

CASE STUDY



Crowd-investing for solar energy

Križevci hosts the first crowd investing initiative in Croatia!

"We launched the crowd-investing campaign to raise the 30 000 euro necessary to build the solar plant. And – boom: in just ten days, it was fully funded!"
Sandra Vlašić, ZEZ

The Summary

Green Energy Cooperative (ZEZ) launched the first crowd-investing initiative in Croatia, supported by Križevci local authorities. Thanks to this initiative, a solar PV system is being installed on the rooftop of Križevci's Development Center and Technology Park's administrative building.

The Context

Križevci is a town in central Croatia (part of Koprivnica-Križevci County) with a total population of 21 000. Because of its proximity to Zagreb (57 km), Križevci is developing like a satellite city. It has a strategic position because it is close to all regional centres: Koprivnica, Bjelovar and Varaždin. The city is characterised by a long tradition of craftsmanship and investing in entrepreneurship.

In Croatia, renewables are developed almost entirely by individual companies and with minimal engagement from citizens, local communities and local authorities. Public interest in RES is quite high, but citizen participation is mostly limited to

roof-top solar power systems, and cumulative installed solar power accounts for only 6% of all RES in Croatia. The main cause for this current state is the Croatian legislation, which does not look favourably upon active citizen participation in the development of renewable energy. Only big investors have the human and financial capital required to overcome various administrative obstacles. New financing models are needed for RES development to be less dependent on State subsidies. High connection charges often discourage consumers to install small PV on their family roofs in order to become a prosumer. Local authorities are willing to invest in RES but are facing issues such as financing and lack of technical capacities to handle and kick start the projects. A 2015 study by the European Economic and Social Committee (EESC) revealed that, five years after the adoption of the Renewable Energy Directive, national policy documents contain hardly any reference to a consistent strategy aimed at supporting decentralized renewable energy production for the benefit of local communities. It recommended that local, national and EU policy-makers make civic ownership of renewable energy production and clear priority.



The Measures

Green Energy Cooperative provides solar equipment for lease to the city of Križevci, the owner of the building, for 10 years. All investors sign a loan agreement with the Cooperative for 10 years as well, for which an annual interest on accrued funds is projected.

The modelled system (50 kW), installed on the rooftop of the business centre, will primarily cover the needs of the users of the centre in terms of electricity. The city pays the actual electricity consumption, and from the monthly savings it would return investment to citizen-investors. The energy surplus will be sold to the network.

After 10 years (required for the investment to pay off) the system is transferred into the city's ownership and continues to make savings.

The Challenges

The challenges linked to the launch of the cooperative itself were notably to assess actual demand and interest from citizens towards the project. The city held two successful information sessions and also actively communicated the plan in the local media. Ensuring the project's viability and relevance was another key issue, addressed with the help of experts hired thanks to the financial support coming from a regional government programme.

Obstacles linked to the higher penetration of renewables in the city related mainly to the high upfront costs linked to the installation of photovoltaic panels. The administrative paperwork and processes to undertake, including the application for green subsidies and certificates, were also identified as a strong deterrent for citizens and companies alike.

Indeed, the development of solar is currently stalled in Croatia mainly due to the lack of increase in the PV quota for the feed-in tariff scheme. Prosumers and net metering are still not widespread notions in the country. This initiative's main objective is testing a replicable and scalable business model, to encourage the development of small solar PV self-consumption solutions in Croatia (for public buildings, small and medium enterprises, households etc.).

The Model

Green Energy Cooperative is the initiator and implementing partner for this initiative. The project was developed together with partners from the city of Križevci, Regional Energy Agency North, Greenpeace Croatia, Solvis and ACT Group.

The City of Križevci provides administrative and financial support in the preparation phase and grants an energy saving annual fee for 10 years to the investors.

The cooperative used the crowd investment, micro-loan model to involve the citizens in the sustainable development of their city. Through this system, citizens lend money to the cooperative who is paying them back with 4.5% fixed interest.

The interest rate is set to be somewhat higher than the annual average inflation rate over the last 13 years and the annual interest rates given by commercial banks, so it should be interesting and attractive for lenders.



The People Behind

Green Energy Cooperative (Zelena energetska zadruha, ZEZ) is a Croatian RES cooperative established in September 2013 within the UNDP energy cooperative development project.

ZEZ is a social enterprise based in Zagreb, gathering 20 experts and currently employing 6 people. The cooperative members have vast experience in coordinating and working in innovative green energy initiatives, development projects, designing policy recommendations and carrying out educational activities. The focus of their work are locally initiated RES&EE projects, with the aim of empowering local communities through use of local resources.



In 2017 ZEZ was elected onto the Board of REScoop.eu, the European federation of renewable energy cooperatives (a growing network of 1 500 European RES coops and their 1 million citizens - www.rescoop.eu). ZEZ is also a co-founding member of the Cooperative for Ethical Financing (representing more than 1 300 people, companies and local authorities in Croatia - www.zef.hr), and co-leader of their energy section.



The Clients

Križevci Development Centre and Technology Park (DCTP) is a business organization established to stimulate entrepreneurship, innovation and economic development in Križevci, and, as an incubator, to assist small entrepreneurs in the initial phase of the development. DCTP is in charge of implementing the Strategy for the Development of the City of Križevci. The Development Centre and Technology Park is managed by Križevci Entrepreneurial Centre (KPC).

The Money

The total project worth is around €65 000.

Thanks to the crowd-investing initiative, ZEZ collected around €31 000, enough to fully fund a 30 kW PV plant. The minimum investment chip was 1 000 kuna (€130), the maximum was 10 000 kuna (€1 300). The average investment was 4 000 kuna (500).

The Replication Potential

The City of Križevci encourages its citizens to invest in local RE production, in accordance to the objectives set in their Sustainable Energy Action Plan.

For crowd-investing projects, intend to attract citizens – small investors, it is advisable to offer an interest rate higher than the one provided by commercial banks, in order to make it more attractive.

Crowdfunding for renewable energy has become quite common in the last few years. Many platforms are available to manage such projects and communicate with the participants. Furthermore, nowadays it is easier to obtain a good return in investment because of the decreasing costs of renewables.

“This is only the beginning because when ZEZ says ‘energy in the hands of citizens’, we mean it.” Sandra Vlašić, ZEZ

The Impact

The project is expected to save around 55 tons CO₂ per year, thanks to the production of around 50 000 kWh per year.

Thanks to the new PV system, the business centre will be able to save money and secure the return in investment for the citizens-investors.

This initiative also allows the citizens to invest locally, for the development of their own city.

The Figures

- ✓ **EUR 31,000** invested through crowdfunding;
- ✓ **10 days** of crowdfunding to reach the amount needed to build the solar plant;
- ✓ **50 000 kWh** produced by the PV system each year;
- ✓ **55 tons CO₂** saved each year;
- ✓ **10 years** until the investment will be returned;



Next Steps

The success of the initiative is spreading and ZEZ now aims to support additional renewable energy project owned by the citizens through the microloan model. There is already interest within Križevci to power more roofs and other Croatian cities expressed interest to host similar renewable installations, powered by citizens.

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