

Heating Up

Navigating growth barriers
in Swiss district heating

Foreword

District energy must play a vital role in the decarbonisation of heating and cooling to achieve national climate goals. The Swiss district heating sector, currently supplying 7% of national heat demand through nearly 1,500 networks, has high growth potential with ambitions to reach up to 24% market share by 2050.

The highly fragmented market, dominated by public utility ownership faces significant challenges, such as rising costs, capital constraints, and the need for increased expansion financing. The build-out of energy centres incorporating innovative renewable heat sources, such as lake water heat-pumps and waste-heat utilisation, is accelerating.

District heating pricing has remained relatively stable compared to volatile alternatives, positioned competitively against gas-fired heating and heat pump local solutions. However, there is evidence of operators under-pricing their services, leaving revenue on the table and limiting expansion plan financing options. To attract the institutional investment needed for expansion, projects must deliver market-adequate returns, with combined heat and power arrangements increasingly preferred by investors seeking healthier risk profiles.

M&A consolidation has low momentum due to a shortage of sizeable acquisition targets and widespread reluctance from existing shareholders to divest assets. Significant opportunities exist in network optimisation, greenfield development of lower-temperature systems, and expansion into Industrial Energy Services models already proven successful in other European markets. In addition to the build-out of district heating networks, the further adoption of Energy-as-a-Service models is essential to meet Switzerland's decarbonisation targets.

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Introduction

Heating accounts for 50% of the EU's energy demand, with around 75% still sourced from fossil fuels, creating significant economic and environmental implications. Transitioning to renewable energy in this sector is vital for decarbonising the energy system and achieving the EU's 2050 goal of climate-neutrality. With 60% of heat demand coming from buildings, district energy provides an efficient, cost-effective solution for large-scale decarbonisation. By using renewable and waste heat, it reduces reliance on fossil fuels. Simultaneously, coupling heating and electricity systems enhances flexibility and supports greater renewable integration.

Today, with around 13% market share, district energy serves around 70 million EU citizens through close to 17,000 heating and cooling networks. Stringent decarbonisation and efficiency targets are set in the Renewable Energy Directive III, the New Energy Efficiency Directive, and the Energy Performance of Buildings Directive. These measures and national net-zero targets are driving a seismic shift, reducing fossil fuel use, increasing energy efficiency, and accelerating district energy growth. The 'Fitfor55' package outlines a clear pathway to 100% renewable and climate-neutral district heating and cooling networks by 2050. European energy systems must be decarbonised by 2050 and expanded in urban areas to meet around 30% of heat demand.

District heating plays a crucial role in Switzerland's energy landscape, with around 1,500 networks in operation across the country. These systems supply approximately ten terawatt-hours (TWh) of heat annually, meeting around 7% of Switzerland's total heat demand. National targets project district heating supply to nearly double to between 14-18 TWh by 2050. This gives district heating a projected 2050 market share of up to 24%, after accounting for improvements in building energy efficiency and other macro-economic drivers, which will drive the national heat demand to around 74 TWh/a according to the Energieperspektiven 2050+.

Energieperspektiven 2050+ key goals for Switzerland's heat transition



Increase district heating up to 18 TWh

District heating to grow from supplying ~7% of national heat demand today to up to 24% by 2050



Increase of heat pumps and waste heat usage

The strategy aims to scale up the deployment of heat pumps and use waste heat in district heating networks



Expand waste & ambient heat utilisation

Broader use of low-temperature heat sources (e.g. lake water, sewage, data centres) is planned



Reduce final heat demand to 74 TWh

Reduce total heating energy consumption through better building standards and energy efficiency measures

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Market shifts complicate strategy decisions

With higher interest rates and increased costs that have outpaced heat tariff growth in recent years, it is increasingly difficult for the district heating sector to generate adequate returns.

As a result, operators are struggling to advance both greenfield and existing projects, facing financial and operational hurdles that hinder expansion.

While the wider market shifts toward fourth generation networks characterised by low-temperature networks supplied by multiple heat sources, Eight Advisory sees predominantly small to mid-sized third generation networks in Switzerland, very often relying on a single heat-only-boiler. The Swiss Federal Office of Energy (BFE) outlines further potential for the utilisation of waste heat and other decarbonised heat sources with the share of heat pumps tripling from current levels by 2050. However, a substantial share of new projects still incorporate biomass, evidenced by recent developments.

In February 2025, EBL (Genossenschaft Elektra Baselland) acquired the ECOGEN Rigi cooperative, giving them a majority stake in the biomass-powered Energiezentrum Rigi, which supplies heat to networks in Cantons Schwyz and Lucerne. Such developments underscore the role of biomass in district heating, driven by its predictable, locally sourced fuel supply and insulation from electricity price swings.

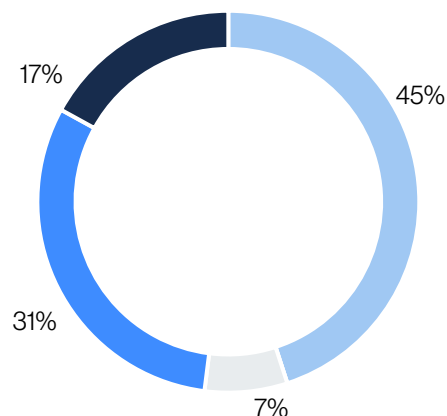


The starting point for planning any district heating network is always the demand. However, we must also look at what is available locally and what would be the most suitable technology for the heat source.

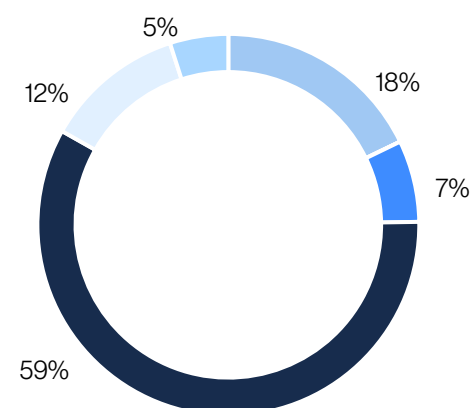
Rafael Mesey, Head of New Energies at CKW

Looking ahead, there are multiple planned projects using alternative heat sources, such as the lighthouse 70 MW waste-heat utilisation project at the Vantage data center in Volketswil by Energie 360°, and an increasing number of lake water district energy projects such as EWZ's networks at Lake Zurich or the Enerlac project at Lake Geneva, again by Energie 360°. Data centres, in particular, represent a highly promising opportunity, as companies commit to long-term investments worth several hundred million Swiss francs. Given the intense competition for suitable sites near urban agglomerations, district heating operators are increasingly positioning themselves as attractive partners for data centre developers, aiming to integrate waste heat recovery and leverage synergies in location planning. While the technical potential for fully renewable heat extraction is vast, developers must diligently manage capital expenditures and account for fluctuating electricity or heat sourcing costs to ensure the economic viability and long-term stability of these projects.

District energy supply mix 2021



District energy supply mix 2050



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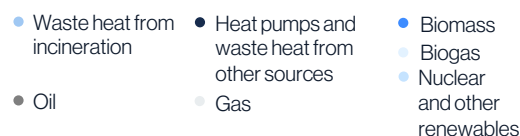


Figure 1: Evolution of district energy supply mix in Switzerland (Source: Energie Schweiz, BFE)

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District heating pricing in Switzerland

Heat producers across Europe experienced an unprecedented rise in fuel procurement costs since the 2022 energy crisis, with prices remaining elevated in 2025. In the district heating sector, operators have gradually passed fuel procurement cost increases on to customers rather than implementing immediate adjustments.

This delay, driven by the contractual nature of tariff updates and the reluctance of municipalities to impose sharp price hikes, has resulted in financial strain for operators. Nevertheless, district heating price changes in Switzerland have almost reached parity with domestic gas, heating oil, and wood pellet prices. Figure 2 shows a comparison of how different end-user energy costs have evolved since December 2020 based on the Swiss national consumer price index, demonstrating that average district heating prices have risen steadily but avoided the volatility seen in oil, gas, and wood pellet prices.

Evolution of fuel price indices

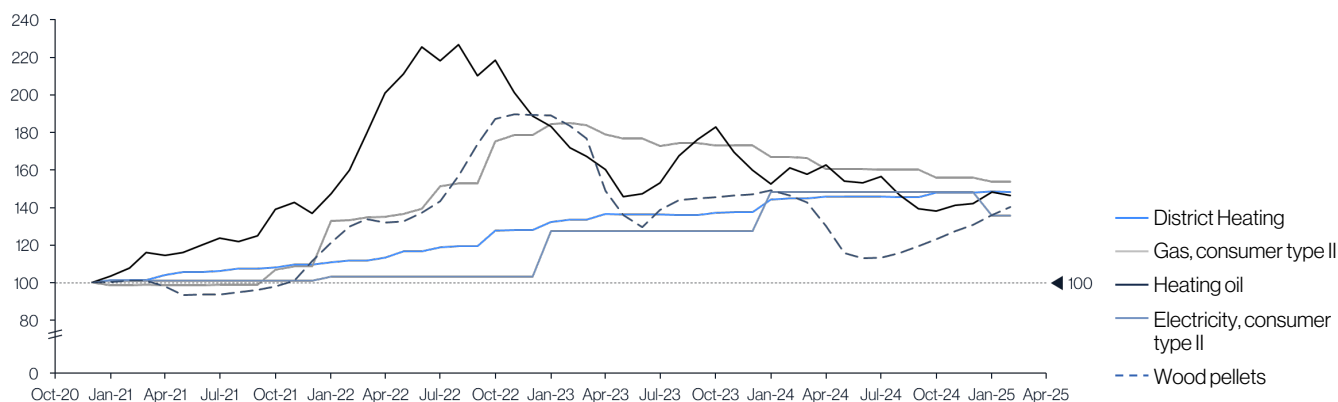


Figure 2: Development of Swiss national consumer price index, Basis Index Dec. 2020 = 100 (Source: BFE) **EightAdvisory**

However, now comparing absolute annual heating costs for consumers, Eight Advisory has observed district heating operators price tariffs below the LCOH (see Figure 3) of fossil-based heating solutions. In major European cities with established district heating networks, operators are highly focused on remaining competitive versus the alternatives, pricing tariffs strategically to prevent churn, encourage heat-source switching, and incentivise developers to incorporate district heating in new construction projects. This pricing strategy is particularly crucial in city centres, where operators target a 90% penetration rate of the key customer group for district heating, namely multistorey apartment blocks, central business districts and public buildings.

“

We invest a lot of time and resources in showing customers the benefits. And it's not just about getting the price right. Customers get a carefree package and don't have to worry about a thing. There's no risk for them.

Romeo Deplazes, Head of Solutions/Deputy CEO at Energie 360°

District heating pricing in Switzerland

Our experience shows that district heating tariffs do not need to be the lowest-cost heating solution to remain competitive, as they offer intangible benefits such as greater comfort, reduced space requirements, and more stable pricing compared to local heating options.

Levelised Cost of Heat (LCOH) calculations are highly location-dependent, reflecting regional variations in electricity, wood, and pellet prices.

Currently, an all-in tariff of 20 Rp./kWh (blended to include capacity charges and variable consumption fees) is widely regarded by operators as a competitive reference point. Prior to the Russo-Ukrainian War, typical pricing ranged between 16 and 17 Rp./kWh, highlighting the recent upward pressure on heating costs.

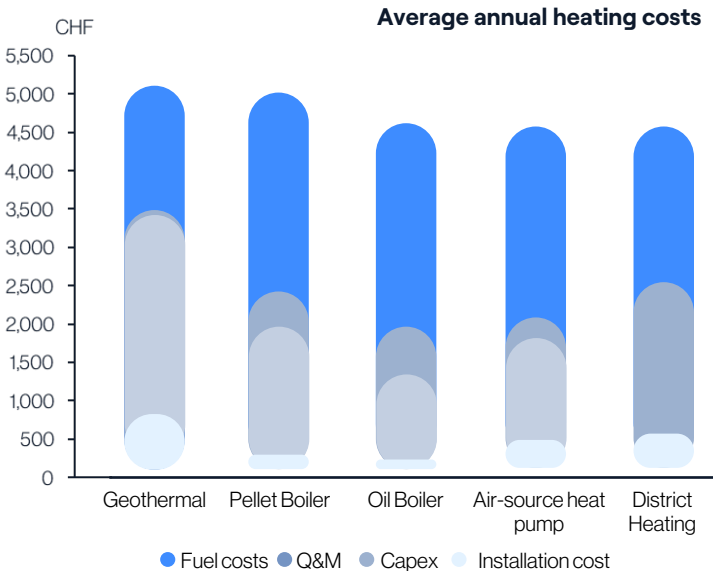


Figure 3: Based on a single-family house in a small town in Canton Lucerne with 20 MWh demand (Source: Eight Advisory)

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As illustrated in Figure 3, Eight Advisory has experienced examples of smaller operators pricing tariffs below optimal levels, leaving room for price increases which would finance the long-term sustainability of operations.

District heating operators have flexibility when setting tariff levels for the three main price components: one-off connection fee, recurring capacity fees, and unitary heat consumption fees.

Variation in district heating tariffs by operators

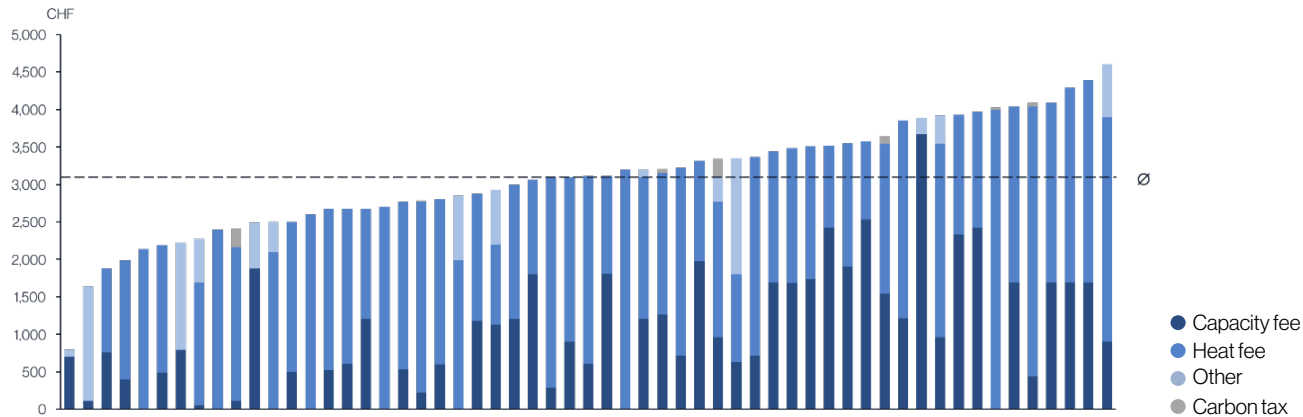


Figure 4: Examples of district heating tariffs translated to annual costs for a single-family home with 20 MWh demand in Switzerland in 2023, excluding one-off connection fee (Source: Preisüberwacher)

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As seen in Figure 4, in the Swiss market, we see high variability in the share of revenue derived from capacity fees and heat consumption fees, with operators seeking a configuration that is tailored to their specific customer groups.

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Returns must attract private investors

Ownership and investment needs

The Swiss district heating sector faces a significant financing challenge, with approximately 65% of networks owned by municipalities. A survey of district heating operators by Ecoplan in 2021 estimated that around CHF 25 billion will be needed for district heating expansion by 2050.

Capital expenditure pressures

Financing this expansion is a challenge exacerbated by rising capital expenditure (Capex) levels, which threaten both network expansion and the replacement of existing infrastructure. Following the Covid-19 pandemic, Capex for some key services nearly doubled, as seen in the case of underground main-line pipe installation costs, which far outpaced the national inflation rate.

Shift toward debt financing

The majority of district heating operators have primarily relied on self-financing in the past. Still, operators expect the proportion of debt in financing new district heating projects to increase as growing investment requirements make self-financing more challenging.

Low institutional investment

Institutional investor participation in the Swiss district heating sector remains low compared to more developed district heating markets. To attract private investment, Swiss district heating projects must consistently demonstrate project IRRs of 5-7%, aligning with market expectations for infrastructure investments with similar risk profiles.

Challenges to achieving target returns

However, achieving IRRs above 5% poses challenges in current market conditions. Further, we have observed that the WACCs of incumbent utilities sit at the lower end of this range, allowing them to also pursue more challenging projects.

Emerging role of private wealth

Private wealth presents a growing source of capital, with family offices increasingly interested in decarbonisation investments, making them a viable funding source for long-term infrastructure projects such as district heating.

Enhancing project attractiveness

The attractiveness of projects can be increased by tapping into additional revenue streams such as electricity sales and participation in ancillary services markets through development of combined heat and power (CHP) plants, as well as supplying process heat to industrial customers.



Private wealth as a client segment is still underestimated. There are family offices that want to position themselves in this area in addition to philanthropy. And we now assume that this is a segment for whom even a return of 3–5% would be acceptable, while making a positive contribution to environmental sustainability.

Daniel Arnold, Executive Director Investments at Swiss Life Asset Management

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Highly fragmented market

The Swiss district heating sector is highly fragmented, with consolidation moving at a slow pace due to limited sizeable acquisition targets. This continues to hinder efficiency gains and the scalability needed to meet long-term decarbonisation goals.

The fragmented market results in significant organisational and operational inefficiencies, with the average Swiss district heating operator managing only 4 MW of capacity. At this size, it is difficult to achieve the before-mentioned profitability levels required to recover capital and operational costs.

The largest twenty district heating platforms by capacity represent around half of the total market and are all wholly or partially publicly owned. There are rare cases of market consolidation across Switzerland.

In a notable example, CKW AG has acquired heating assets from smaller municipal operators in central Switzerland in recent years. Similarly, IWB's investments in Agro Energie Schwyz and Energie Ausserschwyz highlights the growing trend of strategic partnerships and acquisitions aimed at scaling district heating networks.

Through consolidation and the support of an experienced partner, municipalities can strongly benefit from increased access to capital at more attractive rates, established fuel supply-chains and continuation of high attention to customer needs through efficient resource utilisation. However, consolidation at scale is not evidenced in Switzerland compared to other European markets, despite the advantages these partnerships bring to small players. With few large acquisition targets available, growth is primarily occurring through greenfield development. Eight Advisory's experience suggests consolidating operations can reduce administrative, fuel procurement and maintenance expenses by 5-15% through standardised procedures and shared resources.

The operational partnership model is one preferred solution among smaller Swiss municipalities with limited technical capabilities that transfer the operation of their district heating networks to larger utilities or specialised operators. Rather than full consolidation, local district heating operators and regional utilities could benefit from pooling resources and establishing joint asset management and O&M service companies to optimise operations.

Consolidation Benefits

Feature	Fragmented operators	Consolidated platforms
Capital access	Limited borrowing power, high financing costs	Access to low-cost capital due to scale & risk diversification
Fuel procurement	Small, uncoordinated supply chains	Centralized buying power and supply security
Maintenance costs	High due to duplicated services and inefficiencies	Lower due to shared resources and preventive strategies
Customer service	Inconsistent service levels and limited capacity	Streamlined operations with dedicated customer support
Technical capabilities	Limited in-house expertise	Access to specialized skills and proven systems
Administrative overhead	Higher per MW due to scale diseconomies	Reduced via process standardization and automation

Figure 5: How consolidation can positively impact key operational and financial areas in the district heating sector
(Source: Eight Advisory)

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Smart growth needs better planning

Optimal network expansions consider the future customer demand profile, correct energy centre sizing, and future-proof network design, core principles that are essential for operators seeking to scale efficiently while maintaining operational performance.

Operators of growing heat networks must balance scaling infrastructure while optimising operations. When customer connected capacity grows beyond the current heat source, accurately modelling the simultaneity of heat demand (the dispersion of heat demand peaks across multiple consumers), is key to maximising the utilisation of generation assets and correctly anticipating future generation capacity requirements.

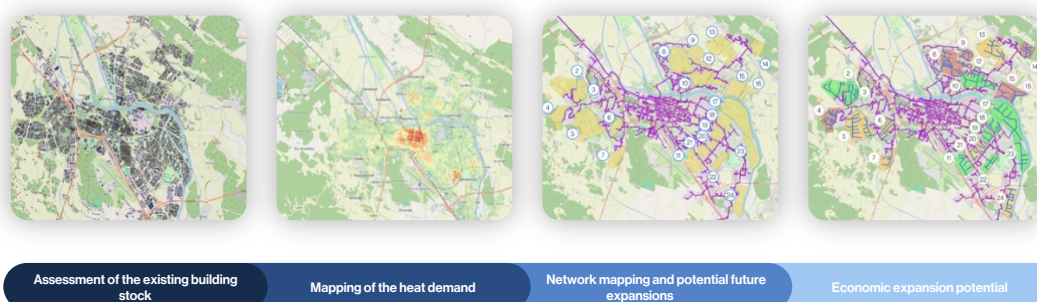


Figure 6: Eight Advisory heat demand and network modelling approach (Source: Eight Advisory)

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Accurate network planning requires a fulsome understanding of the building stock and comprehensive demand modelling to identify network expansion and densification potential. Eight Advisory models the entire heat supply, customer base, and demand, working closely with our technical partner Verenum to future-proof the expansion of heat networks.

Lowering return temperatures significantly improves district heating performance by increasing heat transfer and reducing pumping needs. For existing heating networks, achieving these benefits requires a coordinated approach: installing digital monitoring systems that continuously adjust flow rates based on real-time demand, upgrading equipment such as pumps to operate at variable speeds, and potentially adding thermal storage to handle peak demand more efficiently. These improvements must be tailored to each specific network's design and the buildings served.

In greenfield development scenarios, designing for lower temperature operation from the outset offers substantial advantages. Lower temperature systems can utilise smaller diameter pipes due to reduced thermal expansion concerns, potentially reducing capital expenditure on distribution infrastructure. Additionally, these systems experience reduced thermal losses of up to 38% and offer cost savings of up to 10% compared to third-generation networks.

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Industrial energy services hold potential

As industrial firms work to decarbonise and modernise their energy systems, Industrial Energy Services (IES) are becoming a vital solution, especially in cases where in-house expertise is lacking, and operational efficiency is key.

Industrial firms face the challenge of reducing hard-to-abate carbon emissions and upgrading their own energy systems, while often lacking in-house energy expertise. By transferring responsibility to experienced service providers, they can focus more on their core business.

Addressing this issue, other European markets have led the way in Industrial Energy Services (IES). Contractual models where customers pay fixed monthly fees instead of per-unit costs have turned capital-intensive investments into manageable operating expenses. Long-term contracts extend beyond energy supply to include equipment maintenance, efficiency upgrades, and performance monitoring.

Players such as Getec, Engie, Idex and Nevel have dedicated business segments focused on the provision of energy services to industrial clients in energy-intensive industries such as mineral processing, food and beverages, pulp and paper, and chemical manufacturing. Adven, a key district heating player in Finland has already expanded into the Netherlands with the introduction of IES, rather than by acquisition of heating networks, capitalising on limited competition and a faster time to market.



Energy-as-a-service is still a niche market here. Many property owners are still convinced that it is better for them to do it themselves. But if you can convince them that a professional service provider can add value, very good solutions can emerge.

Romeo Deplazes, Head of Solutions/Deputy CEO at Energie 360°

In Switzerland, where the industrial sector accounts for nearly 20% of the total energy demand, market fundamentals show solid potential for an increase in IES. However, judging by the number of projects, further development will be required to create momentum in the Swiss market. No dominant player has emerged so far, creating vast opportunities for first movers to penetrate the market by adapting proven service models to Switzerland's industrial sector.

Matching industrial challenges with IES benefits


Reduction of carbon emissions

Industrial challenges


Outdated systems


Lack of expertise

IES Benefits


Outsourced operations


OPEX-based models


Guaranteed performance

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How we can help you

In the district heating sector, our services focus on four key areas: network acquisition, performance improvement, operational excellence, and complex financial modelling.

Commercial, Financial and Technical Due Diligence

Strategic advisory and process initiation, including identification and assessment of acquisition targets, as well as integrated commercial, financial, and technical due diligence.

Performance Improvement

Support on tariff assessment and optimisation, development of scenarios for network densification and expansion, with a focus on Capex and Opex optimisation

Operational Excellence

Assistance in process and IT optimisation, analysis of the operational organisation, and derivation of the target operating mode.

Complex financial modelling

Definition of a base model and sensitivities that meet the expectations of the client, interlocutors, lenders, investors or public entities.



Eight Advisory is an integrated transaction, transformation and restructuring advisory firm operating globally with over 900 professionals, including over 100 partners. We support clients in corporates, private equity funds and infrastructure investors, and navigate the complexities of a changing world: identifying, creating and realising value.

Contact our experts
and see how we can help you!



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