the buildings' use of energy the findings are striking. The structure of the demand has changed especially in the urban areas where electricity now accounts for 60 % of total demand. In rural areas, the historic strong position of fuel wood is still prevailing with almost 60 % of total demand covered by fuel wood. The remaining demand is mainly covered by liquid gas (LPG) and kerosene. Due to the collapse of industries and the increasing energy consumption by households and public buildings, in particular the increase of the demand for electricity, the household & public buildings sector now occupies a growing share of the energy consumption: more than 1/3 of the total energy demand and 69 % of the electricity demand. Another pronounced trend is that a growing share of the each building's energy consumption is directed towards space heating, probably as much as 37-47 % and at national level 70 % of the space heating demand is covered by electricity.

In reply to this daunting challenge the Albanian Government, through a number of actions, strategies and legislation acts is outlining the necessary steps to cope with the situation and develop the energy sector. A set of measures to be taken are identified and contain mainly the improvement of the commercial operation of the electricity sector by reducing theft and improving collection; the liberalization of electricity prices; and the creation of a strong independent electricity regulatory authority.

However, while strategies and plans are being finalized and fine-tuned, it is of great importance to pilot energy efficiency activities and capacity building for improving the management of energy sources at the local level. This importance derives not only from the fact that the current energy situation requires urgent response but also in view of the enactment of the new Law on Local Governance, which gives local authorities for the first time full administrative, service, investment and regulatory competencies on infrastructure, public and socio-cultural services and local economic development.

## 2. Project Description

Within the above context, the project aims at addressing an important aspect of energy supply in the Korca District - with an aim of potential replication of results - in response to the UNDP's global window Thematic Trust Fund on Sustainable Energy criteria. The project aims firstly at supporting local level management of energy resources and proposes ways of improving

energy availability. The project consists also in piloting energy efficiency measures in some public buildings in the Korca District by reviewing the patterns of energy consumption in those areas and promoting ways and means to apply energy efficiency measures in the public (rural and municipal) sector. Some of the activities under this project are:

- Evaluation of current and future energy situation in public building stock of Korca District;
- Evaluation of current energy efficiency situation in public building stock of Korca District;
- Identification of local energy sources and energy efficiency measures including renovation of the buildings;
- Research of potential energy saving measures in public building stock of Korca District;
- Conduction of several energy surveys and audits in selected public buildings;
- Feasibility studies for the implementation of energy efficiency measures in the public building stock;
- Estimation of the investment needs and cost benefit analysis by introducing thermal insulation and other energy efficiency measures in selected public buildings;
- Evaluation of GHG emissions without considering/considering energy efficiency measures;
- Pilot implementation of energy efficiency measures in selected public buildings;
- Elaboration and delivery of a short handbook as guidance for energy efficiency measures and utilization of local energy sources at local administration level;
- Improving guidance and capacity building in the energy planning and energy efficiency within the local government level and the communities;
- Dissemination of project results and best experience to other areas, promoting capacity building and opportunities for replicating activities.

## 3. Remarks

The project has started in June 2003 and will be implemented by the Albania-EU Energy Efficiency Centre (EEC) within March 2004. The project will demonstrate the advantage of applying energy efficiency measures through an accurate quantitative and qualitative analysis indicating the practical technical and social impact and benefits of energy use against the baseline of the pre-project situation. The project will establish linkages and interact with the overall UNDP programme policy and coordination structures as well as with specific UNDP and other ongoing activities addressing energy, environment, social or governance issues in the same project area or in a similar context.

EEC aims at disseminating the project final results to other regions of the country and advocate for the potential increase of energy savings and supply through the application of energy efficiency measures in a large scale.



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