



UKRAINE DISTRICT HEATING (DH) MARKET ANALYSIS

District heating is the best option in urban environments with significant heat loads when seeking an efficient, cost-effective, decarbonised heating solution. Fortunately, Ukrainian cities already have such infrastructure in place for many buildings and areas. Unfortunately, it needs to be transformed from the Soviet-Era system to an efficient, customer-oriented and decarbonised system that also complies with EU regulations. Although often in a state of despair, it nevertheless offers interesting and profitable investment options, which this market assessment - produced in collaboration with the GIZ project "Reforming the district heating sector of Ukraine" - aims to summarize.

Market Overview & Growth Trends (1995–2025)

District heating (DH) remains a cornerstone of Ukraine's urban energy infrastructure. In the mid-1990s, almost 89 per cent of urban households were connected to DH networks. By 2018, however, this had fallen to roughly 55 per cent due to underinvestment, demographic changes and private households switching to individual heating systems. Despite this decline, DH still accounts for more than 30 per cent of households nationwide — significantly higher than the EU average of around 12 per cent.^{1,2}

By mid-2025, around 300 heat supply companies had applied to the ministry for tariff compensation, while estimates suggest that around 1,700 (1,650 subject to local self-government bodies (LSG) and 50 subject to the National Energy and Utilities Regulatory Commission (NEURC)) companies and utilities are engaged in supplying heat across Ukraine. This highlights both the fragmentation of the sector and the extent of the financial burdens faced by utilities. In terms of sales volume, DH systems supplied an estimated 50–55 TWh of heat annually before 2022, falling to around 42–45 TWh (30 for LSG and 12 for NEURC) in 2022–2023 due to war damage, consumer outflow, and reduced demand.^{3,4} This represents more than 20 per cent of Ukraine's total gas consumption, with peaks exceeding 35 per cent in winter.

The financial situation of DH companies remains critical. In 2024, utilities reported 10.6 billion UAH in losses. As of January 2025, total accounts payable reached 140.1 billion UAH, while accounts receivable stood at 43.4 billion UAH, including 35.8 billion UAH owed by households. Utilities also accumulated 57.4 billion UAH of debt due to tariff compensation gaps (TCG). These figures show not only how deeply unsustainable the sector's financial situation is, but also its dependence on state compensation mechanisms which could come to an end by December 2026.

The demand structure also demonstrates the social importance of DH: households account for 79 per cent of heat consumption, followed by budget-funded institutions at 14 per cent, and other consumers at 7 per cent. This shows that DH is primarily a social service, providing services to residential customers.

The war has further aggravated systemic weaknesses: damage to pipelines, boiler houses, and CHPs is widespread. According to RDNA-4 (February 2025), damage to energy infrastructure — including DH systems — has increased significantly.⁵ Nevertheless, DH remains crucial for social stability and resilience, especially during winter months, as it ensures the supply of heat and hot water to hospitals, schools and municipal facilities.

Outlook & Expansion/Modernisation Potential

The DH sector in Ukraine now stands at a crossroads. Modernisation, diversification and tariff reform are the three key priorities. Modernisation involves replacing inefficient boilers, rehabilitating pipelines and installing building-level individual heat substations (IHSs) to reduce energy losses and improve control.⁶ Diversification requires a transition from near complete reliance on natural gas towards biomass, biomethane, large-scale heat pumps and industrial waste heat recovery.⁷ Reform includes a transition to cost-reflective tariffs with social protection for vulnerable groups, thereby ensuring the financial sustainability of utilities.

The reform and modernisation of district heating in Ukraine must be accompanied by energy efficiency measures and targeted subsidies for households and vulnerable consumers, in particular building-level thermal renovation, installation of individual heat substations, heat metering and control, and the reduction of energy losses in distribution networks. This combined approach will allow municipalities and utilities to define realistic heat demand profiles, match heat generation and network capacities accordingly, and select cost-effective technology mixes based on local conditions, such as the volume and seasonal availability of industrial waste heat, sustainable biomass supply chains, and the technical feasibility of large-scale heat pumps. Linking these investments with targeted social support and gradual tariff reform will support long-term heat planning, avoid oversupply and stranded assets, and maintain the affordability of heat supply for consumers.

International partners remain committed: the EBRD, World Bank, EIB, and bilateral donors, e.g. from the US, Denmark and Germany, continue to support modernisation projects in large and medium-sized cities. Ukraine's DH reforms must align with the EU's 2030 climate targets and the objectives of the Green Deal⁸ and adhere to EU directives. For Ukraine, this presents an opportunity to transform DH from a legacy Soviet system into a modern, efficient and low-carbon urban infrastructure.

Fortunately, numerous financing instruments are available, including EIB loans of 200 million EUR; EIFO loans tied to 40 per cent grants if Danish products are purchased for 30 per cent of the total project volume; and EBRD, AFD and NEFCO loans, which are in the pipeline or have been granted in the past for several projects.

Market Design & Regulatory Challenges

The district heating sector is regulated jointly by several institutions:

- Ministry for Development of Communities and Territories of Ukraine (MinDev) is responsible for overall policy and sectoral strategy. municipal DH utilities.

- National Energy and Utilities Regulatory Commission (NEURC) regulates tariffs for large heat suppliers.
- Local self-government bodies (LSG) set tariffs for municipal DH utilities.

This multi-layered structure often leads to fragmentation and delays in decision-making. Clearer delineation of responsibilities and improved coordination between central and local levels are needed.

Tariff regulation remains the most pressing issue. Utilities operate under chronic financial pressure as tariffs often do not reflect actual costs. In many cases, revenue does not cover gas costs or network maintenance, forcing utilities to apply for budgetary compensation. Inconsistent reform attempts have undermined the confidence of both consumers and investors. International experts recommend a transition to full cost recovery combined with targeted subsidies.⁹

From a technical perspective, losses in DH networks remain high (averaging 15–25 per cent, in some cases reaching nearly 50 per cent). A lack of metering and insufficient building-level control reduce efficiency. Without modernisation, Ukraine will continue to struggle with excessive gas consumption and financial deficits.

Two associations play an important role in representing the sector's interests:

- The Ukrteplokomunenergo association, which unites most municipal heat supply companies.
- The Ukrainian Association of Critical Infrastructure Operators, which represents DH utilities as part of the broader critical infrastructure framework, which is particularly relevant in wartime conditions.

Both have become influential in shaping policy discussions and providing feedback on regulatory initiatives.

The medium-term reform agenda for DH should include:

- 1. Tariff & Social Policy:** transition to cost-reflective tariffs, phase out blanket freezes, and introduce targeted social support mechanisms.
- 2. Technical Improvements:** scale up individual heating substations (IHS), automate networks, introduce metering also for apartments, and expand centralised dispatch.^{4,6}
- 3. Fuel Diversification:** promote biomass, biomethane, and large heat pumps; integrate industrial waste heat where possible.^{5,7}
- 4. Governance:** strengthen coordination between MinDev, NEURC, and municipalities; enhance regulatory independence.¹⁰
- 5. Resilience & Reconstruction:** rebuild damaged DH assets as part of urban recovery programmes, which ensures new investments improve efficiency and climate sustainability.^{3,5}

All municipal companies must convert to a limited liability or joint stock company within the next three years to facilitate investments. Combined with the upcoming lifting of the price moratorium, the implementation of EU regulations and the high potential for savings, the sector offers a promising future for profitable business activities.

Market Risks & Mitigation Strategies

The DH sector faces a multi-layered set of risks:

- **Financial risks:** Household debt for DH and hot water reached 35.8 billion UAH in mid-2025 (+2.2 bn year-on-year) [10]. Addressing this requires targeted consumer subsidies, municipal debt restructuring and subsidised long-term loans tied to reform progress.

- **Operational risks:** Ageing infrastructure and wartime damage limit utilities' ability to ensure stable supply. Modular investment approaches (IHS, automation, prioritised pipeline replacement) are considered the fastest way to stabilise operations. ¹¹

- **Regulatory risks:** Slow tariff and governance reforms reduces investor confidence. Transparent, predictable rules and performance-based regulation are needed to unlock capital. ¹²

- **Climate risks:** Continued reliance on natural gas undermines Ukraine's decarbonisation commitments. Large-scale adoption of biomass, biomethane, and heat pumps is essential to align with EU climate targets. ¹³

¹ European Commission (2021). Green Deal Ukraine Tracker – Share of households connected to DH.

² PNNL (2020). Historical dynamics of DH coverage in Ukrainian cities.

³ MinEnergy (2021). Energy Balance of Ukraine.

⁴ World Bank (2022). Heat Supply and Energy Efficiency in Ukraine.

⁵ RDNA-4 (2025). Government of Ukraine, World Bank, EC, UN.

⁶ EBRD (2025). Kyiv DH GRCF2 W2 Project.

⁷ DiXi Group (2024). Fuel diversification pathways.

⁸ Danish Energy Agency (2025). DH reform alignment with EU 2030 goals.

⁹ USAID ESP / PNNL (2023). Tariff reform and DH sector diagnostics.

¹⁰ DiXi Group (2025). Household debt for DH and hot water statistics.

¹¹ EBRD (2025). Operational challenges of municipal DH companies.

¹² Bankwatch (2025). Regulatory barriers in Ukraine's DH sector.

¹³ IEA (2024). Electrification and DH transition.

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