



Ministry of Foreign Affairs

# Factsheet

# Renewable Energy in Croatia

*Potential for new developments*

NL Embassy in Zagreb, Croatia | NL Embassy in Zagreb, Croatia | NL Embassy in Zagreb, Croatia | NL Embassy in Zagreb, Croatia

Croatia offers many opportunities for developments in the renewable energy sector, particularly solar energy. The country has one of the highest insulations in the EU, between 2000 and 2700 hours of sunshine a year. With these potentials, Croatia could become one of the most significant producers of solar energy in the EU.

The government plans to install 2500 megawatts of new photovoltaic power by 2030. Concerning bioenergy, the baseline is also low, but potential is high. The country is rich in biomass - woods cover almost half of Croatia's territory and around 65% of Croatian land is classified as rural. In particular, the eastern parts of the country are interesting locations for biogas plants. Furthermore, geothermal energy is an interesting renewable energy source for Croatia, which could provide over a third of the country's energy needs in the future.

With available EU funds, significant investments in the production of renewable energy are planned until 2027. This all offers opportunities for investors to develop renewable energy projects in Croatia or to introduce

**technological solutions that are currently lacking in the market.**

## **Croatia's renewable energy industry**

Renewable sources supply around 30% of Croatia's energy needs, but only two percent is solar energy. The potential for solar energy is estimated at 6.8GW (majority in utility-scale or ground system PV plants and 1.5 GW for rooftop solar systems). Building-integrated photovoltaics, floating solar panels or agrovoltaics have not been fully explored or utilized, but solutions like these are currently gaining momentum.

In the bio-based energy sector, a lot is still to be explored and accelerated, as the country is rich in bio resources. A potential of almost half a million tons of biowaste could be used for the production of over 7% of the electricity produced by renewable sources.

The geothermal resources of Croatia are exceptional. The Pannonian pool has a geothermal gradient that is 60 percent higher than the European average. Its commercial use is still in its infancy. A total of seven exploitation fields and fourteen exploration areas for geothermal waters are

currently active in Croatia. Four private domestic investors and seven companies established by local and regional self-government units are carrying out exploration work of geothermal potentials. The estimation of installed power capacities is 1 GW.

#### Challenges in the renewable energy sector

- Procedures to obtain permits for the production and selling to the grid can be complicated and lengthy. The main obstacle for producing more energy from renewable sources and for taking the energy from producers is the expansion of the electricity power company HEP's network.
- Geothermal energy is not sufficiently used in the production of electricity for district heating or agriculture, primarily because of high initial investments costs.
- In general, the market lacks advanced technologies and solutions, including for the energy storage, as well as further exploitation of the potential of BIPV or floating panels.

#### Government initiatives for development

Through the EU funded programs, grants are available for various purposes.

- Croatia has secured EUR 119.8 million from the Modernization Fund for transition to climate neutrality.
- Tenders for constructing/reconstructing and equipping of plants/premises for the production of RES energy in agriculture are opened (Measure 4.1.3; 4.2.2).
- From the "Energy and Climate Change" program the government has awarded EUR 24.7 million in grants for increasing the capacity of solar and geothermal energy in 35 cities and local administration units in Croatia.
- Geothermal energy is built into all key government policy strategies. New heating projects are under preparation. Until 1 June 2023 tenders are opened for the exploration of geothermal waters for energy purposes at six locations spreading over more than 200 square kilometers in four counties - Međimurje, Koprivnica-Križevci, Podravina, and Osijek-Baranja. The bioeconomy strategy until 2035 is under way, prepared by the Government.

#### Opportunities for Dutch companies

The Croatian renewable energy market is characterized by a small number of producers of technology a larger number of distributors of international technologies; no specialized R&D institution for solar or bio-based energy and a small number of innovative start-ups working on technology or smart grids. There are only a few producers of advanced solar energy and one producer of solar panels in Croatia. Likewise, there are no producers of bio-based energy technologies. Overall, Croatia has a need for technology and solutions for power plants, the production and use of biomass and geothermal resources and the storage of energy.

Dutch companies with experience in the transition to a 'bio-based' economy, offering solutions and business models for green and bio-based energy could find a niche on the Croatian market.

Concretely, the opportunities can be found in building-integrated photovoltaics or floating solar panels, developing "self-supplies" systems, application of the blockchain technology for trade of electricity and solar panels in agriculture. In the biomass sector, opportunities are in developing biomass market by connecting resources and processing of biomass into new products with higher added value. Biomass collection and logistic centers are planned to be constructed. Utilization of agricultural residues which could provide for a wider application of the generated by-products is where the Dutch expertise could be recognized by the market. In the next five years, investments of EUR 45 million in geothermal projects are expected. Companies seeking to further the development of geothermal energy projects have an excellent starting position because of the existing infrastructure and tradition of hydrocarbon research. The government's change in regulation in 2016 provided possibilities for thousands of disused oil and gas wells to be reused for geothermal projects.

#### What can the Embassy do for you?

The Embassy in Zagreb could facilitate your company in a number of ways:

- Answer first-line questions regarding doing business in Croatia;

- Provide where possible more detailed market information based on your specific questions and needs;
- Provide lists of legal or business advisors;
- Facilitate contacts with local authorities.
- Provide introductions to Croatian and Dutch companies active in Croatia.

### Facts and figures Croatia



Croatia, a country at the crossroads of Central and Southeast Europe, with 3.9 million inhabitants, is member of the European Union since 2013.

The Croatian GDP per capita was EUR 14.718 in 2021. Main economic sectors are tourism, manufacture industry, energy sector, ICT and agriculture. For 2023, The European Commission predicts a growth of 1.0 % and of 2.0% in 2024.

The trade exchange with the Netherlands amounts to around EUR 1.5 billion. In 2022, Croatia exported for approximately EUR 260 million worth of goods to the Netherlands, while the value of imports from the Netherlands amounted to approximately EUR 1.2 billion.

Over the years, the Netherlands has been among the largest foreign investors in Croatia.

### More information

You can find general information about doing business in Croatia, available subsidies and financing for entrepreneurs on the [Embassy's website](#) and on the website of the [Netherlands Enterprise Agency](#) (in Dutch).

A “Market analysis on solar and biobased energy for Croatia and Slovenia” from 2021 was commissioned by RVO and the Dutch embassies in Croatia and Slovenia. Read the [summary](#) or [request the report](#) directly.

For further information, you can contact the economic section of the Embassy via [zag-ea@minbuza.nl](mailto:zag-ea@minbuza.nl)

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