

## Kladovo – Serbia’s First Heating Plant Combining Solar Energy and Biomass

The prosumer concept was introduced into Serbian legislation in 2021 through the Law on the Use of Renewable Energy Sources. A prosumer is an end-user who connects a renewable energy generation system to their building’s internal installations, using the electricity for their own needs while feeding any surplus into the grid.

The USAID Better Energy project identified district heating companies as ideal candidates for prosumers, demonstrating this through a pilot project at the Kladovo district heating plant, located in one of the sunniest municipalities in Serbia. The 50 kW rooftop photovoltaic (PV) system was implemented through collaboration between USAID and the Better Energy project and the Municipality of Kladovo. The project provided technical support and equipment, with expert assistance from E3 International, while the Municipality handled all necessary permits and documentation to ensure the plant achieved prosumer status and could commence operations. The solar plant, named Pemci I, was installed on the biomass-fired heating plant’s roof at the end of 2023 and officially commissioned in May 2024 after testing.

The solar system covers an area of 280 m<sup>2</sup> and consists of 110 PV panels, strategically oriented southwest to match the roof’s slope. To optimize energy production, the plant is equipped with three inverters – two of 20 kW and one of 10 kW – enabling an estimated annual generation of around 80 MWh. The electricity produced primarily meets the plant’s energy needs, with any surplus fed back into the distribution grid.

The Kladovo district heating plant marks a major milestone for Serbia, being the first to successfully combine two renewable energy sources – solar and biomass energy – through the prosumer model.



### Disclaimer

This activity was largely implemented by E3 International under its engagement on the USAID Serbia **BETTER ENERGY PROJECT** in cooperation with Chemonics International.