ALBANIA OVERVIEW

Albania shares a border with Greece to the south/southeast, Macedonia to the east, Kosovo to the northeast, and Montenegro to the northwest. Western Albania lies along the Adriatic and Ionian Sea coastlines. Albania's primary seaport is Durres, which handles 90% of its maritime cargo

Albania situated in the southwestern region of the Balkan Peninsula, Albania is predominantly mountainous but flat along its coastline with the Adriatic Sea. Climate is Mild, temperate; cool, wet winters; dry, hot summers. Area is 28,748 sq. km. Major cities are *Capital*--Tirana (600,000; 2005 est.). *Others*--Durres (200,000; 2005 est.), Shkoder (81,000; 2005 est.), Vlore (72,000; 2005 est.). Population (2011 est.) is 2,994,667 and population growth rate (2011 est.) is 0.267%. Albania is located in south-western part of Balkans peninsula, Southeast Europe. The country is linked with the rest of the world via land, sea and air routes. Characterized by a distinct mountainous landscape, the average altitude of Albania is 700 meters above the sea. Based on the structure, composition and shape of the landscape, four physical-geographic zones are distinguished: Alps, Central Mountainous Region, Southern Mountainous Region and Western Lowland. The highest peaks are those in the Alps and the Eastern Mountains (Korabi 2751 m) and the lowest peaks are located in the western coast area. The landscape is intersected by the valleys of Vjosa, Devoll, Osum, Shkumbin, Erzen, Mat and Drin rivers, eastward and westward, which enable the connection of Adriatic Sea with the internal part of the country and the Balkans

**Government**
Type: Parliamentary democracy.
Branches: *Executive*--President (chief of state), Prime Minister (head of government), Council of Ministers (cabinet). *Legislative*--140-seat unicameral People's Assembly or Kuvendi Popullor elected by regional proportional vote; all members serve 4-year terms.*Judicial*--Constitutional Court, High Court, multiple district and appeals courts.
Suffrage: Universal at age 18.
Political parties: *Main*--Democratic Party of Albania (DP); Albanian Socialist Party (SP); Socialist Movement for Integration (LSI). *Others*--Albanian Republican Party (PR); Demo-Christian Party (PDK); Union for Human Rights Party (PBDNJ); New Democracy Party (PDR); Social Democratic Party (PSD); Social Democracy Party (PDS).

**Economy**
Real GDP growth: 2.8%, Inflation rate (Albanian Institute of Statistics), Unemployment rate (Albanian Institute of Statistics) is13.52% (as of September 2010).
Natural resources: Oil, gas, coal, iron, copper and chrome ores.

## RENEWABLE ENERGY RESOURCES AND ENERGY EFFICIENCY

### General Overview

Albania is working for a reliable and sustainable energy sector, development of which shall be based on using all energy options in order to meet own energy demand and to create added value for Albania citizens, in alignment with principles of environmental, economic and social responsibility.

In order to achieve a continued development of an energy system, timely and efficient investments are needed. In that sense, the Government of the Republic of Albania plays a key role in creating a stimulating environment for investments into energy structure, especially into new production capacities, and in decreasing the risks for investors by its activities and transparent, unambiguous and firm strategic energy policy framework.

The objectives of Albania energy policy are competitiveness, security of supply and sustainability. The policy vision consists of rules and policies notably regarding competition and state aids including in the mine sector, conditions for equal access to resources for prospection, exploration and production in the hydrocarbon sector, the internal energy market (opening up of the electricity and gas markets) and the promotion of renewable energy sources and energy efficiency.

The completion of the **internal energy market** is based on the EU rules on competition and state aids. Albania is reaching full market liberalisation in electricity adhering to the principles of transparency, non-discrimination, third party access, cross-border transit, security of supply and sustainability. Accounts for transmission and distribution activities are unbundled. Universal electricity services will be guaranteed and vulnerable customers be granted adequate protection.

The promotion of **renewable energy** and **energy efficiency in Albaia** includes requirements to transpose *acquis* on renewable energy, high efficiency cogeneration based on useful heat demand, the improvement of energy efficiency of buildings, energy services and various other initiatives. Where applicable, energy-using products must fulfil eco-design requirements and household appliances must carry energy labelling. An enforcement body is required in particular for labelling and minimum efficiency standards. To promote renewable energy and energy efficiency.

## RENEWABLE ENERGY POTENTIAL

Albania has significant renewable energy resource potential from hydro, wind, and solar energy. The country currently relies on hydropower for almost all of its electricity, which creates difficulties when water flows are low. The Government of Albania recently adopted new electricity market laws and is undergoing a process of opening that market to competition. An attractive feed-in tariff is already in place for small hydropower, but the Government is still in the process of determining the incentive mechanism for encouraging more near-term investment

in renewable energy technologies. Several very large and high-profile wind-farm deals are under development and should provide political pressure to speed the government decision process.

The potential areas for follow-on activities to support the expanded use of RES in Albania include support mechanisms and administrative issues. The support mechanism that probably will be chosen by Albanian authorities (green certificates) needs to be developed such that certificates generated in the Albania national market can be sold and traded with the other European countries, especially given the new Italian wind-farm deal.

Currently only hydropower makes a significant contribution to the current energy consumption in Albania. However, the country has significant potential for renewable resources in the form of wind, solar and biomass.

## Solar energy

The territory of Albania is located in the western part of the Balkan Peninsula, at the eastern coast of Adriatic and Ionian seas. It is situated between latitudes 39°38' - 42°38' and longitudes 19°16' - 21°04' east. Thanks to this geographical position, Albania belongs to Mediterranean climate belt with hot dry summer, with long days of sunshine and mild winter with abundant rainfall, possesing in this way a considerable solar potential energy: most areas of Albania are exposed to more than 1500 kWh/$m^2$ per year varying from 1185 to 1690 kWh/$m^2$ per year.

Active exploitation of solar energy is achieved in systems that absorb this energy through flat collectors. Hot water can be used for space heating, when its temperature is high, but it is used largely for Domestic Hot Water (DHW) needs. Now days, this technology has resulted as the most viable for exploitation of solar energy, and various countries such as Israel, Turkey, and Greece provide hot water for residential and service sectors using systems of solar panels. There exists also the possibility of transforming solar energy directly into electrical energy without going through intermediate stages, using photovoltaic systems, but the cost of one energy unit produced by them is around 27-32 US cents/kWh. The donors are carrying out a pilot project on exploitation of photovoltaic systems for pumping of irrigation and potable water. In tables 1 and 2 are given the average solar radiation for some of main counties of Albania.

**Table 1.: Daily average solar radiation in (kJ/$m^2$)**

| *County* | *Jan.* | *Feb* | *March* | *April* | *May* | *June* | *July* | *August* | *Sept* | *Oct* | *Nov* | *Dec* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Peshkopia*** | 9813 | 11584 | 13952 | 15127 | 17192 | 19225 | 20704 | 19815 | 18838 | 14189 | 12161 | 11566 |
| ***Shkodra*** | 10857 | 12316 | 14119 | 15771 | 17425 | 19253 | 20836 | 20069 | 18855 | 14450 | 12977 | 12235 |
| ***Durres*** | 13205 | 13523 | 14347 | 17604 | 18637 | 20228 | 22277 | 23199 | 20305 | 17750 | 15347 | 14677 |
| ***Tirana*** | 12066 | 13292 | 14243 | 16007 | 18555 | 20538 | 21598 | 21896 | 19854 | 16564 | 13604 | 13250 |
| ***Vlora*** | 14239 | 13894 | 13733 | 17726 | 19207 | 21376 | 22926 | 24093 | 23217 | 19791 | 17799 | 15347 |
| ***Saranda*** | 12868 | 15445 | 16633 | 18511 | 20405 | 22758 | 23443 | 24101 | 23237 | 17390 | 16857 | 14820 |

**Table 2.: Sunshine hours according to measuring stations**

| | **Hours with sun (h/year)** | | | | |
|---|---|---|---|---|---|
| | 1951-1960 | 1961-1970 | 1971-1980 | 1981-1990 | **Average, 1951-2005** |
| **Vlore** | 2 734 | 2 718 | 2 765 | 2 524 | **2 685** |
| **Durres** | 2 666 | 2 684 | 2 717 | 2 310 | **2 595** |
| **Kucove** | 2 532 | 2 674 | 2 648 | 2 441 | **2 574** |
| **Shkoder** | 2 533 | 2 489 | 2 370 | 2 232 | **2 406** |

National Agency of Natural Resources (NANR) and donors have carried out a number of studies for installing solar panels in both residential and service sector. Based on these studies, has achieved providing small grants from various donors, and has installed the solar panel systems. Albanian citizens have started installing solar panels for hot water promoted repeatedly by the NANR through various awareness campaigns. If the solar panel systems in Albania would be developed similarly with that in Greece, the potential production of hot water shall be equal with the energy amount of 360 $GWh_{th}$ (or 75 $MW_{th}$ of installed capacity). These figures correspond to a total surface of solar panels of 300 000 $m^2$ (or 0.3 $m^2$/family), while the solar panel penetration in countries such as Israel and Greece is actually greater than 0.45 $m^2$/family.

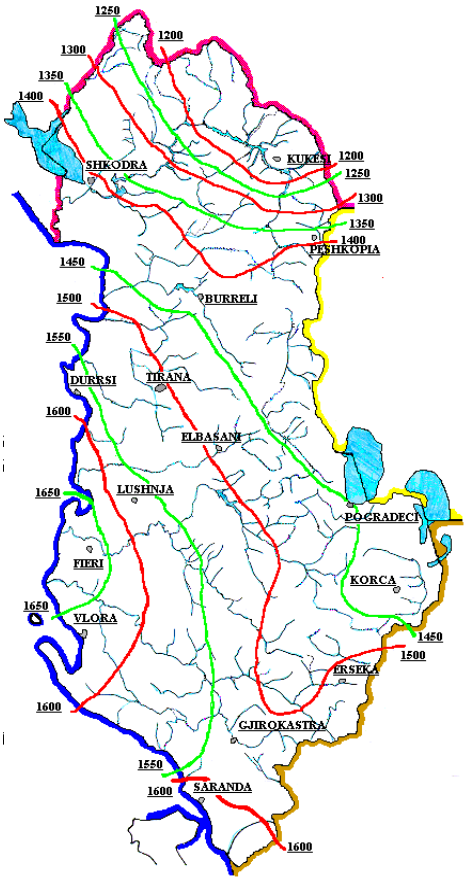


**Figure 1: Solar energy in kWh/$m^2$/yr**

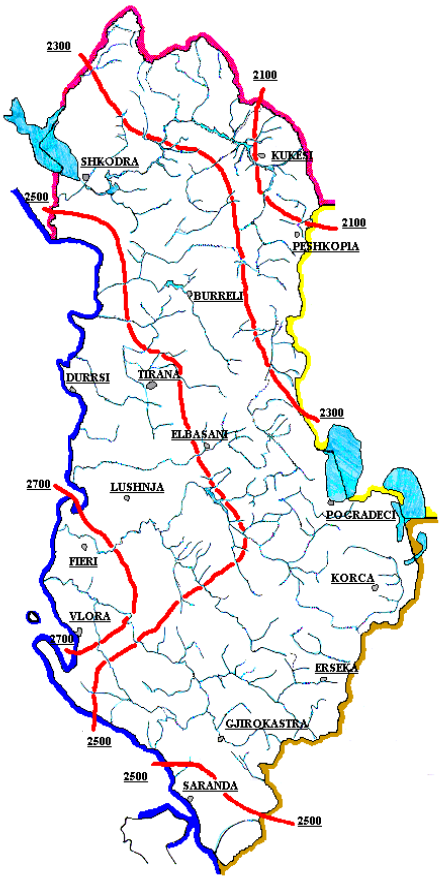


**Figure 2: Annual sunshine hours**

Solar water heaters are proven technologies to supply domestic hot water to the service sector (e.g. hospitals, hotels), industry and households. However, low electricity prices and non-payments are obstacles. Nevertheless, solar panels have already been available on the market and significant volumes have been installed. In 2010, a total of 10,700 $m^2$ were installed (60% by services, 40% by households), , bringing total installations to 52,000 $m^2$ (equivalent to around 70 GWh/y or 1% of electricity consumed by households in 2009). UNDP is supporting a programme (2011-2015) to install 50 thousand $m^2$ of solar panels based on grants and fiscal incentives.

Map shows average quantity of sunshine in the territory of Albania (3 zones) Map 1 and 2 shows the average daily solar radiation in the territory of Albania.

The Global Environment Facility has provided a grant to develop the country program of Albania, as part of the ( UNDP) / United Nations Environment Program UNEP/Global Environment Facility GEF/ICA Global Solar Water Heating Market Transformation and Strengthening Initiative. The objectives of the Project is to facilitate the installation of 75,000 m2 of new installed collector area over the duration of the project, reach an annual sale of 20,000 $m^2$ by the end of the project and with expected continuing growth to reach the set target of 520,000 $m^2$ of total installed SWH capacity by 2020.

**Wind energy**

There are major plans for developing wind energy in Albania in the next few years with significant investment in a proposed 2000MW new generation capacity from wind. It is an ambitious goal, because at present there are no wind projects in the country. Albania is also proposing to become a wind power exporter agreeing to export surplus wind energy to Italy via a planned undersea power cable.

According the study wind speed of is around 6 meters per second (m/s) The good areas in Albania for wind farm locations are especially in the coastal lowlands, in the hills of Northern Albania and mountains of Southern and Eastern Albania. The basic aim our calculation is to guide the transmission operator OST in the assessment of new potential capacity at appropriate grid connection points.

In our energy production analysis we have case studied the 11 wind farm that have been licensed in Albania. For a number of the sites the developer has undertaken site monitoring by putting up masts on the site that actually measure the wind potential at the site. Wind Farm the chosen heights were 60, 55, 50 and 45 metres. Therefore, they can measure the change in wind speed with height.

There are many attractive areas identified in Albania, such as Shkodra (Velipoja, Has) , Kukes, Lezha (Ishull Shengjin, Tale, Balldre), Durres (Ishem, P. Romano), Kavaja (Kryevidh), Fier (Seman), Karavasta (Hoxhara , Hoxhara 2), Vlore (Akerni), Saranda, Korça and Tepelena.

The main directions of wind in our country are northwest-southeast and southwest-northeast, with dominant direction towards land. Our country's coastline is 345 km north-south direction, where a part is the coastal lowlands and the other coast very close to the south seaside mountain. Inside the territory, the direction and intensity of wind from area to area varies in time.

The main existing constraints (altitude, site accessibility, infrastructures, natural protected areas, power grid) were applied to the actual wind speed and wind potential maps, in order to provide an estimation of the exploitable wind potential. The maps obtained applying the simulation code, subsequently corrected with ground measured data, clearly show the windiest areas, unfortunately not entirely suitable to wind power exploitation due to natural, economic or

financial constraints. In order to estimate the actually exploitable areas of Albania, the following (positive and negative) constraints were taken into account:

- height above sea level (areas lower than 1,800 m);
- natural or protected areas;
- road network (distance from national or well-kept gravel roads less than 5 km);
- electric power supply system (distance from the electric power supply system less than 10 km).

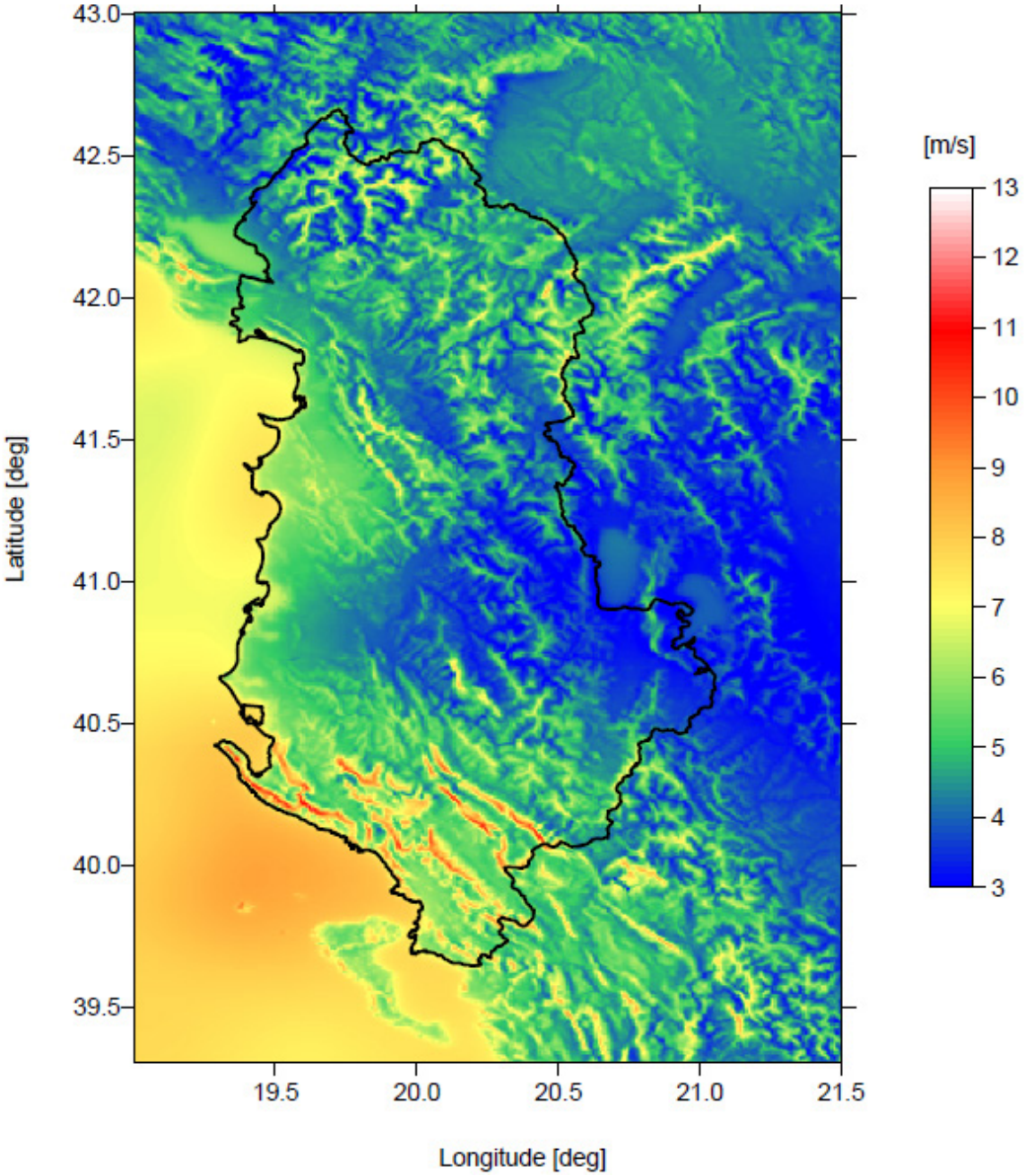


**Figure 3: Average Wind Speed at 50 m a.g.l. over the Albanian Territory**

According to the estimates, Albania shows an excellent wind potential, with wind speed values exceeding 8-9 m/s in many areas. A number of interesting areas, especially along the coast and on the ridges of the mountains, with particularly strong winds in the southern part of the Country, have been identified. Their overall exploitable wind potential has been estimated taking into account the main constraints preventing the development of wind power plants (i.e. distance from roads, power lines, protected areas, etc.).

Figure 3 shows the map of the simulated average wind speed at 50 m a.g.l. over the Albanian territory.

## Geothermal energy

Nowadays , increasing attention has been given in most countries of EU to the development of geothermal resources for utilisation in district heating and in direct end users in Services and Agriculture sectors. For this type of development to materialise in a way that would be profitable for the country requires early institutional support of joint research and development efforts in collaboration with international laboratories and research groups which are well advanced in this field.

Geothermal energy resources in Albania are estimated as warm water sources of the underground soil, which have a sufficient temperature to be used as energy source. Geothermic situation of Albanide offers two ways to use energy geothermic, separated as follows:

**Table 3: Geothermal resources in Albania**

| No | Thermal Springs | Temperature ($^{o}$C) |
|---|---|---|
| 1 | Karme-Sarande | 34 |
| 2 | Langarice-Permet | 26-31 |
| 3 | Sarandapori-Leskovik | 26-27 |
| 4 | Tervoll-Gramsh | 24 |
| 5 | Llixha-Elbasan | 58 |
| 6 | Kozan-Elbasan | 57 |
| 7 | Supal-Elbasan | 29-30 |
| 8 | Mamurras-Kruje | 21 |
| 9 | Peshkopi | 35-43 |
| **No** | **Deep Wells** | **Temperature ($^{o}$C)** |
| 1 | Ishmi -1/b | 60 |
| 2 | Kozan-8 | 54 |
| 3 | Galigati-2 | 45 |
| 4 | Bubullima-5 | 48-50 |
| 5 | Seman-1 | 35 |
| 6 | Ardenica-12 | 32 |

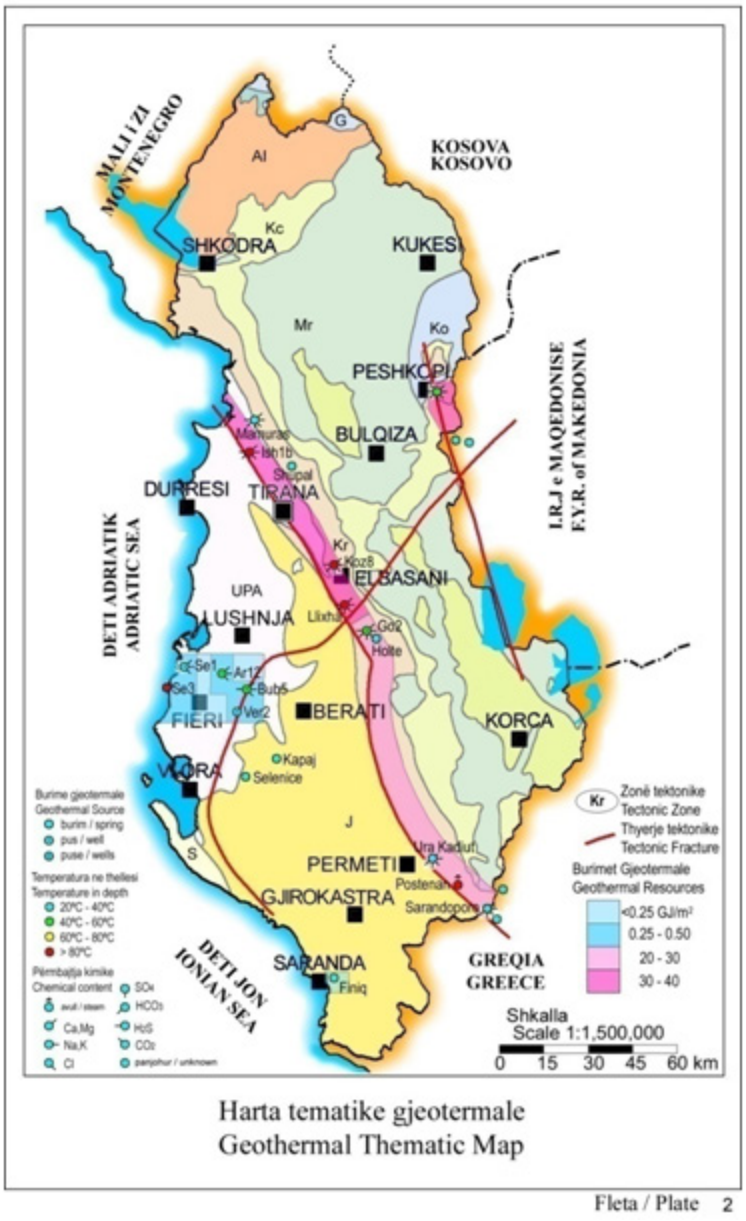


***Figure 4. Map of Geothermal Energy in Albania***

- thermal sources with low entalpi and maximum temperature up to 80°C. These are natural resources or wells that are located in a vast territory of Albania, from the south, near to the border with Greece northeastern area;

- deep vertical wells for geothermal energy, where is included a large number of oil and abandoned gas wells, that can be used for heating purposes.

In our country there are some more appropriate areas for its use like the three geothermic space: Ardenices geothermical Space that is concentrated in the coastal region, where water has a

temperature of 32-38 °C, and flow 5- 8 l / sec. Geothermic space of Kruja where are located the biggest geothermic sources in Albania evaluated 5.9 x 08 5. x 09 GJ and the geothermic space of Peshkopi in the northeast of Albania, where some sources of thermal loc near each other have a water temperature of 43 .5 ° C and inflows of 47 l / s. Actually, evaluation of this energy is under study process.

There are several water springs in Albania, indicating the existence of geothermal energy potential. Table 3 shows the locations and some characteristics of the geothermal resources in Albania. However, there have been no attempts for utilization of the geothermal resource for energy purposes.

**Biomass Energy**

The forests constitute about 36 percent of the total land area, pastures 16 percent, agricultural land 24 percent and other lands 24 percent. The main forest species are oaks, beech, black pine, etc. The country has five forest types: Mediterranean shrub, oak woodland beech forests, Mediterranean fir and alpine zone.

**Table 4: Results of last NFI in Albania**

| Description | Area(ha) | % | Volume($m^3$) | % |
|---|---|---|---|---|
| High forests | 295.000 | 31 | 59,910.000 | 82.7 |
| Coppice forests | 405.000 | 43 | 12,130.000 | 17 |
| Shrubs forests | 242.000 | 26 | 200.000 | 0.3 |
| **Total** | **942.000** | **100** | **72,240,000** | **100** |

There are different sources to provide forest biomass for production of energy:

- Complementary felling in order to increase the supply of bio-energy from forest biomass. This includes stem-wood biomass from thinning and final harvest (annual harvesting possibility).
- Residues from harvesting operations in the forest. This includes stem tops, branches, foliage,stumps and roots that are left during stem-wood removal.
- Various industrial wood residues such as saw-dust. This is very important in the present utilization of woody bio-energy.
- Artificial plantations for energy production with short-rotation. That includes chips from plantations of willow, poplar, eucalyptus planted on land area that was formerly used for agriculture or in bare lands.
- Woody biomass from trees grown outside forests, e.g. horticulture and road side tending. Recycled wood, e.g. demolition wood from old buildings.

As result of the last National Forest Inventory carried out during the years 2002-2004 is drawn the current state of forest resources for Albanian Forest Fund:

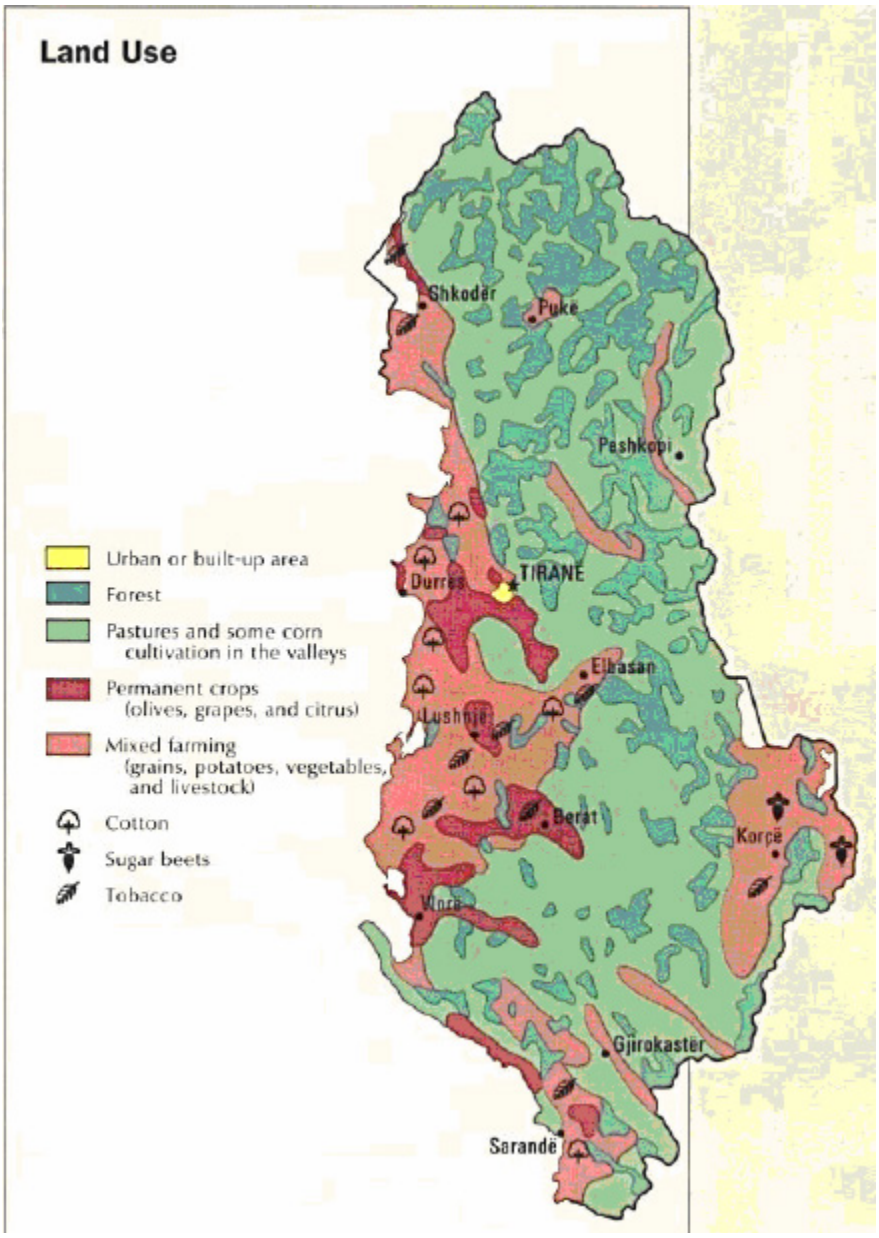


**Fig 5: Map of land use in Albania:**

Approximatively 50 percent of the country's population is living in rural settlements (ten years ago this figure was 70 percent). This has created very strong relations between the community and forests. For several years, forests have been the main source of their employment and income. But at the same time, this has put a very high pressure on forests that in many cases have suffered unlimited use and degradation. Also, the difficult socioeconomic conditions of populations in these areas are another factor that has contributed to such degradation.

The data of the last national Forest Inventory carried out during years 2002-2009, the sustainable annual harvesting possibility is 1,152,000 m3. The annual potential of biomass for bio-energy production includes firewood, branches, foliage and residues of timber processing. Firewood consumption is estimated to be around 2 million m3, much higher than the official statistics record. The difference is considered to be the result of illegal cutting. The potential for bio-energy production will be higher if we take also into account the timber provided from thinnings ( 35000 m3/year) and timber provided from artificial plantations with species of short cycle of production, like willow, eucalyptus, poplar, acacia, tamarix. According to the Ministry of Agriculture's statistics, Albania possesses about 403,651 ha bare land that could be used for short rotation plantations for energy production. The potential of energy derived from our forest resources is estimated as follows:

**Table 5: Potential annual sustainable wood and biomass production from forests (2006) according to the last NFI**

| Types of forests | Unit | Stem volume ($m^3$/yr) | | Total residues ($m^3$/yr)* | Thinnings residues | Total amount of biomass for energy |
|---|---|---|---|---|---|---|
| | | Industrial roundwood ($m^3$/yr) | Fuel wood ($m^3$/yr) | | | |
| High forests | $m^3$ | 426,383 | 231,557 | 581,174 | 32,900 | 845,631 |
| Coppice | $m^3$ | 52,699 | 81,444 | 64,575 | 2,100 | 148,119 |
| Shrubs | $m^3$ | - | 6,387 | - | - | 6,387 |
| Total potential production | $m^3$ | **479,082** | **319,388** | **645,749** | **35,000** | **1,000,137** |
| Potential energy production from forests resources | Toe | - | **63,878** | **129,150** | **7,000** | **200,028** |

**The National Energy Efficiency Action Plan (NEEAP) approved DCM 619 date 7.9.2011**

**The National Energy Efficiency Action Plan (NEEAP)** of Albania tries to be in compliance with the: directive 2006/32/EC, April, 5, 2006 on "energy efficiency end use and energy services", directive 2002/91/EC "on energy performance building " (amended on 2010/31/EP), directive 92/75/EC (amended on 2010/30/EP).

The NEEAP contains a description of measures to improve the energy efficiency in Albania that are planned in order to achieve indicative targets for 2010 –2018. Improved energy efficiency in all sectors is one of the main goals defined in the Albanian National Strategy of Energy. 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 short term 2012 and long term 2018.

The leading sector in electricity consumption is the Residential Sector (56%) or 42% of the total primary energy supply for 2008 in the residential sector. Besides high amount of electricity consumption, Residential Sector consumes as well as high values of fuel wood 42% and oil by-products 10%. Furthermore, Albania cannot facilitate the development of a natural gas system in short terms because it has almost negligible endogenous natural gas production and in the same time is not connected with European Gas Networks. Therefore, as described by the circumstances elaborated above, almost all energy services (space heating, cooking, and domestic hot water) for the Residential and Service Sectors is covered either by electricity, fuel wood, and oil by products and especially LPG.

Energy sources are consumed in different economic sectors like Residential, Service in Public and Private ones, Industry, Transport and Agriculture. The relation between the economic development of a country and its energy demand is considered a key issue, and it is represented by a closed cycle. Currently, energy intensity in Albania is at a relatively high level. This means that the macroeconomic production, generally reported by the Gross Domestic Product (GDP), has been low compared to total energy consumption. Reasons for this are related to low industrial development of Albania, old technologies and big share of energy consumption goes for Residential Sector, etc.

The first NEEAP provides a package of measures for the most important final energy demand sectors: Residential, Services, Industry and Transport and estimation for energy savings in Agricultural.

The implementation of the first NEEAP in Albania actually is the initial phase of the implementation of national energy efficiency policy. Certainly, in this period the remaining gaps in legislative and institutional framework for EE must be eliminated. Some steps and activities must be carried out to address some gaps.

- adoption of the legal framework for Energy Efficiency;
- strictly implementation of the legal framework on Energy Efficiency, EE Action Plan and Building Codes;
- Incentives and financial supports for investments in EE;
- ESCO penetration in the domestic market;

- Awareness campaigns.

Has to be considering that energy savings in the first years are lower (since this will serve as preparatory phase but the target of 3% will be reached in the period of short term) and in the upcoming years energy savings will be increased reaching the objective of 9%.

**Indicative Target**

The national indicative target must be allocated to the sectors of final energy consumption, so that the effectiveness of proposed measures can be monitored at a more disaggregated level. Furthermore, different authorities and organizations have jurisdiction to implement energy efficiency improvements in different sectors. The sector allocation of the national target is primarily based on the following:

- the potentials for efficiency improvements by different sectors,
- the level of policy interventions in the sector,
- the proportion of individual sectors within the final energy consumption,
- least cost concept of different energy efficiency measures for different sectors (it is much better to promote least cost effective measures than higher cost measures).

As demonstrated, the transport, residential and service sectors have the largest share of final energy consumption. However, the allocation is not made solely on the basis of these percentages, but also based on estimates of the proposed EEI measure impacts. The summarized target levels within each sector are provided in the table below. The distribution of this intermediate energy saving target, by sector was determined as it is presented in the Table 4.

Table 4.: Energy Saving Target by Sector

| Sector | % |
|---|---|
| Residential | 22 |
| Services | 19 |
| Industry | 25 |
| Transport | 31 |
| Agriculture | 3 |
| Total Saving Potential | 100% |

## LEGAL FRAMEWORK ON RENEWABLE ENERGY RESOURCES AND ENERGY EFFICIENCY

### The Law On heat saving

In order to reduce the electricity consumption for heating purposes and to promote the use of the alternative resources of energy, in September 2002, has been ratified the Law on Heat Saving in Buildings. The aim of this Law is to rule the heating of the dwellings, public private buildings and the control, the evidence, the management of the thermal energy consumption, in the characteristics conducts of the constructions components, thermal installation inbuildings. This Law aims the improvement, in reduction of the energy consumption in buildings. This main aim of this Law is unqualified in its Article 3.

The projec tion and construction of buildings should foresee the realization of the necessary technical parameters for the saving and efficient using of the energy. All the buildings, which are to be constructed after entering into force of this law, should be realized respecting the normative voluminous coefficient of the thermal losses Gv and should be foreseen the central or local heating installation .

The coefficient Gv, that depends on the climatic zones and on the building characteristics, is given on the Norms, regulations, design and constructions conditions, for heat generation and energy saving in dwellings and public buildings, named Energy Building Code compiled on this reason and as mentioned above is approve by the Council of Ministers on January 2003 (The Decision of the Council of Ministers nr.38).

This Code analyzes the demand for heating and its heat losses in buildings. This Code also analyzes in details the climatic points (Degreedays, calculating temperature during warming time for main cities of territory of Republic of Albania etc.). In the Code are given recommends for the indoor temperatures according to building type and the activity expanded in it, the thermo physics characteristics for main constructions materials, etc.

### Building Codes

The Law No. 8937, dated 12.09.2002 “On conservation of thermal heat in buildings” aims 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 volumetric 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, in 19 January 2003, the DCM No. 38 dated 16.1.2003; “the Technical Norms of Heat Saving in Buildings”.

**Law No. 10119, date 23.04.2009 "On Planning Territory"** contains the article 25 for Building Regulations which impose an obligation to the investor to comply with energy efficiency standards.

According to Article 25 "The construction rules define the base, technical obligatory conditions and norms of projections, project implementation, use, maintenance, damage and removal of the structures and the development of public infrastructures, materials, their quality and their use to guarantee the security and quality of life and health, energy conservation, the environment protection and the rules application for structures and territories adaptation for persons with the mental and physical problems, according to the definition of this law and the legislation in rules".

**The law no.10113, date on 09.04.2009, "On the indication by labeling and standard product information of the consumption of energy and other resources by household appliances,**

This law defines the obligations to publish information on consumption of energy and other essential resources, particularly by means of labeling and information about the product, as well as additional information, concerning certain types of household appliances, allowing the consumer to choose more energy-efficient appliances, for home-use.

This law shall apply to the following types of household appliances, even if sold for non-household uses:

a) refrigerators, freezers and their combinations;
b) washing machines, driers and their combinations;
c) dishwashers;
ç) ovens;
d) water heaters and hot-water storage appliances;
dh) lighting tools/appliances;
e) air-conditioning appliances.

2. This law shall not apply to:
a) used household appliances;
b) other fixed labels on appliances for domestic use that, for security reasons, provide information about the power indicators.

**The Law On Energy Efficiency Draft**

The purpose of this law is the creation of the legal framework required for the setting up and enforcement of a national policy for the promotion and improvement of the efficient use of energy in whole its energy cycle with the goal to increase the security of energy supply, improve the economic competitiveness of national economy, minimize adverse impact on the environment and mitigate the climate change.

This law covers principles and procedures for the increase and promotion of energy efficiency (in the country's economy) and regulates the relations between Government authorities, public and private sector, including residential sector, for the promotion of energy efficiency and energy saving and for the development of a market for energy services.

It shall apply to the following categories:

a) providers of energy efficiency improvement measures;
b) energy distributors and distribution system operators;
c) retail energy sales companies;
d) final customers.

**The Law On Renewable Energies DRAFT**

Albania is in the process of developing new legislation to facilitate renewable energy development. The new draft law on Renewable Energy Resources (RES), is under preparation and is based on the Directive 2009/28/EC.

The aim of the law is to promote and support the renewable energy sources utilization, to produce electricity and heat, specifically; water, sun, biomass, wind and geothermal.

An important item of the draft law will be the establishment of the renewable energy fund. The Fund shall be used for financing projects and studies for identification of the renewable energy potentials in the country; for financing projects that support the use of renewable energy sources, for providing incentives for them; for testing and monitoring the new technologies utilizing energy from renewable sources; for financing awareness campaigns for the use of renewable energy sources, etc.

The RES draft law addresses a number of issues trying to be in compliance with the EU Directive 2009/28/EC on promotion of renewable energy sources, including the following:

- Authorizes the Government to set overall national targets of renewable in the final consumption consistent with the Albania international commitments,
- Requires that a National Renewable Energy Action Plan to be approved by the Government;
- Requires the responsible Government entities and bodies to provide any information and training to enhance the awareness of RES technology producers and consumers;
- Establishes the Renewable energy fund;
- Supports the streamlining licensing and permitting procedures. (The energy one-stop shop licensing center)
- Feed-in tariff, green certificate, access on the grid

**RULES AND PROCEDURES ON CERTIFICATION OF ELECTRICITY GENERATION FROM RENEWABLE SOURCES**

These Rules and Procedures are compiled based on the provisions of the article 39 of the Law No. 9072 date 22.05.2003 "On Power Sector", as amended, the Treaty on Energy Community ratified with the Law nr.905 date 3.04.2006, and are in compliance with the ERE (Energy Regulatory Entity) Rules of Practice and Procedure.

These rules will be applied for the certification of electricity generation from the producers putting in operation after 02. .2000 that use renewable energy sources.

The steps for the certification of electricity generation from renewable sources:

a. Qualification of generation plants of electricity

b. Issuing of Guarantee of Origin (GO) and Green Certificates (GC)

***Qualification of generation plants of electricity***

I. The Producer wishing to get the qualification of generating plant shall file with ERE a specific written request, including all the information required by the legislation in force and these rules. The qualification of a generating plant is made only once unless major changes in the qualified generating plants of electricity have occurred. The request for qualification can be also filed for a generating plant of renewable sources still in project which may be still in the designing or construction phase.

The Request for Qualification shall include:

- a specific technical report describing the type of generation technology as set out in the abovementioned article 6;
- a technical document describing the basic characteristics of the generator plant, including technical annexes, if any;
- the implementation project of the plant, in cases of qualification requested for a power generator, which is still in designing or construction phase; ( construction design electromechanical, to the connection system etc, that is presented for construction permit)
- any other issued documentation, providing evidences of the testing and commissioning of the generation plant.

The technical document comprise:

1. General description of the plant such as:

a) energy sources (renewable or not) b) type of power plant c) nominal capacity that is the sum of the nominal capacity of the turbines or engines as reported on their nameplate d) expected annual production

2. the following graphic documents:

a) chorography b) general lay out c) functional scheme d) electric scheme aiming in identification of power plant meters certified by the competent public authority

3. description of the plant must be even more detailed in case of:

a) hydro power plants, using also pumped storage, in order to calculate the percentage of energy used for this purpose given that this amount of power output is excluded from the production eligible for GO and/or Green Certificates

b) hybrid plants given that only the energy produced by renewable sources may be eligible for GO and/or Green Certificates

c) plants burning waste in order to calculate the amount of electricity attributed to the biodegradable part of wastes, given that only this may be eligible for GO and/or GC.

II. ERE, within 90 days from the decision to commence the reviewing procedure according to article 8 of these rules, shall review the application and inform the applicant on the Board decision on qualification or in refusal.

Issuing of Guarantee of Origin (GO) and Green Certificates (GC)

I. The generator may file a request ask for the issuing of GC for the amount of electricity produced, on yearly basis, from the plants previously qualified as described in the articles 7, 8, 9, and after generation plant is in operation. The date of the first generating plant parallel with the electric network has to be after 2nd November 2000.

GC can be traded in three subsequent years after their issuance.

GO can be issued for:

- all the electricity annually generated from hydro power plants except from the quota ascribed to the pump storage;
- all the electricity annually generated from wind, solar, geothermal, wave, tidal, hydropower, biomass, landfill gas, sewage treatment plant gas and biogases power plant;
- the quota of electricity annually generated ascribed to biodegradable part of urban and industrial wastes, burned within the thermal power plant.
- the quota of electricity attributable annually to the renewable source burned within hybrid power plant, when the electricity ascribed to the not renewable exceed the 5% of the overall amount of electricity produced.

every GC is equal to 50 MWh.

II. According to application ERE, shall issue annually GO, for the electricity actually produced from a plant that has already got the qualification and only if the plant is in operation, GO can be deserved for the same electricity abovementioned for the GC.

III. ERE issues the GC and GO for 2 year period.

IV. The amount of energy, to which, can be issued GC and/or GO, shall be measured or computed from the measurements. The applicant has to include proper documentation certified by the competent public authority.

**Council of Minister Degree No. 1701, date 17.12.2008 "*Regulation on Procedures for Granting of Authorizations for Construction of Power Plants not Subject of Concession"***

***Article 1 – Purpose***

1. The purpose of this regulation is the establishing of procedures and documents necessary for application, evaluation and granting of an authorization for construction of a new power generation capacity, which is not subject of concession.
2. This regulation is developed and issued according to Article 34/1 of the Law No.9072, dated 22.05.2003 "On Power Sector", as amended.

***Article 2 – Subject***

1. Subject of this regulation are the power plants constructed with private financing that are connected to transmission and/or distribution networks.
2. Nothing in this Regulation overwrites any existing authority of any governmental or other institution to issue permits, consents, or any other document required for construction of new power plants according to legislation in force.

***Article 4 – Right to apply***

1. Any Person carrying out a commercial activity according to Albanian legislation may apply for an authorization for construction of a power plant.
2. Any foreign person who wants to apply for an authorization under this regulation should establish an affiliate or a representative office in Albanian according to the provisions of the law no. 9901, date 14.04.2008 "On traders and commercial companies" and the Albanian tax legislation.
3. Any application under this regulation shall be submitted to the Ministry responsible for energy.

***Article 7 – Accompanying Documents requested for an Authorization***

Any application for an authorization shall be accompanied by the following documents or information for identification of the Applicant:

1. Applicant's name;

2. Address of Applicant's Headquarters;
3. Company's General Manager;
4. Representative or responsible delegate (if there is any);
5. Organization structure of the company;
6. Technical, organizational and professional capacities of the company;
7. Information on any other activity of the Applicant outside the power sector;
8. Phone, Fax or E-mail;
9. Tax Identification Number from Tax Office (NIPT);
10. Statements for payment of taxes, social security dues and that the company is not under any bankruptcy process;
11. Audited Financial Statements for last three years when the company has been established more than three year ago or for the period of the existence of the company when it has less than three years as well as any other financial documentation proofing financial capabilities to carry out the proposed project;
12. Any other document that the Ministry responsible for energy may request to proof this capability.