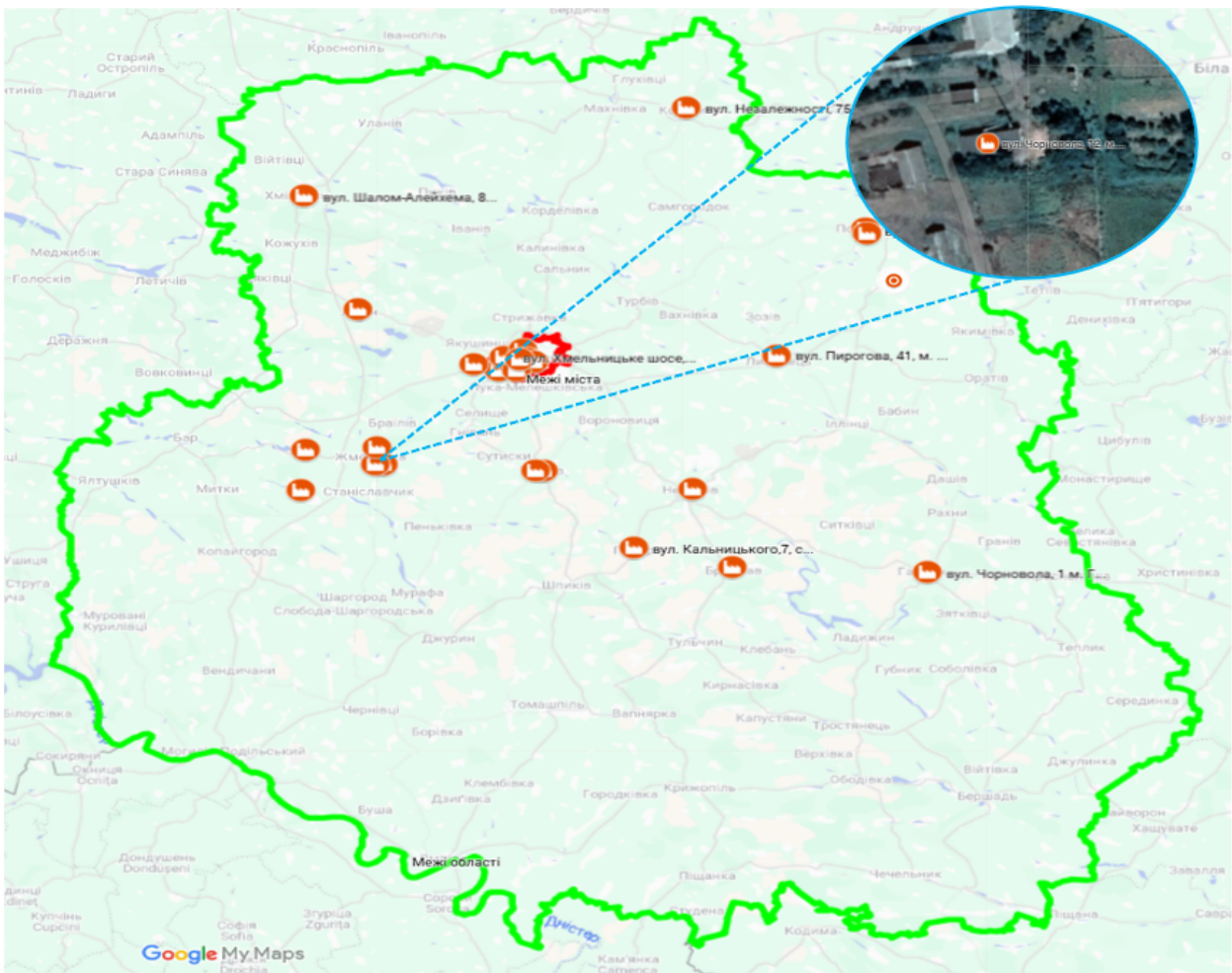


3.10 Component No. 10. Boiler house area Chornovola, 12 Zhmerynka town

BASELINE

Location

The boiler house is located in the city of Zhmerynka, on the premises of Zhmerynka Psychoneurological Residential Care Home



Basic equipment

Equipment name	Type	Q-ty, pcs.	Capacity
Solid fuel boiler	ARS 400 VM	1	0.34 Gcal/h
Gas boiler	KVA-1.0Gn «Fakel-G	2	0.86 Gcal/h
Gas boiler	KOLVI 500	1	0.43 Gcal/h
Circulation pump	GIGA B 40/1-38/3,8	2	35 m³/h
Feed pump	First V207-5/16/E/S/400-50	2	2.5 m³/h

Source: Communal Enterprise “Vinnytsiaoblteploenergo”.



Figure. Chornovola, 12

Existing condition

- **Boilers** – 5 boilers are installed, some of them (3 units) are in unsatisfactory condition and shall be subject to writing-off. Fuel type natural gas and fuel wood;
- **Pumping equipment** – unsatisfactory, replacement required. Frequency converters are not available.
- **Chemical water treatment** – to be replaced. An automatic water softening system has been installed, which is morally and physically obsolete.
- **Heat networks** - unsatisfactory condition. 100% replacement required
- **Building** – satisfactory condition
- **Territory** – not fenced. Territory of Zhmerynka Psychoneurological Residential Care Home

Heating Network

Source: Communal Enterprise “Vinnytsiaoblteploenergo”.

Note: The total length of the heat network is **387 m**.

Connected heat load

The total connected thermal load of the boiler house is **0,48 Gcal/h**.

In total, 7 consumers are connected to the heat supply system of the **boiler house**.



Heating
0,48 Gcal/h

Features

- The boiler house provides heating to the buildings of psychoneurological residential care home, where patients stay day and night.
- The project envisions hot water supply from the boiler house. As of 01.01.2025, hot water supply is not available.

RATIONALE



Installation of additional solid fuel boiler to provide backup and replacement of pumping equipment for stable heat supply.



Improving the reliability and quality of heat supply to consumers, reducing heat energy losses during transportation by replacing 100% of heat networks.



Reducing operating costs and CO₂ emissions by improving energy efficiency and optimizing equipment operation.



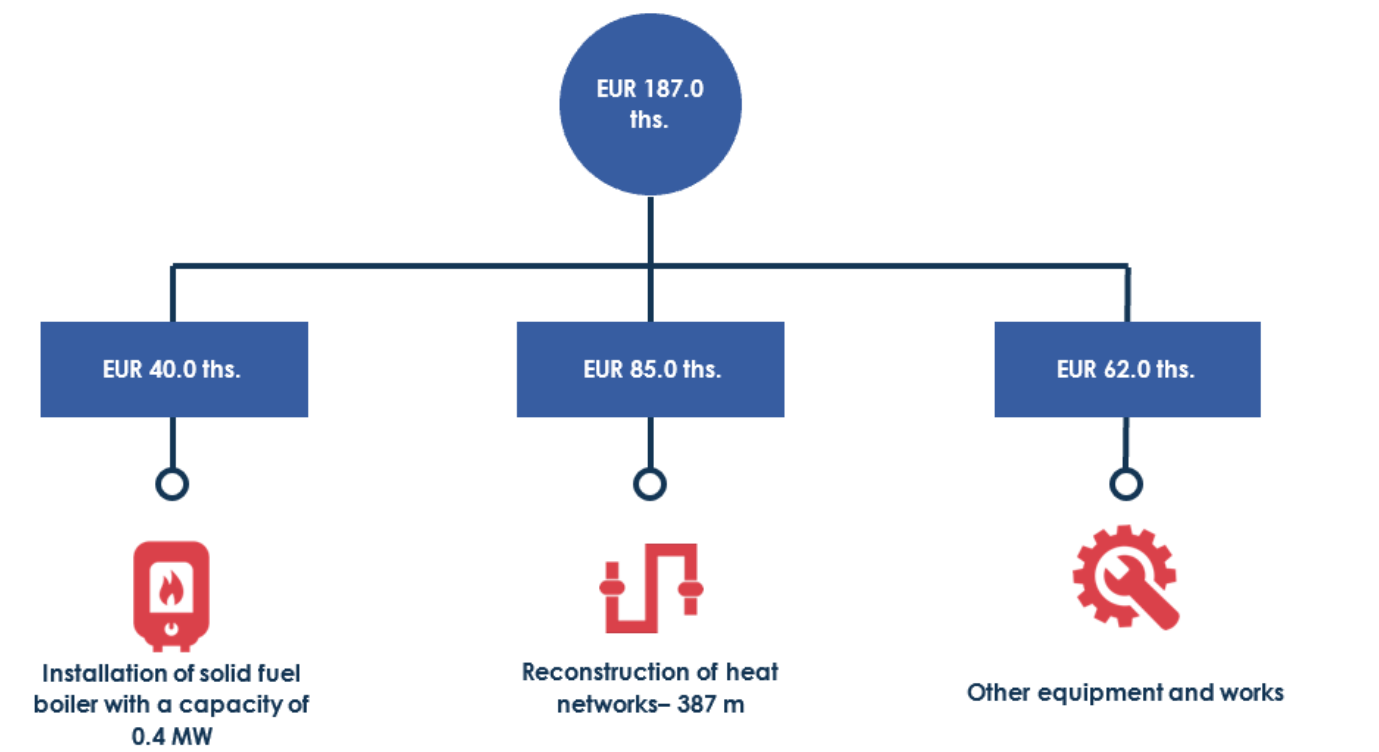
Improving safety operation by installing modern protection and control systems.

INVESTMENT COMPONENT DETAILS

No.	Component	Clarification
1	Installation of additional solid fuel boiler with a capacity of 0.4 MW.	Ensuring emergency backup of equipment and stable operation during the heating period
2	Reconstruction of heat networks – 387 m.	Improving the reliability and quality of heat supply to consumers, reducing heat energy losses during transportation.
3	Replacement of pumping equipment (MN, PN 2 pcs. + FC,)	Improved energy efficiency and reliability due to the installation of modern frequency-controlled pumps and emergency backup.
4	Replacement of chemical water treatment	Ensuring stable quality of treated water to reduce deposits and extend the service life of equipment.
5	Other additional measures for the boiler house: 1. Installation of fire alarm system. 2. Installation of fire extinguishing system. 3. Installation of gas detection alarm system. 4. Installation of heating and ventilation systems. 5. Installation of lightning protection system. 6. Installation of grounding system.	A set of measures to bring the boiler house into compliance with the modern safety requirements, improving operating conditions, and protecting equipment.

COST

The estimated cost of implementing this component is **EUR 187.0 ths.**

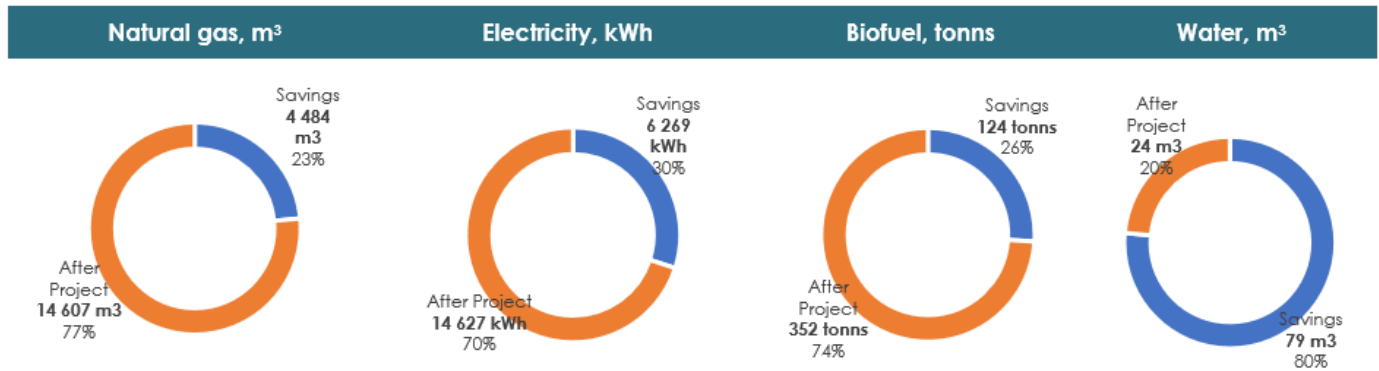


Source: Consultant's calculations.

Note: The item «other equipment and works» includes replacement of pumping and water treatment equipment, other additional measures for the boiler house, etc.

SAVING

The result of the implementation of this component is reduced fuel and electricity consumption through the installation of energy-efficient equipment and reduced heat energy losses during transportation.



Source: Consultant's calculations.