

A stylized world map composed of a grid of grey dots, with several dots highlighted in red to represent specific countries.

Resource Efficiency Gains and Green Growth Perspectives in Albania

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- Albania's energy consumption per capita and its CO₂ emissions per capita are low, but due to outdated technologies in many sectors energy intensity is still high. Concerning energy supply, the share of renewable energy sources has contributed about 18–22 per cent of the primary energy balance, but the main role has been played by oil products, electricity, fuel woods and LPG.
- Although Albania has a relatively comprehensive legislative framework governing energy politics and climate change comprising a wide range of topics, it still lacks legislation in some areas (energy conservation, renewable energy). The most important document for green growth is the (updated) National Energy Strategy. The Ministry of Environment, Forests and Water Administration (MoEFWA), is the government body responsible for environmental issues and policy.
- Potential sectors for green growth are considered to be: hydro power, biomass, wind-energy, and solar-energy. However, Albania will remain dominated by agriculture for many years (currently 40% of GDP) and high shares of energy are consumed in arable and livestock farming. The main potential for green jobs in near future is in the building sector, although green job creation is overall very slow.



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1. Current Situation – Recent Developments in Energy Efficiency and Climate Change Mitigation Policies

1.1 Legislative Framework

The legislative framework governing the power sector (energy) in Albania comprises a relatively large number of items. However, it must be emphasised that Albania still lacks legislation on renewable energy sources, as well as energy conservation. However, the Albanian government has indicated a willingness to update the Law on Energy, as well as the Law on Energy Efficiency and is preparing a new Law on Renewable Energy Sources (RES). Specific energy-related legislation, not covered elsewhere, includes the Law on Electricity and the Law on Regulation of the Power Sector. The most important items of energy-related legislation are described below.

Law on Electricity: The Law on Electricity, No. 7962 of July 1995, specifies the conditions governing activities in the power sector and the rights and duties of all physical and legal persons involved in such activities. It also legislates the relationship between consumers and suppliers in terms of their basic duties and obligations. This law provides for operational and technical management of the power network, as well as for connections to the grid and measurements of electricity.

Law on Regulation of the Power Sector: The Law on Regulation of the Power Sector, No. 7970 of July 1995, assumes the establishment of a Regulatory Body (ERE) and defines its duties. According to this law, ERE is responsible for tariff regulation and licensing in the power sector.

Law on Energy Conservation in Buildings: This law, No. 8937 of September 2002, lays down that the design and construction of buildings should meet the necessary technical parameters for conservation and efficient use of energy. All buildings constructed after this law enters into force shall observe the normative volumetric coefficient of thermal losses (Gv), which means that thermal losses should be limited, as well as provide for thermal installation for central or district heating.

Government Decree on the Energy Building Code: The Energy Building Code has been worked out since 1998

by the National Energy Agency in collaboration with the Albania-EU Energy Efficiency Centre and the other institutions. Governmental Decree No. 38 of January 2003 approves it as »Norms, Rules and Conditions for Design and Construction, Production and Conservation of Heat in Buildings«.

Law on the Power Sector: The Law on the Power Sector, No. 9072 of May 2003, abolishes the above two laws and combines them into one. This law ensures the conditions of electricity supply to consumers, efficient functioning of the electricity market and better adjustment of the power sector to the conditions of a market economy. The overall aims of the Law on the Power Sector are to enhance economic effectiveness and the quality of services for power generation, transmission and distribution and provides a transparent and comprehensive legal framework for the abovementioned activities. This law was amended in December 2009.

Governmental Decree for Strategy of Energy: Government Decree No. 424 of June 2003 approves the National Energy Strategy until 2015. According to this decree, the Ministry of Industry and Energy and the National Agency of Energy are appointed to update this strategy every two years.

New Draft Law on Energy Efficiency: The Law on Energy Policy has a special focus on promoting Energy Efficiency and Energy Conservation, creation of an Energy Efficiency Fund, Energy Efficiency Labeling, and promoting an Energy Audit Scheme. The existing Law on Energy Efficiency, No. 9379 of April 2005, was approved by the Albanian government in April 2005. Later on, the Albanian Ministry of Economy, Trade and Energy started work to prepare a new draft Law on Energy Efficiency. This law is still under preparation and is expected to be approved during the second half of 2012.

New Draft Law on Renewable Energy Sources: The Albanian Ministry of Economy, Trade and Energy is developing a new comprehensive draft law on renewable energy sources, which is expected to comply with the new EU Directive 2009/28/EC on the promotion of RES. Given the importance that the new EU Directive 2009/28/EC gives to the use of renewable energies in heating and cooling, the new Albanian legislation should follow the same direction. Although the draft law is mainly focused



on the generation of electricity from renewables, it already contains a section on the promotion of solar water heating, consisting of the exemption of solar water heating and the raw materials used for its production from customs duties.

1.2 National Energy Strategy

Updating the National Energy Strategy for the period 2006–2020 is in line with Council of Ministers Decision No. 424, dated 26 June 2003, “On the Approval of the National Energy Strategy” until 2015, and the requirement laid down in the commitments made by the Government within the framework of the Stabilisation and Association Agreement. The latest developments of the Albanian energy sector are in accordance with the directives for the EU energy sector, as well as the obligations stemming from the Energy Community Treaty of South-Eastern Countries ratified by Law No. 9501, dated 3 April 2006. Under these circumstances, taking into account that the changes in the Albanian energy sector will not happen spontaneously, the National Energy Strategy was updated by order of the Prime Minister No. 133, dated 8 June 2006 for «Establishing the Inter-Institutional Working Group for Updating the National Strategy of Energy for the period until 2020».

The updated National Energy Strategy shall be in essence an expression of national needs, which shall ensure the ways and means for sustainable development of the entire economy, determining all objectives as well as the necessary measures in their institutional, economic, technological and fiscal aspects, in support of the energy sector. The National Energy Strategy contains a series of measures determined for the energy sector and presents the cost of the relevant investments as well as the time needed for implementing them. The experience of the developed countries indicates that in order to have normal development in the energy sector, there must be a fair balance between market mechanisms and government intervention, as well as by means of technological energy management.

The indispensability of this important document is connected to the problems and stark challenges which Albania is expected to encounter. Albania has low energy consumption per capita but with high energy intensity as a consequence of outdated technologies it uses in

many branches of the economy, as well as outdated equipment and standards applied in the household and service sectors. The problems of energy supply have had an impact on the slow development of economic activity, as well as on low living standards.

This document includes the full range of energy development, including demand, reserves and options for energy supply to meet the different needs of consumers. The main aim of energy development will be to guarantee a safe supply of energy to support Albania’s sustainable economic development with minimum impact on the environment.

The aim of the National Energy Strategy is to determine the main directions of development of a safe energy sector, relying on market principles to meet the energy requirements of consumers at minimal cost, taking into consideration security of supply, protection of the environment and improvement of the wellbeing of whole categories of consumers.

The difficulties that the Albanian power sector has been experiencing for a relatively long time, as well as the increase in the prices of petroleum, gas and other energy resources in the world market requires the establishment of a series of important objectives, realisation of which shall make it possible to transform the energy sector into a pillar of support for the steady development of the economy as a whole. Among the most important objectives which must be reached through this Energy Strategy are:

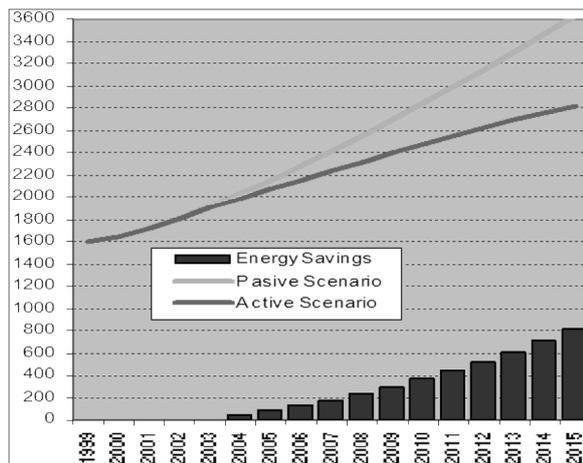
- Restructuring of the Albanian energy sector based on market economic principles and the development of a contemporary energy policy to establish an effective institutional and regulatory framework for public energy companies to enable their swift privatisation.
- Promotion of the efficient and economic use of energy and with minimal impact on the environment, in such a way that the energy sector serves as a supporting sector for the sustainable development of all the other economic and social sectors in Albania.
- Optimising the power supply system, relying on the concept of low cost planning and minimal impact on the environment.



- Increasing security of supply of electricity for all categories of consumers through the diversification of the energy system and construction of new power generation plants and interconnection lines.
- Promoting the use of renewable energy sources of different types (solar energy, small power stations, wind and biomass) in order to make possible the maximal use of local resources.
- Opening up the domestic electricity market and active participation in the regional electricity market within the framework of the Community Energy Treaty of South-Eastern European Countries (Directive 54/2003 of EU).

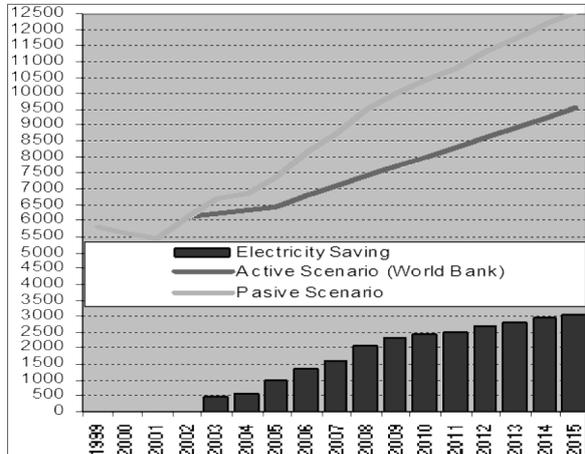
Analysis and forecasts for the development of the energy sector in accordance with supply and demand are carried out through the development of two scenarios: the passive scenario and the active scenario. These two scenarios are developed by using a general model of energy, already adapted to Albanian conditions, namely LEAP¹ software (Long Energy Alternative Planning), which ensures that all analyses and recommendations are close to Albanian reality. The software illustrates the different scenarios till 2015 and the consequences of the energy policy and external effects related to them.

Figure 1. Forecast of Energy Demand and Energy Saving (ktoe)



1. LEAP (Long-range Energy Alternative Planning) is a scenario-based integrated energy environment modelling system designed and disseminated by the Boston Centre of Stockholm Environment Institute. Its methodology is based on a comprehensive accounting of how energy is consumed, converted and produced in a given region or economy under a range of alternative assumptions on population, economic development, technology, price and so on.

Figure 2. Forecast of Electricity Demand and Electricity Saving (GWh)



Figures 1 and 2 present two scenarios for total energy demand in general and for electricity in particular. As regards electricity demand, according to the active scenario, by 2015 energy savings are expected to be around 22.48 per cent of total energy consumption. The biggest contribution to these savings by 2015 shall come from transport with 27.28 per cent, industry with 24.58 per cent, agriculture with 24.67 per cent, services with 17.86 per cent and the residential sector with 7.4 per cent.

Figure 3. Energy Saving in Each Sector According to the Active Scenario compared to the Passive Scenario (ktoe)

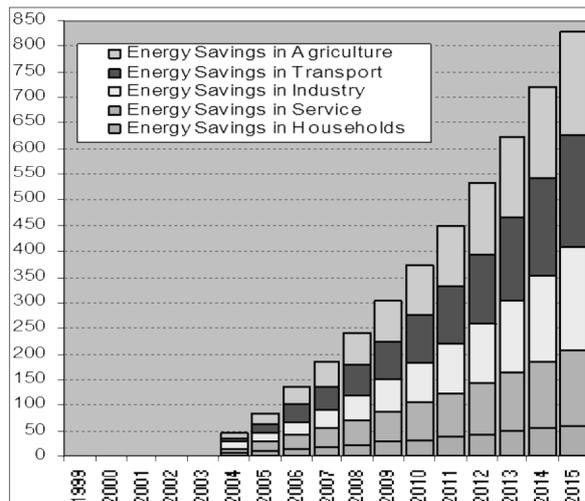
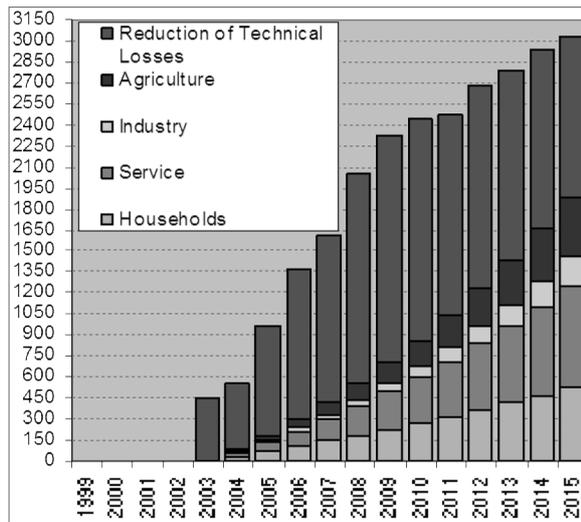


Figure 4 shows electricity savings according to different energy efficiency measures and analysis shows a level of electricity savings of 3,056 GWh in 2015, with the



main contribution coming from the reduction of technical losses, followed by savings in services, residential and industry.

Figure 4. Electricity Saving in Each Sector According to the Active Scenario compared to the Passive Scenario (GWh)



As regards the CO₂ emissions released by the energy sector the analysis shows that according to the active scenario a reduction of 4 million tonnes of CO₂ will occur as a result of implementation of all energy efficiency measures and an increase in the use of renewable energy sources. Figure 5 shows the reduction potential with regard to CO₂. The analysis demonstrates that the development of the energy sector according to the Passive Scenario will lead to a growth in energy consumption per capita of 38.1 per cent (an advantage), but at the same time it will significantly increase energy intensity by 14.1 per cent (a disadvantage) in 2015. The trend of both the 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 per cent lower than in 2005 (an advantage) and the value of energy consumption per capita is expected to increase by 16.5 per cent compared to 2005 (also an advantage). Therefore, all actions should be undertaken to ensure that the Albanian energy system develops according to the active scenario. In other words, the Albanian economy would consume less energy to produce the same output, becoming more competitive and gaining more markets, creating more jobs and providing higher welfare. The trade deficit would also be reduced, enabling the use of financial

resources for various investments in the Albanian economy. The analysis shows that both indicators (CO₂ emissions per capita and that per produced GDP) increase for the Passive Scenario, demonstrating that this scenario is unacceptable from an environmental point of view. By 2015, emissions per capita are expected to increase by 84.8 per cent, while the CO₂/GDP indicator is expected to increase by 53.4 per cent compared to 2005. As regards the Active Scenario, development in the right direction is expected, accompanied by a decrease in the CO₂/GDP indicator by 19.3 per cent and an increase in the CO₂/capita indicator by 20.5 per cent compared to 2005. The increase in the second indicator is not a positive sign, but the emissions decrease of 64.3 per cent compared to the Passive Scenario should be underlined.

Figure 5. CO₂ Emissions for Each Scenario and Their Reduction Based on LEAP (1000 ton)

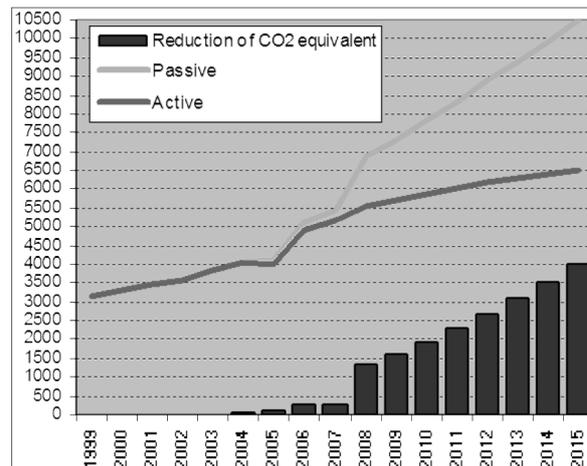


Figure 6. Trend of Emission Intensity and Emissions per Capita According to the Passive and Active Scenarios

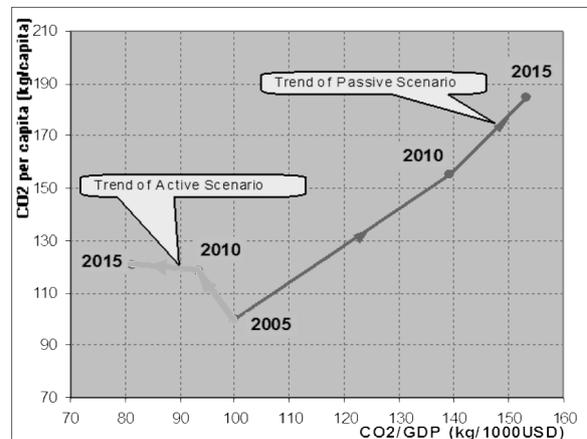
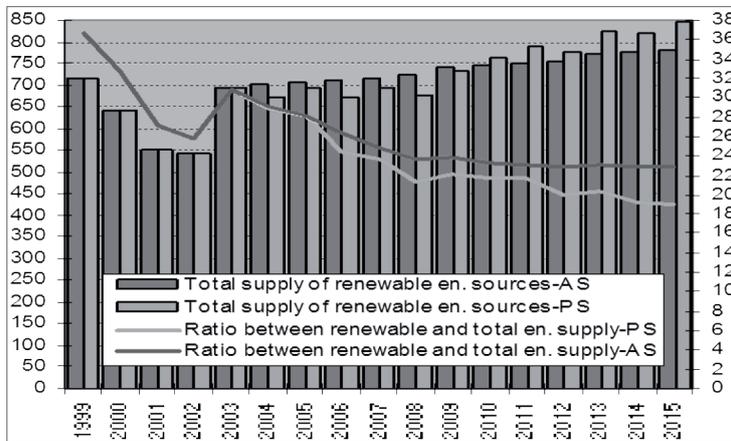




Figure 7. Renewable Energy Supply versus Total Energy Supply – Active and Passive Scenarios



As regards renewable energy, by 2015, according to the active scenario (Figure 7) a higher ratio of renewable energy versus total energy supply is expected.

A basket of measures to be undertaken to increase energy efficiency in all consumption sectors are considered and analysed from the cost-benefit point of view as follows:

- substitution of electricity for space heating and cooking with LPG and other alternatives;
- thermal insulation of existing stock of public buildings based on a new building code;
- promotion of solar energy use for hot water supply in households and services;
- promotion of central and district heating and CHP in services, industry and households;
- promotion of efficient lighting in households, services and industry;
- substitution of coal, fuel wood, residual fuel oil with heavy fuel oil in boilers/furnaces;
- increase of energy efficiency for existing stock of boilers/furnaces in industry and services;
- improvement of power factor in industrial enterprises;
- promotion of public transport;

- increase of energy efficiency in agriculture in general and irrigation in particular;
- raising public awareness of the efficient use of energy in services, households, industry, transport and agriculture.

1.3 National Climate Change Mitigation Strategy

Although Albania has no emission reduction targets under the Convention, as a non-Annex I Party to the UNFCCC, attempts to address the Climate Change issues are being made. In Albania, up to 2002, no comprehensive national policy to address climate changes had been adopted. During the period of political and economic transformation of society and the development of a new state, a range of acts, regulations and measures indirectly related to GHG emission reduction were developed and adopted.

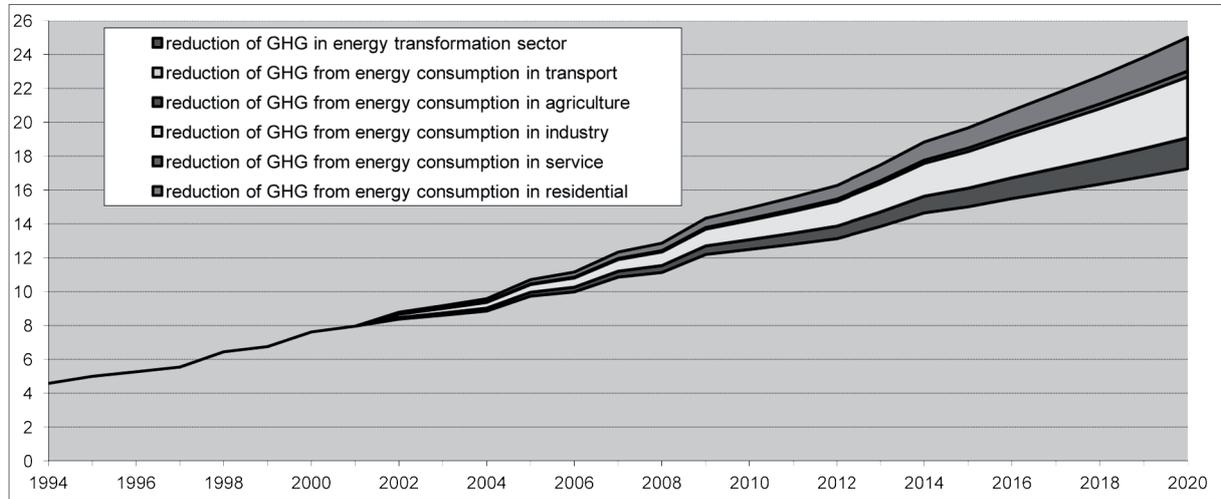
Albania has addressed mitigation and adaptation through the National Climate Change Strategy, which consists of a set of priorities for action in order to integrate climate change concerns into other economic development plans. This strategy is elaborated within the framework of Albania’s First National Communication to the Conference of Parties of the United Nations Framework Convention on Climate Change funded by the Global Environment Facility. It must be pointed out that the passive and active scenarios of the National Energy Strategy correspond, respectively, to the baseline and abatement scenarios of greenhouse gas emissions.

According to the First National Communication, Albania is a relatively low net emitter of greenhouse gases, with relatively low CO₂ emissions per capita. The main reason for the low level of emissions is the fact that 95 per cent of electricity is generated by hydro sources. Based on predictions of future emissions, it is expected that by 2020 the emissions total will rise more than fivefold. The abatement scenario of emissions foresees the introduction and implementation of various options mainly focused on energy saving and energy efficiency measures.

A basket of 25 greenhouse gas mitigation measures for energy and transport sector is proposed within the framework of this study, which are then analysed in



Figure 8. All Energy Measures for the Abatement of GHG in CO₂ Equivalent, Energy Consumption and Energy Transformation (million tonnes)



terms of costs and benefits. Even the rate of penetration is calculated. These measures are addressed in the National Climate Change Action Plan, which is part of the revised National Environmental Action Plan already adopted by the government of Albania in 2002. The methodology for scenario development was the same as for the National Energy Strategy (LEAP).

Referring to the greenhouse gas emissions baseline scenario, it is expected that most CO₂ emissions will be from energy and transport, which in 2020 will account for 83 per cent of the total. Concerning the energy consumption side, the abatement of greenhouse gas emissions scenario assumes the gradual implementation of energy efficiency measures in the household, industry, service and transport sectors.

Estimates show that the abatement measures introduced in industry (Figure 8) are forecast to have the biggest impact on the reduction of GHG emissions from six selected economic sectors. Industry is followed by the household and energy transformation sectors. This conclusion shows once more that introducing measures in demand side management yields more results in the abatement of GHG emissions than measures introduced on the supply side (energy transformation sector).

Concerning energy supply, the share of renewable energy sources in Albania has contributed about 18–22 per cent of the primary energy balance. This is very high compared to many other countries because electricity

generation in Albania is based on hydro energy. However, in the greenhouse gas emissions abatement scenario, more hydropower plants will be introduced than under the baseline scenario, while the share of renewable energies is expected to increase with the greater penetration of solar energy.

2. Energy Efficiency Legislation

The most important recent development in Albania related to energy efficiency is the preparation by METE (Ministry of Economy, Trade and Energy) and NANR of a new Final Draft Law on Energy Efficiency. For this purpose, METE and NANR established a working group. The final draft is now circulating within various ministries before consideration by parliamentary committees. In addition, the IFC (International Finance Corporation) has offered its assistance, hiring a law firm to prepare the relevant secondary legislation. Following normal procedures final approval by the end of June 2012 is likely. This final draft is described in what follows.

The new Draft Law on Energy Efficiency was prepared for two main reasons:

- (i) the current Law on Energy Efficiency, No. 9379, dated 28 April 2005, was not implemented, and
- (ii) publication of EU Directive 2006/32/EC, after approval of the above law, required its total revision.



The Law on Energy Efficiency (No. 9379) was approved by the Albanian Parliament in April 2005. Its purpose is to create the legal framework required for the promotion and improvement of the efficient use of energy, within the whole Albanian energy sector. This law comprises the following chapters:

- National Energy Efficiency Programme;
- labelling of household electrical appliances;
- energy audits;
- establishment and financing of Energy Efficiency Fund;
- programmes financed by the Energy Efficiency Fund.

The following legislation has also been approved in the field of energy efficiency:

- the Energy Efficiency Fund regulation on »Energy Saving in Buildings and the Building Code«, dated September 2003;
- »Norms and Regulations on Energy Saving in Buildings and the Building Code 2003«, Council of Ministers Decision dated January 2003.

In order to reduce electricity consumption for heating purposes and to promote the use of alternative resources, the Law on Energy Saving in Buildings was adopted in September 2002. This law takes into consideration that all new buildings (after the law was decreed) will have to conform to the heat loss norms (levels) approved by the Council of Ministers in 2003.

For the implementation of this law, there are trained experts in the energy sector, urban offices, municipalities and architects' associations. The former National Energy Agency provides simple software for checking the energy consumption of new designed/planned buildings. The implementation of this law has faced a lot of problems. In some cases, the regulatory councils throughout Albania have permitted projects without central heating systems, contrary to the principles of the Law on Energy Saving in Buildings. As a result, considerable work is being undertaken by experts in urbanisation offices to implement the law in all new buildings in the future.

The main points of the Law on Energy Efficiency (No. 9379, dated 28 April 2005) that created problems on implementation were:

- It left out of account public relations, implementation of state policy on the promotion of energy efficiency and services offered for its implementation.
- State functions related to the promotion of energy efficiency were not clearly defined.
- Uncertainties with regard to the duties of responsible institutions in implementing the Law on Energy Efficiency.
- National Strategy on Energy Efficiency and relevant action plans were expressed in general terms, without concrete definitions.
- The Law on Energy Efficiency's scope of action was limited to industrial consumers, without talking about households and energy traders.
- The Law on Energy Efficiency did not include energy efficiency plans and programmes for local and central government that are the basis for the functioning of the law.
- Activities and measures for promoting energy efficiency were not defined.
- No clear definitions of the securing and gathering of information for promoting energy efficiency.
- Limited activities and poor organization of the energy auditing process.

The new Draft Law on Energy Efficiency has been developed based on the energy policies of the Albanian government in energy efficiency and renewable energy. The inclusion of the promotion of energy efficiency in energy and environmental policies is in accordance with EU directives.

The new Draft Law on Energy Efficiency was prepared in line with EU Directive 2006/32/EC, preserving, from the previous Law on Energy Efficiency:

- the certification of energy consuming equipment, now including not only electricity consumption but energy in general; and



- the energy efficiency fund and energy auditing process, with some small changes.

The new Draft Law on Energy Efficiency contains 11 chapters that present ideas and goals for its implementation.

Chapter One contains general dispositions. It is divided into three articles: objective, goals and definition of terminology.

- Article 1 regulates public relations regarding implementation of state policy on improving energy efficiency in its final use and offers energy services for the improvement of energy efficiency.

■ In relation to this object, Article 2 promotes energy efficiency as a basic factor in improving economic competitiveness, securing energy supply and environmental protection through:

- use of a system of activities and measures for increasing energy efficiency for final consumers;
- development of energy services market and implementation of activities and measures to increase energy efficiency for end consumers.

Chapter Two reflects the division of duties between state structures, which is necessary in order not to confuse competencies.

■ Article 4 defines aspects of the promotion of energy efficiency by the Parliament and Council of Ministers. The Parliament approves the National Strategy on Energy Efficiency, which defines the national indicative goals on energy savings, timelines, measures and tools for their achievement. The Council of Ministers defines government policy on the promotion of energy efficiency for end consumers and the provision of energy services, which is part of the policy for the country's sustainable economical development.

- Article 5 follows on from Article 4. It establishes that the government policy for:
 - the improvement of energy efficiency of end consumers and
 - provision of services for improving energy efficiency, is the task of the minister in charge of energy.

- Article 6 deals with activities related to the implementation of government policies on:

- promoting energy efficiency among energy consumers, and
- offering of services for improving energy, that are to be conducted by the responsible agency on energy efficiency; the article also lays down its tasks in promoting energy efficiency.

Chapter Three comprises two articles on the National Strategy and Action Plan for Energy Efficiency, together with the main specifications of their preparation.

Chapter Four lays down the main national goals for conserving energy, defining the respective shares of energy traders, home owners and industrial owners.

Chapter Five presents Plans and Programmes on Energy Efficiency for local and central bodies to be implemented in accordance with the National Strategy on Energy Efficiency and will take into consideration specific characteristics of each region and their prospects of sustainable economic development. Central and local bodies will each year present reports on the implementation of the Energy Efficiency Plan (for other chapters of the law see the relevant paragraphs in the following sections).

The previous Law on Energy Efficiency mentioned the concept of energy auditing procedures. Article 8 foresees that energy auditing can be obligatory or not obligatory. Energy auditing shall be obligatory for:

- (i) companies applying for financing from the Fund for the Energy Efficiency, regardless of annual level of energy consumption;
- (ii) state institutions or companies that are major consumers of energy and are entirely or partially financed by the state budget;
- (iii) companies that are not financed by the state budget, with a total annual consumption of energy exceeding 100 GWh electrical power, 200 tonnes of coal, 150 tonnes of oil, 100,000 m³ of natural gas or a total consumption of energy of more than 8,890 toe.

Based on the provisions and requirements of the Law on Energy Efficiency, it is necessary to draft and approve the respective by-laws (Decisions of the Council of Ministers)



which can make possible the implementation of this Law. The approval of the following by-laws is essential:

- Council of Ministers Decision on setting up Regional Energy Offices;
- Council of Ministers Decision on Energy Auditing Procedures;
- Council of Ministers Decision on the Labelling of Household Electrical Appliances.

These are not only a requirement of the abovementioned law, but also represent a commitment of the Albanian government within the framework of the Stabilisation/Association Agreement with the EU, also included in the national plan for implementing this agreement, approved by Council of Ministers Decision No. 463, dated 5 July 2006. On the other hand, all these by-laws are in compliance with a number of EU directives and regulations in the field of energy efficiency.

As stated in the previous section, the new Draft Law on Energy Efficiency deals with energy auditing in the following chapters:

Chapter Six is composed of five parts, in which activities and measures are presented for promoting energy efficiency:

- investigation of energy efficiency in the household sector (habitations);
- investigation (auditing) of energy efficiency in industrial systems;
- securing of energy services;
- certificate on energy conservation;
- management of energy efficiency.

The investigation of energy efficiency in habitations concerns every investment project on new building, reconstruction or total renewal that will be completed based on the requirements of energy efficiency defined in this law. Investments in habitations with living areas of over 1000 m² must be certified in accordance with rules laid down in this law and shall be completed with:

- thermal insulation based on the Building Energy Code;
- central or local heating and cooling installations.

The investigation of energy efficiency in industrial systems is aimed at defining specific possibilities for decreasing energy consumption in industrial systems and to lay down measures promoting energy efficiency. Such investigation is mandatory for industrial systems with consumption over 1000 MWh.

The goal of securing energy services combines energy security with efficient energy technologies and/or actions, including use, maintenance and management needed to offer services and deliver a controlled and measurable promotion of energy efficiency and/or saving energy raw materials.

Certificates of energy conservation serve as evidence that their holder is in compliance with measures for promoting energy efficiency.

Certificates on energy conservation will be issued by local offices. They must be approved by the relevant authorities, after verification and control of methods used for assessing the effects of various measures used to increase energy efficiency that will be realised by local energy offices for legal persons, owners of habitations and industrial systems. Terms and conditions for issuing energy certificates for habitations and industrial systems will be defined by Decisions of the Council of Ministers.

Management of energy efficiency is an obligation that must be fulfilled by the owners of new habitations, existing ones to be reconstructed and owners of industrial systems under the supervision of local offices. Management of energy efficiency is realised by:

- preparing annual plans and programmes promoting energy efficiency;
- complying with measures laid down in energy efficiency plans and programmes;
- presenting at local energy offices information on effects after implementation of measures and expected effects of these measures foreseen in programmes and plans for promoting energy efficiency;



- appointing at least one official responsible for industrial objects as well as habitations or living areas.

Chapter Seven concerns information gathering, in respect of which responsible body laid down in the law will be the centre for establishing a national information system on the energy situation, including energy efficiency. In order to fulfil all compliance obligations, public and private institutions, owners of habitations and of industrial systems are obliged to pass information on energy consumption to the responsible body.

The aim of this law is to establish the necessary legal framework for drafting and implementing national policy for the effective use of energy and for reducing energy losses throughout the entire cycle. Implementation of this law shall contribute to the economical use of energy resources, security of energy supply and minimising harmful impacts on the environment.

This law foresees requirements for producers or importers of household electrical appliances to provide clearly displayed written labels in Albanian before they are put on sale. The labels should include data on the specific consumption of energy of the electrical appliance, energy efficiency connected to the lowest and highest efficiency data, the type of electrical appliance and the possible negative impacts which operation of the appliance could have on human health. The law requires that the minister responsible for energy should draft secondary legislation on details concerning the labelling of household electrical appliances.

3. Prospects for Resource Efficiency/Green Growth

3.1 National Energy Efficiency Action Plan

The National Agency of Natural Resources (NANR) prepared the first draft of the National Energy Efficiency Action Plan (NEEAP) for Albania in 2009. The Draft NEEAP for Albania sought to comply with the requirements laid down in Article 14.1 of Directive 2006/32/EC, 5 April 2006, on energy end-use efficiency and energy services. IRG (International Resources Group) consultants assisted in improving the first draft. In addition, IRG consultants have commissioned the Albania-EU Energy Efficiency Centre (EEC) to prepare a more comprehensive NEEAP

draft that was completed in May 2010. After that, this draft was revised and amended by NANR and METE in the form of a final draft NEEAP for Albania. Finally, the Albanian National Energy Efficiency Action Plan (NEEAP) was approved by the Albanian government in September 2011.

The NEEAP contains a description of measures designed to improve energy efficiency in Albania in order to achieve indicative targets for 2012 and 2018. Improved efficiency in every part of the energy sector is one of the goals defined in the National Energy Strategy. This includes addressing generation/production/import, transmission/transport, distribution and end-use for all energy commodities. This Action Plan will enable a more focused implementation of energy efficiency policy and better monitoring of its success in the next three years for the short term (2011–2013) and the medium term (2014–2018).

The leading sector in electricity consumption is the household sector (approximately 67 per cent). Besides its high electricity consumption, the household sector consumes considerable fuel wood and oil by-products. Furthermore, Albania cannot facilitate the development of a natural gas system in the short term because it has almost negligible endogenous natural gas production and is not connected to European gas networks. Therefore, almost all energy services (space heating, cooking and domestic hot water) for the household and services sectors is covered either by electricity, fuel wood, oil by-products and, especially, LPG.

The relationship between a country's economic development and its energy needs is a key issue and is characterised by a closed cycle. This cycle has many economic, social and technological aspects. To clearly define their relations, many studies are required on various sectors of economic and social development. These form the basis for understanding the challenges and commitments of the Albanian energy sector to ensuring energy sources at the lowest cost possible, to guarantee adequate energy supply to cover consumer demand and to ensure the right conditions for sustainable economic development. Currently, energy intensity in Albania is relatively high. This means that production, as measured by GDP, has been low compared to total energy consumption. Among the reasons for this are Albania's low industrial development, old technologies and the large share in energy consumption of the household sector.



Figures 9 and 10 show that energy demand in each sector has decreased: from 1,984 ktoe in 2005 to 1,711 ktoe in 2007. The main consumer is the transport sector, followed by households and industry. Analysis of the supply of energy sources shows that the main role has been played by oil products, electricity, fuel woods and LPG.

Figure 9. Energy Consumption in All Sectors (ktoe)

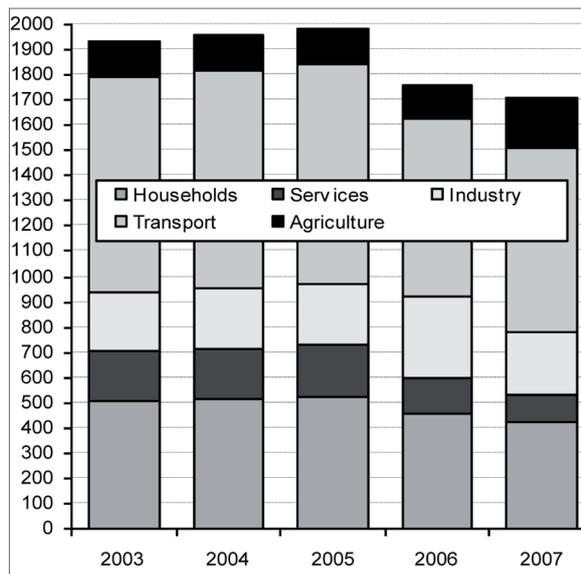
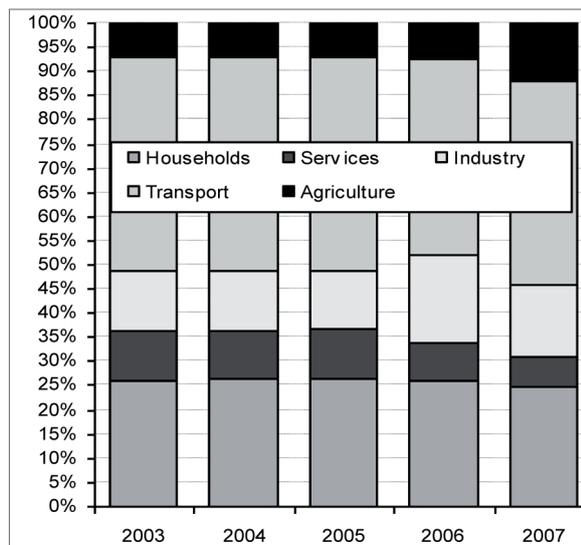


Figure 10. Energy Consumption in All Sectors (%)



Energy consumption in the household sector is divided into five parts, each with its own characteristics: space heating, air conditioning, domestic hot water, and cooking, lighting and electric appliances. As a consequence, it is important to know what are the possibilities for energy savings related to electricity, fuel woods, LPG for each service. Up to 2000, energy supply and demand for space heating, cooking and domestic hot water (using mostly fuel woods) have remained in balance. Since 2000, there has been a massive decline in the supply of fuel woods from forests to residential zones. This has resulted in the massive cutting of fuel woods (mostly illegal) and the overloading of electrical equipment (substations, transmission and distribution lines).

The service sector is divided into two branches: public services and private services. Supplying the public service sector is based mainly on old technology, installations and organisation, but in some cases new schemes have been introduced. The data system for the quantity of energy demanded for each service and the contribution of each energy commodity is based on a number of surveys. It should be underlined that space heating, domestic hot water and lighting for all sub-sectors are generally low quality, due to old energy infrastructure in public service institutions and lack of resources for maintaining energy systems.

The industry sector, as analysed in the updated document of the National Energy Strategy, is divided into the following subsectors: Metallurgy, Chemical, Building Materials, Mining, Food/Beverage/Tobacco, Textile/Leather/Shoes, Wood/Paper/Printing, Mechanical and other. Analysis of economic development 2003–2007 shows small improvements in the contribution of industry to national development. In other words, the contribution of general industrial production in absolute values of GDP is lower than before 1999. Energy sources in industrial sectors are consumed for motive power, process heating with low and higher temperatures and for various electrolysis processes.

The transport sector in Albania started to develop rapidly from the 1960s, when, in addition to the quantitative increase in road transport, road, railway and sea infrastructure were developed, establishing the transport structure. The transport sector plays an important role in energy consumption. The evident increase in the number of vehicles after 2000, especially in road transport,



was accompanied by an increase in transport activity and an evident increase in fuel consumption, mainly diesel and gasoline.

Albania will remain dominated by agriculture for many years. At present it accounts for about 40 per cent of GDP. Energy is consumed in arable and livestock farming, and forestry remains the main alternative for economic and social development. The development of the agriculture sector is conditioned by many factors, the most important being:

- very small, fragmented farms;
- problems concerning arable land ownership;
- very high prices of inputs and unorganised and inefficient production and distribution;
- lack of credit for agricultural purposes;
- lack of agricultural engineers.

Final energy consumption within the scope of the Energy Services Directive (ESD) in Albania in 2007 was equal to 2,130 ktoe. Within the scope of the ESD, the distribution of consumption among the sectors is as follows: fuel consumption was as follows: coal 1 per cent, oil by-products 67 per cent, electricity 18 per cent and fuel wood 12 per cent.

Energy consumption by sectors is as follow: industry 15 per cent, transport 42 per cent, residential 25 per cent, service sector 6.2 per cent and other 12 per cent.

The most important issues for the future economic development of Albania and its energy sector are the increase of energy consumption per capita and maintaining a low relative level of energy intensity, which would induce an efficient and competitive economy in an increasingly more open international market. Albania's energy intensity is very high, in the region only Bulgaria ranks higher. As a consequence, Albania's energy sector will continue to face two important challenges: (i) maintaining this intensity at average levels, and (ii) increasing energy consumption per capita. One possible scenario for GDP growth (at an average of 4.5 per cent) for 2009–2018 is supposed to be more realistic for planning the country's economic development and forecasting energy demand.

Albania has not yet established the EU Emission Trading Scheme (ETS). The national indicative Energy Efficiency Improvement (EEI) target is calculated based on the methodology provided in Annex I of the Directive (2009/29/EC amending Directive 2003/87/EC). For that purpose, the data on final energy consumption during the period of 2005–2007 are used.

The NEEAP provides a package of measures for the most important final energy demand sectors (in order of importance): transport, households, industry, services and agriculture.

The NEEAP contains measures whose implementation is already under way, as well as new measures planned for the coming three-year period and also at least until 2018. The expected energy savings of the measures envisaged within the framework of the Albanian National Energy Efficiency Action Plan for each of the four aforementioned most important sectors of final energy consumption are summarised in Figures 9 and 10. Expected savings per sector are calculated for the package of measures applied to each sector. The calculation is based on the estimates of the impact of each measure included in the National Energy Efficiency Action Plan (NEEAP) for Albania.

It is important to note that most sector-specific measures and cross-sectoral measures are highly interrelated. This means that it is much more feasible to account for these dependencies and to estimate savings at the broader sectoral level, rather than for each measure separately.

Implementation of the first NEEAP in Albania is part of the initial phase of implementation of the National Energy Efficiency Policy. Certainly, in this period the remaining gaps in the legislative and institutional framework must be eliminated. Some steps must be taken to address gaps with regard to:

- adoption of the legal framework for energy efficiency;
- correct implementation of the legal framework and the action plan.

Based on the experiences of many developed countries, Figures 11 and 12 present total energy demand without energy savings and taking into account energy savings based on the abovementioned targets.



Figure 11. Short- and Long-Term Energy Efficiency Targets in ktoe

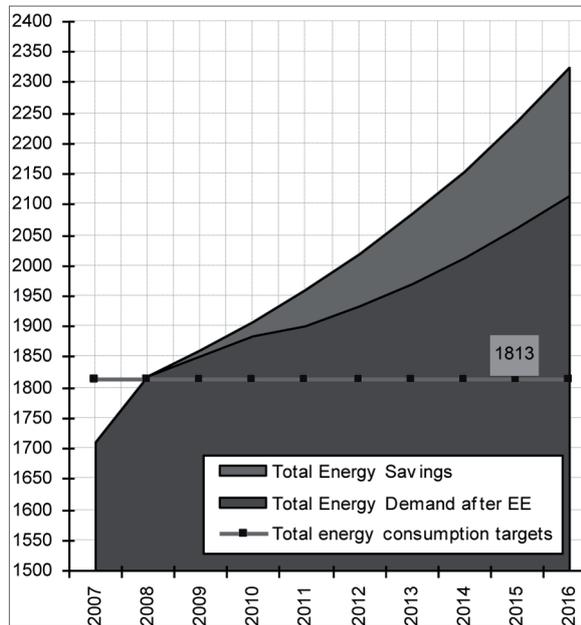
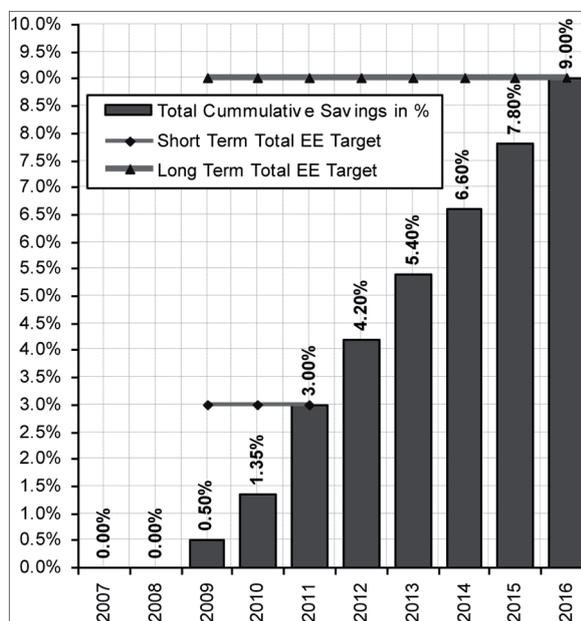


Figure 12. Total Energy Demand, Energy Savings and Short- and Long-Term Targets in %



Analysis of these figures shows that energy savings in the initial years are lower (since this will serve as a preparatory phase but the target of 3 per cent will be reached in the period 2011–2013) and in the upcoming

years energy savings will be increased, reaching the objective of 9 per cent.

Thus, it is more realistic to predict slower gains in the first period, but still to achieve the annual improvement rate of 0.5 per cent this year (2011) and compensating with a higher growth rate in 2012 and 2013 in order to reach the obligatory target of 3 per cent. In the second three-year period it is expected that the savings will be highest due to established legislative and institutional frameworks and three years of experience, while in the last three-year period it is expected that achieved savings will again be lower, since the potential for low-cost measures will already have been utilised. Based on the above analysis and assumption, the target for energy savings of 3 per cent in 2012 and 9 per cent in 2018 are therefore adopted.

3.2 Climate Change Mitigation and the Use of Flexible Mechanisms: State of the Art

The main responsibility for implementing the Climate Change Action Plan belongs to the Ministry of Environment, Forests and Water Administration (MoEFWA), as the government body responsible for environmental issues and policy in the Republic of Albania.

The establishment of the Inter-ministerial Climate Change Committee is the main step towards implementation of the Climate Change Action Plan. The action plan should be reviewed on a regular basis, taking into account and monitoring the following indicators:

- new economic development plans for different economic sectors;
- changes in the legal framework;
- state-of-the-art data on climate change;
- environmental strategy;
- future developments of the UNFCCC and negotiating process;
- eligibility of funds from conventional financial mechanisms and other international sources;



- amount of funds allocated for implementing the programme;
- level of public awareness of environmental policy.

The greenhouse gas abatement reduction policy is focused primarily on the energy sector, as the main source of emissions. However, it also has large abatement potential. According to the abatement analysis the following measures should be introduced in the energy sector: increasing energy efficiency; increasing and improving energy savings; and using economic, regulatory and legal instruments for energy efficiency and saving. The development of sustainable transport is the focus of the measures to be introduced in the transport sector.

Since 1998, there has been a Climate Change Unit at the Ministry of Environment, Forests and Water Administration (MoEFWA). Its main mission is to assist the Government of Albania in meeting commitments under the UNFCCC. The mission of this unit is to produce national communications, build national capacities in the area of climate change, develop national strategies for climate change mitigation, and participate in various climate change projects.

Despite attempts to address climate concerns within the framework of other areas of sectoral development, which succeeded with the National Energy Strategy, other line ministries are not so active in this area. Lack of awareness of climate change issues and their consequences remains the main reason.

3.3 Make the Kyoto Mechanisms Work

The Ministry of the Environment is also the focal point for the UNFCCC, in which Albania has been a non-Annex I Party since January 1995. Albania is not yet a party to the Kyoto Protocol. Recently, the Ministry of the Environment commenced procedures for ratification of the Kyoto Protocol. This is a need imposed by the National Climate Change Strategy and the National Energy Strategy for using the Flexible Mechanism of CDM (Clean Development Mechanism). In order to make the Kyoto Mechanisms work, the Ministry of the Environment completed its attempts to join the Kyoto Protocol by the end of 2005.

Ratification of the Kyoto Protocol by Albania (June 2005) has served mainly to promote sustainable development by promoting and disseminating new and clean technologies and accepting that protection of the environment at national and global level, given the global nature of climate change, requires broad cooperation among countries in accordance with their common but differentiated responsibilities and in line with their socio-economic circumstances. Ratification does not have any financial implications for Albania due to its status (non-Annex I), which does not entail any emissions reduction target. On the other hand, ratification enables Albania through the CDM mechanism to attract new investments and projects in the field of energy, transport, environment and forests by facilitating the implementation of the sectoral action plans that derive from various strategies. This is the case of the National Energy Strategy, which very well reflects environmental concerns, particularly climate change-related concerns, such as greenhouse gas emission reduction. This strategy has strongly stressed the need for ratification of the Kyoto Protocol by Albania.

After ratification of the Kyoto Protocol, the next step – to render it operational – is the establishment of institutional structures that would propose, follow up and monitor the CDM projects that would be funded under this mechanism.

Albania has not participated in the pilot phase of the Activities Implemented Jointly (AIJ). The GEF (Global Environment Facility) project for the National Communication is the first in the area of climate change to be carried out in Albania. Another project funded by GEF for the assessment of Technology Needs for Climate Change Mitigation has been completed. The assessment was made taking into consideration the Millennium Development Goals,² climate mitigation potential, market potential, social impact and so on. The basket of 25 cost-efficient abatement measures identified and analysed under Albania's First National Communication is being evaluated. Afterwards, a package of project proposals will be developed for the top five measures. These measures focus on introducing:

2. The Millennium Development Goals are a series of internationally agreed targets to be met by 2015, covering key areas such as poverty, hunger, health, education and environmental sustainability. Governments and international agencies around the world have jointly committed themselves to poverty eradication, through these Millennium Development Goals (MDGs), adopted at the UN Millennium Assembly in 2000.



- combined heat and power plants in public buildings and private buildings (hotels and so on) in service/industry sector;
- thermal insulation of households/service (public buildings) which use fuel wood, LPG, electricity and kerosene as energy sources for meeting space heating demand;
- solar water heaters instead of electric boilers in households/service sector;
- public passenger transport with buses and trains instead of cars and minibuses;
- introducing mini-hydro power plants instead of diesel generators; and
- improving the efficiency of boilers that use coal/oil coke/residual fuel oil/heavy fuel oil as fuel.

These measures are aimed at exploiting considerable reduction potential with regard to emissions and thus should be regarded as priorities for the application of CDM projects. The technology assessment also addresses barriers related to financing, legal and institutional framework, information and public awareness. These projects constitute the way ahead for climate mitigation.

Since December 2005, Albania is a non-Annex I party to the United Nations Framework Convention on Climate Change (UNFCCC) and to the Kyoto Protocol and as such is eligible to host greenhouse gas (GHG) mitigation projects under the Clean Development Mechanism of the Kyoto Protocol. In Albania the responsibility of the Designated National Authority (DNA) falls upon the Ministry of Environment, Forests and Water Administration (MoEFWA). This was initially formalised by a letter dated July 2005 by the Minister of Environment of Albania, followed by an article of the amended Law on forests and forest services of July 2007. Despite that, there was a need to formalise the functioning of the DNA in Albania and to establish formal rules and procedures for CDM project approval. This was finally done with the approval on 27 November 2008 of the Governmental Decree on the establishment of DNA in Albania as part of the country's obligations under the Kyoto Protocol by the Council of Ministers.

All this represents a very important step on the way to accessing carbon finance. In its preparations, the govern-

ment of Albania has received technical support within the framework of the project »Building capacities to access carbon financing in Albania«, jointly funded by the Austrian government through the Austrian Development Agency (ADA) and UNDP-Albania. It has also received assistance from the Italian government through the Italian Ministry for the Environment, Land and Sea with regard to the implementation of the Kyoto Protocol.

3.4 Green Products and Technologies

For the past two decades (transition period), Albanian industry has been in crisis. Old markets have completely disappeared and thus new products have to be developed. Therefore, the development of green products and technologies such as small hydro, solar, biomass and wind technologies, as well as energy efficiency in the building and transport sector are likely to be of interest. In Albania, the green products and technologies with the most potential are considered to be:

- the hydro power sub-sector: around 120 concessionary contracts have been issued by national institutions, while the newly installed capacity of HPP is expected to be about 1,740 MW;
- the biomass sub-sector, for all Albanian biomass categories: the available theoretical energy potential is evaluated at about 1,254 ktoe/year, while the technical energy potential is evaluated at about 879 ktoe/year.
- the wind energy sub-sector: since 2007, about seven licenses have been granted for establishing wind parks, with a total installed capacity of about 1,367 MW.
- the solar energy sub-sector will satisfy 12.69 per cent of extra RES demand or 6.97 per cent of total RES demand by 2020.

In its recently adopted Climate and Energy Package, the European Union set itself ambitious energy and climate targets: the well-known 20/20/20 targets to be reached by 2020. In order to reach these targets, the building sector must be a key focus of attention. On one hand, the Albanian building sector is a major energy consumer and on the other, it offers great potential for the integration of small-scale heat and/or power systems using solar energy.



The large up-take of solar thermal installations in the building sector will require a significant number of highly-qualified installers capable of integrating these installations in both new and existing buildings. It will also be necessary to ensure the good functioning of these systems after installation and make sure that they are well adapted to the individual requirements of each customer and that their life-cycle considerations are taken into account at all times.

Most green products and technologies are imported.

3.5 Quantity and Quality of Green Jobs

Green jobs are defined as work in agricultural, manufacturing, research and development (R&D), administrative and service activities that contribute substantially to preserving or restoring environmental quality. Specifically, but not exclusively, this includes jobs that help to protect ecosystems and biodiversity; reduce energy, materials and water consumption through high efficiency strategies; decarbonise the economy; and minimise or altogether avoid the generation of all forms of waste and pollution.

In Albania, there are green jobs in a number of key economic sectors, such as renewable energy, buildings and construction, transport, agriculture and forestry. The level and speed of green job creation is very slow, but is likely to accelerate in the years to come. Green employment in the renewable energy sector (RES) is the fastest growing, and this growth seems likely to accelerate in the near future. Even though Albania is a small country, it hosts a considerable quantity of hydro power and wind power investments, and production. Currently, Albania is preparing and adopting the National Action Plan for Renewable Energy Sources. Some of its key findings are:

- the draft RES target for Albania for 2020, to be approved by the respective institutions, will be about 37.70 per cent of energy demand;
- the main RES that will cover this demand will be hydro power and biomass.

The forecast of Albania's energy demand (ktoe) is based on the following official documents:

- National Energy Strategy (approved June 2003).
- Updated Draft Energy Strategy (August 2009).
- Second National Communication (October 2009).
- Albanian Government Energy EU Integration Questionnaire (approved March 2010).
- National Energy Efficiency Action Plan (approved September 2011).

New jobs in the installation, operation and maintenance of renewable energy systems tend to be more local in nature. In this regard, the bulk of new jobs will come from:

- the hydro power sub-sector with total forecast investment of about 2.5 billion euros;
- the wind energy sub-sector with total forecast investment of about 1.9 billion euros.
- the solar energy sub-sector with several private companies and firms carrying out their activities in Tirana, Durrresi, Fieri, and Berati producing/importing, selling and installing solar water heating (SWH) systems. This activity is still on a relatively modest scale because of the high price of such systems.

In the building sector, defining the energy-efficiency sector is a vexing problem, since most of the relevant forms of employment are embedded in a broad range of existing industries, such as construction, lighting, heating and cooling equipment. Energy efficiency measures in the Albanian building sector include new green buildings and retrofitting, as well as improving the efficiency of individual building components, including: water heaters, cooking equipment, domestic appliances, office equipment, electronic appliances, heating, ventilation and air conditioning systems, and lighting.

The above-described National Energy Efficiency Action Plan covers in detail all the activities foreseen until 2019, in the public and private buildings stock as well as the required investments to achieve all targets.



3.6 Main Economic Obstacles to the Creation of Green Jobs

The main financial, economic and related institutional obstacles to the creation of a low-carbon economy and the creation of green jobs are as follows:

- lack of mechanisms allowing higher investments to facilitate lower operational (yearly) budgets;
- lack of experience on investing in RES and energy efficiency projects.
- unwillingness (or inability) to take out loans;
 - municipal economic system does not allow the use of operational cost savings to repay loans;
- difficulties obtaining state or municipal guarantees required by international loan providers.
- lack of information and experience about new institutional and financial structures (ESCOs, third party financing, revolving funds and so on).

4. The Role of Politics and Society

4.1 Promotional Programmes Concerning Energy Efficiency in Public and Residential Buildings

The energy saving potential for the household sector is 30–35 per cent, if all the energy efficiency measures mentioned in the following section are introduced. Some of the main problems to be overcome to enable higher penetration of energy efficiency measures in the household sector are as follows:

- continuing the steps taken so far by KESH and other responsible institutions as regards payment of electricity bills;
- continuing electricity price tariff reform for domestic consumers and public services;
- reduction of first block level of electricity payments from 300 kWh/month to 180–200 kWh/month in order to cover only necessary services (lighting, radio, TV, washing machines);

- continuing the government policy to remove customer and excise taxes for LPG, accompanied by the establishment of a ceiling price for a period of 2–3 years for this energy source;

- raising to a higher level the role of the State Inspectorate for controlling oil by-products and LPG, in order to improve their quality. The role of the Inspectorate of Vessels under Pressure should also be enhanced to guarantee the safety of LPG bottles;

- the Ministry of the Economy, Trade and Energy, and the National Agency of Natural Resources needs to instigate public awareness campaigns to present the advantages of energy efficiency measures in the household sector.

The first things that need to be done to increase energy efficiency in the household sector are to enforce electricity payments, increase electricity prices based on the cost of services and reduce the level of the first block from 300 kWh/month to 180–200 kWh/month in order to cover only necessary services (lighting, radio, TV, washing machines).

Based on various studies and global experience, the most efficient measures for the efficient use of energy in dwellings would be:

- thermal insulation of dwellings, which will contribute to reducing energy demand for space heating;

- penetration of LPG that will help to reduce the quantity of electricity used for cooking and space heating, and substitution of fuel woods;

- penetration of central and district heating schemes that will contribute to providing space heating and domestic hot water, especially in new blocks of multi-storey dwellings;

- penetration of solar water heating systems for domestic hot water preparation that will reduce the quantity of electricity used for this purpose in the household sector;

- use of efficient lamps that will reduce the quantity of electricity used for lighting;

The energy saving potential for the public sector is 35–40



per cent, if all the energy efficiency measures mentioned in what follows are introduced. The public service sector has experience in heat demand, based mainly on old technology, installations and organisation, but in some cases new schemes have been introduced. The data system for the quantity of energy demanded for each service and the contribution of each energy commodity is based on different surveys prepared by the former NAE and others. It should be underlined that space heating, domestic hot water and lighting for all sub-sectors are generally provided at very low quality, due to old energy infrastructure in the public service institutions and lack of resources, especially for schools.

Changes have been made in the reduction of energy intensity and in the supply structure of energy resources for each service pertaining to public buildings. Various measures are foreseen, such as raising electricity prices, implementation of an energy building code in new public buildings, application of fiscal incentives for energy renewable resources and other efficient resources, awareness campaigns and so on. These measures are:

- strong penetration of diesel # 2 and solar energy for space heating in public buildings;
- strong penetration of LPG for space heating and cooking in public buildings;
- improvement of thermal insulation in public buildings stock and rigorous application of the Energy Building Code for new public buildings;
- extension of solar water heating systems for the preparation of hot water in public buildings;
- gradual introduction of small-scale combined heat and power plants (SSCHP diesel) and central heating schemes for large and small consumers (hospitals, boarding schools), particularly through the substitution of existing conventional systems;
- increasing efficiency through indirect measures, such as increased use of fluorescent lighting, use of intelligent electronic techniques, use of modern electrical appliances with improved pumps, refrigerators and so on for different consumers in public buildings.

The private service sector is seeking the rapid intro-

duction of modern technology and instalments, but improvements are needed with regard to efficient utilisation. The private service sector has inherited some traditional repair services and small shops/restaurants that have neither the possibility nor the demand for space heating and air conditioning. The energy saving potential for the private service sector buildings is 20–25 per cent if all the energy efficiency measures mentioned in what follows are implemented.

In many services, the private service sector has experienced modernisation and qualitative development. This service group includes hotels, restaurants, banks, tourist agencies, consulting and insurance offices. The most important buildings in this sector are hotels, restaurants and bank buildings. Various measures are foreseen, such as increasing electricity prices, implementing the energy building code in new public buildings, application of fiscal incentives for energy renewable resources and other efficient resources, awareness campaigns and so on. These measures include:

- strong penetration of light fuel oil for space heating in private buildings;
- strong penetration of LPG for space heating and cooking in private buildings;
- improvement of thermal insulation in private buildings and rigorous application of the Energy Building Code;
- extension of solar water heating systems for the preparation of hot water in private buildings;
- gradual introduction of small-scale combined heat and power plants (SSCHP diesel) and central heating schemes for large private buildings, particularly through the substitution of existing conventional systems;
- increasing efficiency through indirect measures, such as increased use of fluorescent lighting, use of intelligent electronic techniques, use of modern electrical appliances with improved pumps, refrigerators and so on for different consumers in public buildings.

At the end of 2006, the project Promotion of Renewable Energy and Energy Efficiency started. This project is financed by the German government through KfW Bank. The project has a 9 million euro budget, of which:



- 2 million euros is for technical assistance for small HPP, banks and energy efficiency consultants;
- 3.5 million euros for small HPP as a bank guarantee;
- 3.5 million euros for energy efficiency as a bank guarantee.

The 3.5 million euros are to support energy efficiency in various sectors, mainly in the public sector: kindergartens, schools, hospitals, official buildings and so on.

4.2 Public Debates/Concerns with regard to Environmental Issues

The main responsible institution for environmental and climate change issues in Albania is the Ministry of Environment, Forests and Water Administration (MoEFWA) established in 2005, a successor of the Ministry of the Environment established in 2001. The mission of the MoEFWA is to draft and propose policies, strategies and action plans for the protection and administration of the environment, forests, waters and fisheries in order to achieve sustainable development, and to improve the quality of life and enable the country to join the European Union. This mission is carried out through participation in, initiation and coordination of activities that lead to long-term developments and wellbeing, protecting nature and raising public awareness.

The National Strategy for Development and Integration 2007–2013 (adopted in 2008) is a key national strategic document that also includes climate change related issues and measures. It also recognizes that Albania has a relatively low impact on the global environment due to its low per capita GHG emissions, but there are several measures for climate change mitigation or adaptation already included in the strategy. However, their primary aim is not explicitly climate change-related.

Despite the increasing public awareness regarding environmental issues in general, the issue of climate change is still relatively dormant in Albania. Even at the level of policymaking one does not find a very good understanding of climate change and related issues. To assess the level of public awareness and other relevant environmental issues, a survey has been carried out. The main finding of the survey is that more than half of the public

are not aware of climate change and its threat to the environment.

Education is a central concern of government policy and has been marked by significant achievements in recent years. Education indicators have improved as a result of several reforms including the strengthening of policy-making, management and decision-making capacities, qualitative improvement of the teaching process, capacity building and development of human resources, and strengthening and expansion of vocational education.

4.3 Role of the State in Green Growth Strategies and Promotion of Environmental Goals

Economic growth is supported by stabilising macroeconomic policies, which are oriented towards maintaining stable inflation and reducing the deficit. This has been ensured through improved fiscal discipline, resource administration, effective public spending and the provision of incentives for the development of the business sector. It is also noteworthy that public investments in relation to GDP have increased in recent years and have been significantly higher than the total deficit. The bulk of them are financed from state revenues.

There has been a significant improvement in the business climate due to regulatory reform launched by the government of Albania in the field of environmental protection. Albanian institutions are playing an active role in green growth strategies and the promotion of environmental goals. However, further progress should be made toward the creation of fiscal incentives in order to attract more foreign investment, compared to the SEE countries. The level of the electronic governance indicator has improved as result of a series of policies undertaken to facilitate business registration, electronic procurement, provision of electronic tax services and broad use of information technology in education.

4.4 Environmental Laws and Political Regulations Needed for a Quick Reduction of Energy Waste and Resource Inefficiency and the Promotion of Green Growth

In the face of its social and economic challenges, Alba-



nia has begun to develop a framework for addressing the environmental problems that have arisen over the past decade. One priority of the Albanian Environmental Strategy and National Environmental Action Plan has been the establishment of the relevant legal framework. Both these documents are important instruments for the application of environmental policies. From this standpoint, this issue has had the strong support of the government and the Assembly of the Republic of Albania. In the period 2000–2011, major legal documents such as the Law on Environmental Protection (2002, amended in 2008) and the Law on Environmental Impact Assessment (2003, amended in 2008) were developed and/or amended.

During 2000–2011, other laws and by-laws were adopted to assist in more technical work on environmental protection and administration. The list of existing key environmental laws and regulations includes:

- Law on Environmental Protection (2002, amended in 2008);
- Law on Forests and the Forest Service (2005, amended in 2006, 2007, 2008);
- Law on City Planning (1993, amended in 1998, 2008);
- Law on Construction, Administration, Maintenance and Operation of Water and Drainage Systems (1994);
- Law on Hunting and Wildlife Protection (1994, amended in 2004 and 2008);
- Law on Fishing and Aquaculture (1995, amended in 2002, 2008);
- Law on the Pastures Fund (1997, amended in 2007, 2008);
- Law on Protection against Radioactive Radiation (1995);
- Law on Public Waste Removal (1996);
- Law on Water Resources (1996, amended in 1998, 2000, 2001);
- Law on Water Supply and Sanitation Regulation (1996);
- Law on Urban Planning (1998, amended in 1999 and 2003);
- Law on Civil Emergencies (2001);
- Law on Protected Areas (2002, amended in 2008);
- Law on Protection against Air Pollution (2002);
- Law on Protection of the Marine Environment from Pollution and Damage (2002);
- Law on Protection of Transboundary Lakes (2003);
- Law on Environmental Impact Assessment (2003, amended in 2008);
- Law on Chemical Substances and Preparations (2003);
- Law on Environmental Treatment of Solid Waste (2003);
- Law on Environmental Treatment of Polluted Waters (2003);
- Law on Energy Efficiency (2005);
- Law on Protection of Biodiversity (2006);
- Law on the Administration of Hazardous Waste (2006);
- Law on Environmental Noise Assessment and Administration (2007);
- Law on Environmental Protection from Transboundary Impacts (2007).
- Decision of the Council of Ministers on Hazardous Waste and Garbage (1994);
- Decision of the Council of Ministers on Rules and Procedures for Importing Waste for Treatment and Recycling and their Import for Treatment, Reuse and Recycling Purposes (2003, amended in 2011);
- Decision of the Council of Ministers on Approval of Albanian Waste Classification Catalogue (2005).



4.5 Role of International/European Standards and Regulations in Environmental Policies

International and/or EU standards and regulations have had a great impact on Albanian environmental policies. This was clearly shown, for example, during the preparation of the Albanian Environmental Strategy and National Environmental Action Plan. Both these documents are important instruments for the application of environmental policies.

4.6 Main Social, Cultural and Political Obstacles for the Creation of Green Jobs

The encountered obstacles/barriers can be divided into groups:

- legal, regulatory and policy-related barriers;
- general institutional and capacity-related barriers.

Legal, Regulatory and Policy-related Barriers

- increasing tariffs to the right level and using other public budgets to support (subsidise) low-income groups;
- review and update outdated technical standards and regulations;

General Institutional and Capacity-related Barriers

- lack of local capacity to identify and formulate project proposals;
- lack of general awareness and information on RES and EE technologies and measures;
- lack of tradition and capacity among building owners in implementing RES and energy efficiency projects (project development process);
- difficult to find new and suitable energy efficient technologies;
- unwillingness to buy and/or install unfamiliar (new) products.



About the author

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