
SEERMAP

South-East Europe Electricity Roadmap

Present Status and Future Opportunities in Developing Renewable Energy Systems in Albania

SEERmap Project Meeting

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- 1. RES Present Deployment and Future Targets**
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RES Electricity Present Deployment and Future Targets

- 5) Energy demand is expected to increase almost 60% by 2020.
- 6) High interest exists to use cooperation mechanisms for wind and biomass development.
- 7) Apart of massive hydro capacity expansion, the interest for the other renewable resources assumes only a moderate increase. It remains below 20% of the total of RES even in the most ambitious scenario.

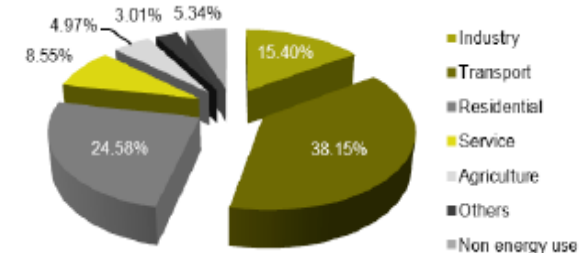
Electricity (GWh)	2009	2020	Δ GWh	Δ %
Hydro small	157	1980	1823	1161%
Hydro large	3877	7291	3414	88%
Geothermal-E	0	0	0	0
Solar-E	0	0	0	0
Wind	0	165	165	NA
Biomass-E	0	186	186	NA
Heat (GWh)	2009	2020		
Total heat (Geo., Sol., Biom.)	2549	4546	1997	78%
Solar-H	NA	NA	NA	NA
Biomass-H	NA	NA	NA	NA
Transport (GWh)	2009	2020		
Transport (biofuels)	0	1226	1226	NA
Total (GWh)	6583	15394	8811	134%

Prevision on New RES-E by Ambitious Scenario - AMB (MW)

AMB Scenario	2015	2016	2017	2018	2019	2020	2025	2030
Hydro*	1 801	1 894	1 941	1 991	2 264	2 324	3 179	3 869
Pumped storage	0	0	0	0	0	0	0	0
Geothermal	0	0	0	0	0	0	0	0
Solar	2	5	10	16	24	32	120	220
Wind	0	0	4	10	20	30	160	310
Biomass	5	5	5	5	5	5	80	80

Source: Development in South East Europe (SLED)

- 1) Consumption of primary energy sources by sector in Albania
- 2) Renewable energy target of Albania is 38% by 2020
- 3) Albania plans to meet its 2020 RES target mainly by expanding hydro power.
- 4) Support mechanisms for energy from renewable sources are foreseen to be adopted by (Energy Regulator Authority) ERE within the implementation process of the revised law on renewable energy.



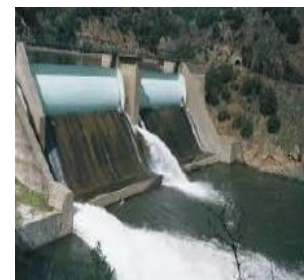
Source: AKBN (2012)

NREAP Prevision for Each Sector of RES 2015-2020

	Additional According to Technology	RES	Quantity	Generation	Installation
		to 2015-2020	ktoe	GWh	MW
RES-E	SHPP up 10 MW		200	2,326	744.3
	Wind		20	233	97.7
	PV		50	582	116.3
	Total 1		270	3,140	958
	% ne GFEC		29%		
RES-N&F	Biomass		52	800	279
	Total 2		52		
	% GFEC		10%		
RES-T	Biofuel (FAME)		85		-
	Total 3		85		
	% ne GFEC		3%		
RES	Total 1+2+3		634		
	% GFEC		38%		

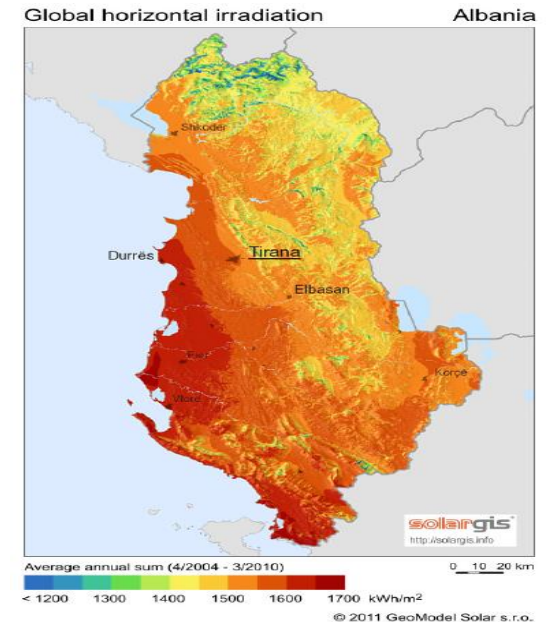
Source: MEI

- 1) **Hydro Power:** Potential is 16 billion Kwh only 35 % are used. Albanian Government, has issued up to about 200 concession with total cost of investment 2.8 billion Euro.
- 2) **Hydroelectric production** is **dominant:** growing quite significantly (more than double of the 2015 level) in the **AMB scenario of 2030.**

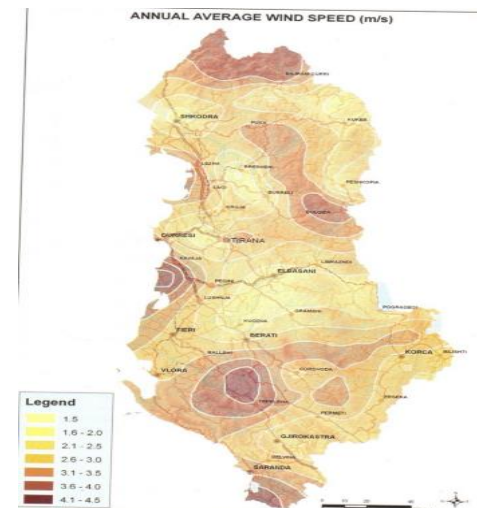


Main rivers in Albania

- 1) Since **Albania** belongs to the **sub-tropical zone**, it has relatively high levels of solar radiation during the year.
- 2) In a year **Albania** receives insolation in average of **1500 kWh/m²/yr** varying from **1185 to 1690 kWh/m²/yr** (World Energy Council, 2010).
- 3) In 2013, a total of **120 000 m²** were installed (60% by services, 40% by households),
- 4) National Territorial Planning Agency has licensed the first **three photovoltaic solar station** with an **electrical power generation of 2.5MW** each.



- 1) The **average speed of wind**, is around 4-6 m/s (10 m height), and the average energy density is 150 W/m².
- 2) Albania have **average 4200 hours with wind per year**. Actually in Albania Territory in under survey for potential.
- 3) Based on the actual conditions of Albania, it is foreseen that **4% of the total amount of electric energy produced in country (around 400 GWh/year) until 2025 to be produced from wind** (Ecofys BV 2006).



RES Support Schemes

- 1) **Albania has a Feed-in Tariff system in place for small hydro power plants up to 15 MW and tax exemptions for all renewables regarding equipment or fuel in the construction phase.**
- 2) **Albania has had a new RES law in place since 2013 that gives priority dispatch to producers of electricity from renewable sources.**
- 3) **It guarantees transmission and distribution of the electricity they generate if they benefit from the Feed-in Tariff mechanism and have signed a power purchase agreement (PPA) with the utility company which is obliged to purchase the electricity generated from renewable energy sources (Albanian government 2013)**

- 1) A new draft Law on RES has been recently discussed by the government.
- 2) Feed-in Tariff mechanism scheme will be soon introduced to electricity produced by photovoltaic up to 500kW.
- 3) A full review of the Law for the Production, Transport and Trade of Biofuels and other Renewable Fuels in Transport and its implementation is immediately needed.

RES Integration Issues

- 1) The **network operators** have to increase transparency regarding connection and **access to the grids**. ERE must also implement the system for certifying energy produced from **renewable sources** based on guarantees of origin.

- 2) **Transmission and distribution system operators** have to improve the methodology determining the costs of connection to the grid or grid reinforcements and the transparency towards investors.

- 3) Currently, **Albania** fails to implement in practice the requirements related to grid access detailed in Article 16 of the Renewable Energy Directive.

Thank you for your attention