



Win-win-win lessons from operational cases across Europe



Hanne Kortegaard Støchkel,
Researcher and Project Development Manager, DBDH

Webinar#8 in the INTREPIDH webinar series, 15 September 2026

"Create a Better World where
People, Companies, and
Cities Benefit from
Sustainable District Energy"

About DBDH

Danish Board of District Heating

What is DBDH

Danish NGO connecting the Danish district heating and cooling sector with international experts and decision makers. [We are a catalyst.](#)

Sharing knowledge and supporting development since 1978.

Collaboration partners

Energy agencies, DH utilities, municipalities, universities, national associations, technical consultants, solution providers, TSO/DSO, and think tanks.

Activities

- R&D projects (inspire/develop/participate/lead)
- Sparring programs
- Workshops, seminar, and webinars
- Study tours to Denmark
- Joint export promotions abroad
- Publish the Hot|Cool Magazine (sign up for free)
- Co-organiser of the International DH summit (Oct 28-29)



Researcher 2000-2007

Fundamental research in semiconductor materials for energy production and transmission.

Danish DH Association & Think-tank 2017-2021

- carbon-neutral DH by 2030 in Denmark
- Integrating DH with other sectors: datacentres, industrial surplus heat, electricity system, and hydrogen-production
- System integration of large heat pumps and e-boilers
- Security of supply and resilience through diversity

*Everything comes back to
collaboration
&
integration across sectors*

Energinet (the Danish TSO) 2007-2017

- Design of first ENTSO-E 10-year plan (TYNDP) and development of methodology and analyses.
- Lead on innovation of first-ever offshore wind + Interconnector solution (Kriegers Flak in the Baltic Sea)
- Methods and analyses: long-term planning of electricity grid, wind integration, security of supply, business cases for large infrastructure investments

DBDH 2021-

- How DH infrastructure benefits society and other sectors
- Economic, environmental, and social sustainability
- Establishing new DH systems from scratch
- Heat planning and Strategic Energy Planning
- Modernising existing DH systems



READ THIS

PROCESS INDUSTRY & DISTRICT HEATING

A new type of collaboration across sectors can make
the green transition in Europe more affordable



- Understanding its huge potential for Europe
- Challenges and recommendations
- Learning from best practices: 12 case studies across Europe lead the way

... to find
information
about ...

Benefits and synergies

Concerns and how to mitigate them

Temperature levels matter

Recommendations for DH, PI, and authorities

For each of the 12 cases

The case story and collaboration

Business case and agreements

Technical description



WHAT IS PROCESS HEAT BASED ON DISTRICT HEATING?

Process heat is energy needed to drive the industrial processes. See the figure to understand how process heat based on district heating differs from surplus heat.

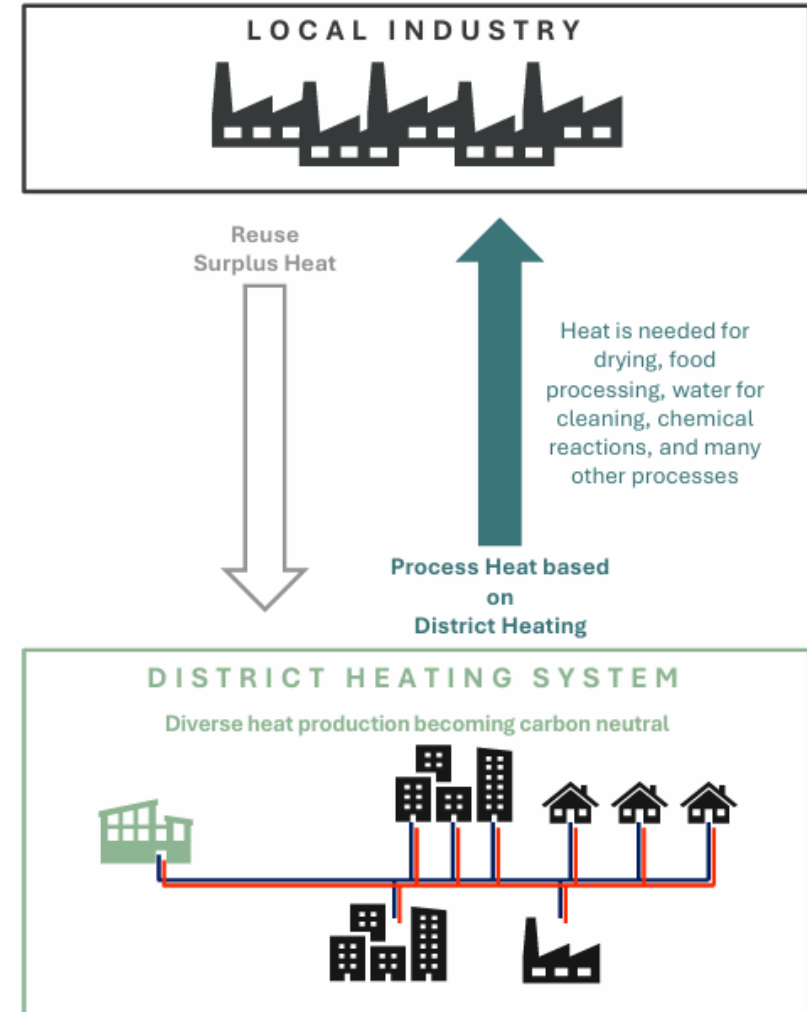
What is Process Heat?

Process heat is often confused with surplus heat, also called excess or waste heat.

Surplus heat is residual heat from industrial processes that can be reused in, for example, a district heating (DH) system. **Process heat is energy needed to drive industrial processes.**

Today, it is often based on natural gas, and perhaps in the future, based on a mix of power, local DH, biogas, and certified biomass.

Everybody mixes this up!



PROCESS INDUSTRY & DISTRICT HEATING ARE MADE FOR EACH OTHER

Approximately half of the energy demand in the European industry is used for process heating and most of it is supplied by fossil fuels, mainly natural gas.

A wide range of temperatures are required in the industrial processes. Some sectors are well-suited for supplying surplus heat and other sectors are well-suited for receiving process heat.

District heating is the infrastructure that can connect different types of industry and supply residential areas and other buildings with space heating.

“Depending on estimations, district heating and cooling could supply between 32% and 48% of Europe’s heat demand by 2050.”

(Source: Euroheat & Power¹)

Using district heating as a heat source for the energy demand in industrial processes might be more suitable than you think.

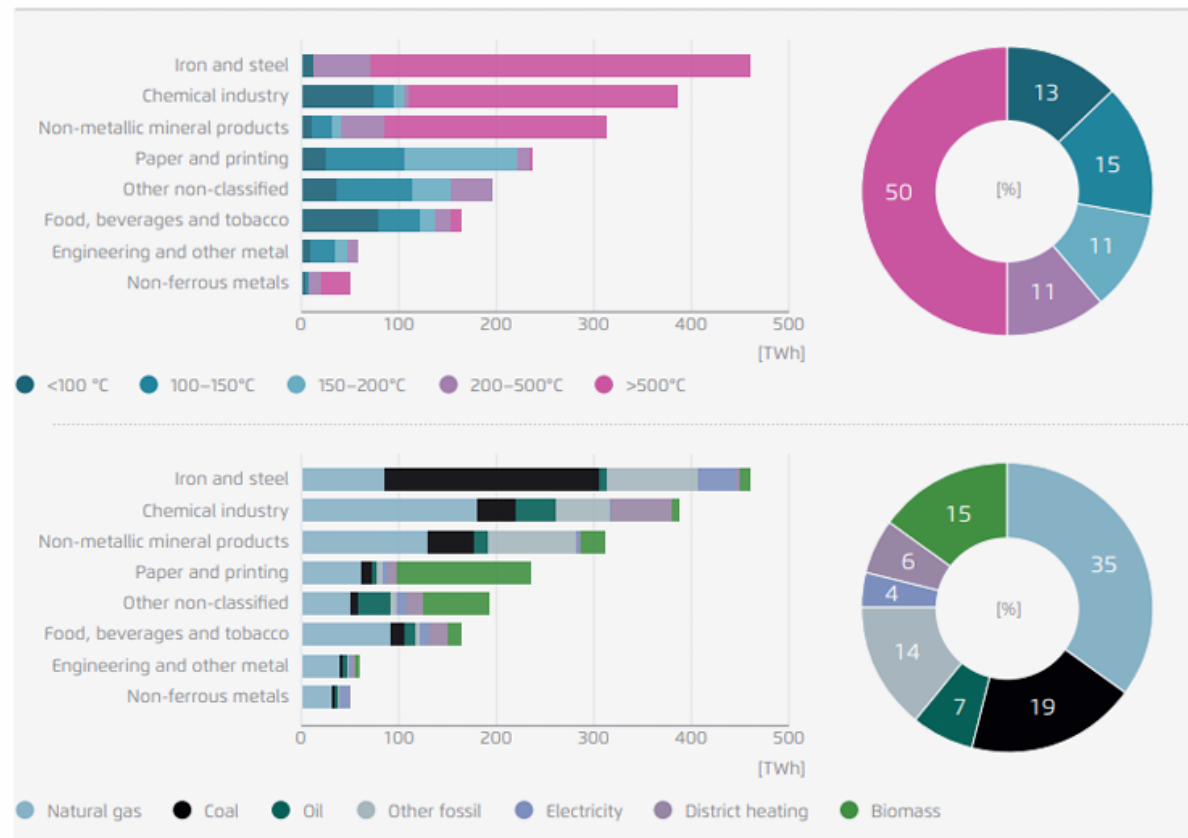
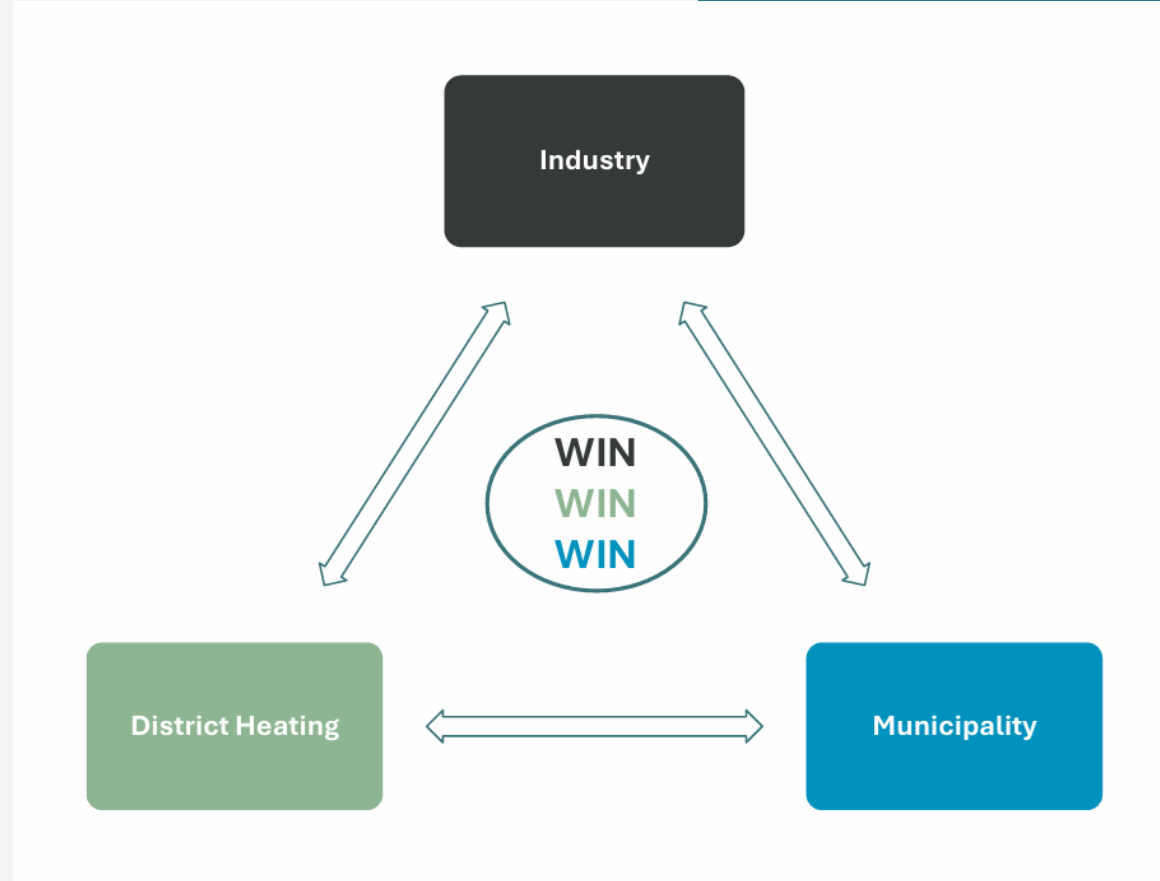


Figure 1. Source: Agora Industry²

1 | Source: Euroheat & Power: [Link](#)

2 | Source: Agora Industry: [Link](#)

SECTORS FIXING EACH OTHER'S PROBLEMS



NORWAY

1. High-temperature heat pump uses district heating to produce steam

DENMARK

2. Fifteen years of smooth daily operation
3. Meat producer helps to bring district heating to three villages
4. District heating utility reaches out to local industries
5. Partnership exchanges both waste and process heat

GERMANY

6. Heat infrastructure connects steel to beer
7. Transitioning steam production for the adjacent industry

FRANCE



8. Strasbourg port supplies industry with recovered heat
9. Seasonal seed drying with district heating in Pierrelatte
10. Farmea's pharma production site balances Angers' summer heat load
11. Industrial heat that revolutionised urban heating in Grenoble

CROATIA

12. District heating delivers 260°C steam to brewery in the heart of Zagreb



*Really interesting things are
happening in France*

12 CASES SHOWING THE WAY

IT IS POSSIBLE

CURIOSITY EVOLVED INTO INNOVATION

IT MAKES SENSE

FIFTEEN YEARS OF SMOOTH DAILY OPERATION

The collaboration between Thisted District Heating and Dragsbaek Malting Plant demonstrates how process heat based on district heating can be realised with relatively modest investments and mutual flexibility. Trust and collaboration have grown between the utility and the plant over the years, since they took the first steps more than 15 years ago.

Case Story

The collaboration between Thisted District Heating and Dragsbaek Malting plant is an example of how local industry and district heating can be integrated to benefit both the climate and the economy. Dragsbaek Malting Plant, with roots dating back to 1865, has used a variety of energy sources over the years—from lignite to gas engines. Today, district heating covers a significant portion of the plant's process heat needs.

The collaboration began in the late 2000s, when a service pipe from the existing district



heating network was extended to the plant. Initially, only one process line for drying was connected to district heating, but within a few years, the entire plant was connected.

On average, district heating accounts for approximately one-third of the annual heat demand for malt production. However, the actual amount varies depending on the heat production price, ranging from no heat supply to half the demand over the years.

Collaboration

The project is driven by a trusting and flexible partnership between the two parties. There are no binding obligations—both parties must 'want it' on the day, and the collaboration is continuously adjusted based on technical and economic conditions. Communication primarily occurs at the operational level, with daily coordination on volumes and timing.

There is a formal contract between the two parties. It is about two pages long and focuses on ownership of equipment, responsibility with respect to operation, and the terms for heat delivery.

The collaboration has evolved over time, with both parties investing in necessary adjustments. Dragsbaek has upgraded internal heat exchangers and radiators for the drying process to ensure an efficient use of district heating.



Name of industry site	Dragsbaek Malting Plant (part of Sophus Fuglsang Export-Maltfabrik)
Name of district heating Site	Thisted District Heating
Type of industry	Food & beverages (malt production)
Project status	Operational
In operation since	2010
CO ₂ reduction	1/3 reduction in natural gas consumption

"We started small with what made sense. From there, things have evolved gradually because we have learned and adapted. The next step involves examining the value of increasing our heat storage capacity for greater flexibility. We are proud of our local solution, where even the straws from the nearby barley fields are reused for heat production, which helps dry our malt."

(Claes Fuglsang, Dragsbaek Malting Plant)



In turn, the district heating utility has increased the supply temperature in the relevant part of town to meet more of the plant's needs without reducing the overall efficiency of the DH system.

Business Case

The collaboration between Thisted district heating and Dragsbaek Malting Plant is economically attractive for both parties. For the utility, it generates value from capacity that would otherwise go unused in the summer. For the malting plant, it reduces the need for gas and wood pellets, which makes the process both cheaper and more climate-friendly.

The agreement is flexible and based on the actual heat production price of each heat production unit. As Thisted has a Waste-to-Energy plant that runs year-round to incinerate residual waste and produce electricity, the heat available to the malting plant is usually cheapest in the summer, when heat demand from the city is low.

There are no minimum commitments, and the collaboration is continuously adjusted in response to fuel prices and tax regulations. Both during the initial business case analysis and following later changes in regulation, understanding legal requirements and CO₂ regulations has been a recurring challenge.



Pictures: Dragsbaek Malting Plant

Technical Description

The plant was located close to the existing DH grid, so only a service pipe connection of approximately 60–70 meters was needed. The heat exchanger is owned by Dragsbaek and can transfer up to 6 MW heat.

The drying process is a daily cycle with a gradual increase in the needed temperature. Starting at 60 °C at 9 o'clock and completing at

85 °C, so daily coordination determines when district heating is supplied and when the malting plant's own biomass and/or gas boiler takes over. As the temperature increases, the heat exchange becomes less efficient. To protect the efficiency of the district heating system, the return temperature must be kept below 50 °C, which determines when the plant switches to its own boilers.

Keep it simple

Work with what you got

Respect each other

1

Case Norway: Tine Ålesund & Tafjord Kraftvarme & Olvondo Technology

HIGH-TEMPERATURE HEAT PUMP USES DISTRICT HEATING TO PRODUCE STEAM

There are three partners in this case from Norway. The utility supplies district heating to a dairy directly, but also to the owner of a high-temperature heat pump that produces steam for the dairy. The setup has been in operation since 2018.

Case Story

The production of milk (35 million litres/year), desserts, and other dairy products is highly automated in the Tine Ålesund in Norway. Some of the production processes require steam, and how the steam

is produced does not affect the production processes. The dairy used to make all its steam (12,6 GWh in 2017) primarily from natural gas, but since 2018, part of the steam has been supplied by a high-temperature heat pump that uses hot water from the district heating system as the heat source.

Tine has installed an electric boiler, and two additional high-temperature heat pumps are on the way, and when they are in operation in 2026, the consumption of natural gas will have been reduced by two-thirds.

Collaboration

Tafjord Kraftvarme supplies district heating to homes and other buildings in the area, but they do not supply steam. Tine needs steam but would like to focus on the dairy processes and not on the energy supply. Olvondo develops and manufactures high-temperature heat pumps, and they saw a chance to bridge the gap by using their heat pump in combination with district heating to produce steam.

Actually, the first dialogue between Tafjord Kraftvarme and Tine goes back many years, when they investigated the potential to use surplus heat from Tine in the DH system. Today, focus is on the ambitious climate goals and how to reduce the use of natural gas.

Name of industry site	Tine Ålesund
Name of district heating Site	Tafjord Kraftvarme
Steam production partner	Olvondo (high-temperature heatpump)
Type of industry	Food & beverages (dairy)
Project status	Operation & planned
In operation by	2018 & 2026
CO ₂ reduction	In 2026, a 2/3 reduction in NG consumption



"We are fortunate to have a district heating system nearby. Not all Norwegian industry is that lucky!"
(Tine Ålesund)



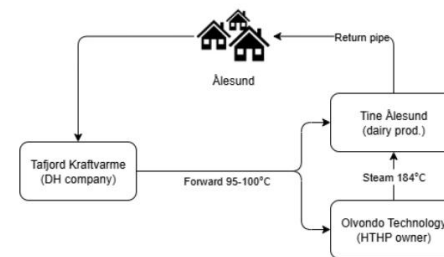
Business Case

The set-up is sustainable, both economically and otherwise. All three parties benefit from the solution, where Olvondo Technology owns the heat pump. Olvondo Technology had the incentive to demonstrate their heat pump product, whereas Tafjord Kraftvarme and Tine Ålesund had little incentive to own and operate a technology still under development.

The benefits for Tine come in the form of money, reduced risks, and meeting climate goals. They save money by buying heat from the utility and steam from Olvondo Technology. For Tafjord Kraftvarme, the set-up means they sell more heat, but also that the heat demand is higher during the summer period, where there is an excess of heat from the Waste-to-Energy plant. The project of 2018 was supported by national R&D funds because of the new technology, but the project scheduled for 2026 will be implemented without subsidies.

Technical Description

The pasteurisation process requires 76-97°C, which is supplied directly from the district heating system, whereas the sterilisation process requires steam at 143 °C. The high-temperature heat pump installed in 2018 was of the type SPP 4-106 HighLift and delivers steam at 10 bar and 184 °C.



Pictures: Case companies

Do what you are good at

Steam or high temperatures do not exclude DH as part of the solutions

Keep your eyes open for opportunities



THANK YOU!

Looking forward to good dialogue



Hanne Kortegaard Støchkel, Researcher & Project Development Manager
hks@dbdh.org, www.dbdh.org Please connect on [LinkedIn](#)

PROCESS INDUSTRY & DISTRICT HEATING

A new type of collaboration across sectors can make the green transition in Europe more affordable



- Understanding its huge potential for Europe
- Challenges and recommendations
- Learning from best practices: 12 case studies across Europe lead the way



Articles ♦ Heat Planning ♦ Heat Sources ♦ Process Heat

DISTRICT HEATING BRINGS VALUE TO THE PROCESS INDUSTRY

May 8, 2026

Pioneers have done it because it just made sense, industrial companies are starting to notice potential solutions, and doors are beginning to open when district heating companies knock on industrial ...

<https://dbdh.org/district-heating-brings-value-to-the-process-industry/>

Better Decisions, Faster Transition

A new approach is emerging in which district heating (DH) and the process industry (PI) can both benefit from closer collaboration. To make this a reality, both sides need to make investment decisions. This is the story of the analyses and methodology behind those investment decisions.

By Mathias Terp Munck and Ole Andreassen Kofoed, Artelia A/S, and Hanne Kortegaard Støckel, DBDH

INTREPIDH Materials

WEBINAR SERIES: INDUSTRIAL PROCESS HEAT AND DISTRICT HEATING

03.12.2025 10.00 CET	1. Highlights from the best practice catalogue We explain what process heat based on district heating is, examine its potential in Europe, and explore the stories behind some of the cases in the catalogue. Read more	Presentations • Intro • Conance • Arle
13.01.2026 10.00 CET	2. The technology behind process heat based on district heating In this webinar, we zoom in on the technical concerns and aspects of suitable temperatures, combinations with high-temperature heat pumps, and grid connections. Read more	Presentations • Intro • SDEWES Centre • InterHeat • NIRAS
27.01.2026 14.00 CET	3. What the history of district heating tells us about industry and infrastructure Why has society invested in district heating in the past? What is the impact of having a city-wide infrastructure for heat? Join us as we learn from the past and look toward a future with tight integration between industry and district heating. Read more	Presentations • Fjernvarme Pys • BtT TVE-Sys
18.03.2026 10.00 CET	4. Municipalities as the catalyst that brings industry and DH together In this webinar, we explore the role of municipalities. They already play an essential role in heat planning and business development, so can they take that a step further and combine the two through strategic energy planning?	Presentations • Rosstock Municipal Heat Planning • Vienna Heating Plan 2040 • Process heat in Vienna
01.04.2026 11.00 CET	5. Success story: How Renault trucks used district heating to turn off its gas boilers This webinar will feature presentations from Dalkia and Renault Trucks, two key stakeholders involved in an industrial heat decarbonization project through connection to the district heating network.	Presentations • Webinar #5
21.05.2026 09.00 CET	6. Quantify the benefits with techno-economic analyses It is possible to model and quantify the economic and environmental impact of different technical solutions. Guests from the RAPIDH project explain how modelling supports investment decisions in both industry and DH companies, and how to get far even when the available data is limited.	Presentations • Webinar #6: About RAPIDH • About model-based analyses – EMD • Practical examples – Artelia
19.06.2026 10.00 CET WATCH THE RECORDING HERE	7. DH utilities reaching out It is the DH infrastructure that can provide local businesses with both space heating and the reuse of surplus heat, and the supply of process heat. Learn from experience and get recommendations for how utilities can succeed in reaching out to nearby industrial companies.	Presentations • Webinar #7: Intro, DBDH • DH infrastructure in Strasbourg Port – R-CLIA • DH reaching out to the process industry – TVIS • Collaboration between industry and DH plans – NIRAS
15.09.2026 11.00 CET	8. Affordable transition of industry and heating We take stock and invite stakeholders to discuss the next steps needed in Germany, France, Denmark, and the rest of Europe.	SIGN UP HERE

Funded by




Industrial Process Heat Supplied By District Heating

Recommendations for a more affordable energy transition

2026 - English version



https://dbdh.org/wp-content/uploads/2026/09/dena_UEW-Abschlussbericht_en_20_cr.pdf

In next Hot|Cool edition
– in collaboration with the RAPIDH project

We welcome all collaboration to advance this topic

THE INTREPIDH PROJECT PARTNERS



THE PROJECT IS FUNDED BY



Danish Energy Agency