

3.6 Component No. 6 Boiler house area Lyceina, 1 Nemiriv city

BASELINE

Location

The boiler house is located in the city of Nemiriv, in the area of the local college.



Basic equipment

Equipment name	Type	Q-ty, pcs.	Capacity
Gas boiler		5	Gcal/h
Circulation pump		4	m³/h
Feed pump		2	m³/h

Source: Communal Enterprise "Vinnytsiabltteploenergo".



Figure. Lyceina, 1

Existing condition

- **Boilers** – satisfactory condition. The average coefficient of efficiency of gas boilers is 86-88%, Fuel type natural gas;
- **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** – fenced.

Heating Network

Source: Communal Enterprise "Vinnytsiabltteploenergo".

Note: The total length of the heat network is **169 m.**

The total connected thermal load of the boiler house is **0,566 Gcal/h.**
In total, 4 consumers are connected to the heat supply system of the **boiler house**



Heating
0,566 Gcal/h

Features

- The boiler house is located on the premises of the lyceum and provides it with thermal energy for heating.
- The boiler house was transferred to the balance sheet of the communal enterprise «Vinnytsiaoblteploenergo» in 2025.
- Heat, natural gas, water, and electricity metering available
- Automatic chemical water treatment system
- Pumping units without frequency converters, partially without emergency backup

RATIONALE



Replacement of worn-out gas generation equipment with more modern installations with higher efficiency



Improving the reliability and flexibility of the heat supply system through diversification of energy sources and maintaining reserve capacities.



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



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



Improving safety operation by installing modern protection and control systems.

INVESTMENT COMPONENT DETAILS

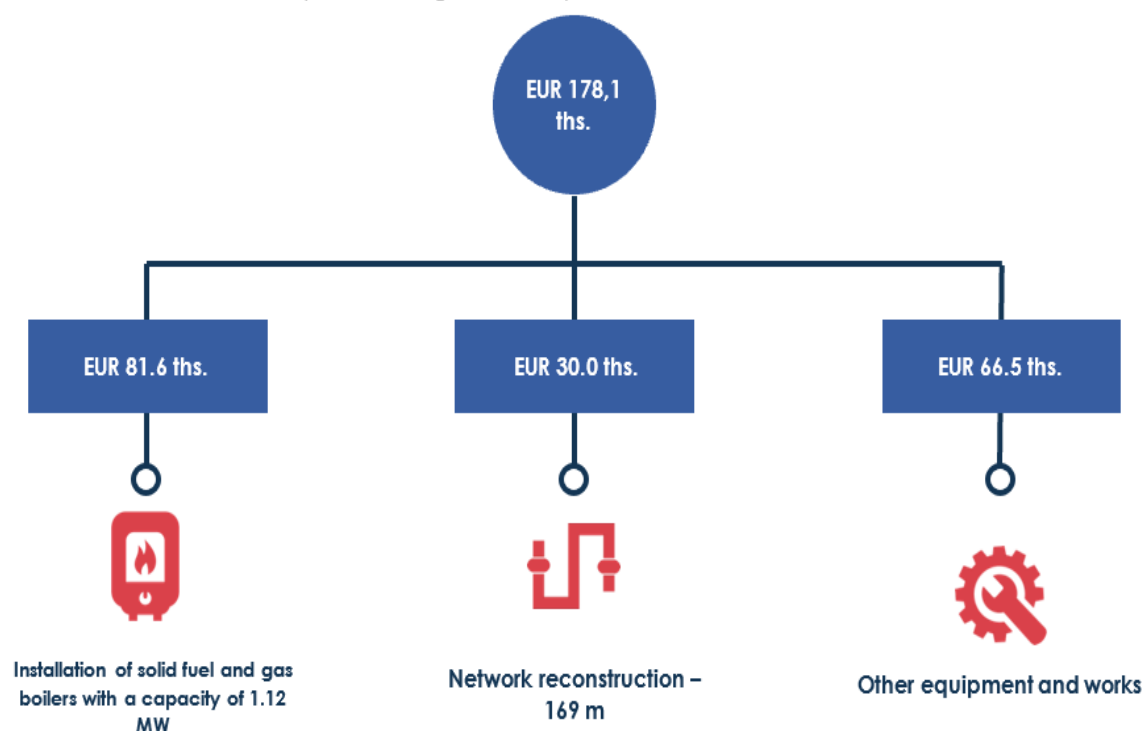
Improving the reliability and quality of heat supply to consumers, reducing heat energy losses during transportation by replacing 100% of heat networks.

No.	Component	Clarification
1	Replacement of the existing gas boilers with an energy-efficient boiler with a capacity of 0.4 MW Replacement of solid fuel boilers with 2 boilers with a capacity of 0.360 MW	The new gas and solid fuel boilers replace boilers that shall be dismantled. This ensures efficiency and reliability of heat supply. Gas boilers remain in reserve to ensure continuity of heat supply.
2	Reconstruction of heat networks– 169 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 units + FC, HWS pumps)	Improved energy efficiency and reliability due to the installation of modern frequency-controlled pumps and emergency backup.

No.	Component	Clarification
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 178.1 ths.**

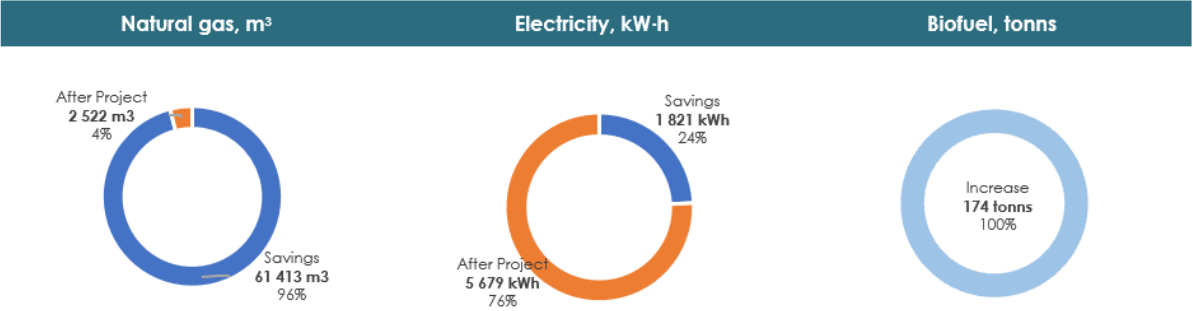


Source: Consultant's calculations.

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 the component is a reduction in natural gas and electricity consumption through the installation of energy-efficient equipment.



Source: Consultant's calculations.

Note: Biofuel consumption increases compared to the base year of 2024 due to the reduced natural gas consumption and the use of solid fuel boilers for the maximum number of hours during the heating period (excluding shutdowns for maintenance)