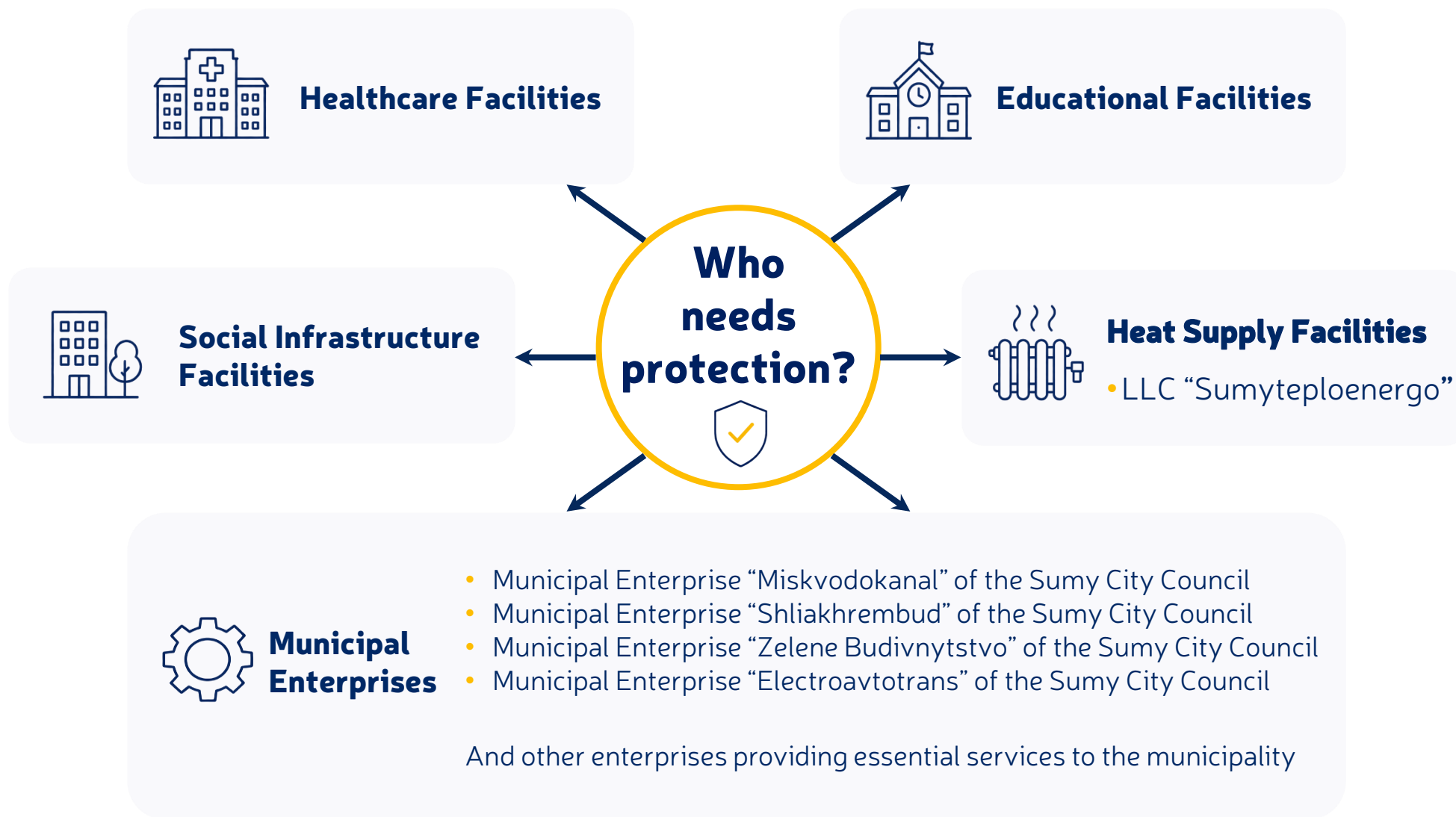


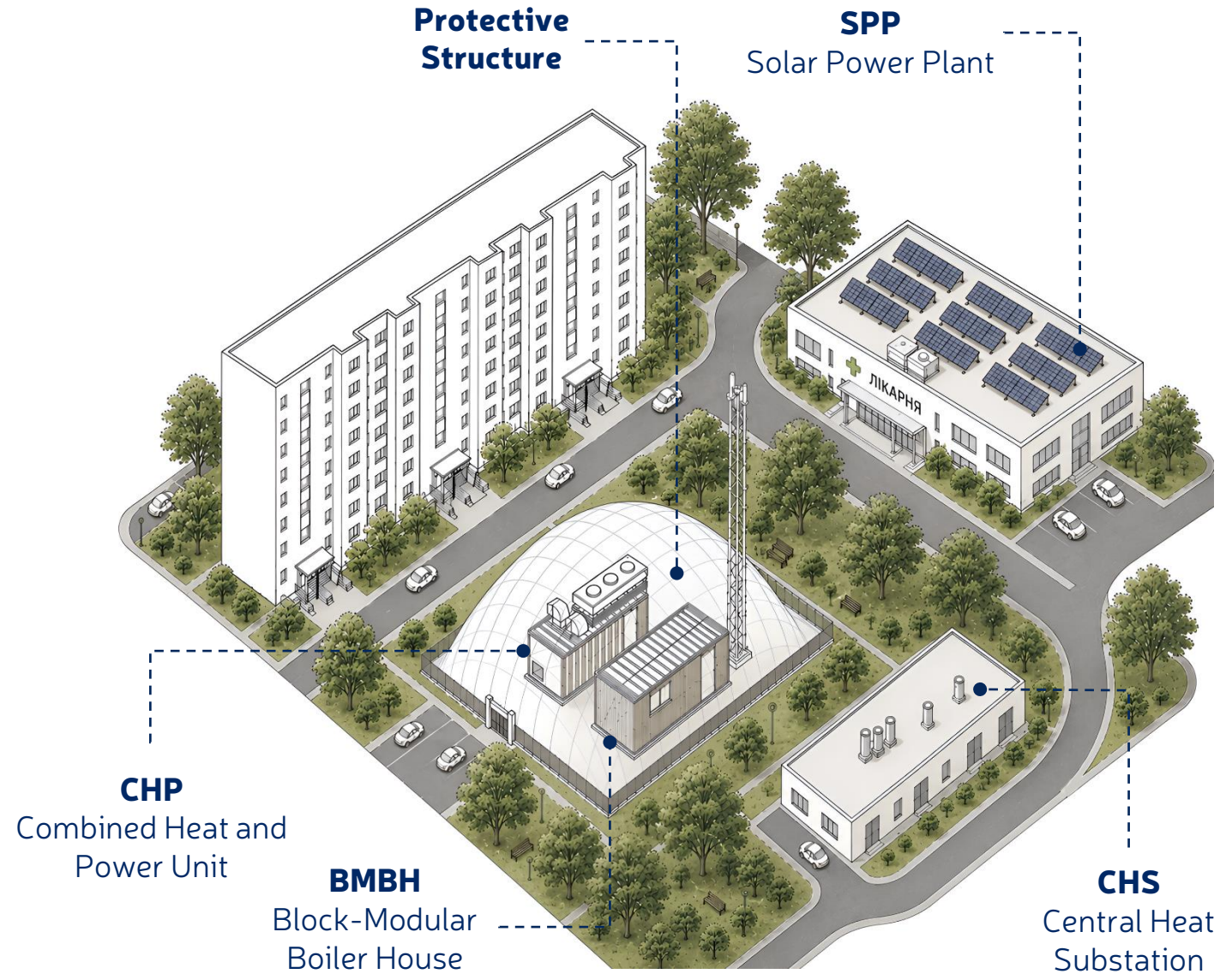
Which Facilities Require Guaranteed Energy Supply?



What Solution Do We Propose?

Energy Island

- an autonomous system for local power generation, energy storage and backup power supply, designed to ensure energy independence and uninterrupted operation of critical infrastructure.



Components of an Energy Island



BMBH

Block-Modular Boiler House

— an autonomous source of backup heat supply for critical facilities.



CHP

Combined Heat and Power Unit

— a unit for the simultaneous generation of electricity and heat.



SPP

Solar Power Plant

— a renewable energy source that enhances energy independence.

How the Energy Island Works

Under normal operating conditions



1. Generates its own electricity using combined heat and power units, solar power plants, and other sources.



2. Stores excess energy in battery storage systems.



3. Operates synchronously with the main power grid.

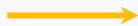


4. Provides electricity and heat supply to critical infrastructure facilities.

In the event of a power outage



1. Automatically disconnects from the main power grid.



2. Switches to autonomous operation.

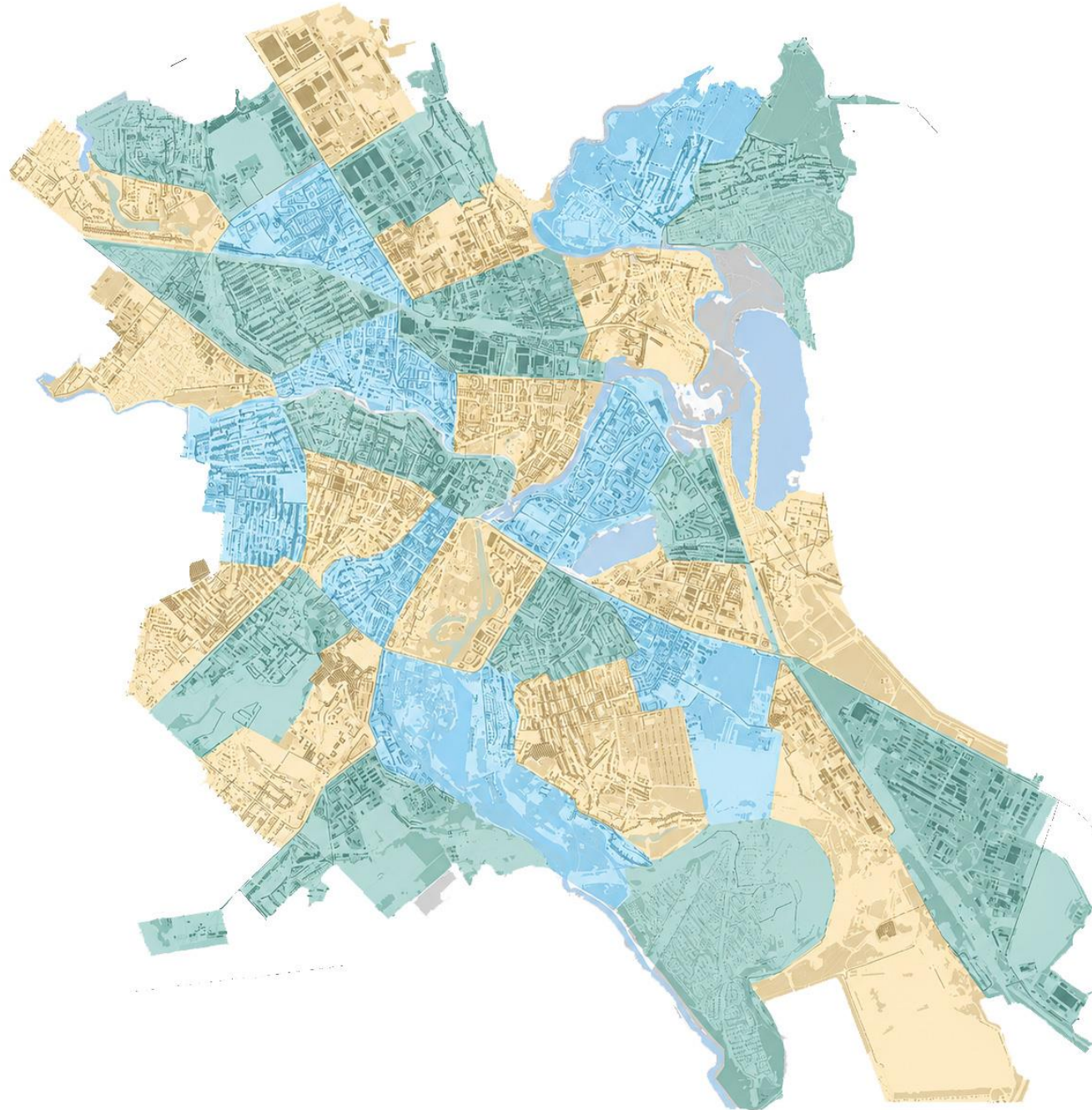
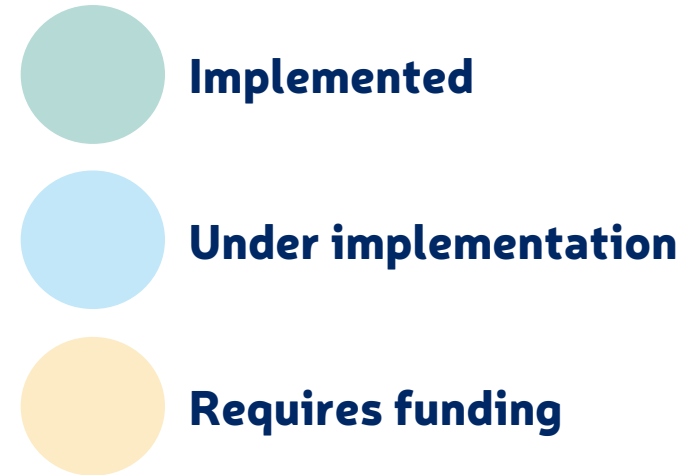


3. Continues to generate and supply energy from its own generation sources and energy storage systems.



4. Ensures uninterrupted power supply to critical infrastructure facilities.

City Sectorization Scheme for Energy Independence



Energy Resilience in Action



Educational institution



Solar power plant installation

- ⚡ Capacity: 7 kW
- 🌿 Ensures the operation of a greenhouse for Red Data Book plant species
- 👥 Number of children attending: 2,090 per year
- ⚡ Electricity generated: 13.6 MWh
- 📅 Year of implementation: 2023



Healthcare facility



Installation of a block- modular boiler house

- ⚡ Capacity: 1.9 MW
- 🏥 Provides backup heat supply to the hospital
- 👥 Serves approximately 16,000 patients per year
- 📅 Year of implementation: 2025



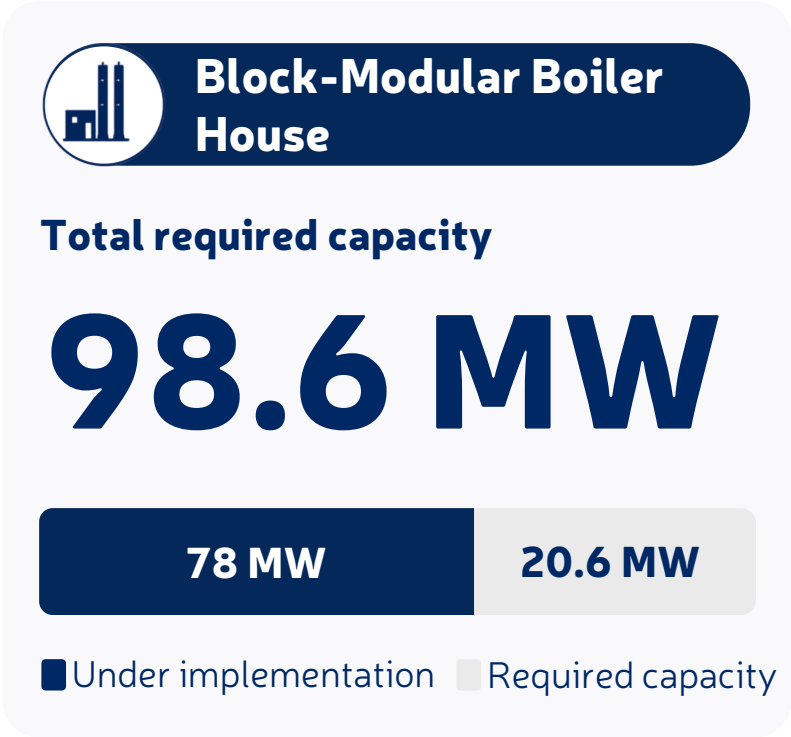
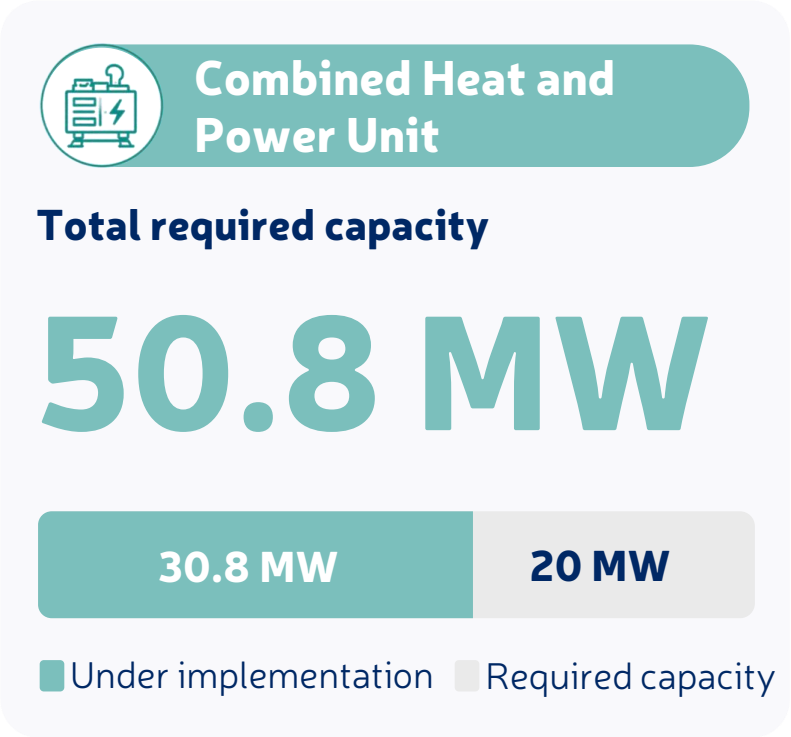
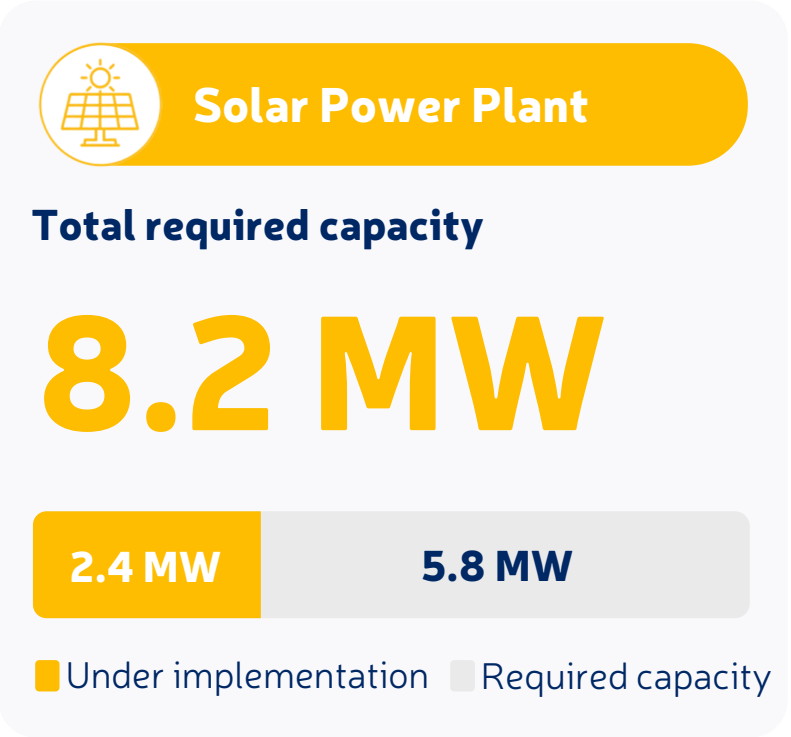
Municipal enterprise



Installation of 5 solar power plants

- ⚡ Capacity: 900 kW
- 💧 Ensures the reliable operation of water supply systems
- 👥 Benefits approximately 250,000 residents
- ⚡ Electricity generated: ≈ 800 MWh
- 📅 Year of implementation: 2024–2026

What Energy Solutions Are Needed?



Project Financing Structure

€61
million

Estimated project cost



BMBH + CHP

€55.2 million

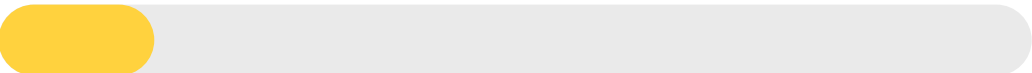


90,5 %



SPP

€5.8 million



9,5 %



BMBH

Block-Modular
Boiler House



CHP

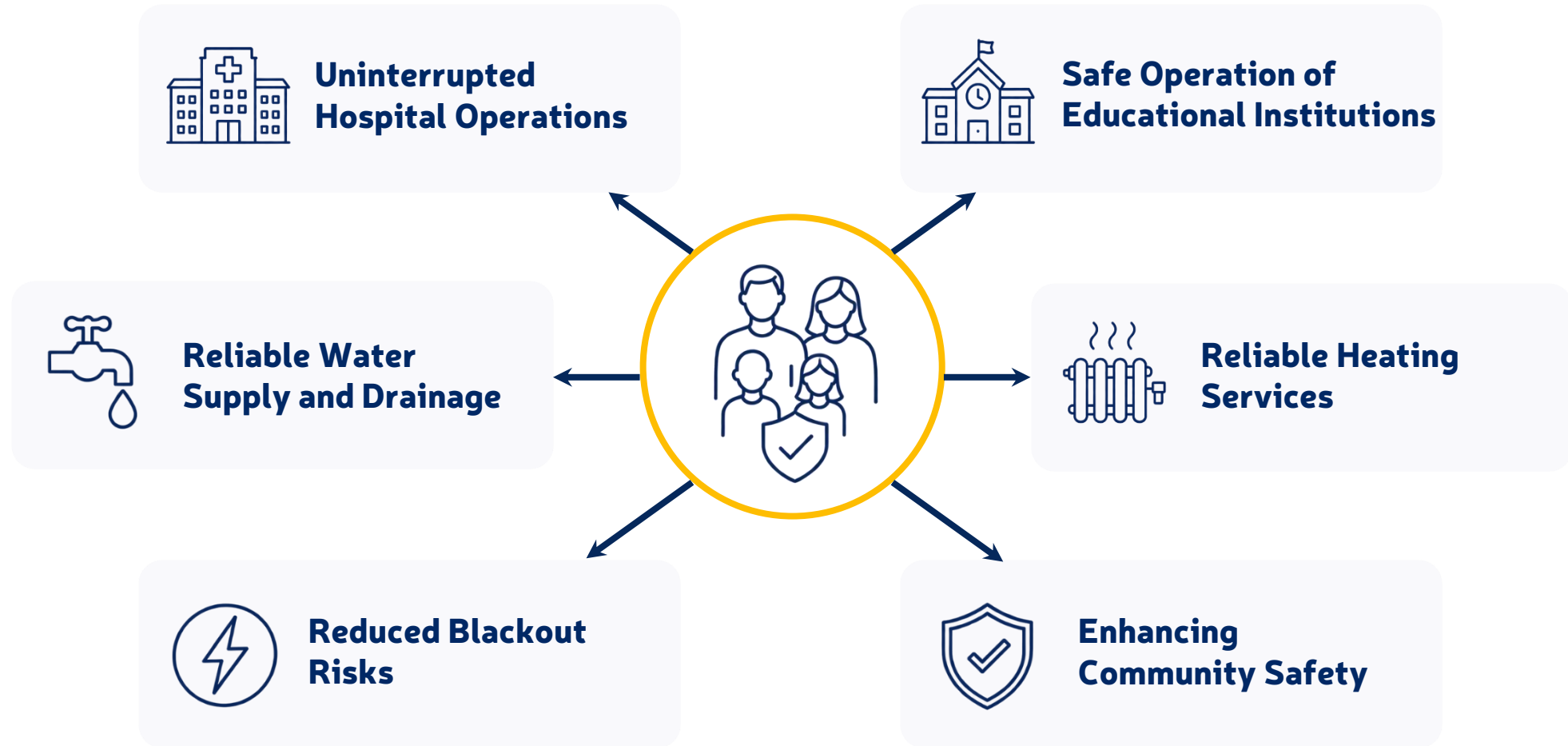
Combined Heat
and Power Unit



SPP

Solar Power Plant

What changes will the community experience?



Key benefits of the project



SOURCE DIVERSIFICATION

Distributed backup energy sources



RAPID RESPONSE

Rapid switchover to backup power



FLEXIBILITY

Integration of combined heat and power units, block-modular boiler house, solar power plants, and energy storage systems



ENERGY INDEPENDENCE

Reduced dependence on centralized energy supply



ENERGY SECURITY

Ensuring uninterrupted operation of critical infrastructure



DECARBONIZATION

Reducing emissions through the use of renewable energy sources and modern power generation technologies



MODULARITY

Independent implementation of individual components