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Renewable Energy Deployment

AGJENCIA KOMBETARE E BURIMEVE NATYRORE
NATIONAL AGENCY OF NATURAL RESOURCES

National Agency of Natural Resources

- Renewable Energies
- Hydrocarbons
- Mines
- Hydropower

1. Population 2.95 milion
2. Albania has a land area of 28,745 km^2
3. 77% of the country is mountainous
4. Administratively divided into 12 prefectures, 36 districts, 315 communes and 2900 villages
5. 95% of Electricity produce by Hydro
6. GDP 2018 is 12 Billion Euro

Albanian energy goals

- Security of supply through better exploitation;
- Utilization of energy sources;
- Energy diversification;
- Increasing the competitiveness;
- The environmental protection;

Albania RES Target

Albania has committed to a binding 38% target of energy from renewable sources in gross final energy consumption in 2020, starting with 31,2% in 2009.

In 2018, according to the energy balance published by EUROSTAT, Albania achieved a 34,9% share of energy from renewable sources, above the third indicative trajectory of 34,3%.

National Renewable Energy Action Plan

RES energy expansion targets up to 2020

- 57 MW of hydropower energy;
- 490 MW of photovoltaic energy;
- 150 MW of wind energy.

RES price:

Installations up to 2MW of Solar and 3 MW wind Energy

Feed in Tariff 100 euro/MWh and 76 Euro/MWh.

Hydro Energy up to 15 MW 52 Euro/Mwh

Support Schemes awarded through Auctions

The Albanian government has recently passed a resolution for promoting the use of energy generated from solar and wind power plants and which stipulates the procedures for electing the eligible projects to benefit from such means.

According to the 2017 RES Law, *feed-in-premium tariffs* for renewables with over 2 MW of installed capacity should be granted through a competitive auction process, on non-discriminatory, clear and transparent basis.

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Status of Law of Renewable Energy in Albania

- The new Law “On Renewable Energy Recourses ” has approved recently, aiming to transposes all requirements of EU Directives including New EU Directive 2009/28 and bio fuels.

- This law promote the production of electricity and heat from renewable energy sources in order to:
  - Enhance energy security supply;
  - Protect the climate and protection of the environment;
  - Increase of the share of renewable sources in consumption of primary energy sources;
  - Establish a preferential basis on the internal electricity market the production of electricity from renewable energy sources;

Solar Projects

Albania has opened the call for bids to build the Adriatic country's first solar power station, for a 30 years term.

An initial installed capacity of 50 MW with possibility of extension to up to further 50 MW .

The financial criterion is designated as the decisive wining factor, as 30 points will be given to the company choosing to sell at a cheaper price to the OSSHE (power distributor system operator), securing a guaranteed buyer for the first half of the renewable 30-year-term.

Contract for Difference

Under the 2017 RES Law, the main promotional measure is a specific form of a feed-in tariff termed contract for difference.

The CfD can be characterized as a sliding feed-in-premium system, meaning that renewable energy producers will sell the electricity in the market and receive the variable difference between the auction price and the electricity market price (reference price) as a support measure.

The CfD will have a duration of 15 years.

If prices in the electricity market go up and are higher than the auction price, the RES producers will be obliged to pay such difference.

Contract for Difference

The legal criteria of RES generation established by the Albanian Energy Regulatory Entity (ERE) provides that only the generators that fulfils the legal conditions might be supported pursuant to a CfD.

The renewable technologies that will be acceptable for support according to CfD scheme include the following:

1. biomass transformation,
2. wind in terrestrial boundaries,
3. solar photovoltaics,
4. hydro energy,
5. energy from the waste through CHP,
6. gas from landfills
7. gas from the waste urban water.

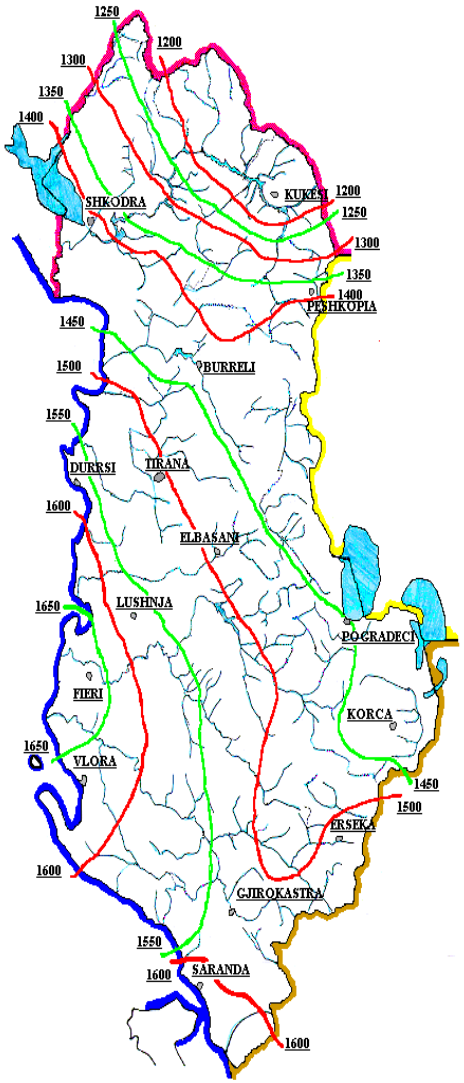
Solar Energy

•In Albania, average solar radiation is 1500 kWh/m^2 per year and Maximal radiation is 2200 kWh/m^2 per year

•In 2018, a total of 220 000 m^2 were installed (60% by services, 40% by households), bringing total installations to 220 000 m^2 (equivalent to around 110 GWh/y or 1.1% of electricity consumed by households in 2018).

•Actually, Albania has installed 10 MW solar photovoltaic.

Solar Radiation in Albania



Hydro Potential

- The power system in our country currently is almost based on hydropower. Albania has a considerable hydropower potential, where only 35% of it is utilized.

- The hydrographic territory of Albania has a surface of 44,000 km2 or 57% more than the national area of our country. The total reserves are estimated at 4,500 MW and the annual output potential can reach 18 TWh.

Hydro Potential

- In January 2018 results that from the contracting authority MEI were signed a total of 194 contracts for the construction of 540 small HPPs nationwide, where representing 31% of the generation forecast, which is only 43% of the electricity consumption projected in 2020. Expectation of HPVs in the construction phase can increase about 8% hydro production in 2020.

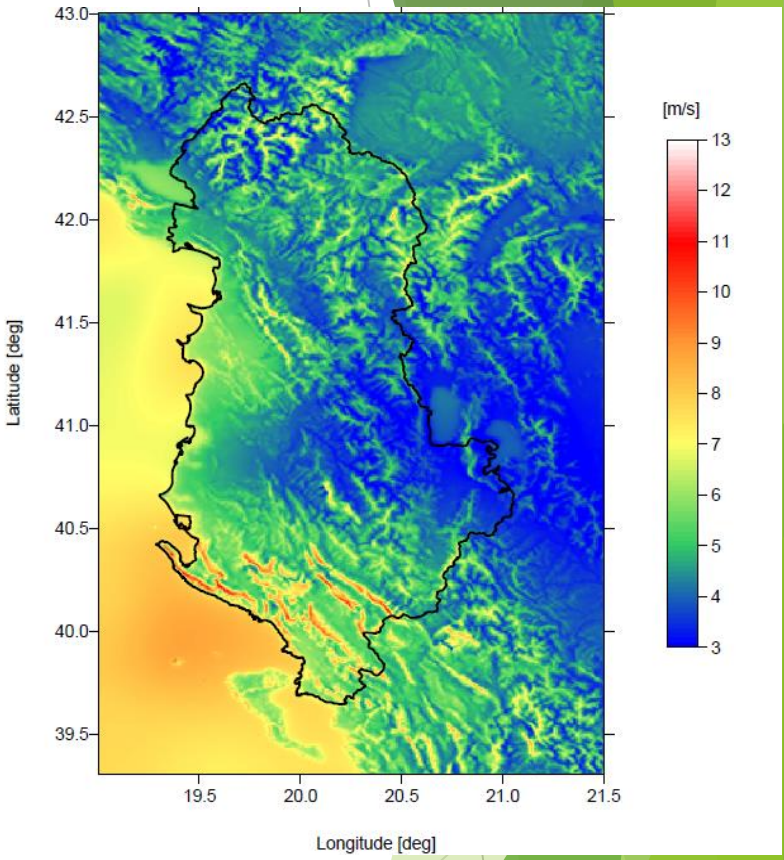
- The total net output for 2017 by private generators/concession was 1,608,181 MWh or about 35.5% of the total domestic production being 4,525,173 MWh. (ERE)

Wind Energy

The average speed of wind, is around 4-6 m/s (10 m height),and the average energy density is 150 W/m2.

Albania have average 4200 hours with wind per year.

Actually in Albania Territory in under survey for potential of wind energy



Biomass

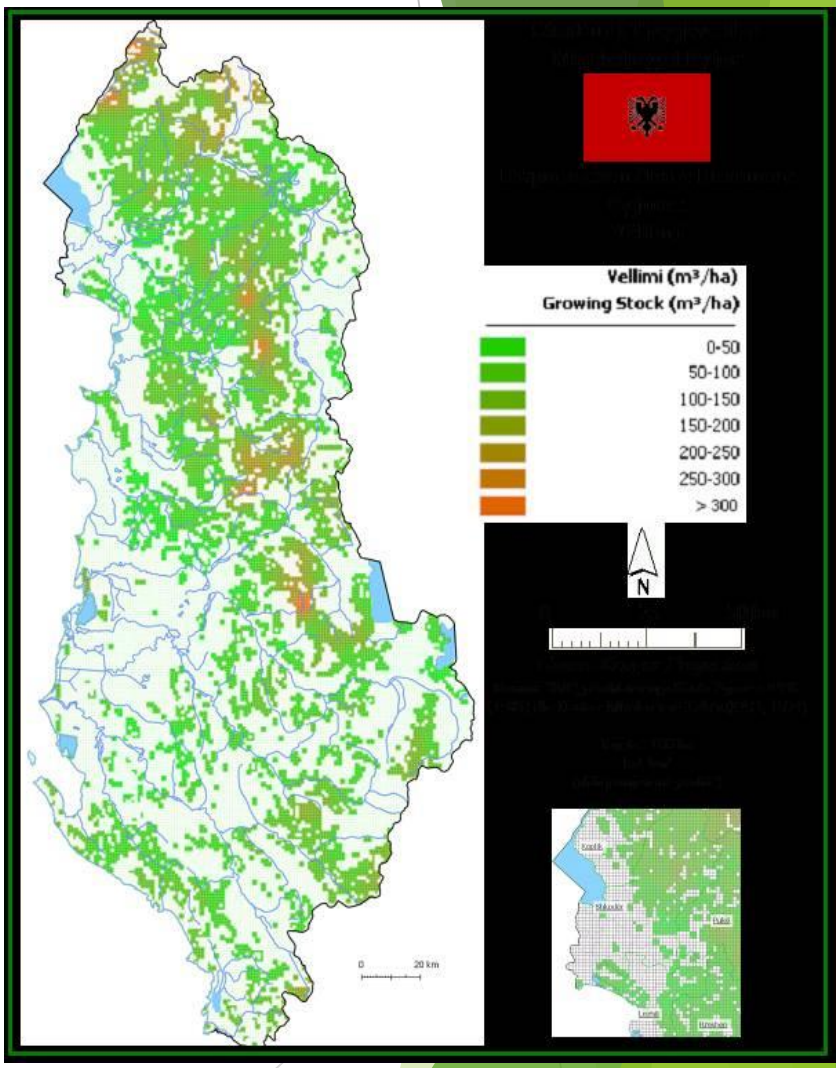
National Agency of Natural Resources has prepared the study "Biomass Potential in Albania"(In 2018)

According to this study:

▶Forests cover 36% of the land area of Albania.

▶Total proven reserves on wood as fuel is about 6 Mtoe.

▶Wood production for energy in 2018, is 210 Ktoe



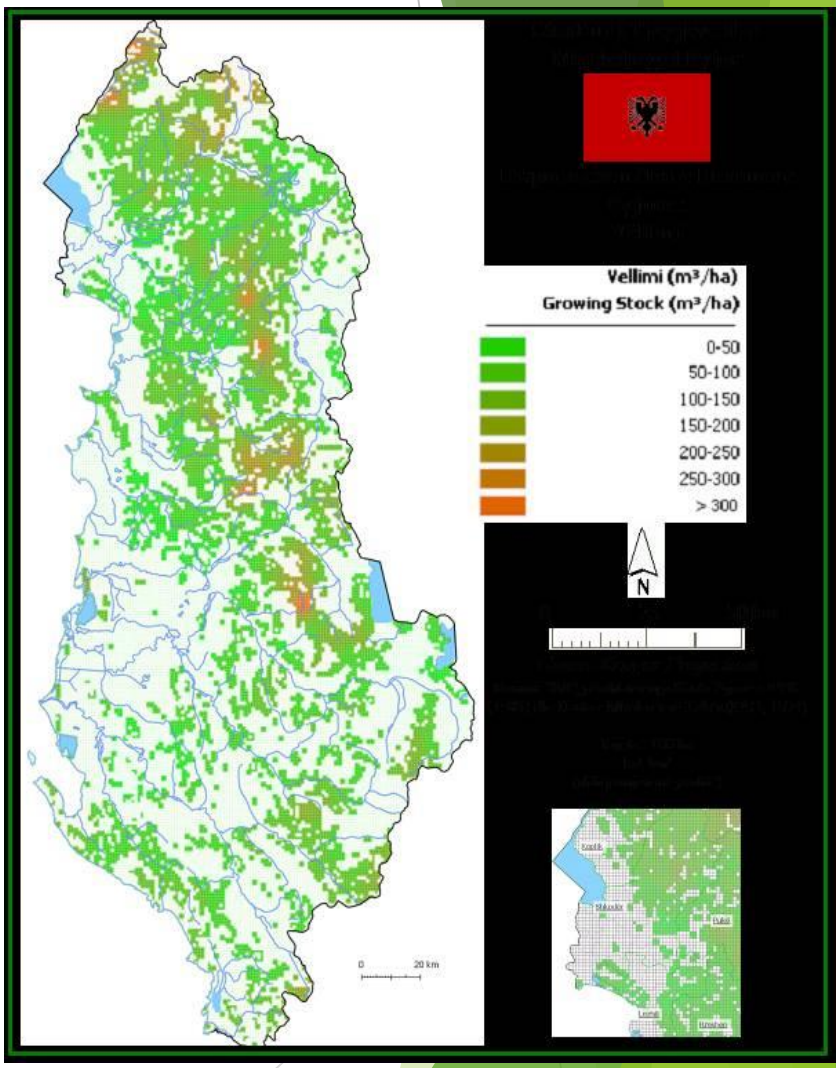
Biomass

▶***Agricultural biomass***

Agriculture is a source of considerable biomass quantities that can be used for bioenergy production.

▶***Biomass from waste***

Total production of waste for 2018 according to official statistics was amount of 762,353 tons or 240 kg/capita.

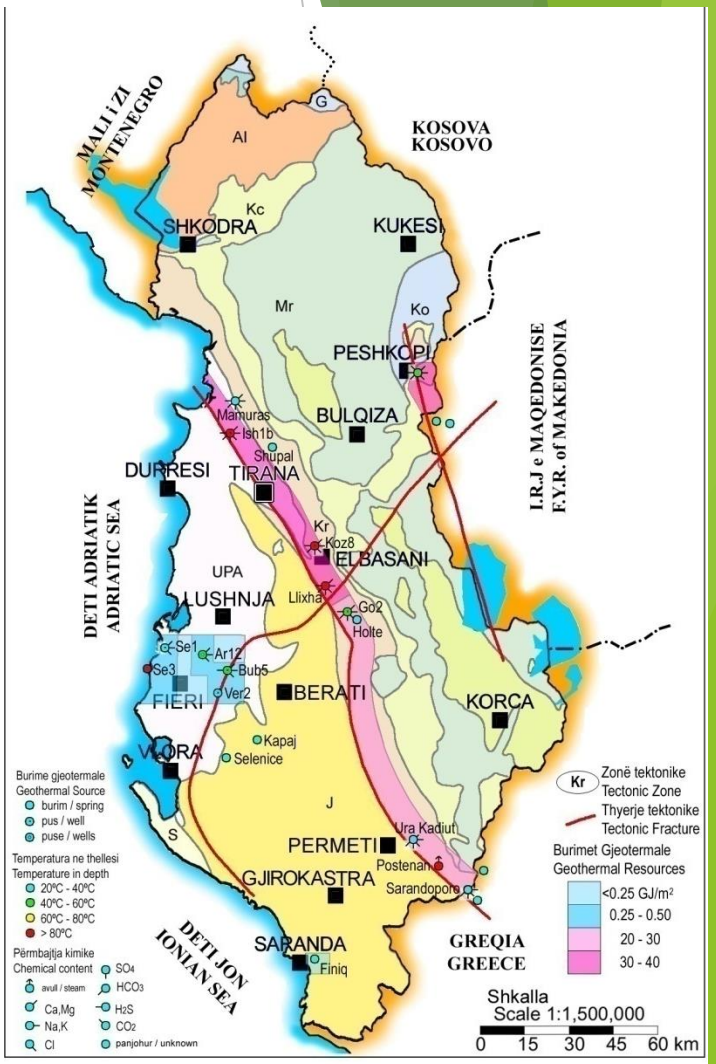


Geothermal Energy

- Albania, actually is in the feasibility phase of assessment of the geothermic energy use potential

- The geothermic situation of Albania presents two directions for use of geothermic energy:

  - The thermal sources with low enthalpy
  - The usage of the depths of the abandoned wells



Harta tematike gjeotermale
Geothermal Thematic Map

Thank you

National Agency of Natural Resources
Address:
Bulevardi ” Bajram Curri”,
Blloku “Vasil Shanto”, Tiranë, Albania.
Web: www.akbn.gov.al
Tel. +355 (0) 4 225 7117
Fax +355 (0) 4 225 7382

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