
SEERMAP

South-East Europe Electricity Roadmap

Macedonian RES regulation and support scheme

prepared by: Natasa Stefanovska, EA

Sanja Camevska, EA

Zarko Ilievski, MACEF

Jasminka Dimitrova Kapac, MACEF

- Country RES electricity targets (from NREAP) and present deployment level, trends
 - A. Share of energy from renewable sources
in gross final energy consumption for 2009 (S_{2009}): 21.9%
 - B. Target for energy from renewable sources
in gross final consumption of energy in 2020 (S_{2020}) 28,1%
 - C. Expected total adjusted energy consumption in 2020: 2,470 (ktoe)
 - D. Expected amount of energy from renewable sources corresponding
to the 2020 target (calculated as B x C): 692 (ktoe)
- Indicative targets beyond 2020 for RES electricity (from national action plan for RES)

	2009	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Total RES	21.9%	23.3%	23.9%	24.3%	24.9%	25.3%	25.8%	27%	28.1%	28.5%	29%	30.9%

RES electricity support scheme

As one of the mechanisms to support investments in renewable energy sources in the country are preferential tariffs. According to the goals and pace of implementation of the Strategy for Renewable Energy and Action Plan for Renewable Energy Sources, Energy Efficiency Strategy and Action Plan for Energy Efficiency, the government makes a decision prescribing the total installed capacity of privileged producers for each renewable energy sources and high efficient plants.

Under the rule book of preferential tariffs, preferential producer of electricity from renewable energy sources produced by solar, biomass and biogas have the right to use feed-in tariffs for 15 years, while the preferential producer of electricity from renewable energy generated by hydroelectric power plants and wind power have the right to use feed-in tariffs for 20 years.

A key element in determining the feed-in tariffs is reaching the optimum percentage of electricity generated from RES in gross final consumption of energy, and thus, allowing increased costs for electricity purchase not to affect drastically the increase in the price of the electricity which is paid by the all consumers.

Level of support by technologies, source: Energy Regulatory Commission

Feed-in tariffs for small hydropower plants

Hydropower plant can acquire the status of preferential producer if the installed capacity of the plant is less than or equal to 10 MW.

The fee for electricity generated by hydropower plants over a calendar month shall be calculated on the basis of preferential tariffs for individual blocks according to the following table:

Block: Quantity of electricity supplied in blocks (kWh) Feed-in tariff for electricity delivered in blocks (€¢/kWh)

I	≤ 85.000	12,00
II	> 85.000 and ≤ 170.000	8,00
III	> 170.000 and ≤ 350.000	6,00
IV	> 350.000 and ≤ 700.000	5,00
V	> 700.000	4,50

The preferential producer is entitled to use feed-in tariffs for electricity generated by hydroelectric power plants for 20 years.

Feed-in tariffs for biogas thermo plants

The preferential producer is entitled to use feed-in tariffs for electricity generated by thermo plants using biogas as fuel for a period of 15 years.

The highest percentage of fossil fuels in total energy value of the fuel is 20%.

If the share of fossil fuels in total energy value of the fuel is less than or equal to 10% feed-in tariffs for electricity generated by thermo plants using biogas is 18 (€ ¢ / kWh).

If the share of fossil fuels in total energy value of the fuel is greater than 10% and less than or equal to 20%, reduced tariffs are calculated according to the following formula:

$$PT = PT0 \times (1,10 - p \times 0,01) \times 0,01$$

where:

- PT is the reduced feed-in tariff,
- PT0 is tariff depending on the installed capacity of power plant
- P is designated percentage share of fossil fuels, determined by Ministry of Economy.

Feed-in tariffs for biomass thermo plants

If the share of fossil fuels in total energy value of the fuel is less than or equal to 15% feed-in tariffs for electricity generated by thermo plants using biomass is 15 €/kWh.

The preferential producer is entitled to use feed-in tariffs for electricity generated by thermo plants using biomass as fuel for a period of 15 years.

If percentage share of fossil fuels in total energy value of the fuel is greater than 15% and less than or equal to 30%, reduced tariffs are calculated according to the following formula:

$$PT = PT0 \times (1,15 - p \times 0,01) \times 0,01$$

where:

- PT is the reduced feed-in tariff,
- PT0 is tariff depending on the installed capacity of power plant
- P is designated percentage share of fossil fuels, determined by Ministry of Economy

Feed-in tariffs for wind power plants

In Macedonia feed-in tariff for electricity production from wind power is set back in 2007 and since then the amount of 8,9 (€ ¢ / kWh) for 20 years wind power plants with installed capacity of 50 MW, has not been exploit yet.

Feed-in tariffs for photovoltaic power plants

From time span of 2008 till today when feed-in tariffs were established for electricity generated by photovoltaic power plants, today we can observe very common trend of reducing the amount of these feed-in tariffs, from 46 (€¢/ kWh), to 16 (€¢ / kWh) on the beginning of 2015.

The amount of feed-in tariff depends on the installed capacity:

Installed capacity of the power plant	Feed-in tariff (€¢/kWh)
≤ 0,050 MW	16
> 0,050 MW	12

Period of use of feed-in tariff is decreased from 20 to 15 years.

Type of plants that use feed-in tariff for the period 2009 to 2016	Number of plants	Power in kW
Bio gas plants	3	4.999,00
Wind parks	1	36.800,00
Photovoltaic power plants	102	16.710,00
Small hydro power plants	65	61.060,00
TOTAL	171	119.957,00

- RES integration issues
 - ▶ Network regulation – connection rules, contribution to network costs (deep vs shallow):
 - ▶ All costs related for connection to the network are on the Investor no difference if the RES plant is the preferential producer or not.
 - ▶ Balancing requirements:
 - ▶ All cost related to balancing requirements for preferential RES plants up to 1 MW installed power are on the Electricity operator.

- Who is paying for the RES support?

Consumers are paying for the RES support.

- Is there any support budget exist? Is it capped?

Yes, there is.

First 100 households will receive up to Euro 300 after they will install thermal solar collectors.

There are FIT for RES and CHP.

- Any cap exists for any RES technology?

There is a cap for all types of RES technology, for PV and Biogas Power Plants there is no room in quotas. There is still room for Wind Power and Biomass Plants

- Key barriers and success factors if exists
Hidden costs for grid connection
- Did any significant change occur in the RES regulation in the last years?
No