

Source : Communal Enterprise "Vinnytsiaoblteploenergo".



Figure. Soborna, 34-K (1 Chornovola St.)

Existing condition

- **Boilers** – satisfactory condition. The average coefficient of efficiency of gas boilers is 85%, solid fuel boilers is 75%. Fuel type natural gas and fuel wood;
- **Pumping equipment** – satisfactory condition
- **Chemical water treatment** – satisfactory condition. The installed automatic water softening unit ensures the required quality of feed water.
- **Heat networks** - unsatisfactory condition. 100% replacement required
- **Building** – satisfactory condition

Heating Network

Source: Communal Enterprise "Vinnytsiaoblteploenergo".

Note: The total length of the heat network is **744 m**.

The total connected thermal load of the boiler house is **0,831 Gcal/h**.

In total, 18 consumers are connected to the heat supply system of the **boiler house**.



Heating
0,831 Gcal/h

Source: Communal Enterprise "Vinnytsiaoblteploenergo"

Features

- Due to the centralization of heat energy sources, it became necessary to install additional heat-generating equipment in the boiler house.

RATIONALE



Replacement of worn-out gas generation and pumping 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.



Integration of solar power plant for electricity generation by increasing the share of renewable energy.



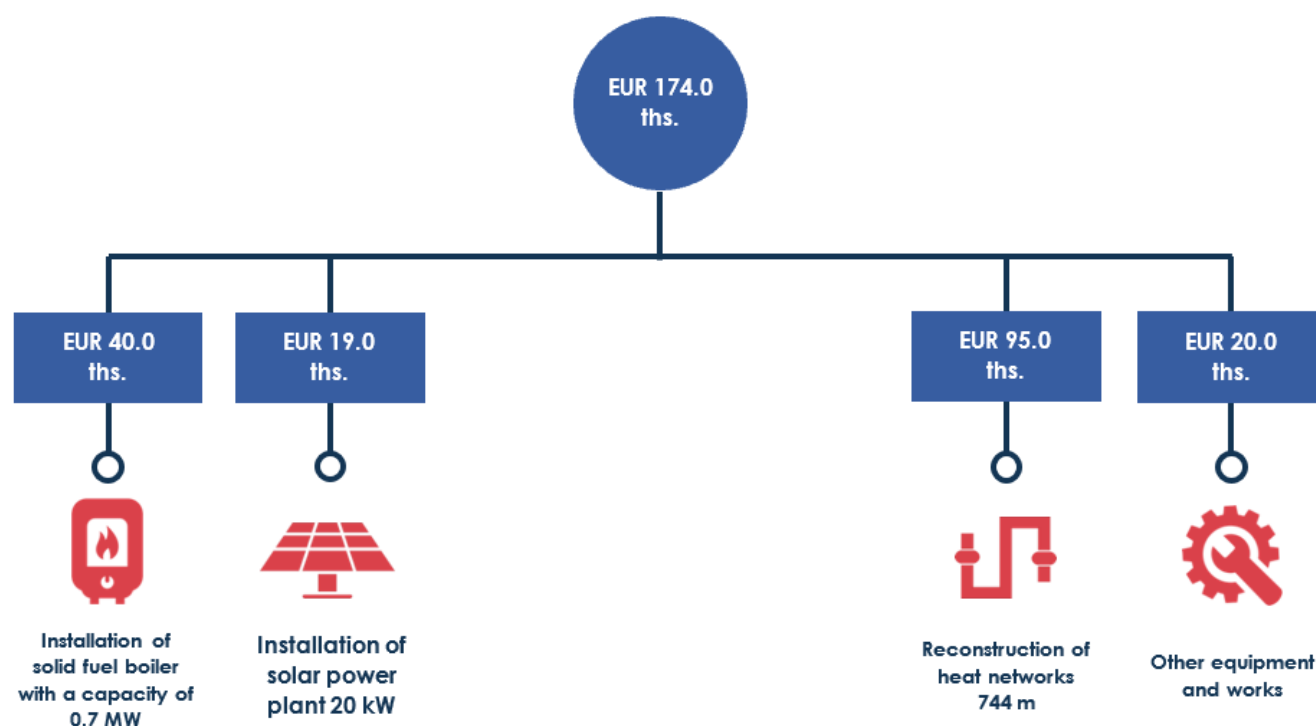
Improving safety operation by installing modern protection and control systems.

INVESTMENT COMPONENT DETAILS

No.	Component	Clarification
1	Installation of solid fuel boiler with a capacity of 0,7 MW each	Installation of an additional solid fuel boiler will meet the demand for thermal energy due to the increased load. This ensures efficiency and reliability of heat supply.
2	Reconstruction of heat networks – 744 m.	Improving the reliability and quality of heat supply to consumers, reducing heat energy losses during transportation
3	Installation of solar power plant with a capacity of 20 kW on the boiler house roof	Increased share of renewable energy. Power supply for own production
4	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 174.0 ths.**



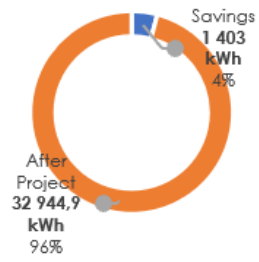
Source: Consultant's calculations.

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

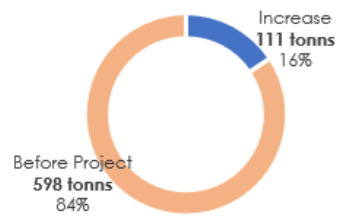
SAVING

The result of the implementation of this component is reduced electricity and natural gas consumption through the installation of energy-efficient equipment with complete transfer from natural gas to biofuel and reduced losses during transportation after replacing 100% networks.

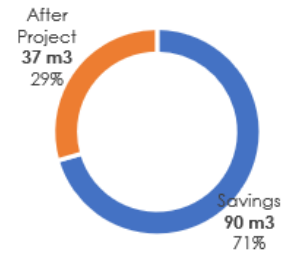
Electricity, kW-h



Biofuel, tonns



Water, m³



Source: Consultant's calculations.