

# D.T3.9.1 - PA4 - HR: IMPLEMENTING THE DEFINED PILOT ACTIONS IN TOWN OF PRELOG



ENES-CE - Collaboration between public bodies and citizen energy groups in implementing local energy strategies in Central Europe

## FINE FACTS ABOUT TOWN OF PRELOG AND MEĐIMURJE ENERGY AGENCY LTD., REGARDING THE IMPLEMENTATION OF THE ENES-CE PROJECT

Town of Prelog and Medjimurje Energy Agency Ltd. are located in Medjimurje County, a triangle-shaped county in the northernmost part of Croatia which is considered to be the most densely populated Croatian county according to recent statistics. Thanks to the engagement in ENES-CE project, for the first time the concept of energy communities (including engagement of citizens into local energy planning through creation of citizen energy groups/cooperatives) as well as its benefits for launching community energy projects was introduced on regional level. Town of Prelog as local government unit for many years provided support to their inhabitants and as one step forward in its efforts to become a green and sustainable town, they decided to give an opportunity to their citizens to be a part of this story in order to contribute to the development of their local energy strategy which is sustainable, and oriented towards environmental protection and promotion of renewable energy projects. Medjimurje Energy Agency Ltd. saw this project as an opportunity to further expand its working portfolio in energy sector by providing their expertise in energy related topics to town administration in the process of engaging citizens into local energy planning and development of Sustainable Energy and Climate Action Plans.

## SPECIFICATION OF PLANNED PILOT PROJECTS

In the recent years Town of Prelog directed its efforts towards energy related projects and through this process they received full support from Medjimurje Energy Agency Ltd. which is considered to be a leader in developing and implementing energy policy in Medjimurje County. The whole success of this project in Croatia lies in a good collaboration between these two partners who jointly managed to motivate citizens to participate in local energy planning and implementation of planned pilot action which was part of ENES-CE project.

Through establishment of an acceptance atmosphere, Croatian partners trigger the cooperation between different stakeholders by enhancing communication activities from local and regional authorities towards their citizens.

### QUICK FACTS ON TOWN OF PRELOG

- > Country: Croatia
- > Region: Medjimurje County
- > Total area: 63,66 km<sup>2</sup>
- > Number of inhabitants: 7.041
- > Public authority/government: Town of Prelog
- > Expected t(CO<sub>2</sub>) savings within the pilot projects implementation: 9.27 t CO<sub>2</sub>
- > Expected number of stakeholders involved in the pilot projects implementation: 100

All of these efforts resulted in implementation of planned pilot projects which include establishment of a citizen energy group “Green Energy Club Prelog” whose members eventually agreed on the pilot action which has been implemented as part of ENES-CE project. The goal of the group is to develop energy-independent community, promotion of renewable energy sources, improvement of sustainable development and encouragement of social innovation and entrepreneurship.

The action implemented within the pilot projects included the installation of a solar PV power plant on the roof of Town Prelog kindergarten “Fijolica”. This investment with the total value of 55.950,00 € was selected by citizens and newly established citizen energy group “Green Energy Club Prelog» in order to stimulate additional interest among citizens and local companies for investing in renewable energy sources at local level.



Image 1: Town of Prelog

## PREPARATORY STEPS FOR ESTABLISHING CITIZEN ENERGY GROUP

Croatian partners eventually managed to establish a citizen energy association which is according to the legislation on Croatia the most suitable form of energy group/cooperative to establish.

Citizen energy association/group “Green Energy Club Prelog” was finally established in year 2021 as a result of several workshops organized in the same year. A prerequisite for the establishment of such association was the creation of basis of the acceptance atmosphere through marketing and communication activities as well as three interactive workshops for wider audience in the first part of project implementation.

By creating such association, Town of Prelog and Medjimurje Energy Agency Ltd. managed to go deeper in creating social innovation activities and include their inhabitants in the whole process of creating and directing the town’s strategy towards green and sustainable energy and climate related projects which are crucial in achieving carbon neutrality on local level.

The following steps (organization of four additional events) contributed to the establishment of the citizen energy group in the Town of Prelog:

1. Organization of the first workshop in February 2021: the main goal of this workshop was to present the possibilities and advantages of active citizen involvement in the processes of local planning and improving the energy development of the community which initiated the interest of several participants in their further engagement within the project;
2. Organization of the second workshop in April 2021: the main goal of the workshop was to further encourage citizen engagement in the establishment of a local citizen energy group/cooperative in order to reach as many people as possible. The participants were also able through interactive group work discuss on possible energy related projects which could be launched in the future on local level. This further influenced their motivation on being more engaged in creating a town vision in becoming a green and sustainable town;
3. Founding assembly of the “Green Energy Club Prelog” in July 2021: the main goal of this event was to presented the purpose of the newly established group which finally resulted in decision on the establishment and adoption of its statute. Two additional decisions were made: decision on initiating the procedure for entry in the National register of associations and decision on initiating the procedure for entry in the National register of non-profit organizations. These two decisions are considered to be the last steps in establishing an association;
4. Organization of third workshop in July 2021: the main goal of this workshop was to introduce the members of the newly established association the national legislation related to energy communities, to present the pilot investment which is planned to be implemented within the pilot action of ENES-CE project in Town of Prelog and encourage other event participants to join the association and the whole initiative to boost energy related projects in the future.



Image 2: Photography of the founding assembly in July 2021

To be clear, during the initial workshops the project problems seemed quite foreign to the citizens, but this further stimulated their interest to get better acquainted with the terminology and problems that hinder the process of involving citizens in local policy making. In the end of the whole process of establishing citizen energy association, all initially set goals in fostering citizens to participate in local energy planning in Medjimurje region were achieved and they were involved in the whole process from very beginning. The whole process was also well promoted through various online and offline communication channels which ensured a good attendance at the project events and increasement of citizens' inquiries about green energy projects.

Town Prelog as well as Medjimurje Energy Agency Ltd. have been supporting the establishment of the association from the very beginning and will do so through the course of its actions in the future beyond the implementation of ENES-CE project. The association is now open to join for anyone who is interested in sustainable development, launching energy and climate related projects and environmental protection.

**INCLUDING CITIZENS IN THE DEVELOPMENT OF SOLAR ENERGY WILL ENSURE A JUST and EFFICIENT ENERGY TRANSITION IN TOWN OF PRELOG!**

## ORGANIZATION OF A CAMPAIGN CALLED “PRELOG, PLUG IN TO THE SUN”

The collaboration between Medjimurje Energy Agency Ltd., Town of Prelog and newly established citizen energy group “Green Energy Club Prelog” resulted in launching a three-day communication campaign called “Prelog, plug in to the Sun”. The main goal of this campaign was to inform citizens of Town Prelog and surrounding settlements about possibilities on using solar power in their own households and giving professional consultations in the whole process of installing PV power plants on their roofs. This made the whole idea of installation of PV power plants on private houses attractive to a wider group of citizens and local companies.



Image 3: First day of a campaign called “Prelog, plug in to the sun”

In order to make the subject of solar energy more interesting to the general population within the campaign the “Sunny living room” was created as a substitute for a classic information point, where people who show interest where welcome to sit and listen about the benefits of PV from educated professionals. They also had the opportunity to see how the mobile solar power plant works from the close range.

The whole campaign was officially closed during the last local focus group meeting organized in the frame of the project where the participants were informed about the final steps of ENES-CE project and the implementation of selected pilot action.

The campaign eventually managed to raise interest among citizens in launching similar projects in the future which is a key element for setting the momentum for further investments in the local energy infrastructure.

## PREPARATORY STEPS FOR IMPLEMENTING THE PILOT ACTION

The main goal of establishing the “Green Energy Club Prelog” was to help the citizens to obtain easier access to energy efficiency measures and renewable energy technologies in the future while in the frame of ENES-CE project helped in identifying the pilot action which was implemented as a part of pilot project activities in Croatia.



Image 4: The roof of the building is intended for the construction of a solar power plant

Prerequisite to selection, planning and eventually implementing the pilot action was the organization of several workshops from year 2019 till 2021. The organized workshops within the ENES-CE project combined with other relevant communication activities have triggered involvement of interested citizens in process of revision of existing energy plan from 2014 (Sustainable Energy Action Plan), development of new energy plan (Sustainable Energy and Climate Action Plan) and identification of most relevant measures to be implemented in cooperation with local authorities and/or SMEs in Town of Prelog. In the end, three most relevant measures for implementation have been identified: installation of photovoltaic (PV) powerplants on public buildings; workshops for local entrepreneurs on financing energy related projects and bike sharing project and construction of bike lanes. On the citizen’s and newly established energy group initiative it has been determined that within ENES-CE project the pilot action will include the following investment: installation of a PV powerplant on the roof of Kindergarten “Fijolica” located in Town Prelog. The building of this kindergarten has been energy refurbished within last two years (2019 - 2020) and is now in energy class B for the specific annual needed heat energy and A+ for the specific annual primary energy. It has flat roof and there are already installed solar collectors for hot water. The rest of the roofs free area will be used to install photovoltaics.

Due to the favorable geographical position around Medjimurje County, the potentials for electricity production in the town area itself are high. The typical expected production per kilowatt of installed power for a fixed system is about 1,150 kWh per year. Photovoltaic systems are reliable and efficient, they do not produce noise, have no moving parts, and do not emit pollutants into the atmosphere. They have a lifespan of over 30 years, require minimal maintenance and can be recycled at the end of their lifespan.

The solar power plant will be designed in a way that complies with all relevant technical regulations and laws and guarantees automatic operation in all weather conditions. All installed parts and components must be of the highest quality to ensure safe operation and maximum service life of the power plant with minimal maintenance needs.

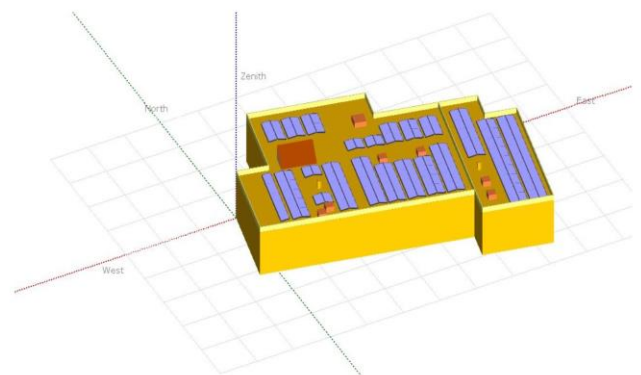


Image 5: 3D model of the solar plant

Finally, it was concluded that the PV power plant will have a nominal power of 58.32 kW and will consist of 286 m<sup>2</sup> PV modules attached to an aluminum substructure. The produced electricity will be mostly used for the kindergarten’s own needs, and any surplus will be handed over to the electricity distribution network (EEM).

The basic parameters of the power plant DV FIJOLICA in Prelog are described in the following table.

Basic parameters of the power plant DV FIJOLICA		
Number	Description	Results
1.	Location	Čakovec
2.	Type of system	Fixed
3.	Strength of the PV field	58.328 kWp
4.	Power of the exchanger	50 kW
5.	Data source	Meteonorm 8.0
6.	Specific yearly production	991 kWh/kWp
7.	Yearly SE production (gross)	58.328 kWh
8.	Yearly decrease of CO <sub>2</sub> em. (gross)	9,27 t

Table 1: Basic parameters of the PV power plant DV FIJOLICA

The preparatory steps in implementing this pilot investment include development of the main project with the corresponding cost estimates by certified designer, obtaining all the necessary approvals and permits according to the national regulations and finally launching the procurement procedure for selecting the constructor for the execution of works for the installation of the PV power plant.

Total cost of the investment has been estimated at around 55.950,00 €. Since the cost of this investment exceeds the allocated budget for implementing pilot activities within the ENES-CE project (15.000,00 €), the plan is that the rest of the funds will be partially covered from the budget of Town Prelog and co-financed by funds available through Croatian national fund called Environmental Protection and Energy Efficiency Fund who publishes yearly calls to co-fund installation of RES systems in public buildings.

In the final word can be said that the Town administration is very proud of this initiative since the planned investment will provide better service to children and their parents and improve the working conditions of employees in concerned institution.

## EXPECTED RESULTS

All results of implemented pilot projects in Croatia are expected to have a significant impact in other local governments in Medjmurje County especially in increased citizen participation in local energy planning and developing local energy action plans in more bottom-up way and providing the momentum for further investments in the local energy infrastructure depending on real local needs.

In addition, the implemented pilot action can serve as a testing ground for cooperation of citizens and public authorities in other local governments beyond Croatian borders. It is also considered to be a very important energy community project where citizens and other stakeholders were directly involved from the very beginning - in the process of deciding on the type of pilot action which was implemented as part of the ENES-CE project.

With this investment, the town administration will for sure stimulate additional interest of citizens in investing in the installation of PV power plants on their private homes which will make this investment as very important driver of similar projects in the future. The investment will also encourage the town administration to launch additional energy projects and initiatives such as installation of an integrated charging station for electric vehicles to the kindergarten building and the purchase of an electric vehicle.

The citizen energy group “Green Energy Club Prelog” was founded with the aim of gathering citizens who want to contribute to the sustainable development of the Town of Prelog and thus put their town on the map of green and healthy cities all over the Europe. The collaboration between “Green Energy Club Prelog”, Town of Prelog, Medjmurje Energy Agency Ltd., citizens, other associations and the private sector will help in achieving the vision of a greener and sustainable town.

In order to ensure the sustainability of the newly established citizen energy groups it is important to motivate other citizens to join the group and support the Town of Prelog to become more resistant to crisis situations and climate change.