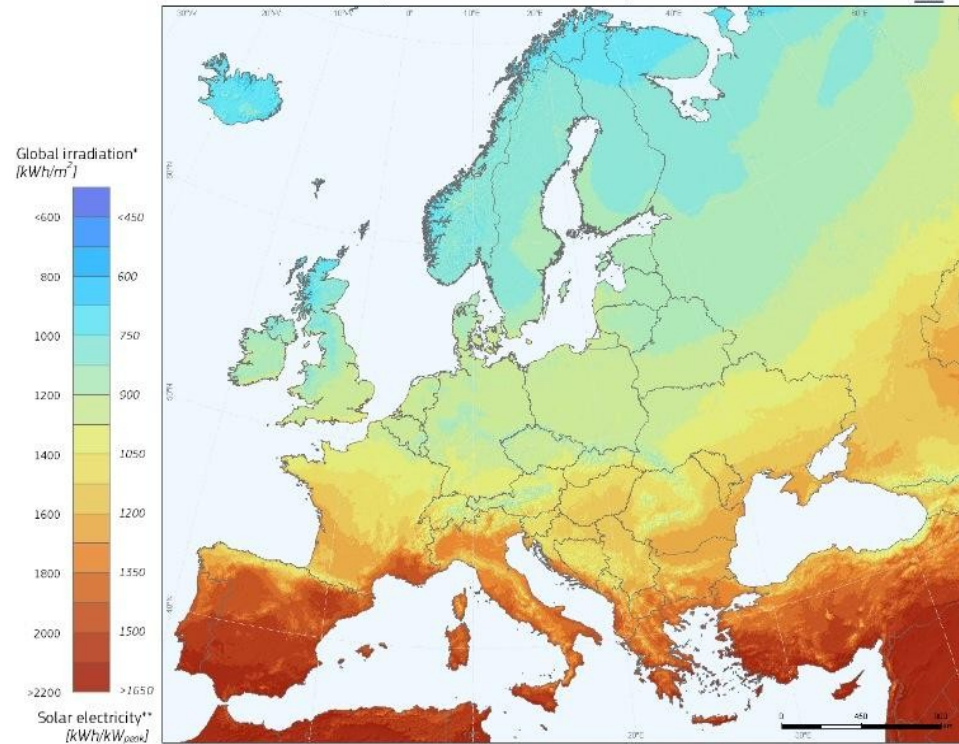


Solar energy in Albania

There is a large potential of solar energy in Albania.
Solar radiation is 1.7-2 times higher than in Germany

Photovoltaic Solar Electricity Potential in European Countries



* Yearly sum of global irradiation incident on optimally-inclined south-oriented photovoltaic modules
** Yearly sum of solar electricity generated by optimally-inclined 1kW_{ₚₐₙₑ} system with a performance ratio of 0.75

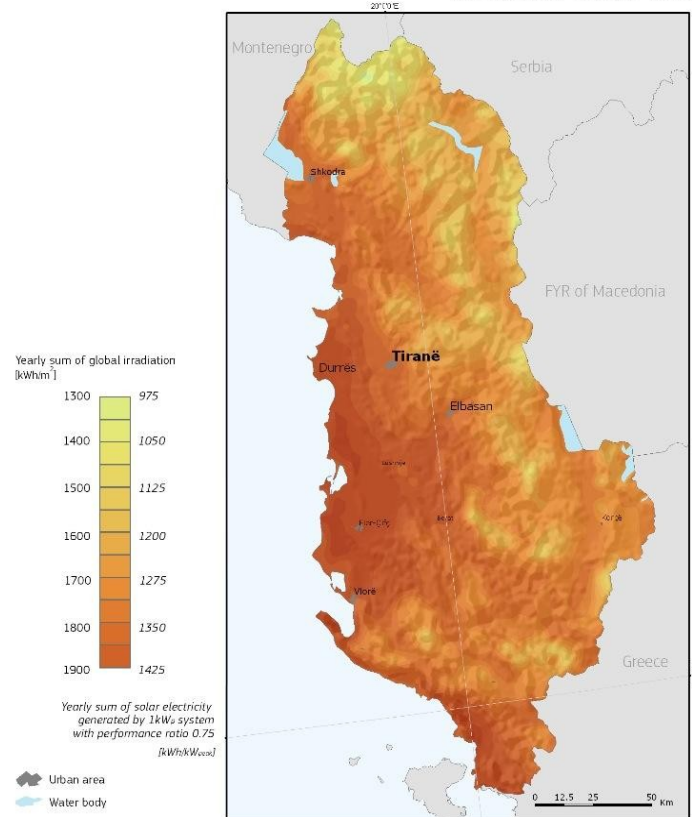
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EC - Joint Research Centre
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Global irradiation and solar electricity potential
Optimally-inclined photovoltaic modules

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Solar energy in Albania - Local initiative opportunity for sustainable energy supply

Albania has an increased consumption of electricity in summer, while the domestic production of electricity in summer is smaller because:

- ▶ About 99.5% of energy in Albania is produced by hydropower plants (in summer there is not such rainfall).
- ▶ Many small power plants can not operate during the summer months, as water is needed for agriculture.
- ▶ The energy demand of the tourism industry focuses mainly on the period June-October. In these 5 months are about 80% of the accommodation about $\frac{3}{4}$ of annual energy needs.
- ▶ Albanian agriculture in summer has high energy consumption, which is necessary to irrigate their fields. This is mainly done by electric pumps or pumps with fuel generators.
- ▶ Households as well as offices use a lot of energy for air conditioners and consume electric hot water heaters.

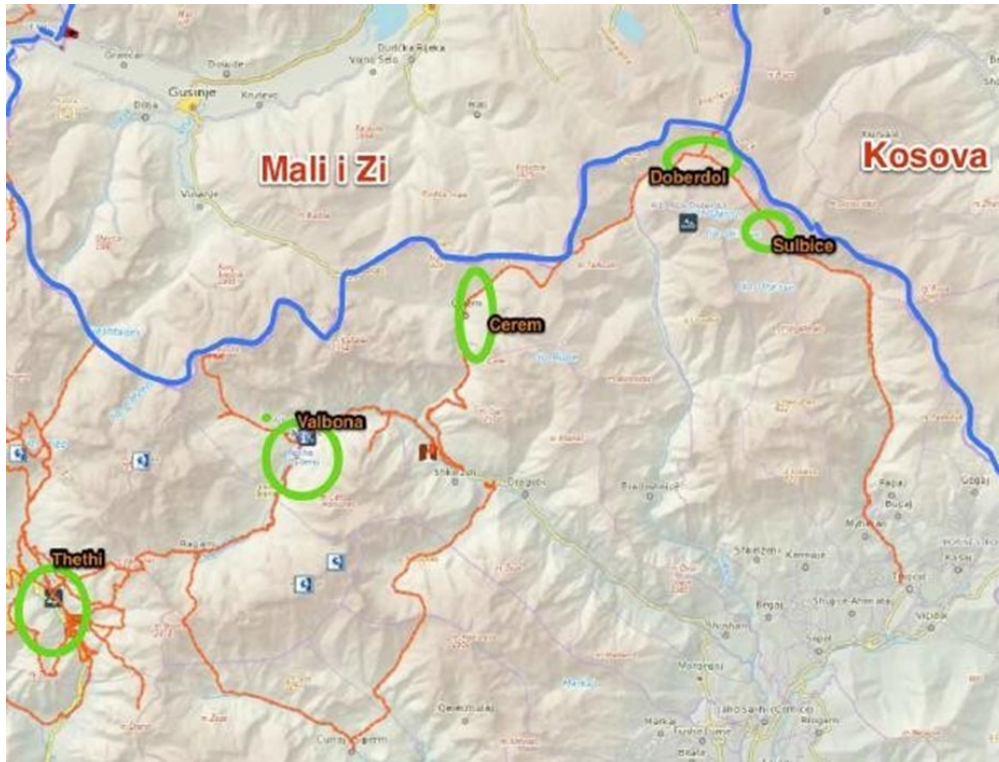
Solar energy in Albania

Many residents in Albania do not have electricity supply (in the summer months more)

- ▶ Although Albania has inherited a central system of energy distribution throughout the country, it has happened that in many poor villages, especially in the mountainous areas of Albania, this access has been denied to the inhabitants.
- ▶ It is estimated that more than 5,000 people (especially in the summer, when many families from mountainous areas migrate to the mountains) are not connected to the electricity supply.
- ▶ Therefore, in these dark conditions, lighting is done with candles, flashlights, kerosene lamps and diesel generators, causing high costs and environmental pollution.
- ▶ In these remote areas, solar energy is a real opportunity to improve the quality of life.

Solar energy in Albania

- Implementation of projects for solar energy Mountain tourism in the Alpine areas in northern Albania



Solar energy in Albania

More than 60 individual photovoltaic systems have been installed in rural areas of Albania.

- ▶ A simple photovoltaic system, consists of:
- ▶ a 50-100 Watt photovoltaic panel,
- ▶ 8 A electronic control package,
- ▶ 50-70 Ah battery,
- ▶ 5-7 LED lamps 4 Watt 12 Volt = brighter than a normal 40 Watt lamp.
- ▶ Mobile switching equipment,
- ▶ The price of such a set is 300 EURO (50 Watt system) and 500 EURO 100 Watt system.



Solar energy in Albania

25 Gaestehaus in Theth villlage- have solar energy



Solar energy in Albania

An eco-tourist complex, with 10 cabins, only with solar energy, for 5 years does not pay electricity bills.



Solar energy in Albania

With photovoltaic - pumps and lighting in the farm

- ▶ Irrigation is one of the most important agricultural services during the summer months in agriculture.
- ▶ Farmers use individual irrigation systems mainly for vegetables and fruits.
- ▶ Photovoltaic pump with 500 Watt is a submersible pump and draws water from wells with a depth of 50 m, up to 25 m³ per day.
- ▶ Such a system costs about 2200EURO.
- ▶ They replace in operation a 1 kw electric pump, or such a pump with generator



Solar energy in Albania

Skenderi is one of the 13 farmers who has installed photovoltaic pumps.

- ▶ He has a livestock farm in Gradishte in the district of Lushnja, with 40 cows and 150 sheep.
- ▶ In addition to the water pump for livestock, he increased the investment with the LED lighting system in the apartment and in the livestock stable.
- ▶ This additional investment of 200 Euros made it possible for the same photovoltaic panels to be used for the lighting system.
- ▶ Not only lighting, but also a 12 Volt TV, have made life easier.
- ▶ The oil and candle generator, in the photos above, has been replaced with photovoltaic.



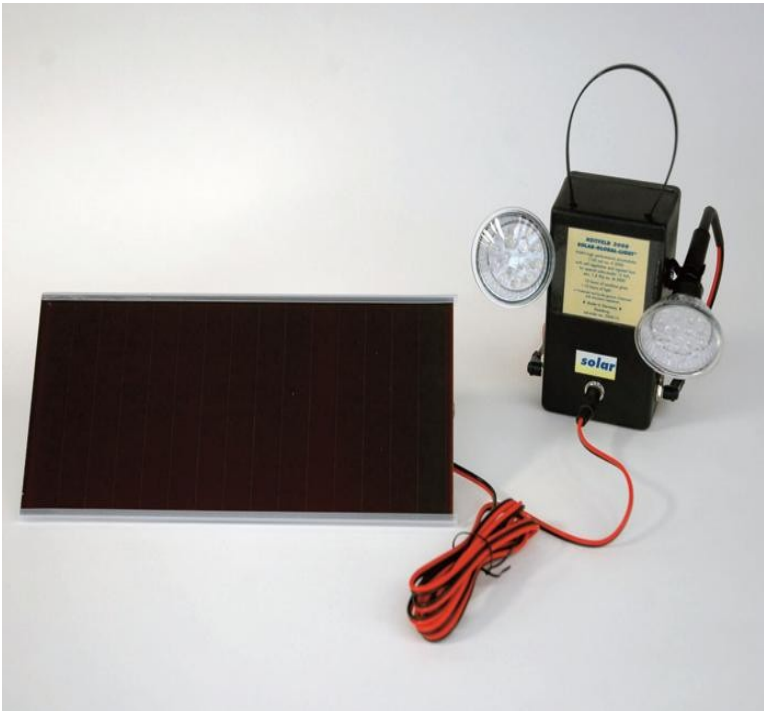
Solar energy in Albania

"Electrification" for 5 families in Derje village only 25 km from capital Tirana is a social project.



Solar energy in Albania

A simple light with Photovoltaic, has created the possibility for 12 shepherds of Karaburun zone to have lighting and charging of mobile phones.



Solar energy in Albania

Instead of conclusions and recommendations

- ▶ To be able to successfully implement energy projects at the local and individual level, more knowledge and information is needed;
- ▶ Demonstrated knowledge and practical examples are needed for consumers;
- ▶ The most advanced technologies of the time should be promoted;
- ▶ Need community initiatives and support programs;
- ▶ and last but not least,

Think global and act locally and individually - this is the motto to move forward.



Thank you for your attention
Erald Proko
ALBANIA