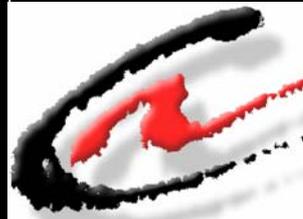




# THE ENERGY IN ALBANIA



## THE ENERGY IN ALBANIA (NEWSLETTER)

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### ALBANIA'S TECHNOLOGY NEEDS ASSESSMENT

#### 1. The Context of Technology Transfer Under the UNFCCC

The United Nations Framework Convention on Climate Change (UNFCCC) represents a global accord, which joins all Parties under a global effort to address climate change issue. The overall objective of the UNFCCC, as indicated in the Article 2 is to achieve, in accordance with relevant provisions of the Convention, stabilization of GHG concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner. Achieving the ultimate objective of the UNFCCC will require technological innovation and the rapid and widespread transfer and implementation of technologies, including know-how for mitigation of GHG emissions, reducing the vulnerability and adaptation to climate change. Sustainable development globally will require radical technological and related changes in both developed and developing countries. Economic development is most rapid in developing countries, but it will not be sustainable if these countries simply follow the historic pollution trends of industrialized countries. Rapid development with modern knowledge offers many opportunities to avoid bad past experiences and move more rapidly towards better technologies, techniques, and associated institu-

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## NEWSLETTER

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### Address:

Blvd. "Zhan D'Ark", No. 2, Tirana, ALBANIA

P.O. Box 2426

Tel: + 355 4 233 835 Fax: + 355 4 233 834

E-mail: [info@eec.org.al](mailto:info@eec.org.al)

Internet: [www.eec.org.al](http://www.eec.org.al)

tions. But to achieve this, developing countries will require assistance with developing human capacity (knowledge, techniques, and management skills), developing appropriate institutions and networks and with acquiring and adapting specific hardware. Article 4.5 of the UNFCCC urges developed countries to take all practicable steps to promote, facilitate, and finance, as appropriate, the transfer of, or access to, environmentally sound technologies and know-how to other Parties, particularly developing country Parties, to enable them to implement the provisions of the Convention. By decision 4/CP.4, the COP urges non-Annex 1 Parties to submit their prioritized technology needs, especially those relating to key technologies to address climate change. Decision 2/CP.4 directed the Global Environment Facility (GEF) to provide funding to developing countries to assist with this process of Technology Needs Assessment (TNA). The GEF has responded to this request by providing assistance through Additional Financing for Capacity Building in Priority Areas (Phase II top ups).

## 2. What is Technology Needs Assessment ?

The UNFCCC identifies TNA as one of the five key elements of a framework to enhance technology transfer. The elements of the technology transfer are: 1. Technology needs and needs assessment; 2. Technology information; 3. Enabling environments; 4. Capacity building; 5. Mechanisms for technology transfer. This framework, to facilitate and enhance technology transfer activities under the UNFCCC, is based in large part on examination of the experience gained through existing technology transfer initiatives between developing countries and donor organizations. According to the Intergovernmental Panel on Climate Change (IPCC), "technology transfer" means a set of processes covering the flows of know-how, experience and equipment for mitigating and adapting to climate change amongst different stakeholders such as governments, private sector entities, financial institutions, NGOs and research /education institutions. TNA as a component of the technology transfer process is a mean by which assessment of development, climate response needs, and opportunities are brought together and integrated. TNA is a complex process, it is not a stand alone activity; rather it is a continuation of the work most countries have already carried out or identified/recommended in their National Communications and through other activities to enhance technology transfer. TNA entails the identification and evaluation of technical means for achieving specified ends. From a climate change and developmental perspective, TNA would identify technologies, practices and reforms that might be implemented in different sectors of a country to reduce GHG emissions, vulnerability to climate change, and to contribute to development goals.

## 3. TNA Exercise in Albania

The TNA exercise in Albania is mainly guided by "UNDP/GEF Handbook on Methodologies for Technology Needs Assessment" - final Draft, January 2003; the IPCC "Special Report on Methodological and Technological Issues in Technology Transfer", January 2000; "The Albania's First National Communication (AFNC) to the UNFCCC", July 2002 and other countries experiences. They have shown that the technology needs assessment process should be tailored to fit country specific circumstances. Albania's TNA process considers both abatement and adaptation. It has passed through the consequence of the

following steps: 1. Undertake preliminary overview of options and resources; 2. Identify criteria for assessment; 3. Select key technologies; 4. Identify barriers and policy needs; 5. Define and select actions; 6. Prepare a synthesis report on TNA.

The TNA is designed as a sector-by-sector approach. Sectors under consideration are those affected by both processes - GHG emissions abatement and adaptation to climate change. The range of sectors under consideration for the TNA for abatement of GHG emissions includes: (i) Energy and Transport; (ii) Land use change and forestry; (iii) Agriculture; (iv) Waste management and Industrial Processes. The TNA for adaptation is focused on the coastal zone, as it was selected as the most vulnerable area of the country, according to the findings from the AFNC. The range of sectors under consideration for the TNA for coastal adaptation includes: (i) Water resources; (ii) Agriculture; (iii) Forestry; (iv) Health; (v) Tourism and settlements. The most important step of TNA exercise was the prioritization of technologies. The identification of the highest priority technologies required a view of the contribution that new technologies in different sectors might make to social, environmental and development goals. For selection of priorities the tool of prioritization matrix has been used. Criteria are chosen through many consultations with experts and stakeholders and weight of each criterion is determined as well. Experts have independently allocated scores for each criteria and afterwards scores are totaled and technology options with highest scores are considered as priorities.

## 4. Main Findings of TNA in Energy & Transport Sector

The package of around 25 technology options already analyzed for the energy and transport sector under the AFNC have been screened and evaluated on the basis of above assessment criteria. A ranking process of the scored technologies has followed and a set of top 4 technologies has been selected as key ones for intervention. These top 4 technologies that would be a Tier 1 of priority technology options are as following:

1. Introducing thermal insulation of households/service (buildings),
2. Introducing combined heat and power plants in public buildings and private buildings (hotels, etc.) in service/industry sector,
3. Introducing solar panels for hot water supply instead of electric boilers in households/service sector,
4. Introducing public passenger transport with buses and trains instead of cars and mini buses.

However, there is a Tier 2 of other technology options that are estimated as of lower score but easier, cheaper and faster to be implemented such as:

1. Introducing efficient light bulb,
2. Introducing efficient refrigerators in household/service sectors,
3. Introducing prepayment electricity meters in household sector,
4. Introducing thermos time switches in electric boilers (for DHW) in household sector.

A number of barriers that can hinder and remains as challenges for the technology transfer process in energy sector in Albania are identified. They are identified through a broad consultative process with key stakeholders. These barriers are of different categories such as: economic, organizational, legal,

information, awareness, etc. A package of policies and measures required for abatement of GHG emissions have already been proposed under National Climate Change Action Plan, developed under the AFNC. As indicated there, sectorial measures and policies are addressed. This package of measures is highly taken into consideration during the phase of preparation of the National Strategy of Energy and is fully reflected into the Action Plan for implementation of this Strategy. Actions needed in the framework of the technology needs, already identified for the energy sector in Albania are addressed in the form of project needs. Therefore a package of possible project proposals is designed by experts for each of key technologies for energy sector. Each project idea consists of the main objectives, expected outcomes, linkages to the development priorities, potential stakeholders, respective barriers, GHG reduction potential, and financial cost. Innovative financing sources and schemes are needed for enabling the implementation of the above projects. The most possible and significant resources might come from GEF, World Bank, CDM, etc.



**Ermira FIDA, MBA**  
**National Coordinator**  
**UNDP-GEF Projects for**  
**Climate Change**

## **THE PLATFORM FOR AIR QUALITY IMPROVEMENT**

As conclusions of air quality monitoring, which is carried out by the Institute of Public Health, in accordance with the Yearly National Monitoring Program, the attention is drawn upon the fact that urban air of monitored cities (mainly of Tirana and Elbasan) is considerably polluted (high levels and an increasing trend for PM<sub>10</sub>, NO<sub>2</sub>, O<sub>3</sub>, and Pb). This pollution is mainly related with: 1. Industrial sector (emissions into air beyond allowed standards mainly by the industry in Elbasan); 2. Transport sector (number of cars, great part of which is outdated, the poor fuels quality, the poor roads quality); 3. Civil works sector (respective construction regulations are often not respected); 4. Cleaning of cities (cleaning contracts and permissions are often not respected); 5. Smoke containing toxic substances coming from burnings of waste in respective waste uncontrolled landfills. With a clear duty to build a platform towards improvement of air quality, initiated by the Ministry of Environment (ME), the Prime Minister ordered the establishment of the Inter-Ministerial Group headed by the ME with representatives from Ministry of Industry & Energy (MIE), Ministry of Transport & Telecommunication (MTT), Ministry of Regulatory Adjustment & Tourism (MRAT), Ministry of Local Authority & Decentralization (MLAD), and Ministry of Finance (MF). The following set of measures are designed by the above mentioned Group to be applied, within the period 2004-2006, by the respective institutions within the country:

### ***In the Field of Transport:***

1. The entering into force, within Dec. 2004, of allowed norms for the air emissions coming from the mobile sources (the draft

of which has already been done and is under consultations with the respective institutions); 2. The General Directory of Transportation have to take measures, within the first quarter of 2005, to build the necessary infrastructure for the periodic control of the transportation means as far as air emissions are concerned; 3. MIE will take the necessary steps for the unification of national standards with European ones as far as imported fuels are concerned. Measures are to be taken also for the control of these standards. This Ministry will also prepare, within a short period of time, national standards for imported lubricants oils in line with european standards; 4. For domestic fuels that do not respect the EU standards, respective acts are to be drafted in order to allow their usage only for agriculture means, marine transportation, fishing and for the space heating purposes; 5. MIE and other responsible institutions have to respect the Action Plan following the National Strategy of Energy - point IV.3.1.9 - Promotion of public transport and other measures in the transport sector; 6. A National Strategy for the Sustainable Transport is to be prepared, which will consider among others, the promotion of public transport and other environmentally friendly transportation means, like bicycles, etc.; 7. The local authorities will prepare, within 2005, in cooperation with ME, MTT and MRAT, their local environmental action plans, where measures are to be foreseen for the improvement of the roads quality and the road transport circulation to avoid the biggest cars flux in the middle of their cities and communes; where rules are to be prepared for the cars parking, etc., in order to minimise their pollution.

### ***Fiscal Measures:***

A set of measures, starting with some improvements within 2004, of the Law No.9158, dated 12.12.2002, "On the fiscal system in Republic of Albania changed with Law No.9158, dated 18.12.2003", which aim at the improvement of the structure of the transport means by: 1. Promotion of the new cars, which use gasoline, instead of diesel cars; 2. Increase of the fiscal obligations for distributors of the second hand cars and spare parts compared with those of new ones; 3. Minimization towards eliminations of the import of used tires which do bring pollution within the country; 4. Preparation of the act which do prohibit the burning of tires.

### ***In the Field of Industry:***

1. The enforcement of the Decision of CM No.435, dated 12.09.2002, "On air emissions standards in the Republic of Albania", which deals with the new industry, and of Decision No. 248, dated 24.04.2003, "On temporary air emissions standards in the Republic of Albania", which deals with the existing industry; 2. The respect of Decision of CM Nr.103, dated 31.03.2002, "On the environmental monitoring in the Republic of Albania"; 3. The preparation and application of Action Plan in support of the National Strategy of Non-food Industry, as far as environmental protection is concerned; 4. The local authorities will prepare local environmental action plans in cooperation with ME and MIE, where measures are to be planed in order to improve the air quality from all industrial activities of their regions - within December 2005.

### ***In the Field of Construction and Civil Works:***

1. The assessment of Urbanistic Law in order to better reflect the environmental concerns and sustainable development; 2. The improvement of the construction regulations in order to reflect better the environmental protection concerns; 3. The reconsideration of the competencies between construction policy

and municipal one in order to increase the effectiveness of their controls as far as civil works are involved and environment is concerned; 4. The reconsideration of the construction standards in connection to the report between building and green areas, favouring the last ones.



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

## **INTRODUCTION OF ENERGY EFFICIENCY CONCEPT IN PUBLIC BUILDINGS STOCK OF KORÇA DISTRICT**

### **1. Background**

In Albania, energy efficiency issues are currently incorporated in a number of strategies and action plans such as the Strategic Energy Action Plan for Power Sector (February 2001), Action Plan for Implementing the Power Sector Policy Statement (April 2002), National Strategy of Energy (June 2003), Action Plan for Implementing the National Strategy of Energy (September 2003), Draft Energy Efficiency Law (June 2004), etc. These documents outline the policy measures as well as practical actions to be taken in a time span lasting up to 2007. However, while strategies and plans are being finalized, 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 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. With the decentralization, the local authorities are going to become key players in energy and environment matters, particularly in energy efficiency.

Starting from these assumptions, the Albania-EU Energy Efficiency Centre (EEC) has developed the project "Introduction of Energy Efficiency Concept in Public Buildings Stock of Korça District", located in south-eastern Albania, and has submitted it for funding to the UNDP Office in Tirana. After the discussions and the improvements of the proposal done during the preparation of the final version, in collaboration with UNDP Offices in Tirana and Bratislava, Ministry of Industry & Energy and National Agency of Energy in Albania, funding has been assured from TTF Energy Thematic Trust Fund.

### **2. Project Development**

Korça District is one of the coldest regions of Albania. The heating degree-days for this district are more than 2400, which is one of the highest values in Albania. This means that this district needs more energy than other parts of Albania for the buildings' space heating and other services. According to preliminary calculations, this district consumes 8.5-10 % of total

primary energy sources of Albania. This is the main reason why it was decided to work in the Korça District at local level. Korça District has 2 towns and 14 communes. The total area of the district is 1,752 km<sup>2</sup> and the population is about 144,000. Korça District ranks 6th in the list of districts with the higher number of population and has about 5 % of the total population of Albania. The share of population for the Korça District is 40 % in the cities and 60 % in the villages. The households/public buildings energy sector is one of the important energy consuming sub sectors in the Korça District. Its importance is highlighted by the fact that it consumes large quantities of electricity and fuel-wood.

Within the above context, the project has aimed at addressing an important aspect of energy supply in the Korça 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 has aimed firstly at supporting local level management of energy resources and proposes ways of improving energy availability. The project has consisted also in piloting energy efficiency measures in some public buildings in the Korça 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.

The method used in the Korça District, by the staff of EEC, is based on three main steps: development of a policy plan, development of an action plan, and the implementation of the energy efficiency programme. Each of these main steps is divided into smaller steps. A questionnaire has been fulfilled for all the public buildings (301 buildings) of the Korça District and has served as the basis for elaboration of the database and the energy analysis. The general following division of the public buildings has been used to further study their energy consumption: kindergartens; elementary schools; medium schools; universities; dormitories; small curative centres in communes; policlinics; hospitals; elder houses; administrative buildings of communes, municipalities and district; libraries; cinemas and theatres; police and military buildings. The main findings from the elaboration of the database are:

1. Educational institutions (schools, kindergartens, other pre-school institutions) and health institutions (small curative centres in communes, policlinics, hospitals) form the biggest number of buildings and also have the biggest number of people frequenting them (16 thousand people).

2. The other groups of buildings are considerably smaller in number and volume and also the number of people frequenting them is relatively small compared with the health and education institutions.

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



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