

Plan 2Heat

Plan 2Heat

MOVING FROM HEAT PLANNING
TO IMPLEMENTATION

Authors



Morten Jordt
Duedahl,
DBDH



Charlotte Schön
Mejlshede,
DBDH



Carolin Giesser,
LEA Hessen



Cigdem Yalcin,
LEA Hessen

Interview partners

- Anne Stellberg, ifok GmbH | 0151 74500225, anne.stellberg@ifok.de
- Heike Böhler ifok GmbH | 06251 8263-110, heike.boehler@ifok.de
- Holger Schülbe, Werra-Meißner-Kreis | 05651 302-4751, holger.schuelbe@werra-meissner-kreis.de
- Julian Becker, Eschwege | 05651-304 319, julian.becker@eschwege-rathaus.de
- Klaus Pfalz, VR VerbundBank eG HessenLand | 015153850462, klaus.pfalz@vr-verbundbank.de
- Maik Bode, Stadtwerke Eschwege | 05651 807-15268, m.bode@stadtwerke-eschwege.de
- Markus Mengel, Stadtwerke Eschwege | 05651 80715201, m.mengel@stadtwerke-eschwege.de
- Patrizia Renoth, Holbæk Kommune | patr@holb.dk
- Peter Skovsgaard, Haderslev Fjernvarme | pss@haderslev-fjernvarme.dk
- Philipp Heinrichs, Eschwege | philipp.heinrichs@eschwege-rathaus.de
- Dr. Philipp Kanzow, Eschwege | 05651 302-1025, philipp.kanzow@werra-meissner-kreis.de
- Sandra Schweitzer, Hessischer Städtetag | 0611-1702-24, schweitzer@hess-staedtetag.de
- Scarlett Grebestein, Eschwege | s.grebestein@stadtwerke-eschwege.de
- Zora Ott, ifok GmbH | 030 53607738, Zora.ott@ifok.de

Table of contents

Preface	01
Lessons from Denmark	05
Cooperation Between a City and a District Heating Company – the Key to Success	10
Interview: Case Eschwege – Be brave, plan well	13
From Planning to Action	14
Communication as a Foundation for the Heat Transition in Eschwege	19
Financing District Heating Networks	22
Showcasing Denmark through Plan2Heat	25
Networking for Heat Cooperatives	29
Ownership Is the Tool. Purpose Is the Strategy.	31
The Heat Question on Our Own Doorstep – A Cooperative Path to a Local Solution	34
The Danish Perspective	37
Heat plan for the City of Eschwege	39
Webinar – Successfully establishing district heating networks	39
Legal notice	40

Preface

Dear readers,

Creating a sustainable energy supply is one of the defining challenges of our time. Recent political crises have made this clearer than ever. In Hesse, as in Germany as a whole, a large share of final energy consumption is used for heating. Around 37 percent of our state's final energy demand is attributable to heat. Much of this heat still comes from fossil fuels such as coal, oil and natural gas, whose combustion produces emissions that harm the climate. Transforming the heating sector is therefore a key part of the energy transition. At the same time, it also strengthens security of supply, supports local value creation and reduces dependence on energy imports.

Cities and municipalities naturally bring together many of the elements needed for such a transformation to succeed – from urban planning to energy generation, and, of course, the people who will put these changes into practice. They are therefore particularly well placed to consider housing and energy supply in an integrated way and with the common good in mind. This role becomes even more important when municipalities have set themselves ambitious climate protection targets. With the Plan2Heat project, the town of Eschwege is taking responsibility and actively shaping the path towards a climate-friendly, future-proof and affordable heat supply.

The success of such transformation processes often depends on the size of the local administration, its practical experience in municipal energy policy and whether the municipality has its own public utility company. Starting points therefore vary greatly from one city or municipality to another. Yet the central challenge of the heating transition remains the same: financing it. Converting heat supply systems requires substantial investment in



*Sandra Schweitzer,
Hessischer Städtetag*

infrastructure, and infrastructure projects often take several years to complete. Planning certainty and reliable financing are therefore essential to the success of the heating transition.

Municipalities cannot shoulder this financial burden alone – especially at a time when public budgets are under extreme pressure. Financial support from the federal and state governments is needed, along with a reliable political framework. If municipalities are expected by federal and state policymakers to play a central role in the heating transition, then adequate funding for this task is a fundamental prerequisite.

In most cases, cities and municipalities need to combine several instruments to finance infrastructure measures, such as funding modules or grants for individual building-related measures. For municipalities, it is particularly worthwhile to invest strategically where the greatest leverage can be achieved – for example in heating networks, neighbourhood-based solutions or the use of waste heat.

At a time of tight municipal budgets, the question also arises of how public and private funding can be brought together in a meaningful way. Cooperative models can be a highly effective means of mobilising capital. Smaller local heating networks, in particular, can often be organised successfully as cooperatives. This requires clearly defined projects, trust in the administration and transparent structures. The town of Eschwege, with the local heating supply in Oberhone, provides an exemplary example of how this can be achieved.

Plan2Heat is not a blueprint that can simply be transferred one-to-one to other municipalities. However, the pilot project does show which essential steps can contribute to success. High on the list are the early and continuous involvement of stakeholders, the willingness to understand the heating transition as a joint effort, and the transparent, trust-building engagement of citizens. Ultimately, this is about them – the people who live in our cities and municipalities. For their sake, and for the sake of our environment, the effort required to build a sustainable, reliable and affordable heat supply is more than worthwhile.



The municipal heat transition presents cities, municipalities and districts with the task of translating strategic objectives into implementable and viable projects. Against this background, project partners from Hesse and Denmark worked together within the framework of the Plan2Heat project in the period from January 2025 to August 2026 to clarify the prerequisites for concrete project implementation and to develop sound decision-making bases.

At the core of the project was the question under which conditions a heat plan can be turned into a feasible project. This is particularly relevant in light of current challenges: in many places, uncertainties still remain regarding economic viability, organisational implementation and acceptance. Plan2Heat addressed these issues in a targeted manner. Technical, economic and organisational aspects, as well as questions of acceptance and cooperation, were systematically examined.

Plan2Heat stands for a practice-oriented approach that systematically brings together planning, economic viability and communication. The methods and results developed within the project provide valuable guidance not only for Eschwege and the Werra-Meißner district, but also for other municipalities. Particularly noteworthy is the close involvement of relevant stakeholders as well as the early and structured consideration of issues related to acceptance, financing and implementation. In this way, Plan2Heat provides concrete and transferable approaches for implementing the heat transition.

A key success factor was the continuous exchange with the Danish partners. Insights into established district heating systems, clear organisational structures and proven models of cooperation between municipalities, utilities and cooperatives provided important impulses. These experiences were taken up and transferred to the regional context.

The workshops in Germany and Denmark were characterised by intensive professional dialogue and a strong practical orientation. The combination of joint work and concrete on-site insights contributed to developing a shared understanding and to identifying viable solutions.

Plan2Heat shows that the heat transition can be implemented in practice when municipalities, utilities, cooperatives and other partners work closely together. The results provide a sound basis for the next steps in the Werra-Meißner district and can also provide impulses for other regions.



Dr. Philipp Kanzow,
Kreisbeigeordneter
Werra-Meißner-Kreis



Lessons from Denmark:

What Hessian Municipalities Can Take Away for the Heat Transition

What the municipality, municipal utility and district administration have taken from Plan2Heat for Hesse

The municipal heat transition is not a purely technical task. It is equally a matter of responsibilities, financing, planning culture and cooperation. That is precisely why this article brings together the three project partners who worked together in the Plan2Heat project from different institutional roles: the City of Eschwege, Stadtwerke Eschwege and the Werra-Meißner district. Together, they represent three perspectives that are crucial for implementing municipal heat planning in Hesse: the municipal political and strategic perspective, the technical and economic implementation perspective, and the regional view of smaller municipalities and rural areas. Precisely because their starting points differ, their experiences make it especially clear which insights from Denmark are actually relevant for Hesse and, by extension, for Germany as a whole.

What becomes clear is that the project partners do not view the heat transition in exactly the same way. From the city's perspective, the main question is how the heat transition can be communicated politically, coordinated institutionally and embedded in an overall municipal strategy. This perspective particularly emphasizes the need for clear responsibilities, greater trust, earlier communication and stronger thinking beyond municipal boundaries. In other words, the city's perspective focuses

strongly on steering, governance and public acceptance.

Stadtwerke Eschwege argues much more from the perspective of practical implementation. For the municipal utility, the central questions are how networks can be financed, how technical systems can be planned so that they work today while remaining expandable tomorrow, and how municipal services of general interest can be safeguarded at all under difficult market conditions. From this point of view, Denmark is particularly interesting because heat supply there is organized as a basic public service, which creates different preconditions for financing, expansion and technological development.

The district, in turn, primarily contributes the perspective of rural areas and smaller municipalities. Here, the focus is less on large networks and more on local viability: What heat sources are available on site? How can small networks, cooperatives and municipal buildings be taken into account? How can heat planning be prevented from being carried out schematically, without considering regional specificities? The district perspective is therefore especially geared toward support, coordination and translating general objectives into solutions suited to local conditions.

Not the technology first, but the system behind it

One central result of all three interviews is that the most important difference compared with Denmark does not lie in any single technology. What matters more is how

planning, financing, regulation and implementation are aligned. In the view of the project partners, heat supply in Denmark is understood more as a long-term, coordinated public task. In Hesse, by contrast, many actors have to work under conditions shaped by short-term political cycles, uncertain funding frameworks, limited human resources and sometimes contradictory signals. Many of the practical difficulties arise precisely from this.

This difference becomes particularly clear when asking what planning is actually supposed to achieve. From the city's perspective, it must provide orientation and be socially sustainable. Stadtwerke focuses instead on technical robustness and financial responsibility. From the district's perspective, planning must be locally

applicable and workable even in smaller municipalities. Only when these levels come together does heat planning emerge that works not just on paper.

Lesson 1:

Clear roles and real responsibilities

One particularly strong lesson from Denmark is the clarity of roles and responsibilities. This is relevant for Hesse as well as beyond state borders, because the interviews repeatedly show how quickly friction arises when responsibilities remain unclear or when actors are only partially involved.

The city stresses that the heat transition can only move forward if administration, politics, municipal utilities and other partners know which role each of them is to assume. In Eschwege in particular, the course of the



project made it clear that these roles became more sharply defined: the municipal utility bears the main technical and economic responsibility for implementation, the city provides political and organizational anchoring, and the district adds the perspective of neighboring municipalities, small networks and regional structures.

At the same time, an important difference in patterns of thinking becomes visible.

While the city is more concerned with how to bring actors together and build trust, the municipal utility asks how to remain capable of action under real financing conditions. The district, in turn, asks how smaller municipalities with scarce resources can be better supported. These differences are not a problem; they are part of the reality of the municipal heat transition. The project helped make these different institutional logics more visible.

Taken together, this sends an important signal for Hesse and beyond: municipal heat planning requires not only sound data and technology, but also resilient relationships between the actors involved. Closely linked to this is also a cultural question. The interviews repeatedly showed that collective heat supply in Germany is often met with initial scepticism and is quickly framed as problematic in public discourse.

From the district's perspective, many things in Germany are "talked down" or criticised to the point of losing momentum, whereas in Denmark, district heating networks are much more widely regarded as normal, functioning and economically viable infrastructure.

This, too, offers an important learning impulse for Hesse: acceptance is not created through technology alone, but also through a different societal understanding of collective supply.

Lesson 2: Plan for the long term, implement step by step

A second key lesson from Denmark is long-term thinking. Danish heating systems have grown over decades and have been technically expanded again and again. For the city, what is particularly interesting about this is that it creates political and social orientation. For the municipal utility, the strength lies in the fact that networks can be developed modularly and prepared for later additions. For the district, the decisive point is that smaller-scale solutions also need time to develop and do not have to be fully defined from the outset.

The municipal utility in particular makes it very clear that the heat transition cannot be "built finished" in a single day. Networks must be planned today in such a way that they can accommodate additional generation units, storage systems or other technologies tomorrow. At the same time, there must also be the courage to begin without already knowing every future expansion stage in full detail. This is precisely one of the most important Danish lessons for Hesse: do not wait for the perfect final solution, but design viable next steps in such a way that further development remains possible.

Lesson 3: Cooperation begins locally

This is precisely where the project partners see a major difference compared with Denmark, where collective heat supply is perceived much more strongly as familiar, functional and suitable for everyday use.

At the same time, different priorities can be identified among the project partners: the city places greater emphasis on cooperation and the stakeholder landscape, the district on regional potential and support structures, and the municipal utility on robust project steps and a clear implementation logic.

Lesson 4: Combine technologies, keep options open

What particularly impressed the project partners in Denmark was the way in which different technologies are considered systemically and in combination with one another. From the district's perspective, the close link between heat supply and the electricity market - and the flexibility this creates - is the real game changer.

The Danish system demonstrates the potential of effective sector coupling, especially when surplus electricity can be deliberately made available for heat supply. For the Hessian project partners, this is one of the most important lessons overall: heat networks can only become fit for the future if the electricity and heating systems are planned in a more integrated way and if the framework conditions are geared towards this over the long term.

The point is not to implement every possible solution in full from the outset, but to plan systems in such a way that additional components can be integrated later on. For the municipal utility, this was a particularly strong signal: networks, generation assets and available land must be designed in a way that keeps future additions possible.

For the district, it is important that small and local solutions can also be understood as part of a larger overall system. For the city, in turn, this perspective strengthens the argument that the heating transition needs to be communicated as a long-term transformation process - not as a one-off individual measure.

At the same time, the project partners point out that certain Danish conditions cannot simply be transferred to Hesse. This includes the significantly greater use of waste incineration in Denmark, which is not comparable with the situation in Hesse in this form.

What cannot simply be transferred

As clear as the lessons from Denmark are, the interviews are equally clear in naming the limits of transferability. Hesse operates under different legal, financial and political conditions. The city points to questions of trust and the difficulty of embedding the heat transition socially. The municipal utility highlights the uncertainty of funding and financing conditions and the particular burden on municipal companies that must operate economically while also safeguarding public services. The district makes clear that smaller municipalities often struggle already with time, staff capacity and access to data.

The project partners' criticism is directed less at individuals than at structures. Put diplomatically, it is about the desire for more reliable development paths, greater consideration of local differences, and framework conditions that make municipal and regional actors more capable of acting. On this point too, the three perspectives are remarkably closely aligned.

A shared learning process for Hesse

Precisely because the city, the municipal utility and the district entered the project with different interests, tasks and perspectives, their shared experience is so valuable. The city looked more closely at steering, communication and acceptance. The municipal utility contributed the perspective of feasibility, financing and technical development. The district sharpened the view of regional differences, smaller municipalities and local potential. Over the course of the project, these perspectives were not merged into one, but they were related to one another more effectively. This may be one of the most important outcomes of Plan2Heat.

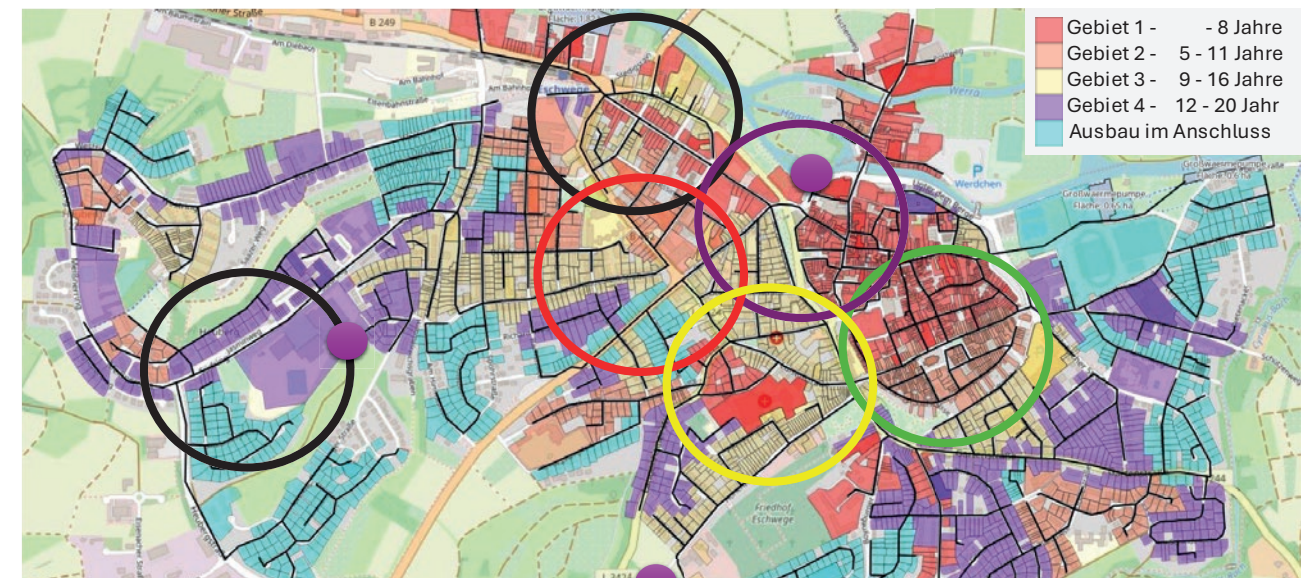
The most important lesson from Denmark for Hesse is therefore not only what is technically possible. What matters is how the heat transition is organized: with clear roles, long-term pathways, local analysis, structured cooperation and the willingness to develop systems step by step. This offers a very practical impulse for Hessian municipalities – and that is exactly why it makes sense to let these three project partners speak together. They show that the heat transition becomes particularly resilient when different institutional perspectives do not remain side by side, but are translated into a shared implementation process.

Cooperation Between a City and a District Heating Company – the Key to Success

From Heat Planning to Implementation. Lessons from Plan2Heat and Danish Practice

When a municipal heat plan is completed, the next difficult phase begins: turning maps, scenarios, and target visions into concrete, investable district heating projects.

AUS DER MAßNAHMENEMPFEHLUNG – ERSTE SCHRITTE



This requires well-established cooperation between the city and the local district heating company often the Stadtwerke or a local cooperative (This article focuses on cooperation between a Stadtwerke and a municipality. The same principles apply to cooperation between a cooperative and a municipality. Cooperatives and Stadtwerke have different purposes. See pp. 31 ff. for details.). Such cooperation is not automatic; it must be designed deliberately, maintained, and adjusted over time including agreement on how to disagree Please feel free to listen to

the podcast "Case Eschwege – be brave, plan well" on page 13.

The Plan2Heat project in Hesse focuses on this transition: moving from a finished heat plan to concrete, investable district heating projects and on the cooperation needed to get there. Using the city of Eschwege as a case, the project shows that strong cooperation between municipality and Stadtwerke is not a soft factor, but a core implementation requirement. Danish practice reinforces this insight:

district heating succeeds where roles, processes, and expectations between city and utility are aligned early.

Aligning goals before aligning actions

The foundation of effective cooperation is a shared understanding of goals and means. Municipalities and Stadtwerke often approach district heating from different perspectives. For the city, it is a strategic instrument to achieve climate targets, secure affordable heat, and support long-term urban development. For the Stadtwerke, it is an infrastructure business that must be economically viable, technically robust, and operable for decades. These perspectives also need to be aligned in the cooperation.

model, not as an add-on. That means continuous, structured dialogue between the city and the Stadtwerke throughout project development.

This includes regular coordination between political leadership, municipal administration, and the utility, plus a clear external division of roles: the municipality explains why district heating is part of the local heat strategy and how it supports long-term CO2 neutrality and local value creation, while the Stadtwerke explains how the system will be developed, financed, and operated (You will find further articles on communication on pp. 14 ff. and 19 ff.).

Plan2Heat highlights joint steering groups as a practical tool to align messages, identify risks early, and coordinate decisions thereby reducing misunderstandings and strengthening acceptance.

Defining a joint process from plan to project

Communication and alignment must translate into delivery. A heat plan sets direction; projects build infrastructure. Plan2Heat therefore recommends agreeing early on a joint project development process to take the network to investment readiness.

What matters most is not terminology, but a shared commitment to move through these phases together and maintain momentum. The municipality should not hand over the heat plan and wait, and the Stadtwerke should not work in isolation and return with a finished proposal. Responsibilities must be coordinated, decisions prepared jointly, and progress kept transparent.

Danish practice illustrates this logic: municipalities approve project proposals based on socio-economic assessment, while district heating companies develop them in

This process typically has three phases:

- a business concept and roadmap defining scope, objectives, and organisation;
- feasibility work testing technical, economic, and legal assumptions;
- and a development phase preparing financing, governance, and tender documentation to reach investment readiness.

close dialogue with the city. Plan2Heat adapts this approach to the German context to bridge the gap between planning and implementation.

Using KPIs to create a shared factual basis

KPIs work best when they support cooperation rather than control. In Plan2Heat, they track not just finances, but also project readiness and implementation progress.

In practice, indicators may include milestone progress, robustness of cost assumptions, commitment from anchor customers, organisational capacity, and contribution to climate targets. Used jointly, they make discussions more fact-based and build trust through transparency not micromanagement.

Being realistic about resources

Finally, cooperation must be matched by capacity. Plan2Heat shows that resources are often underestimated after heat planning. Implementation requires time, expertise, and coordination capacity on both sides -including the ability to handle disagreements.

Municipalities must act as active heat planning authorities, not only approvers. Stadtwerke must have sufficient project development capacity or access to external expertise to manage feasibility and development phases within a clear governance framework.

Create and maintain the cooperation

Strong cooperation between city and Stadtwerke is less about organisational form and more about function. Aligned goals, structured communication, agreed processes, meaningful indicators, and sufficient resources form the backbone of implementation. With these elements in place, municipal heat plans can be translated into real projects.

This is the central lesson from Plan2Heat: turning plans into pipes is a governance task first, and only then a technical one.

Cooperation works best when both sides clarify what district heating should deliver locally, over what time horizon, and within which constraints.

These perspectives are complementary, but not identical. Plan2Heat finds that problems arise when differences are not made explicit and treated as legitimate.

This includes acceptable risk levels, investment priorities, and roll-out pace.

In Denmark, many municipalities formalise this alignment through an owner strategy. It clarifies what the municipality expects as owner, what the Stadtwerke is responsible for delivering, and where decision-making boundaries lie. The purpose is not to restrict the utility, but to provide a stable framework that allows it to operate professionally while serving public objectives.

Cooperation as a structural task

Plan2Heat shows that implementation requires cooperation as part of the delivery

Interview

Case Eschwege – be brave, plan well



Philipp Heinrichs,
Stadt Eschwege



Markus Mengel,
Stadtwerke Eschwege



To the
Interview *

Over coffee, Carolin Giesser from LEA speaks with Philipp Heinrichs from the City of Eschwege and Markus Mengel from Stadtwerke Eschwege about the aspects of Eschwege’s heat planning that often remain behind the scenes: decisions, coordination, competing priorities and the concrete steps towards implementation.

The interview offers a deep dive into practice - and into the question of what other municipalities can learn from Eschwege’s experience.

*Link to Interview: www.kommunale-waermeplanung-hessen.de/vom-plan-zur-umsetzung/

From Planning to Action: Communicating the Heat Transition Successfully

Lessons learned from the Plan2Heat project and the heat transition in Eschwege

Congratulations – the heat plan is completed! You’ve reached a major milestone. But the real work is just beginning. Because once the heating plan is finished, implementation starts. And this is where the biggest challenges lie for heating network operators, municipalities, and other local stakeholders. How can you make the leap from planning to concrete action? Success depends not only on technical planning and financial feasibility, but especially on effective coordination and communication of the project. The challenges vary depending on the supply area and the actors involved. Municipalities, energy providers, and building owners each take on different roles accordingly (see Table 1).

	MUNICIPALITY	ENERGY PROVIDER	BUILDING OWNER
Building new heat networks	- Lead overall coordination - Manage land use - Communicate within the district; activate key stakeholders	- Make investment decisions - Handle sales and connection advice	- Express interest - Where appropriate, approach the energy provider as an anchor customer - Where appropriate, participate financially
Decarbonising existing heat networks	- Manage land use - Provide information within the district on new technologies - Activate key stakeholders	- Engage key stakeholders - Make investment decisions - Inform customers	Ask questions about security of supply and price developments
Heating individual buildings efficiently with renewables	- Coordinate cooperation with tradespeople and energy consultants - Initiate retrofit campaigns - Support neighbourhood initiatives	- Collaborating with the municipality on campaigns and energy consulting - Upgrade the powergrid - Offer contracting models	

This article focuses on the challenges faced by municipalities and energy providers when establishing a new heating network. This is precisely where the Hessian-Danish project Plan2Heat comes in. To successfully launch the heat transition through cooperation among different stakeholders, a communication strategy was collaboratively developed in Eschwege to support the transition. The goal was to strengthen networking among the different stakeholders, identify key themes, develop core messages, and create a communication roadmap that would enable the team to successfully support the heating transformation on the ground. These experiences also offer valuable insights for other heating network operators and municipalities looking to initiate similar transformation processes.

By: Heike Böhrer, Anne Stellberg, Zora Ott, ifok GmbH

Pitfalls on the road to implementation

The project shows that, alongside technical challenges, heating transition is primarily a matter of coordination and communication. The path from planning to implementation does not happen automatically. A range of obstacles and pitfalls may arise:

- **Lack of Communication following the heating plan:** If communication does not continue consistently after municipal heating planning and during the subsequent feasibility studies and transformation planning, rumours and confusion may spread.
- **Complexity of the stakeholder landscape:** Different interests and levels of knowledge can export important stakeholder groups. Without a clear analysis at the outset, there is a risk of misprioritising stakeholders and overestimating vocal critics at the expense of the silent majority – which costs time, money, and energy. At the same time, valuable synergies may be overlooked.
- **Reality shock during implementation:** Resistance often only emerge once the first visible measures are taken, such as price debates, construction sites, or citizens' initiatives. Without early communication from the outset, frustration and delays are likely. Social and political pressure can sometimes lead to replanning and, in the worst case, bring the project to a complete standstill.
- **Lack of communication strategy and resources:** Developing a communication strategy and establishing ongoing coordination and communication channels for all stakeholders requires time and expertise. This necessitates dedicated professional resources, for example in stakeholder management, press relations, and participation communication. Those who try to "save" on communication in the early phases of the heating transition may end up paying a high price later in the form of delays caused by coordination loops, unclear responsibilities, and conflicts in later project phases.

All hands on deck: the right team as the key to success

Close cooperation between the municipality and the energy provider enables to the leveraging of synergies. Establish a steering committee that brings together the key stakeholders. On the municipality's side, this should include representatives from climate protection, urban planning, civil engineering where relevant, and public communication. On the energy provider's side, representatives from the heating sector, who steer technical planning, as well as corporate communications, contribute essential project information.

Decision-makers, such as the mayor and managing director, should also support the process and be strategically involved at the beginning and at key decision points. If an energy cooperative is also active locally, synergies with its projects can be identified and deliberately integrated into the municipality's heating transition strategy.



Clear roles and responsibilities

- Defining responsibilities and approval processes clearly and at an early stage helps avoid friction losses and accelerate later planning.
- Establishing regular communication meetings within the core working group builds trust and encourages knowledge exchange.

Collaborative development of a communication strategy

- Technical planning and implementation by the heating network operator, permitting and coordination by the municipality, and communication with citizens and customers should go hand in hand. A reliable foundation is created through a collaborative, cross-departmental process involving representatives of both the municipality and the heating network operator, moderated by a neutral party. To develop the communication concept, a joint process is recommended, for example in the form of workshops structured around four phases: stakeholders and questions, topics and core messages, communication roadmap and formats, roles and responsibilities.
- Coordinating the analytical formats, agreeing on common messages, and aligning the approach create important consensus early on.

The implementation boosters: strategy, cooperation, and communication

A strategic approach and sound analysis form the foundation for avoiding pitfalls and leveraging opportunities for cooperation in the local heating transition. The following tools are particularly useful:

Stakeholder and issue analysis

- Interviews with key stakeholders and stakeholder profiles can help capture questions, wishes, and concerns in a structured and more in-depth manner. While representatives from the heating division at the municipal utility understand the details and challenges of technical planning, municipal staff, for example, are aware of the timelines for urban infrastructure projects, the necessary approval procedures, and the connections to other climate protection and public communication projects.
- Systematic identification and prioritization of actors – for example municipal administration, municipal utilities, energy cooperatives, citizen groups, and industry – ensures that all relevant stakeholders are considered (see Figure 1). This allows for the development of suitable communication strategies for each group in the next step
- A topic matrix and target-group-specific core messages provide the foundation for tailored and effective communication measures.

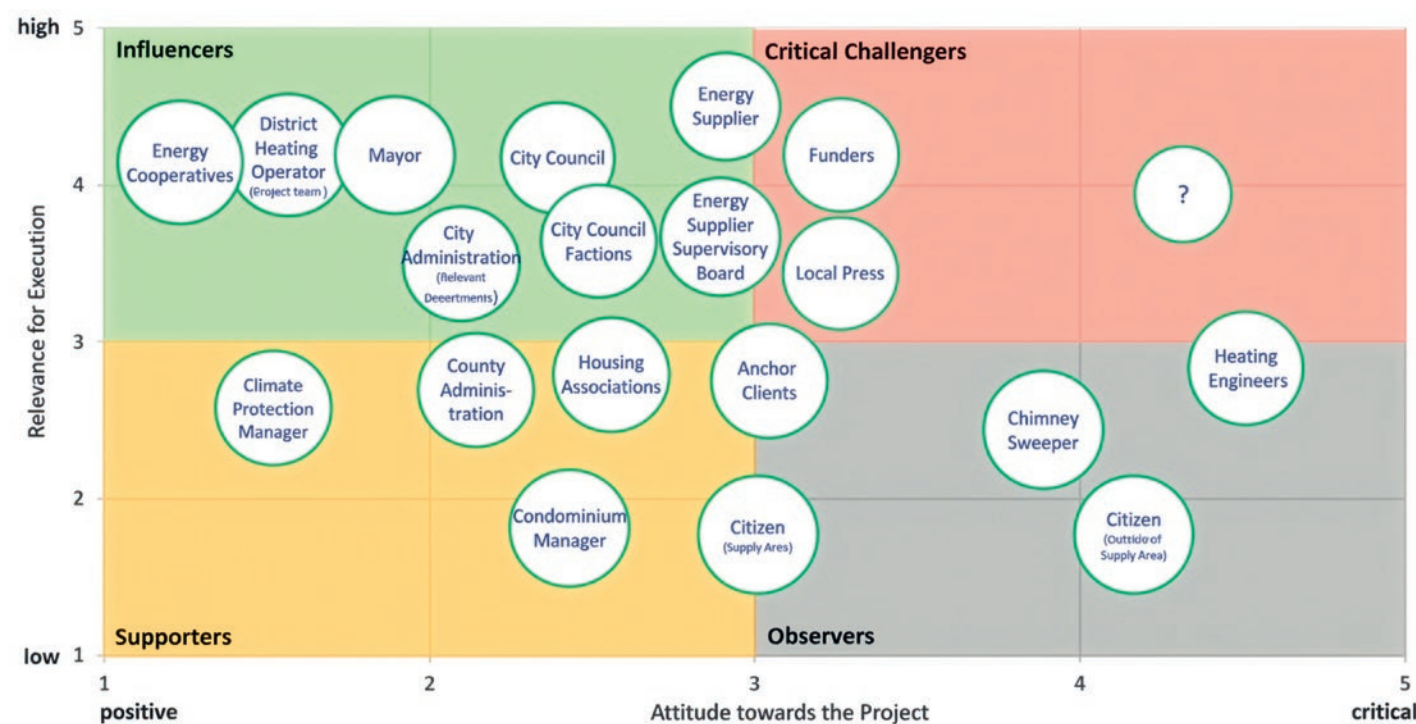


Figure: Example stakeholder analysis for heat transformation

Communication roadmap and formats

- Developing a roadmap with milestones and suitable communication formats – such as information events, press work, social media, and public consultation hours – provides guidance to communication staffs at the heating network operator and the municipality.
- Appropriate communication occasions are identified jointly: project progress, political decisions, external events. Potential disruptive factors, such as municipal political developments, are anticipated.
- A jointly developed and, where necessary, adjusted roadmap also enables the utilization of synergies, such as combining civil engineering work for the heating network with work on the powergrid or water and wastewater infrastructure.
- Jointly developed formats and a unified public presence builds trust. The connection rate of potential customers can be increased, for example, when the municipal utility, municipality, and energy cooperative communicate together at an early stage.

Recommendations for a successful heat transition

- Develop a vision for transformation. You need an authentic, locally tailored transformation narrative for the heating sector that can inspire others.
- Visible support from leading figures makes all the difference. When mayors and utility executives drive the local heating transition process, the chances of success increase significantly.

- Identify all relevant stakeholders in the heat transition project early on and involve them broadly – especially political bodies, the municipality, municipal utilities, energy cooperatives, and others. This reduces project barriers and enhances synergies.
- Ensure clarity and continuity in communication. A roadmap and regular updates build trust and counter uncertainty (“So what is actually going to happen to my heating system?”).
- Avoid a sudden communication “cut-off.” Continue communicating even when, at a given moment, nothing appears to be happening in the heating transformation and decisions have not yet been made. The milestone roadmap helps with this.
- Enable all project members to speak confidently. Develop and maintain coordinated messaging guidelines for all potential questions relating to the heat transformation.
- Take insights from all sides seriously. Important suggestions regarding the transformation process may also come from opponents of the project. Therefore, be aware of their arguments and, if necessary, engage in dialogue. Take questions and constructive criticism seriously.
- Clearly define responsibilities and approval procedures in the process. The approval processes and responsibilities for project progress and its communication must be set out in writing in advance by the municipality and the energy provider. That way, you’ll always be prepared.
- Use varied communication formats for the heating transition: from information evenings to social media, from citizen dialogues to leaflet distribution and classic sales strategies, depending on the target group and occasion.
- Be willing to learn and stay flexible. Communication strategy and language guideline should be understood as “living instruments” and adapted regularly.

Conclusion

The Plan2Heat project in Eschwege demonstrates that a structured, tailored communication strategy is key to successfully implementing the heating transition in municipalities of all sizes.

Professional support in developing the strategy helps to better structure the process and the discussion, provides communication impulses, and identifies solutions. However, as part of the strategy development process, all participants are empowered to become “communicators of their own heating transition.” In doing so, they authentically represent the transformation in their municipality.

Communication as a Foundation for the Heat Transition in Eschwege

Local transparency, cooperation and dialogue in the district heating rollout

Effective communication plays a decisive role in the heat transition, particularly at local level where plans must translate into tangible change for citizens. In the city of Eschwege, communication around the district heating rollout is organised through close cooperation between the municipality and the municipal utility, Stadtwerke Eschwege. This organisational setup has proven to be a strong foundation for coherent and credible communication.

Scarlett Grebestein works primarily in municipal communications for the City of Eschwege and partly for Stadtwerke Eschwege. This dual role allows communication efforts to be closely aligned across institutions that are both central actors in the heat transition. In practice, her work includes preparing press releases, website content and social media posts, as well as supporting public information events where residents can engage directly with experts and city representatives.

Explaining a complex transition

One of the main communication challenges in Eschwege is the inherent complexity of district heating systems. The rollout involves technical infrastructure, long planning horizons and multiple implementation phases, which are not always easy to convey in simple and accessible terms. At the same time, citizens often seek very concrete answers, such as whether their street will be connected or when construction will begin.

This creates a tension between the demand for clarity and the reality that many planning details are still evolving. Managing expectations while maintaining openness and trust therefore forms a core part of the communication task. According to Grebestein, transparency is key: clearly distinguishing between what is already decided and what is still under evaluation helps avoid misunderstandings and builds credibility.

Rather than presenting uncertain information as final, the City of Eschwege strives to explain processes and next steps. Continuous communication – even during periods without major updates – is recognised as important, although it remains an ongoing challenge.

Communication formats that work

Several communication activities have proven particularly effective in Eschwege.

Public information events play an important role, especially in the early stages of the rollout. These events offer residents the opportunity to ask questions directly and voice concerns in dialogue with municipal experts and decision makers.

Local press communication has also shown strong impact, as it allows messages to reach a broad audience through trusted media channels. Social media is used for shorter updates and to direct citizens towards more detailed information on municipal websites.

The combination of different formats and channels helps ensure that communication reaches diverse groups within the local community.

PILLARS

Information Events	Press	Social Media	Homepage	Information Materials	Dialogue
- June 2023: Heat Planning - October 2023: Heat Network Status - November 2025: Citizens' Assembly - September 2026: Information Event Update	- Regional Press (Werra Rundschau and HNA) - Spiegel	- Event Coverage - Survey - Minister Visit - Construction Start Nikolaipplatz - Heat Pump Day - Further Events - Topics on Heat	- Municipal Heat Transition - Eschwege Heat Network - Help Shape Heat - Heat Contracting - FAQs	- Promotional Materials - Flyers - Posters - Digital Info Pillars	- Conversations with Property Owners - Direct Outreach to Potential Customers - Conversations with Trade Associations and Companies - Info Booth in City Center

CROSS-MEDIA – TARGET-GROUP-SPECIFIC – OCCASION-BASED

Learning from the ifok communication workshop within Plan2Heat

Participation in the communication workshop with ifok provided an important strategic reflection space for Eschwege. One of the key takeaways was the importance of close and visible collaboration between the City of Eschwege and Stadtwerke Eschwege – not only in implementation, but also as a central communication message. Presenting the heat transition as a shared effort strengthens trust and clarity for citizens.

The workshop's stakeholder and topic mapping exercises were particularly useful. They helped make different interests and perspectives more visible and encouraged a more strategic approach to audience targeting. Importantly, the exercise revealed potential communication blind spots. Some critical stakeholders have not yet been directly addressed, and more attention needs to be given to residents who may not gain access to district heating immediately, or only at a later stage. (Please refer to the workshop on pp. 14 ff. for details of the procedure)

Advice for other municipalities

Based on Eschwege's experience, Ms. Grebestein emphasises the value of starting communication early and being as transparent as possible – even when not all details are known. Early communication supports understanding and trust and reduces uncertainty later in the process. Clear, accessible language and opportunities for dialogue are essential, as is helping citizens understand what the heat transition will mean for them personally over time.

At the same time, strong internal communication and clear agreements between municipal actors are identified as a fundamental prerequisite for successful external communication. Without internal alignment, it becomes difficult to communicate consistently and convincingly with the public.

Financing District Heating Networks: What Municipalities and Cooperatives Need to Know

The instruments are there – what matters is how they work together

One finding has repeatedly emerged in the Plan2Heat project: the main obstacle to building a district heating network is usually not the lack of financing itself. More often, the challenge lies in combining available grants, equity, and debt financing in a sensible way, determining when the relevant stakeholders should be brought in, and clarifying the role the municipality needs to play in order to make a project viable.

In an interview conducted by Carolin Giesser as part of the project, Klaus Pfalz, advisor at VR Verbundbank eG and now widely recognized beyond the bank as an expert on local heating networks, explained from a practical perspective what really matters when financing local district heating networks – and at which points projects often begin to stall.

Three building blocks of financing

In practice, the financing of cooperatively organized district heating networks in Germany is usually based on three pillars: public funding, members' equity, and bank loans. Under the current framework conditions, this often results in a structure of roughly 40/10/50.

Around 40 percent of the investment costs can be covered through the Federal Funding for Efficient

Heating Networks (BEW), administered by BAFA. About 10 percent generally comes from members' equity, contributed through cooperative shares when households join the cooperative. The remaining 50 percent must be financed through a bank loan. In many cases, this is precisely the central challenge.

Pfalz puts it succinctly: what matters most is always which funding framework the market currently allows and how this can be integrated into the overall financing structure.

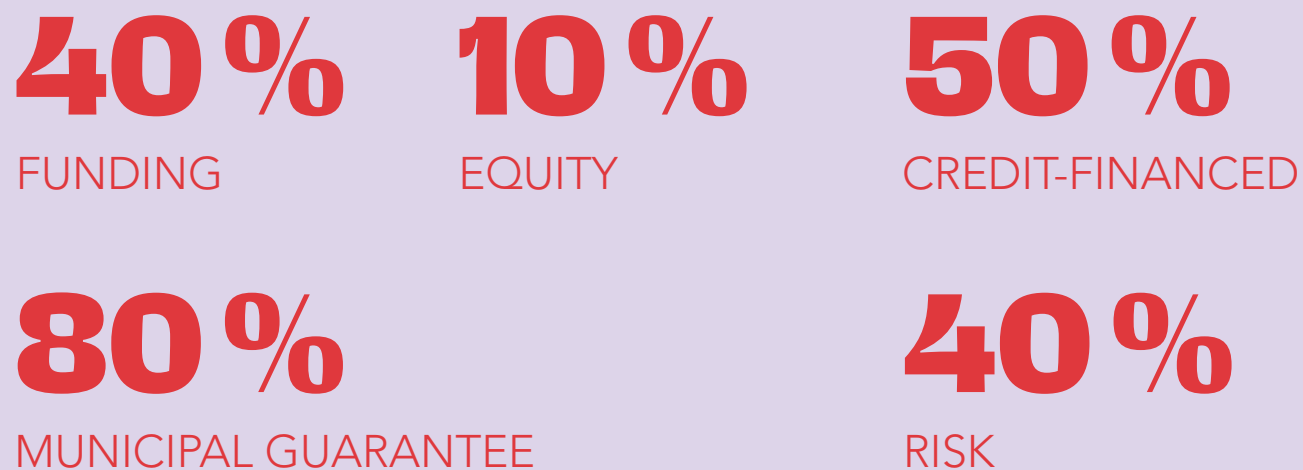
The BEW programme is modular in design. **Module 1** funds feasibility studies at 50 percent, while **Module 2** supports the actual investment at 40 percent. In addition, **Module 4** provides support for operating costs after the network has gone into service, for example electricity costs for heat pumps or heat generation from solar thermal systems.

This funding structure offers a strong foundation, but it also creates a typical dilemma: banks generally only issue a binding loan commitment once the BAFA funding approval has been granted. For cooperatives, this creates a period of uncertainty in which neither financing nor the construction schedule can be fixed with certainty. From Pfalz's point of view, it is therefore advisable to speak with a bank as early as possible – even informally – in order to sound out in advance whether the project appears fundamentally financeable.



How district heating networks can become bankable

For cooperative district heating networks, the question of collateral is of central importance. Banks need security, but many cooperatives do not have sufficient assets to provide this in the traditional way. At present, three possible approaches are emerging to address this problem.



1. The municipal guarantee

An important approach is the municipal guarantee. Pfalz illustrates the scale with a simple calculation: if 40 percent of the project costs are covered by grants and 10 percent by equity, around 50 percent remains to be financed through loans. If the municipality guarantees 80 percent of this share, this corresponds to a risk of 40 percent of the total project costs.

What is crucial here is this: if a guarantee is called in a worst-case scenario, the municipality is not left empty-handed. The concession agreements between the municipality and the cooperative stipulate that, in the event the guarantee is called, the network passes to the municipality. It would then own a functioning heating network. In addition, a municipal guarantee is a contingent liability, which does not immediately appear in the municipal budget as an expenditure item. This means that, at least initially, no direct provision of funds is required. (At least, this is the current understanding based on the experience of VR Verbundbank to date. This

naturally presupposes that the bank waives any other potential security rights.)

A look at Denmark also shows that such models have long been established elsewhere: there, municipal guarantees for cooperatively organized district heating networks are common practice and are rarely questioned.

2. New valuation approaches developed by the DGRV

A second route results from a banking guideline developed jointly by the DGRV, practitioners from the cooperative banking sector, and association auditors. Since spring 2025, this has enabled cooperative banks to value heating networks more strongly on the basis of their earnings potential.

This is important because underground pipe networks were often previously given little or no value as collateral. If an earnings-based value can now be recognized, the share of financing that remains unsecured from the bank's perspective decreases. This significantly improves the conditions for lending.

3. Risk-sharing through KfW

A third approach is still under development: according to the information currently available, KfW is working on a risk-sharing programme specifically for local heating networks. The details are not yet final, but based on the current considerations, a funding institution could in future assume part of the default risk and thereby make financing more attractive for banks.

The real hurdle: local commitment

Even when funding instruments are available and financing appears feasible in principle, projects often fail at another point: a lack of commitment at the local level.

In the interview, Pfalz reports cases where projects failed not because of technology or funding, but because participants dropped out. In one example, around 15–20 percent of households that had already committed to joining withdrew almost simultaneously – bringing down a project that was just about to begin construction.

This is exactly where it becomes clear: interest alone is not enough. A district heating network requires reliable connection commitments from its future users. Without these commitments, neither economic viability nor financing can be secured over the long term. For municipalities and cooperatives, it is therefore crucial to organize local participation early and to maintain it throughout the entire process. Pfalz advises exchanging experience with other cooperatives at an early stage. This allows lessons to be shared, both on how to recruit members and on technical matters.

The role municipalities play

The interview with Klaus Pfalz underlines one central insight from the Plan2Heat project: municipalities are far more than mere planning actors. In many cases, they are the decisive enablers.

Whether through guarantees, their own heat purchase commitments as anchor customers, or active coordination in the early project phase, municipal action often determines whether a project can move from heat planning to implementation.

The instruments for financing are available. The funding framework is also largely in place. What matters now is that municipalities, cooperatives, and other local actors take responsibility at an early stage, structure financing realistically, and move forward together with binding commitments.

Because the success of a district heating network is not decided on the construction site – but long before that.



Showcasing Denmark through Plan2Heat:

production planning and governance are inseparable

Let's start with the conclusion: "Getting the pipes into the ground is the decisive step." At the same time, the Danish experience shows that robust planning reduces the risk of investment and increases the likelihood that strategic plans are realised as concrete projects.

Together with good governance and a systemic approach, these were the key elements that, from my perspective, attracted particular interest within the Plan2Heat collaboration, when Danish experience was viewed through German eyes and used as inspiration.

This article is shaped by my experience from the Plan2Heat project and my dialogue with German partners exploring Danish district heating solutions as inspiration for their own heat transition.

1. System Design: Flexibility and Diversification as Core Resources

Within the Plan2Heat project, one recurring point of interest was the Danish focus on system design rather than individual technologies. In Denmark, the heat transition is approached as a gradual build up of a diversified production portfolio, deliberately designed to avoid dependence on any single heat source or technology.

A key design logic is to minimise "single points of failure" by combining heat sources with different risk profiles. Danish district heating systems integrate sources such as waste heat, biomass, waste to energy, geothermal energy, solar thermal, and electric technologies linked to the power system – or any other available heat source. Each source has distinct characteristics in terms of cost, availability, price exposure, and operational constraints. The difference in characteristics is the source of a robust and cost-efficient system.

What drew particular attention from German partners was not the breadth of technologies as such, but how they are deliberately combined. **The objective is never to include everything, but to assemble a portfolio of complementary assets – typically a stable base source, flexible electric production, peak capacity, and thermal storage.** This system composition improves resilience to fuel price fluctuations, outages, and extreme weather events, constantly supporting lower average heat costs over time.

From this system perspective, flexibility and diversification are closely linked. Together, they allow district heating companies to manage risk, maintain security of supply, and with the aim to deliver stable and affordable heat for consumers.

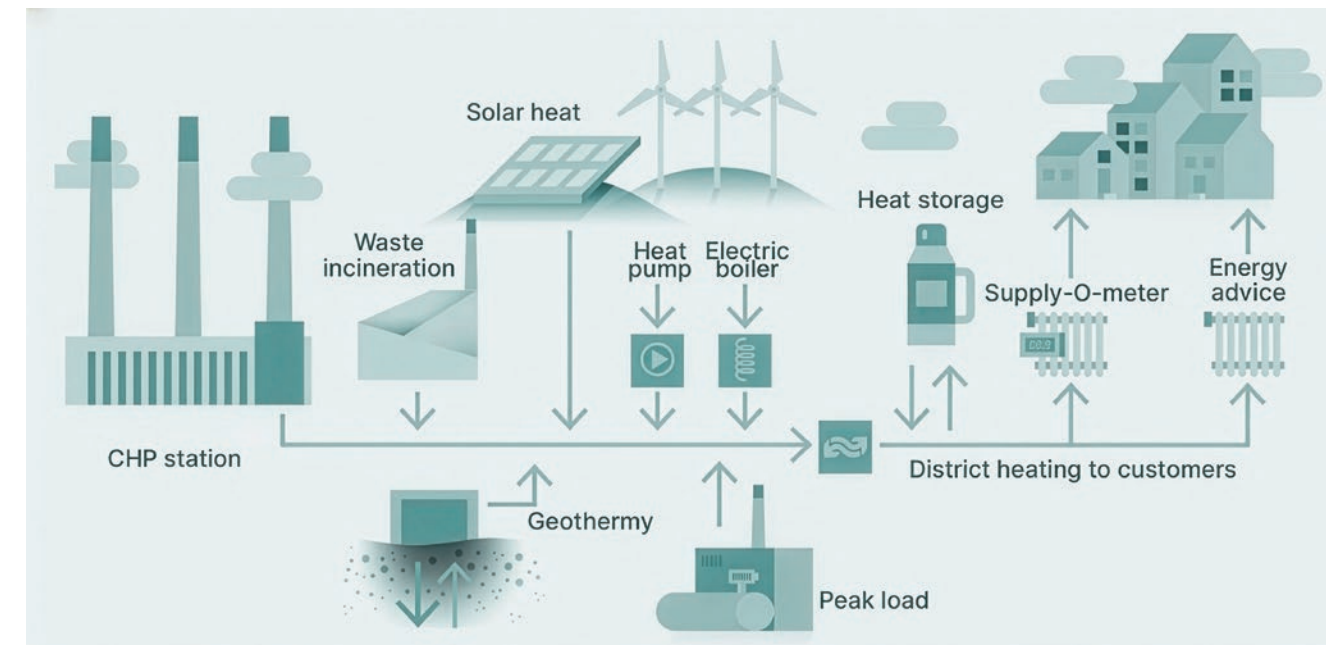


Figure 1. Conceptual overview of a Danish district heating system integrating electrification and multiple heat sources. Flexibility is created through sector coupling and diversified heat production. Source: [HOT|COOL SPECIAL COLLECTION 2/2025](#)

2. Electrification: Using the Electricity Market to Lower Heat Costs

German partners showed strong interest in how Danish district heating companies actively use the electricity market as a tool to reduce heat prices for consumers. One reaction when seeing an e-boiler in operation in Haderslev was "Can I take that home with me?" This interest was closely linked to the organisational structure of the sector: Danish district heating companies are non profit utilities, mandated to deliver reliable heat at the lowest possible cost rather than to maximise commercial returns.

In practice, this means that electrification is used strategically to optimise consumer tariffs. Through participation in the day ahead electricity market, district heating companies plan heat production based on hourly prices for the following day. Heat pumps and electric boilers are scheduled to operate when electricity prices are low – often during periods of high wind or solar

generation when the electricity is very renewable – while thermal storage allows heat to be used later. This shifts production to low cost hours and lowers the average cost of heat supplied to consumers.

Participation in the balancing market further reinforces this consumer focused logic. Fast responding electric boilers can adjust electricity consumption in real time to support power system balance. The sometimes very high economic value created through this flexibility is passed directly on to consumers through reduced heat prices.

For German stakeholders, this demonstrated how Danish district heating companies treat the electricity market not as a speculative opportunity, but as an operational instrument to fulfil their non profit mandate. Electrification and market participation are pursued first and foremost because they help keep district heating affordable for consumers.

3. Thermal Storage: The Enabler of System Flexibility

Thermal storage repeatedly emerged in discussion, as an often underestimated, yet decisive system component. Danish district heating systems rely on storage not as a stand alone technology, but as the link that connects heat production, electrification, and demand over time.

Because heat can be stored cheaply in water tanks or seasonal storage, production can be decoupled in time to follow demand. This enables district heating companies to shift heat production to periods with low electricity prices, reduce the use of peak capacity, and fully exploit variable heat sources such as electric boilers, heat pumps, waste heat, and solar thermal.

From a system perspective, storage is what turns flexibility from a theoretical concept into an operational reality. Without

storage, electrified assets remain largely tied to immediate heat demand. With storage, they become schedulable system components that can be optimised against electricity markets, grid conditions, and portfolio strategy – directly supporting lower and more stable heat prices for consumers.

All participants were surprised by the size of the storage. During the project, we studied storage units with a capacity of up to 5 m³ per household. This is a storage capacity that could never be built into a housing unit. Here, the storage capacity is only 0.2 m³, so it cannot deliver the capacity needed to take advantage of the electricity markets. Not to mention the technical constraints that also make it impossible.

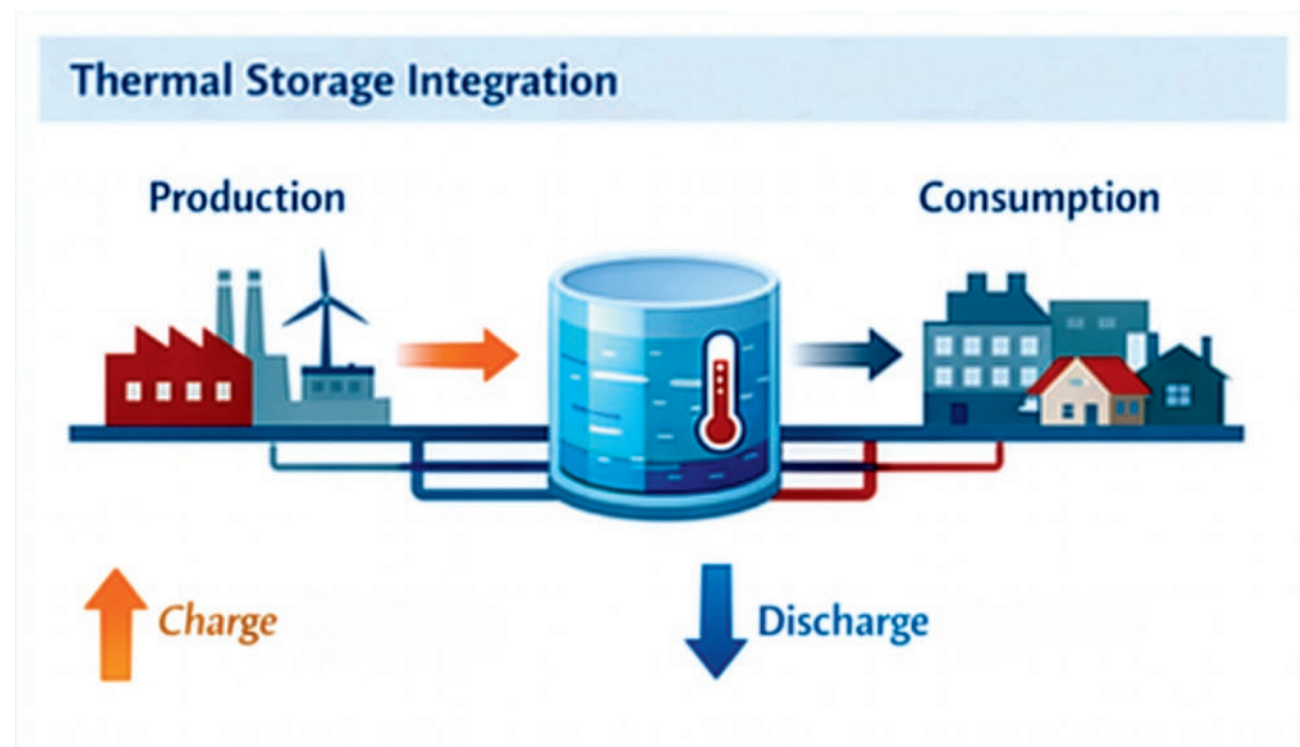


Figure 2. Thermal energy storage as a buffer between heat production and consumption, enabling price optimisation, capacity relief, and integration of variable energy sources.

4. Production Planning and Governance: Optimising the Portfolio over Time

What attracted interest from German partners was how Danish district heating companies optimise across the entire system. Production planning simultaneously considers heat demand, technical constraints, electricity and fuel prices, storage levels, emission considerations, and security of supply strategies. The objective is not to maximise output from individual units, but to minimise total system costs over time – directly supporting stable and affordable heat prices for consumers. This may sound very complicated, but it is done every day many places in Denmark.

Crucially, this technical optimisation is enabled by governance and planning frameworks that support long term system thinking. Danish district heating investments have long lifetimes, requiring planning horizons that extend beyond short project cycles. Planning frameworks also encourage integration across sectors – heat, electricity, waste, industry, and urban development – rather than siloed decision making.

In practice, heat planning in Denmark goes beyond mapping existing infrastructure. It focuses on implementation readiness: prioritising areas for district heating, defining technology pathways, sequencing investments, managing risk, and establishing clear roles between municipalities, utilities, and other actors.

From a Plan2Heat perspective, the key lesson is that production planning and governance are inseparable. High quality system operation depends on planning frameworks that allow technologies to be combined, optimised, and adapted over time – ensuring that flexibility and portfolio thinking translate into real economic value for consumers.

Conclusion: Transferable Design Principles from a Plan2Heat Perspective

Viewed through the Plan2Heat collaboration, the Danish district heating experience does not point to a single technical solution, but to a set of design principles that are consistently applied across different local contexts. **Electrification, diversified heat sources, storage, and advanced production planning are not stand alone measures, but interdependent elements within a system designed to remain robust over time.**

Two additional themes reinforce this logic. First, temperature strategies and network efficiency illustrate how systems can evolve gradually, enabling new heat sources and higher efficiency without disruptive change. Second, the Danish approach to implementation sequencing highlights the value of preserving options: systems are developed step by step, avoiding lock in and allowing investments to adapt as data, markets, and political conditions evolve.

First, temperature strategies and network efficiency illustrate how systems can evolve gradually, enabling new heat sources and higher efficiency without disruptive change.

Second, the Danish approach to implementation sequencing highlights the value of preserving options: systems are developed step by step, avoiding lock-in and allowing investments to adapt as data, markets, and political conditions evolve.

Across all these elements, a common principle emerges: technical choices are guided by portfolio thinking, long term planning, and governance frameworks that make optimisation possible. However, Danish experience also underlines a very practical priority that resonated strongly in the Plan2Heat discussions:

“From a Danish perspective, getting the pipes into the ground is the decisive step.”

Once the network is in place, technologies, heat sources, and operating strategies can evolve over time. The physical infrastructure creates the option space that allows systems to adapt to changing prices,

new heat sources, regulatory shifts, and local decisions – while keeping consumer costs at the centre.

For Plan2Heat partners, the key lesson is therefore not that “technical modernity” lies in the newest individual technologies, but in committing to network build out combined with systems that can grow and change. In this sense, the Danish experience is less a blueprint to copy, and more a reminder that affordable, adaptable, and resilient heat transition starts with the pipes – and continues with smart system design. While not everything can – or should – be directly transferred, the Danish experience can serve as inspiration to be adapted thoughtfully to the local context back home in Eschwege.

Networking for Heat Cooperatives: Perspectives, Opportunities, and Pathways to Finance

In Denmark, around 85% of district heating networks are operated by cooperatives. Today, 308 cooperatives are responsible for district heating operations across the country (source: energiezukunft.eu, 2025). This raises an important question for Germany: how will the ownership structures of heat cooperatives evolve, and how can they be put into practice? As this development unfolds, a key issue will be who ultimately owns the heating networks – the cooperatives themselves, municipal utilities, or private energy suppliers – and how ownership may be distributed in the future. Germany has yet to undergo this structural transition.

To explore these questions, the kick-off event “WärmeNetz – Networking Energy and Heat Cooperatives” was held in

Eschwege on 5 November 2025. The event was organised by LEA LandesEnergieAgentur Hessen GmbH and the Danish Board of District Heating, in cooperation with the City of Eschwege, the Werra-Meißner District, and Stadtwerke Eschwege. Its aim was to establish a broader network of cooperatives in the heating sector. At the same time, it sought to create a framework for regular exchange between heat and energy cooperatives and municipal representatives in northern Hesse, thereby strengthening cooperation between citizen-led or energy cooperatives and local authorities.

The event brought together a range of perspectives on how cooperatives in the heating sector can be financed and

implemented. Philine von Zimmermann of B.&S.U. Beratungs- und Service-Gesellschaft Umwelt mbH gave a detailed presentation on the [European Energy Communities Facility](#), an EU support scheme that offers lump-sum grants. The programme is designed to support the development of energy communities and help translate viable business plans into practice across Europe.

In addition, Klaus Pfalz of VR Verbundbank eG outlined the [Federal Funding for Efficient Heating Networks \(BEW\)](#) and highlighted financing options available through regional banks such as the Volksbanken Raiffeisenbanken. Jens Sturm from DKB Deutsche Kreditbank also explained how cooperative heating projects can raise capital through crowdinvesting, using the digital platform [DKB-Crowd](#).

Tobias Hübner from the municipality of Einhausen summarised one of the event’s key takeaways:

“What I took away is that heat planning and heating networks are a very great advantage and also a major benefit for every municipality, and that together as a community, a great deal can be achieved...”

A practical best-practice example was provided by the citizen-led energy cooperative Energiedorf Oberhone e.G., presented by Nils Campen (a detailed article on Energiedorf Oberhone can be found on pp. 34 ff.). The cooperative has 122 members and a financing structure made up of approximately 10% member equity, 50% bank loans, and 40% public funding through BAFA. Among the challenges it faced were raising start-up capital and financing feasibility and concept studies. Equally important, however, is access to professional exchange with

people who already have project experience, as well as sound technical and economic assessments of energy concepts by experts.

Michael Kauer, Head of the Climate Protection Team in the district of Marburg-Biedenkopf, captured this point clearly: “For me, exchange is the most important thing. Learning from one another and not sticking to a method that was decided on 10 years ago, but instead being open to transformation, to new ideas, and above all to being open to different technologies.”

Another example discussed at the event was Energie Homberg (Ohm) GmbH, a partnership model between the City of Homberg (Ohm) and EGV – Energiegenossenschaft Vogelsberg e.G.. Alysa Christ, Climate Protection Manager and Deputy Head of the Building Department, highlighted the advantages of this company structure. Frank Jungheim, Climate Protection Manager in Melsungen, added: “We should establish cooperatives in order to keep value creation in the region, among local people [...] and among citizens. And that is also what the LandesEnergieAgentur provides to us with such great support.”

The Energiestadt Lichtenau, which is pursuing a future-oriented energy strategy across its 15 villages, was presented by Mayor Ute Dülfer and is also regarded as a lighthouse project in the energy and heat transition.

The Danish perspective added another valuable dimension to the discussion. Peter Skovsgaard from Haderslev Fjernvarme presented the example of the district heating cooperative in Haderslev. The cooperative is run by 18 employees and operates a district heating network with 138 kilometres of main pipelines and 131 kilometres of secondary pipelines.

Finally, Anna Papke of the Foundation for Environmental Energy Law addressed the legal framework for electricity marketing by cooperatives and for citizen energy projects in Germany.

Ownership Is the Tool. Purpose Is the Strategy.

Co-op or Municipal? The Wrong Debate (and the One That Matters)

Stop Arguing About Ownership. Start Agreeing on Purpose.

Municipalities are asked to plan and enable the heat transition – often through a Stadtwerke. Cooperatives grow from local initiative and a desire for independence. When these two logics meet, misunderstandings are likely unless the relationship is designed from the start.

Conclusion upfront: both a cooperative and a municipal Stadtwerke can succeed locally; most other options will not.

Eschwege illustrates this: a cooperative drives a project in a village while the municipality focuses on the larger towns (Read more about the Energiedorf Oberhone on pp. 34 ff.).

Municipal Ownership Speeds Things Up – But It's Never Neutral

A district heating company integrated into the municipal structure has obvious advantages: **access to public land, planning authority, anchor customers, and easier financing.** For early projects, this can determine whether you move forward.

Yet municipal integration also brings challenges. The company should operate as a fully independent entity, even if municipally owned. In practice, political cycles, administrative routines, and informal influence can shape priorities, blurring the line between owner, regulator, and operator.

Municipal ownership reduces some barriers – but it can quietly introduce others.

Co-ops Feel Independent – Until the Municipality Says Different

A cooperative starts from a different place. Independence is in its DNA: it is not part of the municipal administration and does not report directly to political leadership. That autonomy is often seen as a key strength.

But no heat cooperative operates in isolation. It depends on permits and planning, access to roads and public land, municipal guarantees, and often municipal buildings as anchor customers – plus informal political influence. Even the most independent cooperative is shaped by municipal decisions.

This creates a paradox: independent by design, dependent in practice. If that dependency is denied, frustration builds on both sides.

Early-Phase Reality: You Can't Do This Without the Municipality

One uncomfortable insight tends to be overlooked: early on, the municipality must be very close to the district heating company, regardless of whether it is a cooperative or municipally owned.

Early projects are fragile: credibility is limited, uncertainty is high, and routines are still forming. This is when political and administrative commitment matters most to move from concept to construction.



What Denmark Shows: Governance Beats Ownership

From a Danish perspective, the focus on ownership form often seems overstated. Denmark has long combined municipally owned utilities and consumer cooperatives – sometimes in the same region – because clear roles and governance allow different models to coexist.

What tends to matter more than ownership is whether responsibilities, risks, and decision-making authority are clearly defined – supported by stable regulation.

This closeness can feel uncomfortable – especially for cooperatives – but insisting on full independence from day one can leave the company without the capacity to build.

Independence Is a Stage – Not a Starting Point

Closeness, however, should not become permanent.

As the district heating company matures – once infrastructure is in place, revenues are stable, and governance routines are established – the relationship must change. The company must step out of the municipal shadow and operate independently, with its own leadership.

For a cooperative, this means professionalising governance and shifting focus from mobilisation to long-term operation. For a municipal company, it means enforcing genuine arm's-length governance – and resisting the temptation to manage the utility as an internal department.

Independence is not a starting condition. It follows successful early collaboration.

The Real Test Is Years down the line: Integration, Expansion, Coordination

The most challenging questions usually arise not at the start, but years down the line. Heat systems are long lived infrastructures. Networks must expand, heat sources will change, and eventually neighboring systems begin to interact. Suddenly, cooperatives and municipal utilities may need to coordinate production, share assets, trade heat, and align technical standards.

These situations are manageable – but only if they are anticipated. If future coordination is ignored in early design, independence can harden into rigidity, making later cooperation politically, economically, and technically difficult.

Denmark's lesson: shared purpose unlocks coordination. In Denmark, that purpose is always the lowest possible heat price.

In that sense, the real risk is not choosing the “wrong” organisational structure today. The real risk is building organizational structures that cannot work together or even integrate tomorrow.

A Better Question: What Must Be True for This to Work?

So, what should guide the decision if ownership alone is not the answer?

The decisive questions are practical, not ideological:

- Can the municipality commit strongly enough in the early phase to get the first project realised?
- Can the district heating company professionalise quickly enough to operate independently later?
- Are roles clear enough that the municipality can plan and facilitate without becoming the daily operator?
- Is the relationship robust enough to handle future coordination, shared assets, or system integration?

If these questions are addressed honestly, both cooperatives and municipal companies can succeed. If they are avoided, both models will struggle – just in different ways.

Ownership is a means, not an end. What matters is why the company exists: to deliver affordable heat over decades, enable local decarbonisation, and coordinate infrastructure no single actor can manage alone. When purpose is explicit, ownership can be designed to serve it. When it is vague, no structure – cooperative or municipal – can compensate.

The real conflict, then, is not cooperative versus municipality. It is between clarity of purpose and confusion about roles.

Get the purpose right, and plans turn into pipes – Plan2Heat – regardless of who owns them.

The Heat Question on Our Own Doorstep – A Cooperative Path to a Local Solution

Energiedorf Oberhone is an example of many places in Germany where the heat transition is becoming very tangible – not as an abstract climate goal, but as a practical task on the ground.

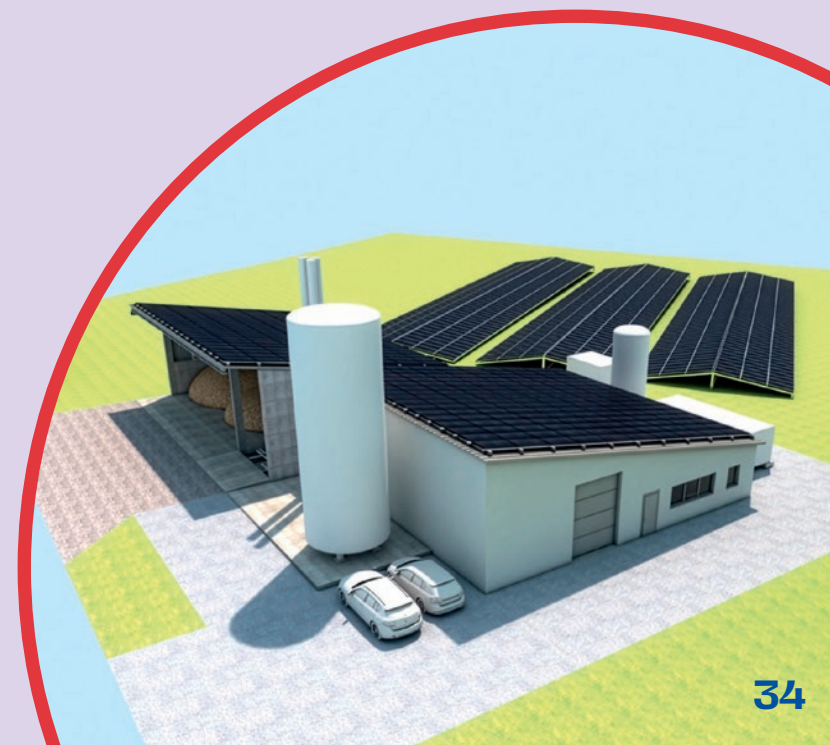
The interview was conducted at the exact location where the future heating plant in Oberhone is to be built. In the conversation, Sascha Dilling, Chair of the Board of Energiedorf Oberhone, speaks openly about the challenges, experiences and insights associated with building a cooperatively organized heating network. His reflections show what other initiatives can learn from such a process – and what really matters in practice. They also show that this is possible – and that it should be done.

Perhaps the most important insight from the conversation is this: a successful local heat transition does not depend on technical solutions alone, but above all on people who take responsibility, stay committed and are willing to learn from one another.

The idea of a shared heat supply for Oberhone goes back several years. Even then, a small group of five residents of Oberhone began thinking about no longer producing heat separately in each individual house but instead creating a central heating system for several buildings. Initial planning began as part of the City of Eschwege's neighborhood refurbishment program. When municipal heat planning later showed that Oberhone could not be connected to the planned heating network in the town center, this early idea took on a new dimension: an independent solution now

had to be developed for the entire village. It is precisely at this point that it becomes clear whether an initial idea can turn into a realistic project: heat supply must be planned locally, calculated on a sound economic basis and organized collectively.

An important impulse came from the exchange within the Plan2Heat project and from the Danish experience. What stood out in particular was how much more firmly local and district heating are embedded in society there. In Denmark, this form of heat supply is widely regarded as state of the art, whereas in many parts of Germany considerable persuasion is still needed. For Oberhone, it was therefore especially valuable to shift the focus beyond technical and economic questions to ecological ones as well. Issues such as improved air quality, a higher quality of life and positive regional value creation effects came much more strongly into view. This perspective, he noted, had not initially been at the forefront of the project.



At the same time, it becomes clear that while Denmark is motivating, its example can only be transferred to Germany to a limited extent. Here, implementation is slowed down by bureaucracy, funding logic, permitting procedures and regulatory requirements – matters that are commonplace in Denmark. What is taken for granted elsewhere often has to be laboriously developed, applied for and documented individually in Germany. For smaller initiatives and cooperatives in particular, this is a considerable burden.

There is one point on which the assessment is especially clear: the main challenge is not the technology, but the economic viability of the overall project. Technical solutions for renewable heat do exist. The real challenge is to develop a model that remains affordable for local people – today, tomorrow and for the decades to come. A cooperative cannot simply choose the most technically ambitious solution if that drives the heat price so high that the project is no longer economically viable for connected households. This is one of the key lessons from Oberhone: successful district heating networks require not only sound technical and spatial planning, but above all a viable and long-term economic foundation.

When asked about mistakes, the answer is deliberately cautious. So far, he says, it is more appropriate to speak of challenges than of mistakes – challenges that have to be solved. What matters, therefore, is not whether problems arise, but whether ways are found to deal with them. This aptly describes the approach taken in Oberhone: pragmatic, solution-oriented and not overly dramatic. At the same time, it is also a clear warning not to underestimate the complexity of such projects. Behind a heating network lie not only pipes and heating plants, but also funding management, tax issues, liquidity planning, permitting law, civil engineering, expert assessments, communication and political coordination.

One of the most important messages to other cooperatives is therefore unmistakable: it cannot be done without expertise. A large-scale, long-term project like this requires people with specialist knowledge, or at least people with the ability and the time to work their way deeply into these new fields. Many of these aspects have to be thought through and managed in parallel. The experience in Oberhone shows very clearly that if a project is pursued only “on the side” and exclusively after work, it becomes extremely difficult to achieve the goal. It requires committed people who take responsibility, can assess decisions properly and are able to critically question offers and expert opinions.

Local anchoring is equally important. For the cooperative, such a project depends on people in the village knowing who is behind it. Trust is not created by good concepts alone, but by familiar faces, direct conversations and credible communication. At the same time, Oberhone’s experience shows that social projects do not automatically create harmony. A cooperative heating network also generates resistance, questions and conflicts. Anyone initiating change locally must be able to deal with the fact that not everyone will be convinced immediately. This is precisely why communication is not a side issue, but a central component of the project work. “This is a point that should neither be underestimated nor dismissed,” says Sascha.

The role of the municipality is also highly important for the success of such projects. If a project can contribute to improved air quality,

security of supply and climate protection, close and visible municipal involvement is important in order to provide orientation and build local acceptance. For volunteer-run cooperatives in particular, municipal support is also highly relevant in very practical matters – for example with applications, with the provision or clarification of compensatory land, or in connection with guarantees. The experience in Oberhone makes it clear that such issues should be addressed early and clarified jointly.

An equally important aspect is the exchange with other cooperatives and initiatives. Oberhone describes this exchange as an important building block in the learning process. Those who connect with other projects gain not only technical or organizational knowledge, but also realistic assessments of the effort involved, the processes and the typical stumbling blocks. This means that experience does not have to be gathered from scratch every time. Especially for initiatives that are still at the beginning, this transfer of knowledge can be decisive in reaching sound decisions more quickly.

Despite all the hurdles, the interview also makes clear what, in his view, sustains the project: a strong intrinsic motivation. For those involved, it is not only about infrastructure, but also about taking responsibility for their own village. Of course, the prospect of long-term stable, affordable and climate-neutral heat also plays an important role. But equally important is the desire to build something meaningful together. Even under all this pressure, he puts it very clearly: “I enjoy it!”

The outlook remains deliberately realistic. From the perspective of the cooperative, success does not initially mean achieving the perfect end state, but ensuring that the project works economically and technically as planned: with reliable supply, stable prices and a sufficient number of connections. At the same time, time is on the project’s side. As financing is gradually repaid, assets are built up that contribute to long-term price stability and enable new investments. Precisely because the heating network is organized as a cooperative, responsibility for shaping its future remains in the hands of local people. In this way, heat supply in Oberhone becomes not only a solution for the present, but also an investment in the future of the village.

The experience in Oberhone therefore shows very clearly that cooperative heating networks are not a self-running process. They are, however, a realistic path forward when economic realism, technical competence, local rootedness and mutual learning come together.



The Danish Perspective:



Peter Skovsgaard,
Haderslev Fjernvarme



Patrizia Renoth,
Holbæk Kommune

How Heat Planning, Local Ownership and Communication Reinforce Each Other

Insights from a consumer-owned district heating cooperative and a Danish municipality

In the Danish heat transition, **the interaction between municipal heat planning, district heating companies and citizen-facing communication** is widely regarded as a decisive success factor. Over several decades, Denmark has built practical experience in managing complex decision-making processes in close dialogue with local communities – often in contexts where technical solutions, economic considerations and political priorities must be balanced over long timelines.

Within the Plan2Heat project, two Danish experts contributed complementary insights from two key positions in this interaction: Peter, drawing on his background in a consumer-owned (cooperative) district heating company, and Patrizia, a heat planner in Holbæk Municipality. Together, their perspectives represent both the supply-side reality of implementation and the strategic municipal framework, offering a nuanced picture of how ownership, planning and communication connect in the Danish approach to heat transition processes.

District heating rooted in local ownership

In the Danish district heating landscape, consumer-owned cooperatives play a distinctive role. Here, customers are also

owners – an arrangement that fundamentally shapes both decision-making and communication. From Peter's perspective, this means transparency and ongoing dialogue are not optional add-ons; they are prerequisites for legitimacy.

Communication in a cooperative district heating company is therefore not only about informing, but also about explaining priorities, investments and long-term strategies in a way that enables owners to understand and engage. Experience from Danish practice shows that when citizens understand the overall objectives – such as security of supply, stable prices and climate benefits – there is greater acceptance of both temporary disruption and long-term investment needs.

This close relationship between the company and local residents also provides a strong basis for cooperation with the municipality, where strategic heat planning and concrete solutions must be aligned.

Municipal heat planning as a framework for dialogue

From a municipal perspective, Patrizia emphasises that the municipality's role is not to provide technical answers to every question, but to create a clear and credible framework for the process. In Denmark, municipalities are responsible for strategic heat planning, which places them as central and trusted senders in dialogue with citizens.

In Holbæk Municipality, heat planning is treated as a stepwise process where residents are kept informed about direction and options even before all details are final. According to Patrizia, it is crucial to communicate uncertainty openly – not as a weakness, but as a natural feature of planning. When citizens understand why some decisions take time, what criteria are being applied, and what the next steps are, trust in the process increases.

Communication therefore addresses both the collective perspective – why the transition is necessary for the municipality as a whole – and the individual perspective, including what the transition may mean for different neighbourhoods, what choices citizens may face, and the expected time horizons.

Shared features of the Danish approach

Although Peter and Patrizia represent different institutional levels, their experiences converge on several core Danish principles.

First, clear roles and responsibilities matter: municipalities set the direction and framework through heat planning, while district heating companies contribute concrete knowledge about feasible solutions, costs, investments and operational realities. This division of roles also helps manage expectations, as it makes clear that a strategic plan does not in itself constitute a delivery commitment, but rather defines the conditions under which implementation can later take place.

Second, early and continuous communication is essential. Rather than waiting for fully final decisions, Danish actors often communicate key messages repeatedly over time, explain process steps, and create opportunities for dialogue throughout. According

to Peter and Patrizia, this approach helps reduce uncertainty, prevents unrealistic expectations and makes complex planning processes more manageable and credible for residents.

Third, Danish practice underlines that communication cannot stand alone. Credible external communication depends on strong internal coordination and shared understanding among municipalities, utilities and other actors. Internal alignment on goals, roles and next steps is a prerequisite for speaking clearly with one voice externally. When this internal foundation is solid, external messages become more consistent, clearer and more trustworthy, which in turn strengthens public confidence in the overall process.

Relevance beyond Denmark: transferable principles for local adaptation

In Plan2Heat, the experiences shared by Peter and Patrizia reflect their view that the Danish approach is not uniquely Danish. Their collaboration with Eschwege has highlighted that the core principles – aligning planning, ownership and communication – are broadly applicable and can work effectively outside Denmark when adapted to local conditions.

Peter and Patrizia therefore emphasise that the heat transition should be understood as a universal change process rather than a country-specific solution. While technologies and regulatory frameworks may differ, the need for trust, clarity and sustained dialogue remains constant. It is precisely this combination of structured planning and strong stakeholder engagement that makes these experiences relevant for municipalities across Europe working to accelerate their local heat transitions.

Heat plan for the City of Eschwege

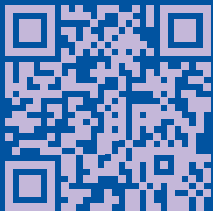


Link to the heat plan

www.eschwege.de/stadt/wirtschaft-und-stadtentwicklung/stadtentwicklung/Waerme.php



Webinar – Successfully establishing district heating networks



Link to the recording
youtu.be/PmDLFAvclpE



Legal notice

Exclusion of election advertising

This publication is issued as part of the public relations work of LEA LandesEnergieAgentur Hessen GmbH. It may not be used by parties, election candidates or election workers during an election campaign for the purpose of election advertising. In particular, the distribution at election campaign events, at party information stands and the insertion, printing or affixing of party political information or advertising material is improper. It is also prohibited to pass these on to third parties for the purpose of election advertising. Even without reference to an upcoming election, the publication may not be used in a way that could be interpreted as partisanship on the part of the state government in favour of individual political groups. The aforementioned restrictions apply regardless of when, by what means and in what quantity the publication was received by the recipient. However, the parties are permitted to use the publication to inform their own members.

Published by

LEA LandesEnergieAgentur Hessen GmbH
Mainzer Straße 118 · 65189 Wiesbaden
Phone number: +49 611 / 950 17-84 00
Email: lea@lea-hessen.de
www.lea-hessen.de

Danish Board of District Heating
Stæhr Johansens Vej 38 · DK-2000 Frederiksberg
Phone number: +45 8893 9150
Email: info@dbdh.dk
www.dbdh.org

Contact

LEA LandesEnergieAgentur Hessen GmbH
Energy Concepts and Municipal Heat Planning
Email: waermeplanung@lea-hessen.de

Morten Jordt Duedahl
Business Development Manager, DBDH
Email: md@dbdh.dk

Charlotte Schøn Mejlshede
Project Manager, DBDH
Email: cm@dbdh.dk

Carolin Giesser
Project Manager Energy Concepts and
Municipal Heat Planning, LEA Hessen
Email: Carolin.giesser@lea-hessen.de
Phone number: +49 611 95017-8259

Cigdem Yalcin
Project Manager Energy Concepts and
Municipal Heat Planning, LEA Hessen
Email: Cigdem.yalcin@lea-hessen.de
Phone number: +49 611 95017-8615

Image credits

Page 01 (Heiko Kniese), Page 04 (C.H. Greim), Pages 06 & 23 (Charlotte Mejlshede), Page 10 (Stadtwerke Eschwege), Page 15 (Carolin Giesser), Page 20 (Schellenberger), Page 21 (Charlotte Mejlshede), Pages 24 & 32 (Heike Böhler), Pages 34 & 36 (Energiedorf Oberhohne) Copyright

Design

LEA Hessen / Céline Bärz

Stand: 06/2026

Plan 2Heat
Plan 2Heat
Plan 2Heat
Plan 2Heat
Plan 2Heat
Plan 2Heat
Plan 2Heat
Plan 2Heat
Plan 2Heat

In Cooperation:



DBDH

