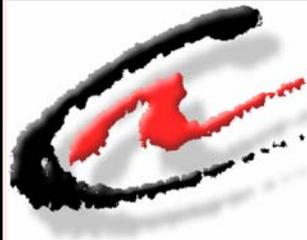




THE ENERGY IN ALBANIA



THE ENERGY IN ALBANIA (NEWSLETTER)

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MUNICIPAL ENERGY EFFICIENCY PLANNING IN ALBANIA - STAGE 2

1. Background

In Albania, energy efficiency issues are currently incorporated in a number of strategies and action plans that outline the policy measures as well as practical actions to be undertaken in a time span lasting up to 2015. 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 municipal 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 social services and local economic development. With the decentralization, the local authorities are going to become key players in energy and environment matters, particularly in the energy efficiency issues. As a part of the ongoing decentralization process to Albanian Municipalities are transferred the responsibility and budgetary obligations for: 1. Operation and maintenance (incl. energy) for administrative buildings, schools, kindergartens and hospitals; 2. Street lighting; 3. Water supply; 4. Waste and garbage. The existing municipal and public buildings do not fulfil the Albanian Energy Building Code conditions, they have walls with a high coefficient of thermal losses and bad insulated windows & doors, and consequently they result with great energy/heat losses. With continuous increase of the en-

Inside this Issue

- MUNICIPAL ENERGY EFFICIENCY PLANNING IN ALBANIA - STAGE 2
- IMPLEMENTATION OF THE ENERGY SAVING LAW IN NEW BUILDINGS AND COUNCIL OF MINISTERS DECISION REGARDING ENERGY BUILDING CODE

NEWSLETTER

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ergy tariffs, the focus on energy efficiency will increase, and more capacities & skills will be needed to ensure a sustainable development at the municipal level.

The year 2009 is the third year that the Norwegian Government is supporting an Energy Efficiency Capacity Building Programme in Albania, and one component of this programme is dedicated to support awareness raising and capacity building in the Albanian Municipal Sector. The Norwegian Ministry of Foreign Affairs commissioned Energy Saving International AS (ENSI) to implement the programme on “Energy Auditing of Albanian Buildings - Capacity Building, Methods and Tools”. Phase 1 & Phase 2 have been completed and funding has been provided for implementation of Phase 3 - continuation of Municipal Energy Efficiency Planning in Albania. Under such circumstances, feeling the responsibility of the role to play, the Albania-EU Energy Efficiency Centre (EEC) in collaboration with ENSI, in the framework of the project “Municipal Energy Efficiency Planning in Albania - Stage 2”, has started to carry out a set of activities to support the solution of the above-mentioned issues.

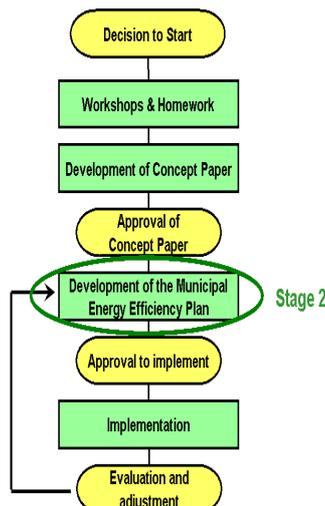
2. Project Description

The Municipal Energy Efficiency Planning (MEEP) Program, implemented by ENSI in collaboration with EEC is designed to be implemented in two Stages. The MEEP Program is aiming to increase the awareness about energy efficiency possibilities in the municipal sector, as well as to increase the knowledge and skills on how to prepare Municipal Energy Efficiency Plans. The Stage 1 of MEEP Program has introduced the principles of municipal energy efficiency planning and capacity building to municipal staff members. It has been comprised of three Training Sessions (workshops) and of intensive homework assignments for the participants after each session. The participants has benefited from EEC’s technical support in between the sessions. The Stage 1 of MEEP Program has included the following activities:

- Selection of 7 municipalities. 2-3 officials from each of them have participated at the three Training Sessions.
- Organising of three Training Sessions for the participating municipalities, presenting the following main topics: Opportunities and barriers for energy efficiency (EE) in municipalities; EE measures in buildings, street lighting and water utilities; and Municipal EE planning.

The main Outcomes from Stage 1 are:

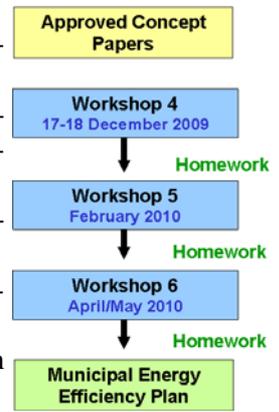
- Consultants and Municipal Specialists has been trained;
- Energy Efficiency Team has been established and started their work;
- Buildings Database has been established;
- Financial Sources has been identified;
- Barriers has been identified;
- MEEP Concept Paper for 5 municipalities has been prepared and Municipality Administration has approved them.



3. Activities under the Project

The Stage 2 of MEEP Program will include the following main activities:

- Organising of three Training Sessions (1,5-2 days each) for the 5 participating municipalities;
- Preparing and translating the updated MEEP Manual;
- Preparing Guidelines for Energy Efficiency in new Albanian buildings;
- Support of Municipal Specialists in preparing MEEP;
- Development of two Energy Audits in two different cities. EEC will develop the energy audits according to the methodology for which training and tools were provided by ENSI;
- Support of Municipal Specialists in presenting MEEP to their City Councils.



The main Outcomes from Stage 2 will be:

- Consultants and Municipal Specialists will be further trained;
- Proposals for removing identified barriers will be developed;
- Energy Audits for projects will be developed;
- Buildings Database will be completed;
- Financial Schemes will be described;
- Routines for Operation and Maintenance will be introduced;
- Municipal Energy Efficiency Plan will be approved for implementation.

The participants will receive manuals and tools tailored for working with energy efficiency in the municipal sector. The Norwegian experts will provide guidance and support during the homework periods, aimed at ensuring good progress and concrete results. The EEC will provide technical support (between the Training Sessions) to the 5 municipalities selected to participate in the Stage 2 of MEEP Program, which will be focused to support the participants during the process, mainly by assisting with their homework assignments as well as to prepare a Municipal Energy Efficiency Plan.

4. Final Remarks

The project has started in December 2009 and it is expected to be implemented within July 2010. This project can be considered as an important step in introducing to the Albanian municipalities the issues such as efficient management of energy resources, thermal insulation of existing buildings stock and consequently bring steady improvements in the long term. At the end of the Stage 2 of MEEP Program, the officials from the selected municipalities will be able to conduct Energy Survey & Audit and prepare the technical report for financing the proposed Energy Efficiency measures. The above-mentioned municipalities will complete their Municipal Energy Efficiency Plan and continue the work for its implementation.



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

IMPLEMENTATION OF THE ENERGY SAVING LAW IN NEW BUILDINGS AND COUNCIL OF MINISTERS DECISION REGARDING ENERGY BUILDING CODE

1. Introduction to Energy Building Code

The rapid growth of electricity consumption in all economic sectors, especially in the residential and service sectors, made necessary the introduction of measures for electricity saving and promotion of use of other alternative energy sources, especially for heating and cooling purposes in building stock of all countries. For this reason was approved the Decree No. 584, dated 2.11.2000 "On Energy Savings and Conservation in Buildings", which provides energy efficiency norms in all buildings constructed for dwellings as well as other public and private buildings (excluding industrial buildings). According to this Decree, in such buildings should be installed central heating systems using whatever type of fuel except electricity. The Decree envisages that the Councils of Territorial Adjustment of each Municipality/Commune will approve the construction permissions only after the project contains detail engineering design of the installation of central heating systems. In the same line with the above Decree is the Law No. 8937, date 12.09.2002 "On Heat Conservation in Buildings". The aim of this Law was to establish the necessary legal basis for setting up the rules and making mandatory actions for conservation of heat in buildings of whatever purpose they are built (excluding industrial buildings). According to this Law, all buildings to be constructed after this Law enters in force, shall observe the normative volumetrically coefficient of thermal losses (Gv), as well as provide a detail engineering design of the thermal installation for central or district heating system.

Based on this Law, with the proposal of the Ministry of Industry and Energy, in 19 January 2003, the Council of Ministers approved the Technical Norms of Heat Conservation in Buildings, which are mandatory for all new building in all sectors. A criterion used for assessing thermal insulation needs, which is provided in this Law, is promoted through the fulfillment of the volumetric heat transmission loss coefficient. The volumetric heat transmission loss coefficient Gvt represents the thermal energy lost through the heat transmission (through doors, windows, floors, ceilings, walls, etc.) per one cubic meter, per one degree Celsius/Kelvin of temperature difference from indoor and outdoor temperatures for a composite building section (e.g. for a room or an apartment unit). Crucial point of the Energy Building Code is that volumetric heat transmission loss coefficient values in dwellings and buildings Gvt must not exceed the normative values Gvtn, which are recommended in function climate zone and the dwelling characteristics; so:

$$Gvt \leq Gvtn$$

For the Albania, the recommended coefficient values of volumetric heat transmission loss coefficient **Gvtn** are:

S/V	ZONE BY DEGREE-DAYS					
	A		B		C	
	Degree-Day 900 - 1,500		Degree-Day 1,501 - 2,500		Degree-Day 2,501 - 3,000	
0.2	0.394	0.380	0.380	0.356	0.356	0.344
0.3	0.461	0.437	0.437	0.398	0.398	0.379
0.4	0.529	0.496	0.496	0.441	0.441	0.414
0.5	0.596	0.554	0.554	0.484	0.484	0.449
0.6	0.663	0.612	0.612	0.527	0.527	0.485
0.7	0.731	0.671	0.671	0.570	0.570	0.520
0.8	0.798	0.728	0.728	0.613	0.613	0.555
0.9	0.865	0.787	0.787	0.656	0.656	0.590
1	0.932	0.845	0.845	0.698	0.698	0.626

The recommended values (Energy Building Code) are defined in the Council of Ministers Decision (CMD), which is approved as a secondary legislation based in Article 5 of the Law No. 8937.

2. Implementation of Law and CMD

After the approval of the above mentioned Law and the respective CMD, every one thought their implementation would begin immediately, but this was not the case for the period 2003-2005 and actual situation is more or less the same even at 2009. Former National Agency of Energy (actually under the National Agency of Natural Resources) has audited 10 biggest Municipalities in the country every 6 months, in order to see the implementation of the law "On Heat Conservation in Buildings". From the audits it was seen that no one from the audited Municipalities has implemented it in a large scale (we should say the implementation is up to 20-30%). In addition to this, the Construction Inspectorate which is at the same time also the respective institution responsible to control the implementation of the approved buildings permit/project has only little knowledge regarding the Law and this respective decision. Based on several/different energy audits and surveys carried out by the Albania-EU Energy Efficiency Centre, setting/putting rules in the area of energy consumption is very important especially in the building stock where the consumption is very high and actual comfort is very low for almost all the stock. However, also the evaluation of the energy saving potential in buildings stock is very useful. This is because the residential sector in Albania, is the biggest energy consumer compared with all other economic sectors. In addition to this, the main part of the electricity consumption is used for heating and cooling purposes (about 58 % of the consumed energy).

Design and construction of the buildings should meet the technical parameters necessary for the conservation, saving and efficient use of energy. All the buildings that will be constructed after the enactment of the Law, shall respect the normative volumetric heat transmission losses coefficients (Gv), and to foresee the installation/placement of thermal insulation and the installment of the central or local heating system.

The Energy Building Code (EBC) for the buildings in Albania is in full convergence with European Directive 2002/91/EC "On the Energy Performance in Buildings". The main objective of this Directive is to reduce the energy consumption and the emission in buildings sector, in order to allow the EU and the other European countries to meet their obligations of the Kyoto Protocol.

3. Steps to be Followed for the Implementation of Energy Building Code

Design and construction of the new buildings should meet the technical parameters necessary for the conservation, savings and efficient use of energy. Based on the detailed analysis shown in these sections, the most important steps to be followed for implementation of the above mentioned Law and CMD by different government and local institutions in Albania are as follows:

1. The National Agency of Natural Resources (NANR) should carry out several surveys among the most important municipi-

palities regarding the actual implementation status of the law “On Heat Conservation in Buildings” and respective CMD. Based on the findings, a report should be prepared to inform the Ministry of Economy, Trade and Energy (METE) regarding the status of actual implementation from different municipalities.

2. The METE should inform the Council of Territory of the Republic of Albania (the highest decision maker for issuing construction permits) on the current status and propose measures for substantially improving the implementation of the law and the respective decision.

3. The Council of Territory of the Republic of Albania should inform all Councils of Territory for each Municipality/Commune regarding their obligation for fulfillment of the EBC for every instance of construction permit.

4. The METE should undertake an awareness campaign and EEC should implement it regarding the importance of construction of new buildings according to the EBC.

5. The NANR and the EEC with financial support from the Albanian Government and different possible donors should prepare a project proposal for implementation EBC at nine new buildings: 2 new residential buildings and 1 new public building into each climatic zone. It is desirable that the NANR and the EEC select new private and public buildings based on the maximum own contribution from each owner of the building.

6. The NANR and the EEC after the construction of nine pilot projects/building will use them as examples for dissemination of technical and energy savings knowledge.

7. It is necessary that the Council of Territory of the Republic of Albania issues an internal order for all Councils of Territory for each Municipality/Commune to employ a thermal energy engineer on their staff charged with the task to check all new buildings’ compliance with the EBC in their respective Municipality/Commune.

8. The Council of Territory of the Republic of Albania needs to issue an internal order for introducing a Thermal Application Form (fill-in form) which will serve as the main data collection questionnaire for facilitating the technical compliance review process for the thermal energy engineer. This Thermal Application Form should be part of the Urbanistic Dossier Application based on the Urbanistic Law and only after the fulfillment of all elements, including the conditions of EBC, the construction permit will be issued for all new buildings by the respective Council of Territory of Municipality/Commune.

9. Technical Consultant assisted by the EEC should prepare the technical model based on the data received from the Thermal Application Form. This model should be prepared in a user-friendly excel format and final results of this analysis should show if the requirement of the EBC are fulfilled or not.

10. Technical training should be sponsored by the following institutions: Ministry of Public Works, Ministry of Economy, Trade and Energy, Professional Organizations and Societies; Utilities; Trade Associations and Product Distributors. Technical Consultants should train all thermal energy engineers nominated from all Municipalities of Albania. This training should consist of three different workshops in each climatic zone regarding the methodologies for verifying the compliance of any new building with the conditions of the EBC. Training sessions should be done also for the building officials, architects, designers, engineers, manufacturers, builders, contractors, and building owners.

11. Technical Consultant assisted by the EEC should train main architectonic building design studios regarding the ways of designing the new building according to the conditions of EBC.

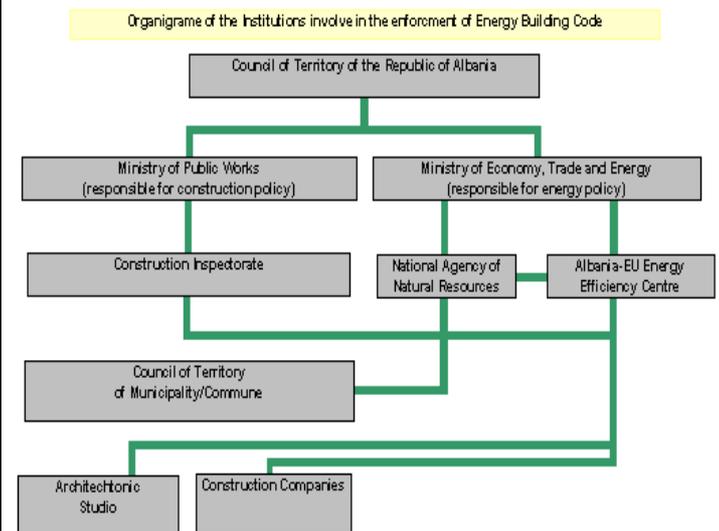
12. Technical Consultant assisted by the EEC should train the Construction Inspectorate for different municipalities regarding the ways of checking and controlling the new building, during the construction process and their commissioning, according to the conditions of EBC.

All above mentioned steps should be implemented during the 2010. This will create the possibility for all above mentioned central and local institutions to be fully aware and capable to implement the respective Law and Council of Ministers Decision.

13. Construction Inspectorate should check a sample of issued building construction permissions in different Municipalities/Communes of each climatic zone regarding the fulfillment of the conditions of EBC.

14. In cases that the issued building construction permissions have not fulfilled the EBC’s conditions, Construction Inspectorate should follow existing rules for issuing fines for that Council of Territory for the respective Municipalities/Communes. A separate fine should be issued also for the respective architectonic building design studio and the construction company. The architectonic studio or construction company that have three repeated cases of not fulfillment of EBC’s conditions should be withdrawn their respective licenses.

The organigramme of Institutions involved is given below:



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Regional Energy Expert