

Electricity in Croatia is almost evenly produced from gas, coal, oil (or fuel oil) and large hydropower plants. Around 2.2GW of hydro and 1.8GW of thermal capacities have been currently installed. Over the last few years renewable energy sources (particularly wind) have become “visible” capacities for exploitation, as the country has already reached the target for 2020 in this area. Otherwise, Croatia has the lowest level of energy independence of all Western Balkan countries, because it has low reserves of oil and gas. In addition, there was a significant increase in consumption in the period from 2005 to 2015, with a tendency of further growth, which in recent years has resulted in a large increase in imports.

The new Act on Renewable Energy and High Efficient Cogeneration from 2016 abandoned the old system of power supply, except for power plants up to 30 kW. A transitional scheme of primary support has been introduced. Development of solar PV under FIT support was stopped at 52MW and projects worth hundreds of megawatts have been canceled. Around 42MW of these 52 MW are currently installed and operational, while the rest is still under construction. Solar PV for consumption in own industry is being developed without FIT support, with 40 percent subsidies, which should be paid within a period of eight years.

The potential of renewable energy sources in terms of cost-competitiveness:

Today, Croatia has significant competitive and profitable potential in the field of wind energy, in the range of 1.9 to 11.8 GW, depending on the cost of capital.

3.2 GW of solar PV could be provided for the low price. There is space for further development of hydropower and, to a lesser extent, geothermal capacities and capacities for biomass exploitation.

Hydropotentials in Croatia have a wide range of potential construction costs. Since many rivers have been already used for electricity production, the price of some facilities would be high compared to other SEE countries. The use of wind power is a favorable option as the LCOE is below 50 EUR/MWh, while solar power plants could produce electricity with LCOE around EUR 70/MWh.

Investment framework for renewable energy

The Act from 2016 brought several significant changes in the field of renewable energy sources in Croatia:

- provision that FIT is reallocated by the auction system and with predefined quotas (so that most cumulative capacity gets the support) for each technology
- provision that FIT is applied for power plants up to 30 KW and reallocated through the auction system and predefined quotas for each technology
- introducing scheme of network measurement for consumers on the facilities up to 500KW, with the calculation of production/consumption on monthly basis.

Many administrative obstacles observed in Croatia do not apply to energy regulations, but to construction regulations and regulations in the field of environmental protection. In addition, clear methodology for calculating and balancing costs in the energy sector has not been defined, and there are no clear regulations that define the competence and responsibility.

So far, reallocation of FIT support was not transparent, there have been several lawsuits and, in general, confidence in the institutions that carried it out was shaken. On the other hand, PPA for existing projects in the FIT scheme were described as low-risk, without objection by the investor. PPA was signed on 14 years and projects related to renewable energy sources have priority status that guarantees them easier access to funds. In addition, tariffs are adjusted for inflation each year.

When it comes to measurements, the initial calculations indicate that the supply for households is not profitable unless subsidies are provided. The reason for this is the large share of non-energy costs. Parts of the system that are not connected to network are counted, which is reflected on the price of each kilowatt-hour. Besides, the utilization of produced energy is not complete, it is about 90 percent. Nevertheless, there are suppliers who are willing to implement 1:1 scheme. It should be noted that the calculation period is one month, which additionally decreases economic viability. The Environmental Protection and Energy Efficiency Fund already supports the industrial and commercial sector, and it is expected to subsidize the purchase of equipment. However, if those are available to all households, installations in them cannot be economically viable.