

RECOMMENDATIONS TO THE PROPOSED REFORMS IN THE DISTRICT HEATING SECTOR IN UKRAINE

PART II – SHORT VERSION

(DECEMBER 2024)



Danish Energy Agency



Ministry for Development
of Communities
and Territories of Ukraine

RAMBOLL

This report is one of two reports that together form part of the Danish technical support to align Ukraine's heat supply rules with the EU EED and related legislation, led by the Danish Energy Agency (DEA) in cooperation with the Ministry for Development of Communities and Territories of Ukraine (MinInfra). This edition is abridged and presents all conclusions from the full report II in a condensed and easily accessible way.

We recommend that everyone reads both Report I and II in their entirety.

Report I is available here.



Report II is available here.



Project name:

Technical support for the harmonization of the Ukrainian regulatory framework in the field of district heating

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Report II is a further operationalization of the six recommendations related to the implementation of the EU EED, which were identified in report 1: "Technical Support for the Preparation of the New Edition of the Ukrainian Law on Heat Supply".

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LARS AAGAARD

MINISTER OF CLIMATE, ENERGY AND UTILITIES

Russia's unjust attacks on Ukraine have had devastating consequences for the country's civilian infrastructure. In particular, the assaults on the country's energy system have made life extraordinarily difficult for millions of Ukrainians. When access to heat and energy is restricted, it affects not only daily life but also puts lives at risk—especially during the harsh winter months, where the cold can be life threatening. For many Ukrainian citizens, heating is a necessity that can no longer be taken for granted, and as international partners we have a duty to respond to this crisis.

Denmark has built a strong expertise in district heating over many years, and we are proud to share this experience with Ukraine through our energy partnership program, UDEPP. District heating plays a crucial role in both Danish and Ukrainian households, and our collaboration has already proven to be highly valuable. As Minister, I am proud that Denmark stands as a strong ally, supporting Ukraine in its efforts to secure heat and energy for its citizens. This is a tangible way to demonstrate solidarity and strengthen the ties between our two nations.

Denmark's district heating tariff design offers valuable inspiration for Ukraine's tariff reform. One of the key recommendations in this report highlights the need to restructure Ukraine's tariff system. By adopting a more transparent and fairer tariff structure, Ukraine can enhance social equity while creating incentives for investment in modernizing its energy infrastructure. This transformation would strengthen the resilience of the heating sector and support long-term sustainability.

All the recommendations presented in this report also align with the broader goal of supporting Ukraine's path towards EU accession. Reforms in energy regulation, consumer protection, and

infrastructure modernization demonstrates Ukraine commitment to EU standards and principles. The Danish presidency in the fall of 2025 will provide an important platform to further advocate for Ukraine's integration into the EU and to highlight the importance of solidarity and shared responsibility among European nations.

I sincerely hope that this report will serve as a practical tool that will make a difference on the ground and contribute to securing heat and safety for Ukrainians during these challenging times.

We will continue to stand with our Ukrainian allies as long as our help is needed.



KOSTIANTYN KOVALCHUK

DEPUTY MINISTER FOR DEVELOPMENT OF COMMUNITIES AND TERRITORIES OF UKRAINE

Today, Ukraine faces a number of problems and threats to energy security, which directly affect the preparation and passage of the heating season in the country. The heat supply sector is critically important for our state, and its normal functioning is the basis for ensuring the vital activity of the population and the functioning of the economy.

The urgent problems of heat supply as an industry are associated both with the negative consequences of the war and the actual loss of thermal power plants, boiler houses, and heating networks, and with accumulated problems of a financial, technical, and regulatory nature.

This report, carried out through the UDEPP Energy Partnership Program, is dedicated to an important initiative - the technical support that Ukraine receives from Denmark to harmonize our regulatory framework in the field of heat supply with EU directives.

The project, implemented in cooperation with the Danish Energy Agency, aimed to identify key steps towards modernizing our district heating systems in line with European standards for energy efficiency and sustainability.

The main challenges of the report were to find answers to the problems faced by the heating sector: outdated infrastructure, financial instability, significant energy loss, the need to introduce decarbonization and the use of renewable energy sources.

As a result, the key aspects of this initiative include the integration of the "Energy Efficiency First" principle, proposals regarding the new approaches to tariff policy, creating conditions for attracting investments, and improving the quality of services for consumers.

The implementation of these steps will not only increase the efficiency of district heating systems and introduce their sustainable development, but also contribute to the fulfillment of Ukraine's climate commitments.

The experience of Denmark, which is a European leader in this field, will become an important source of knowledge and practical solutions for us.



EXECUTIVE SUMMARY

Six recommendations were identified in the first report. They are further operationalized and made applicable within a Ukrainian context.



1. Recommendation: Regulatory Framework Enhancement

Overall objective: Modernize legislation using the principle of EU's Energy Efficiency First and improve the Ukrainian method for technical and economic assessment.

Key actions: Strengthen legislation to increase energy efficiency, reduce energy losses, support renewable energy and sector integration, and make enhancements on Ukrainian assessment based on the experiences from the corresponding Danish method.

Medium/high implementation priority: Modernizing legislation to align with the principle of Energy Efficiency First is critical for setting a strong foundation for all other reforms. While necessary for better planning and resource allocation, the task of improving the Ukrainian method is more specialized and can follow once the broader legislative framework is updated.



2. Recommendation: Reform of Tariff Design and Structure

Overall objective: Establish cost-reflective, fair, and transparent heat tariffs.

Key actions: Realize cost-reflective tariffs, separate social subsidies from pricing, address the debts of district heating companies, strengthen oversight, and build public trust.

Very high implementation priority: Ensuring fair, cost-reflective tariffs, reestablishing the control of financial flows, and resolving the debt issues of district heating companies are urgent to restore economic viability and public trust.



3. Recommendation: Integration of Heat Planning with Urban Planning

Overall objective: Align district heating development with sustainable municipal urban planning.

Key actions: Amend planning legislation, set national guidelines, and improve zoning to meet EU standards, improving energy independence and decarbonization.

Medium implementation priority: This is an important step toward long-term sustainability and efficiency. However, it can be addressed parallel with or after more immediate financial and legislative reforms.



4. Recommendation: Promotion of Cost-Effective and Sustainable Heat Supply

Overall objective: Enhance the role of district heating in the green transition by technical modernizations.

Key actions: Enable sector coupling (e.g. large heat pumps, industrial waste heat recovery). Support renewable energy integration through targeted incentives.

High implementation priority: Technical modernization, such as sector coupling and renewable energy integration, is critical for the recovery of the district heating systems and the green transition.



5. Recommendation: Strengthening the Investment Environment

Overall objective: Create a favorable environment for district heating investments.

Key actions: Set up a central agency to coordinate funding, oversee municipal district heating reforms, and manage partnerships. Leverage the Ukraine Investment Framework (UIF) or the like to attract international funding. Streamlining the Heat Supply Schemes to be more applicable.

High implementation priority: Attracting investments is crucial to fund the necessary recovery and modernization of the district heating sector.



6. Recommendation: Enhancing Consumer Protection and Information

Overall objective: Empower consumers and build trust.

Key actions: Enforce fair pricing, transparent billing, and accessible dispute mechanisms. Strengthen oversight to ensure service quality and accountability by an independent district heating regulator. Provide clear information to encourage informed choices and energy-saving behavior.

Medium/high implementation priority: Building consumer trust and providing transparent information is essential for public support, but these measures can proceed alongside or slightly after critical reforms in tariffs and investment frameworks.



1. RECOMMENDATION:

REGULATORY FRAMEWORK ENHANCEMENT

Recommendations for regulatory framework enhancement in Ukraine includes in this chapter:

- Incorporating the Energy Efficiency First (EEF) as the overall qualitative principle
- Enhancing the present methodology for technical-economic assessment of district heating solutions.

1.1 The EU principle of Energy Efficiency First

The principle of Energy Efficiency First from the EU Energy Efficiency Directive (EED) can strengthen national legislation and encourage the implementation of energy efficiency measures targeted at the Ukrainian district heating sector. For Ukraine, applying this principle could drive reforms to modernize district heating systems, reduce energy losses, and cut reliance on fossil fuels, aligning with EU energy policies.

The principle should be integrated into the Ukrainian legislation by:

- Amendments to energy efficiency laws
- Promotion of energy-efficient heat production
- Prioritizing energy efficiency in district heating distribution
- Making it part of planning and investment decisions
- Introducing energy efficiency obligation schemes (EEOS)

1.2 Methodology for technical-economic assessment

The Ukrainian method for assessing district heating projects could be improved and based on the experiences from the corresponding Danish method.

In Ukraine, Cost-Benefit Analysis (CBA) based on the Net Present Value (NPV) method is used to evaluate proposed elements of a Heat Supply Scheme. The CBA method is described in the guide: Methodology for the Development of Heat Supply Schemes for Settlements of Ukraine.

The following could help improve the methodology:

- Focus on least-cost scenario analysis (LCSA)
- Inclusion of the socioeconomic perspective (based on energy price forecasts)
- Conversion from energy to heat
- Adjustment for scrap values of assets
- Determination of socioeconomic discount rate by central government
- Inclusion of sensitivity analyses (account for unforeseen expenses such as changes in energy prices, technical lifetime etc.)
- Compliance with the principle of Energy Efficiency First

THE DANISH SOCIOECONOMIC METHODOLOGY

The method is a quantitative assessment of the economic efficiency of various options to select the one that provides the greatest net benefit. Qualitative elements that are difficult to quantify can be discussed for inclusion (environmental impacts, social effects, security of supply, quality of life), especially when comparing district heating with individual alternatives.

In Denmark, the Danish Energy Agency determines prerequisite standardizations and quantified data through national publications. These ensure coherence, transparency, and comparability in Danish project proposals across different projects and facilitate the authority approval process.

The Danish socioeconomic method is designed to assess the costs of different project scenarios from a broader societal perspective, rather than from the point of view of the individual company or investor.



2. RECOMMENDATION:

REFORM OF TARIFF DESIGN AND STRUCTURE

International best practices for district heating tariffs aim to ensure cost-reflective tariffs with the following characteristics:

- **Cost structure reflective tariffs:** Tariffs with a focus on separating and clearly presenting fixed and variable components of costs in the tariff design.
- **Non-discriminatory pricing:** Tariff structures should be fair and independent of customer type, ensuring that no customer group (such as households or businesses) cross-subsidizes another.
- **Differentiated tariffs:** Fixed tariffs should vary between large and small customers, accounting for economies of scale in a fair way.
- **Incentives for energy efficiency:** Tariff structures should encourage cost-effectiveness and energy efficiency, e.g., through return temperature tariffs.
- **Profit/surplus allocation:** Profit or surplus generated by the district heating system should benefit the customers, such as lower future tariffs or system upgrades that improve system efficiency or service quality.
- **Transparent tariff structures:** Pricing should be simple, transparent, and easy for customers to understand.

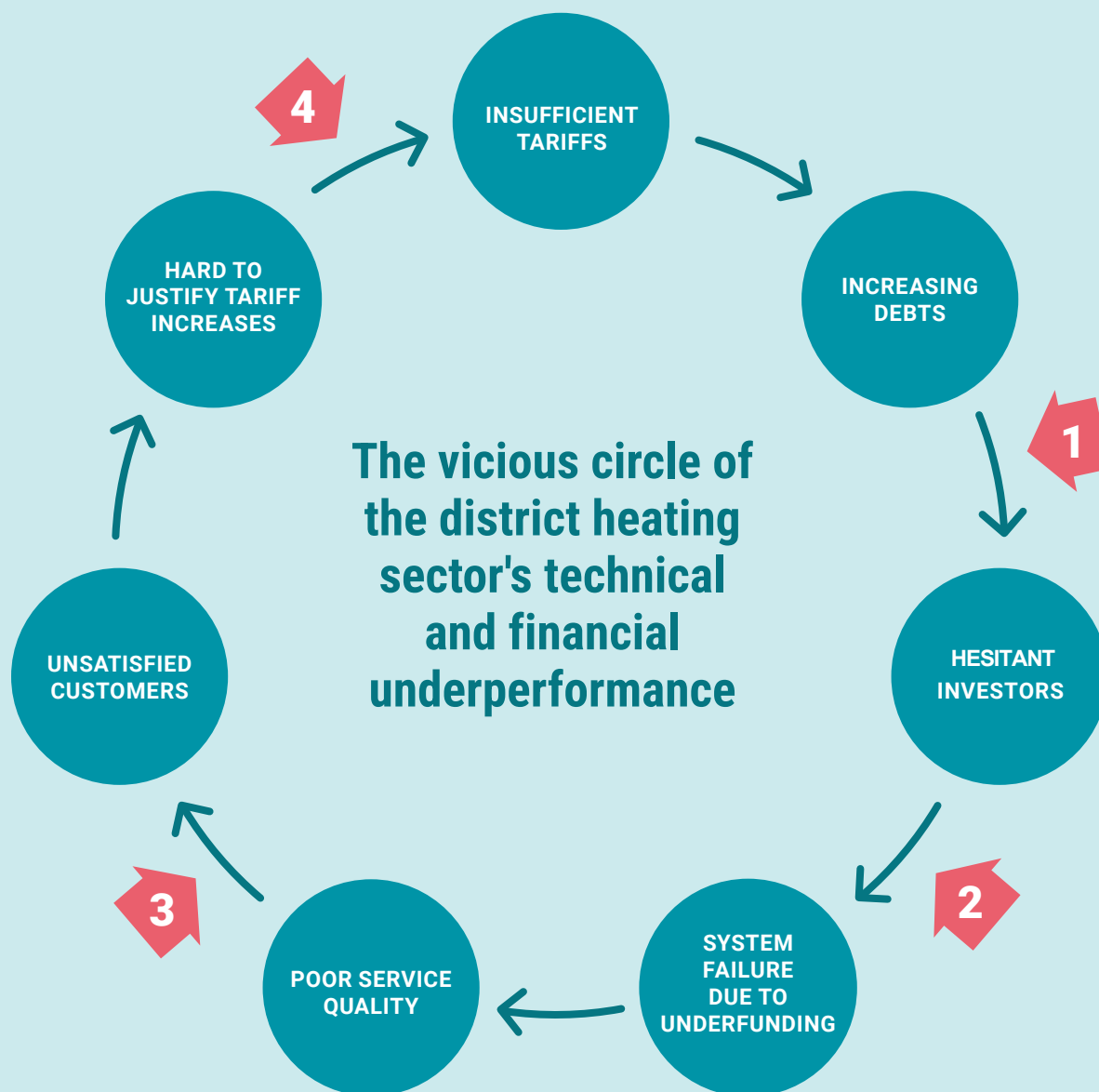
2.1 Improving the legislation on tariffs in Ukraine

There are some systemic challenges with the Ukrainian tariff regulation because the costs of heating are not covered by heat customers. This is creating a vicious cycle that is depicted below.

It is recommended that Ukrainian legislation on tariffs be amended with a focus on the following:

- Separating social policy from heat tariff regulation
- Pricing of district heating production
- Addressing the debts of district heating companies
- Strengthening law implementation and sound governance

Figure 1: The vicious circle in which Ukrainian district heating companies are trapped with proposals for breaking the circle.



PROPOSED INITIATIVES TO BREAK THE CIRCLE

- | | | | |
|---|---|---|---|
| 1 Tailored and flexible debt restructuring | 2 Attracting IFIs, international donors and PPPs to implement modernization based on concessional financing and grants | 3 Mandated performance benchmarks linked to debt restructuring | 4 Implementation of cost-reflective tariffs along with separation from social subsidies. |
|---|---|---|---|

2.1.1 Separating social policy from heat tariff regulation

Ukraine has long-standing social support programs for vulnerable households but faces a significant challenge in the transition to cost-reflective tariffs for district heating. The primary barrier is political because of a reluctance to separate social policy from heat tariff regulation. To overcome this impasse, a regulatory reform is proposed to focus on the following:

- Clear and transparent separation of tariff setting for district heating and social support schemes in line with national legislation.
- A gradual increase in heat supply tariffs to the cost-reflective level, while targeting the social support schemes for the most vulnerable households. In parallel with this, the district heating companies are required to improve their energy efficiency through the legislation, which is adapted to meet the EED and thereby reduce the total cost burden that is passed on to consumers.
- These measures shall be done simultaneously with the tariffs for natural gas and electricity for households being also increased to the cost-reflective level, and the difference between the tariffs for households and the tariffs for other customers being eliminated.
- The moratorium on raising heating tariffs for households, introduced by law in 2022, should be lifted. It only worsens the current situation of district heating Companies, while the government's return of the "tariff difference" is untimely and has unclear prospects.

2.1.2 Pricing of district heating production

When pricing heat production in district heating, it is important to balance cost recovery, fairness, and incentives for efficiency, while ensuring a competitive heat production market.

A challenge for the Ukrainian district heating companies in a liberalized energy market is to balance the contradiction between fluctuating heat production costs or variable heat purchase prices, which can vary hour by hour and seasonally, and stable customer tariffs according to the tariff sheet, which is adopted annually. This applies to

both fluctuating gas prices when using gas boilers and gas-fired cogeneration plants and fluctuating electricity prices when using cogeneration plants, electric heat pumps, and electric boilers.

The costs of energy input for combined heat and power should be regulated for a fair distribution between the electricity and heating side by using the marginal distribution method as specified in the EU's directive of energy efficiency. The method is based on comparing the cogeneration plant's fuel consumption with what would have been used for the separate production of heat and electricity, thereby allocating the share of fuel that heating customers must pay for in a fair way.

2.1.3 Addressing the debts of district heating companies

The persistent high debt levels, accumulated over many years, severely burden Ukraine's district heating companies. This debt constrains their ability to secure financing for modernization projects, as investors are hesitant to provide funds without clear repayment strategies and supportive tariff structures. Additionally, underfunding has resulted in poor service quality and system inefficiencies, eroding consumer trust, and making it increasingly difficult to justify necessary tariff adjustments.

2.1.4 Strengthening law implementation and sound governance

Efforts should not only focus on improving the quality of legislation, but also on ensuring that it is implemented in a coordinated, efficient, and productive manner. This requires alignment among stakeholders and support from district heating customers, including private, public, and commercial entities. Strengthening legislative implementation and sound governance and administration includes the following measures:

- Institutional reforms
- Capacity building and responsible management of district heating companies
- Public engagement

Table 1: Debts in Ukrainian district heating companies nationwide, estimated at September 1st, 2024

| | UAH (mil.) | EUR (mil.) | Per household EUR |
|--|----------------|--------------|----------------------|
| State compensation for the difference in tariffs | 48.790 | 1.084 | 167 |
| Customer debts | 29.680 | 660 | 101 |
| Old debts before June 1, 2021 (Naftogaz) | 28.880 | 642 | 99 |
| Total debt | 107.350 | 2.386 | 367 |



INITIATIVES TO STOP FURTHER DEBT ACCUMULATION

- Establishing cost-reflective tariffs, and separating tariffs from social subsidies.
- Aligning tariffs for gas, electricity, and heat across consumer groups.
- Restoring financial flows directly to the district heating companies.



INITIATIVES TO HANDLE OLD DEBT

- Establishing debt restructuring with concessional loans.
- Implementing a scheme linking performance benchmarks to debt restructuring and state subsidies.
- Attracting IFIs, international donors, and PPPs to implement modernization projects with concessional financing or grant.



3. RECOMMENDATION:

INTEGRATION OF HEAT PLANNING WITH URBAN PLANNING

In Ukraine, the integration of district heating planning into municipal urban planning is still a developing concept. Thus, there is no comprehensive law that explicitly mandates the integration of the planning of district heating into municipal urban planning, but several laws affect the coordination between urban development and district heating infrastructure.

The integration creates more sustainable, efficient, and resilient urban environments. **By amending urban planning legislation, developing national guidelines, optimizing zoning and harmonizing with EU standards,** Ukraine can ensure that its cities are improving the quality of life for residents. These reforms will also support Ukraine's broader policy goals, including energy independence and decarbonization.

3.1 Amendment of urban planning legislation

To strengthen the role of district heating in urban development, Ukraine should amend its urban planning legislation to explicitly recognize district heating as a critical component of urban infrastructure. This amendment will ensure that district heating systems are incorporated into the early stages of urban design, covering both new construction and renovation of existing urban areas.

Key provisions should include:

- Mandatory consideration of district heating systems in the planning phase of all new residential, commercial, and public infrastructure projects.
- Requirements for local authorities to assess the feasibility of connecting new or refurbished buildings to existing district heating networks.

- Restriction (prohibition) of disconnection of existing buildings and apartments from the district heating network in the urban zones defined for district heating.

3.2 Development of national guidelines

Ukraine should develop comprehensive national guidelines that provide local authorities with a road map template. These guidelines will offer technical, regulatory, and operational frameworks to ensure that district heating is embedded in urban planning processes across the country.

Key elements of the guidelines should include:

- Best practices for incorporating district heating into zoning and land use decisions, ensuring that district heating networks are planned in coordination with urban growth strategies.
- Guidance on how to support gradual decarbonization of district heating systems by integrating renewable energy sources and waste heat recovery.
- Technical standards for district heating network efficiency, i.e. improvement of the standards, including design requirements for pipes, heat substations, and metering, to ensure new developments are built to maximize energy efficiency.

- Training programs for local urban planners, architects, and engineers on how to design urban environments that support sustainable district heating systems. This training must also provide the municipalities with the necessary resources to plan, implement, and manage the district heating infrastructure.
- Tools to assess the long-term feasibility of district heating systems in different urban contexts, considering population growth, economic development, and trends in energy consumption.

National guidelines will provide consistency in planning of district heating across Ukraine, while allowing for flexibility in local implementation, ensuring that each city can tailor its district heating system to its specific needs and challenges.

3.3. Optimization of zoning

Effective spatial planning and zoning are essential to ensure a sustainable expansion of district heating networks. Urban planning authorities should reserve optimal locations for new heat production plants and ensure an efficient layout of heat distribution networks to minimize heat loss and reduce costs and environmental impact.

Zoning regulations should prioritize the development of district heating systems in areas with high building density and thereby significant heat demand, making it easier to achieve economies of scale.

Specific zoning policies should include:

- Designation of priority areas for district heating infrastructure
- Identifying strategic locations for heat production facilities – ensuring proximity to both existing and future heat demand centers
- Planning the layout of heat distribution pipelines in coordination with other infrastructure

3.4 Harmonization with EU standards and best practices

Harmonizing the regulatory framework with relevant EU standards and directives will help modernize Ukraine's urban infrastructure and unlock potential access to EU funding and technical assistance.

Key areas of harmonization should include:

- Ensuring that district heating systems meet or exceed the standards outlined in the EU EED, including provisions for the principle of Energy Efficiency First in urban planning decisions.
- Aligning district heating policies with the Renewable Energy Directive (latest RED III from Nov. 2023) to increase the share of renewable energy in heat production, such as biomass, geothermal, and solar thermal energy.
- Incorporating sustainability standards from the EU's Urban Agenda¹ ensures that district heating creates compact, connected, and climate-resilient cities.
- Ensuring that district heating networks contribute to meeting CO2 emissions reduction targets as per the EU's 2030 Climate and Energy Framework and EU Green Deal.

By aligning with EU standards, Ukraine can improve the efficiency, environmental performance, and resilience of its district heating systems, while demonstrating its commitment to sustainable urban development and low-carbon energy transition.

¹ The Urban Agenda for the EU is a strategic framework launched by the European Union to address urban challenges and enhance the quality of life in cities.



4. RECOMMENDATION:

PROMOTION OF COST-EFFECTIVE AND SUSTAINABLE HEAT SUPPLY

While the Ukrainian district heating systems are capital-intensive to modernize, the long technical lifetime of the systems gives the potential to deliver long-term value by realizing the role of sector coupling and balancing renewable electricity generation. Thus, the focus is not only to cover the customers' heat demand in a satisfactory way but also to adapt the Ukrainian district heating systems to beneficial modernizations and technological developments in other sectors.

4.1 Valuable technical characteristics of modern district heating systems

District heating has the potential to utilize excess heat from energy-intensive industries and from future data centers by storing the waste heat in hot water accumulators or using it directly, which will overall improve energy efficiency and reduce emissions.

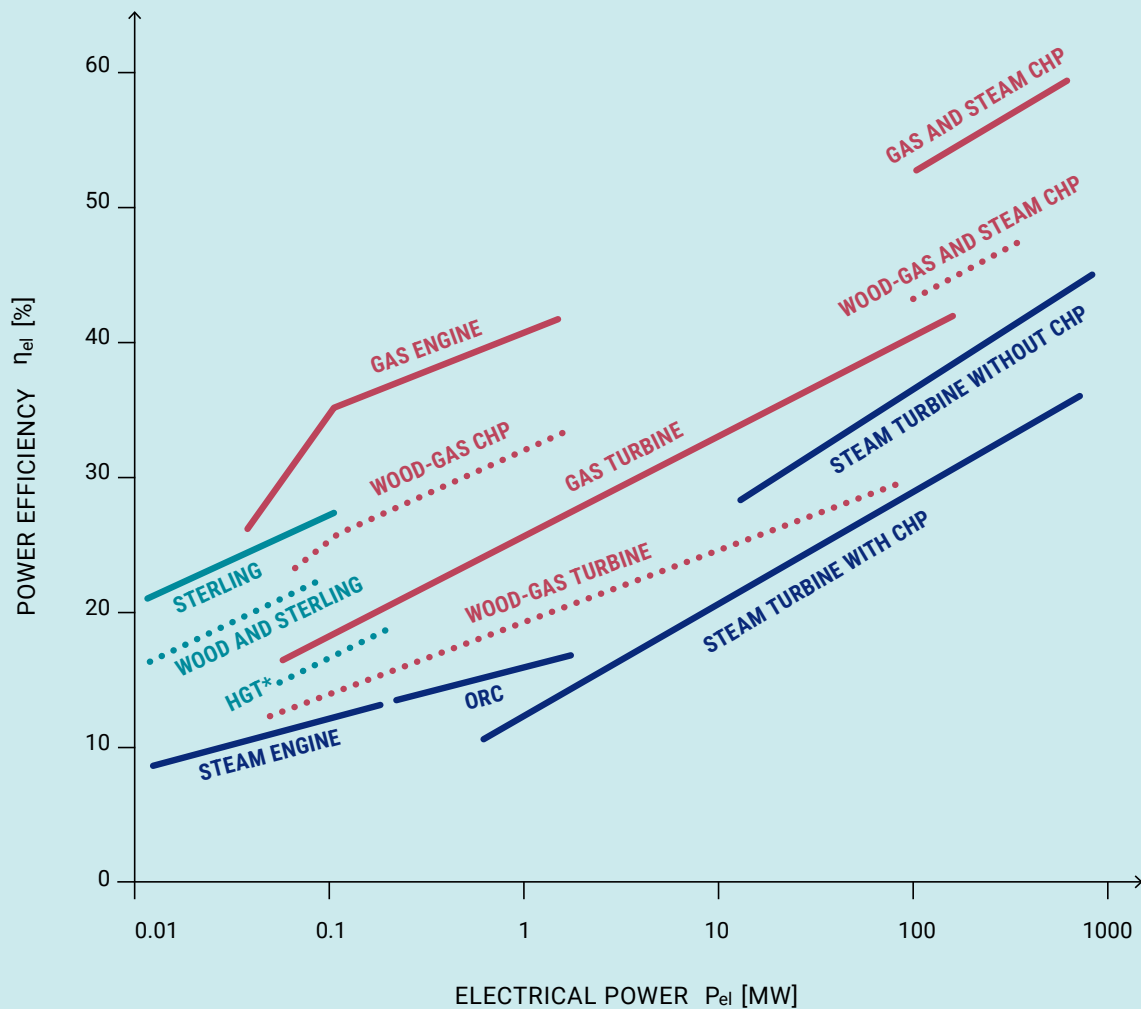
However, utilization of excess industrial heat in Ukraine can have several technical, economic, and legal challenges:

- It can be a challenge to ensure fair and stable pricing for excess heat, i.e. clear regulatory and contractual frameworks are lacking.
- There can be legal uncertainties in contracts, investments, and ownership, i.e. clear guidelines and pricing models are missing.
- Ownership differences between private industrial companies and municipal district heating units can create significant barriers, because industrial companies may be reluctant to share excess heat if it requires investment or operational changes without guaranteed benefits.
- Industrial companies can rearrange their primary processes and reduce the amount of excess heat for district heating before the investments in excess heat access are written off.
- Many Ukrainian district heating systems need investments in infrastructure and control equipment to be able to use excess industrial heat efficiently.

Of great importance for the development of the Ukrainian district heating sector is that natural gas-fired combined heat and power plants can effectively operate as cogeneration plants by leveraging a combination of heat storage, flexible mode switching, supplementary heating, and digital controls. These measures allow the plants to meet varying heat demands in district heating systems, while also serving as a highly flexible and rapid-response source of electricity. Integration with renewable energy sources like solar PV and wind will require careful planning and coordination, but with the right strategies and support, the combined heat and power plants can play a pivotal role in the energy transition.

Especially natural gas-fired combined cycle plants, where the gas turbine is combined with a steam turbine, are highly efficient and flexible and can be very valuable for the regulation of the electricity system, and at the same time provide cheap heat to the district heating systems due to the high efficiency.

Figure 2 shows the efficiencies of various power generation technologies and shows that the combined cycle significantly improves the electrical efficiency of the gas turbine.

Figure 2: Efficiency of various power generation technologies in functionality of the electric power ²

*HGT = Hot Gas Turbine (with wood combustion).

4.2 Proposals for legislative measures

Targeted legislative measures can unlock the full potential of district heating as a flexible and sustainable energy solution, while ensuring that it remains an essential part of future energy systems rather than a barrier to progress:

- Flexible market design with renewable integration
- Incentives for technical sector coupling
- Incentives for organizational sector coupling
- Easier approval procedures, guidelines, and pricing models
- Strengthening awareness and expertise

² Handbook on Planning of District Heating Networks (2020), www.qmfernwaerme.ch



5. RECOMMENDATION:

STRENGTHENING THE INVESTMENT ENVIRONMENT

Ukraine has initiated legislative and regulatory measures to strengthen the investment environment in the district heating sector. These efforts aim to create more transparency, financial sustainability, and attract international investment to modernize the infrastructure. To further strengthen the investment environment, additional recommendations are presented below.

- Development of an investment-friendly environment in Ukraine by implementing a national strategic roadmap targeting the district heating sector.
- Strengthen the cooperation with international financial institutions (IFIs) and other international investment entities and aid organizations by creating a national pool or assigning a state-led agency to assess and coordinate international support.
- Strengthen the legislation in the area of public-private collaboration to share the burden of modernizing the district heating systems.
- Strengthen the financial resilience of the district heating companies by e.g. restoring financial flows directly to the district heating companies (see figure 1).
- Streamlining the heat supply schemes by splitting the scheme into two different parts – one being a strategic plan for the district heating company, the other being transformed into the ongoing development of individual project proposals.





6. RECOMMENDATION:

ENHANCING CONSUMER PROTECTION AND INFORMATION

While Ukrainian legislation provides a high degree of formal consumer protection in the district heating sector, the practical implementation of these protections is often lacking. To address this gap between formal consumer protection in legislation and its actual implementation, legislation using the EED as a platform can be improved by focusing on enforcement mechanisms, regulatory oversight, and systemic reforms.

6.1 Creation of an independent regulatory body

EU's directive of energy efficiency provides a framework that Ukraine can use to create or authorize a specialized supervisory body for district heating.

The directive contains provisions that directly relate to consumer protection, such as ensuring that consumers receive adequate information about their energy consumption and improving access to energy saving measures. A specialized district heating regulator could enforce these provisions by ensuring that district heating companies provide transparent billing, accurate metering, and access to energy-saving technologies such as thermostats and dynamic balancing devices for radiator systems.

6.2 Improving transparency and accountability

Many district heating consumers in Ukraine lack clear information about how their tariffs are calculated, leading to dissatisfaction. To address this, it is important to provide consumers with transparent and easy-to-understand details about tariffs, service quality, energy consumption and environmental impact.

District heating companies should regularly publish key operational data, such as service interruptions, maintenance schedules, and efficiency measures to improve transparency and accountability. This information should be easily accessible to the public.

Recommended measures to implement:

- Clear and detailed billing using simple language and visual aids, such as graphs or charts, to help consumers better understand their energy use and costs over time.
- Online tools or apps that allow consumers to monitor their energy use in real-time and calculate expected costs.
- Regular online publication of operational data, such as service interruptions and their causes, maintenance schedules and costs, and energy efficiency measures and progress.
- Clear, accessible processes for consumers to file complaints and have them resolved promptly.

CASE:

MODERN CENTRALIZED INVESTMENT PROGRAM IN GERMANY

In Germany, the BEW program (Bundesförderung Effizient Wärmenetze or Federal Funding for Efficient Heating Networks) is a public funding program that runs in the period 2022-2026 and aims to promote the development and modernization of energy-efficient district heating networks.

The BEW program is crucial to Germany's strategy to reduce dependence on fossil fuels, especially natural gas, in the heat supply sector. The program is part of Germany's wider climate strategy to decarbonize the heat supply sector and shift towards more sustainable energy sources, such as renewable energy and waste heat.

The BEW program provides grants and low-interest loans to utilities for the following components, as well as support for feasibility studies, planning, and preparatory work necessary for project

implementation. To qualify for funding, district heating systems must meet specific energy efficiency standards.

Applicants must submit a detailed project proposal, including technical specifications, cost estimates, and feasibility studies. The proposal is assessed based on its environmental impact, energy efficiency, and adaptation to Germany's climate goals. Funding decisions are made by the Federal Ministry for Economic Affairs and Climate Action (BMWK), which oversees the BEW program.

The German federal government primarily finances and guarantees the BEW program with an annual budget. In Ukraine, a similar program could be based on international financial sources since national financing options are considered critical.









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