



# EU Policy Context on DHC and its Impact on Industry

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# The Heating & Cooling Network

## Who we are:



International association for sustainable district heating and cooling



Voice and forum of the sector



Research & Innovation platform (DHC+) involved in 17 active European projects



150+ members from more than 30 countries  
National DHC associations, utilities, manufacturers,  
equipment suppliers, start-ups, universities,  
research institutes and consultancies



**DHC+**

# The Research & Innovation Platform

The DHC+ Platform is Euroheat & Power's European hub for research & innovation in district heating and cooling. It gathers 60+ stakeholders from academia, research, business and industry committed to move to a sustainable energy system.



Access to EU finance and network



Accelerating research & business scale-up




Knowledge transfer in the sector



R&I advocacy and communication



# Heating and cooling decarbonisation is needed to be on track for 2040

  
Reduce GHG emissions by 90% in 2040, compared to 1990 levels

What are the sectors with highest untapped CO2 abatement potential?



Buildings

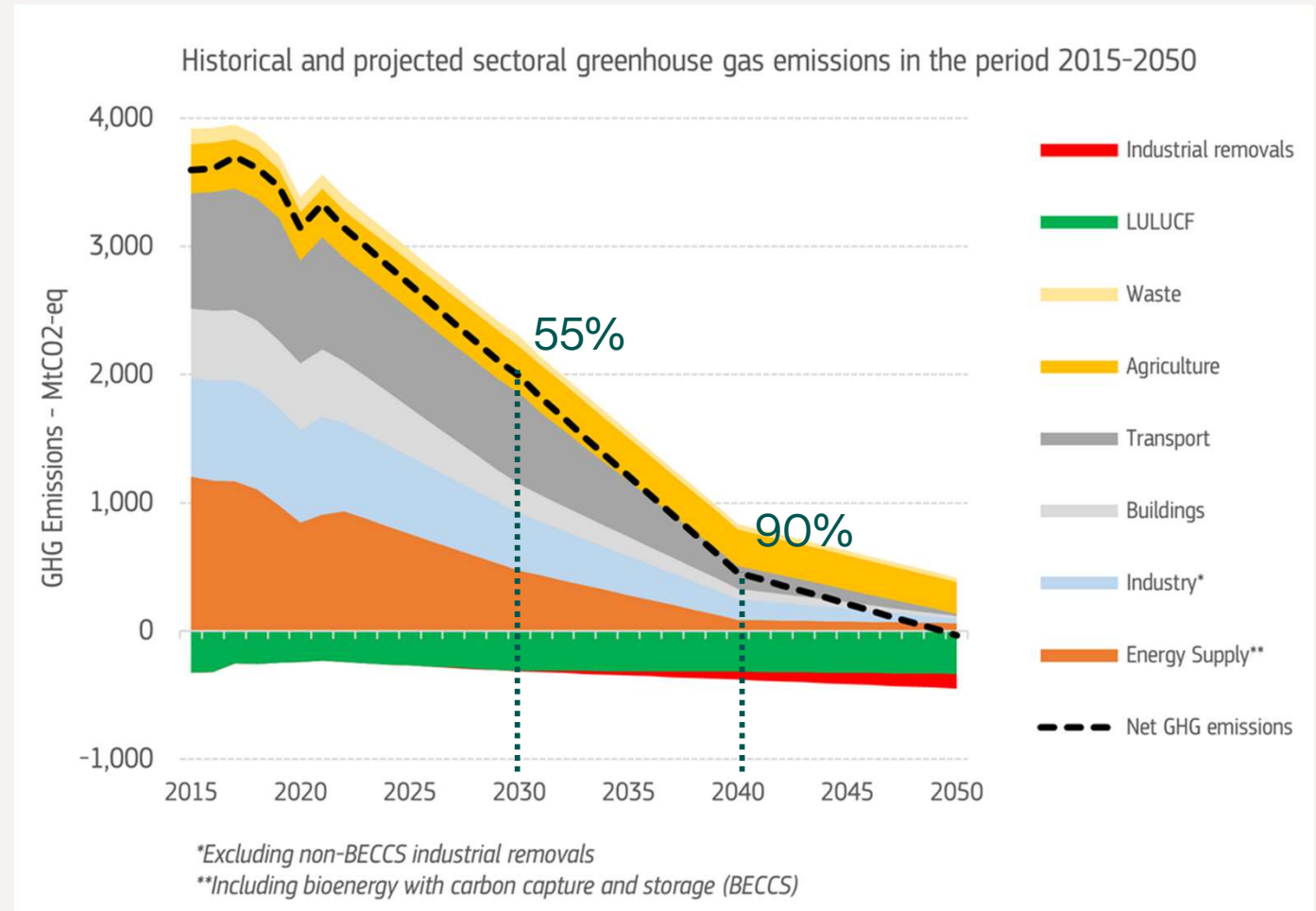
- 42% EU energy demand
- 35% energy-related GHG emissions
- 80% energy demand for heating & cooling
- 75% coming from fossil fuels



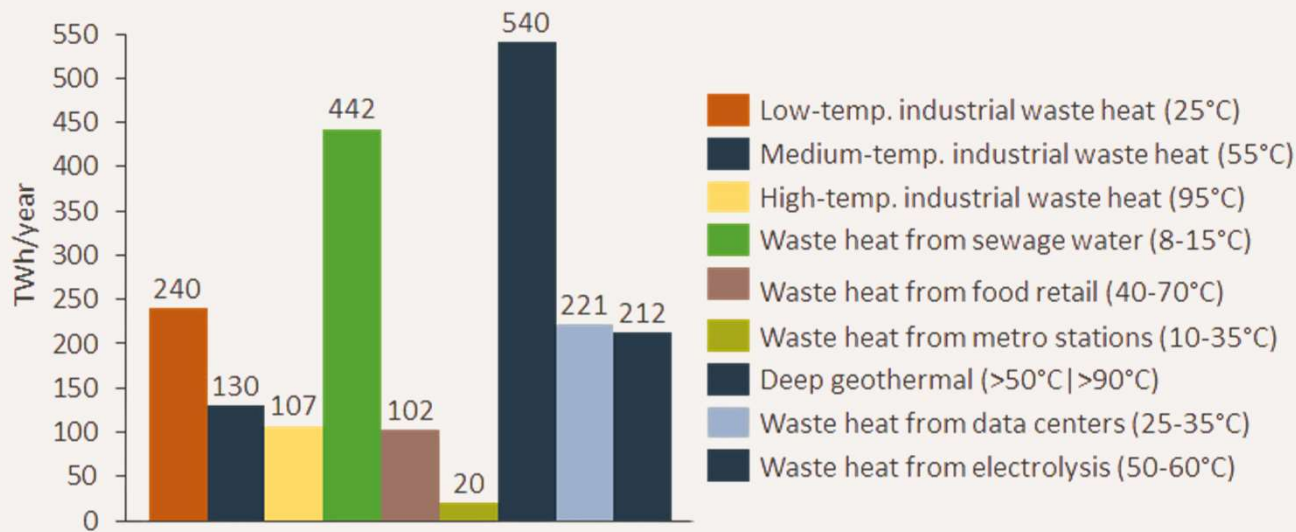
Industry

- 25,6% EU energy demand
- 60% energy demand for heating & cooling

And the decarbonisation curve in the next years in pretty steep



# Let's not waste abundant RES and climate-neutral heat sources !



Potentials for new heat sources 2050 - source: Aalborg university

More than 2000Twh/ year of renewable and climate-neutral heat sources are available in Europe.

This is more than the EU's total forecasted heat demand by 2050 (1850 TWh/y) !

Diversification

Circularity

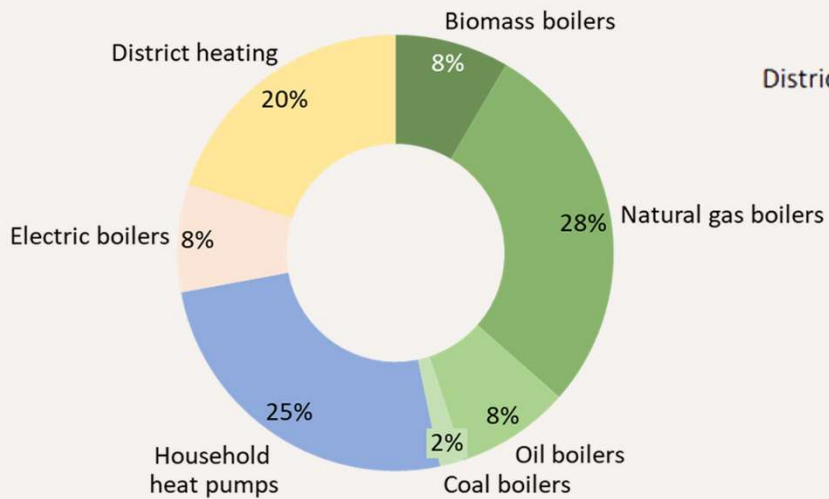
Peak shaving

Just transition

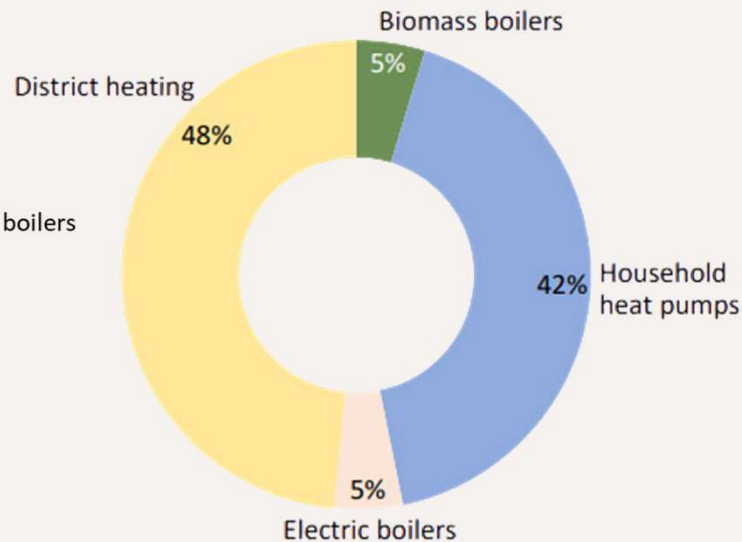
# We need a paradigm shift to support clean heating and cooling

## The European Heat Market

2030



2050



## What is means for the DHC sector

- To be on track, we should aim at a market share of 20% in 2030 (v. 13% today) and heat-demand reductions of 10%
- 3500 new DHC networks by 2030: investments estimated to 144bn€
- Renovation and expansion of 190.000 km of DHC pipes (upgrade + new connections)

Source: Heat matters: the missing link in REPowerEU, Aalborg University 2023

# What now?



# The Fit for 55 is a solid foundation to tap into the potential of clean heat in Europe

- Increased general renewable and
- sectorial targets

By 2030, all new buildings should be Zero Emission Buildings and by 2050 all buildings

New definition of efficient DHC with clear pathway to net zero, no new fossil fuel capacity from 2030

"Carbon tax" on all fossil fuels used in buildings (ETS2)

Improved permitting procedures for RES and HP

Mandatory local heating & cooling planning for municipalities > 45.000 citizens

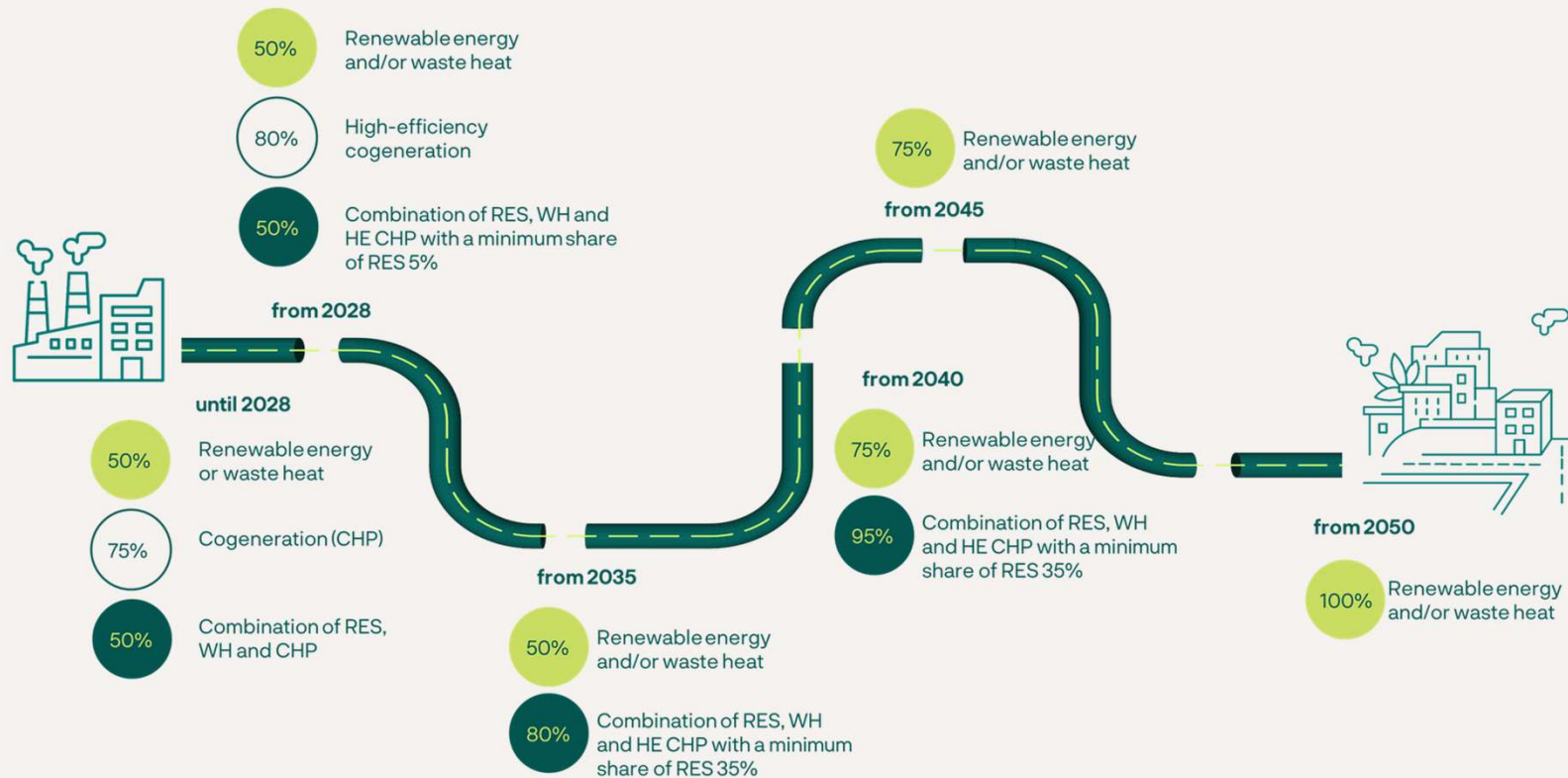
Phase-out subsidies for standalone fossil-fuel boilers in buildings by 2025  
Phase-out of fossil fuels in heating and cooling with a view to a complete phase-out of fossil fuel boilers by 2040

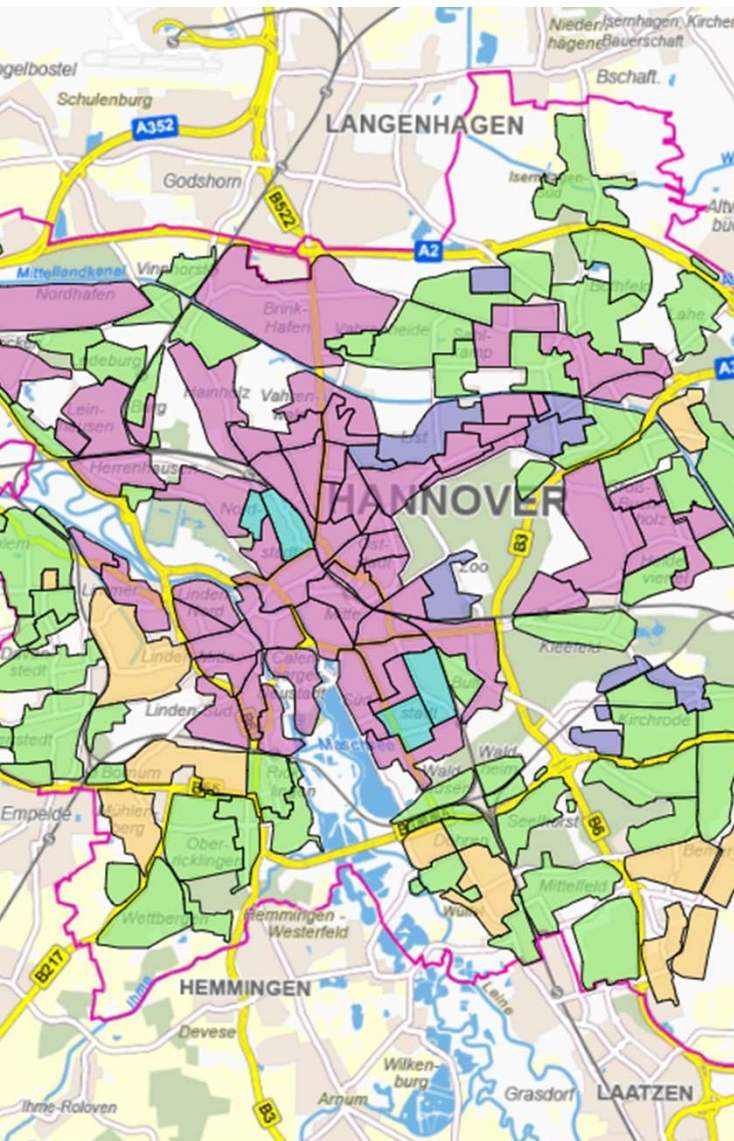
Clean Heat toolbox for Member States (risk mitigation, capacity building for local authorities...)



# DHC networks: Getting to Net Zero

The Energy Efficiency Directive introduces a new definition of Efficient DHC networks. It includes milestones to get to net zero by 2050, excluding the addition of new fossil fuel capacity from 2030 onwards.





# Local heating and cooling plans

Mandatory development of local heating and cooling plans for municipalities with at least 45.000 citizens:

- mapping of the potential for increasing energy efficiency, also via low-temperature DHC, high efficiency CHP, waste heat recovery, and RES
- energy efficiency first principle
- taking into account relevant existing infrastructure
- include a trajectory to achieve the goals of the plans in line with climate neutrality

## Hannover's draft plan

### Currently:

62% with natural gas,  
27% with DHC

the rest with oil, petroleum, local heating  
and biomass

### By 2045:

DHC is expected to supply 56%  
HPs 34%

local heating systems 9%

Map: [Hannover's heat planning](#)

# EED - assessment of utilising waste heat

MSs to aim to remove barriers for the utilisation of waste heat and provide support for the uptake of waste heat where the installations are newly planned or refurbished. In particular, it concerns:



- **thermal electricity generation installation** with an average annual total energy input exceeding 10 MW on upgrading to high efficiency CHP,



- **industrial installations** with an average annual total energy input exceeding 8MW,

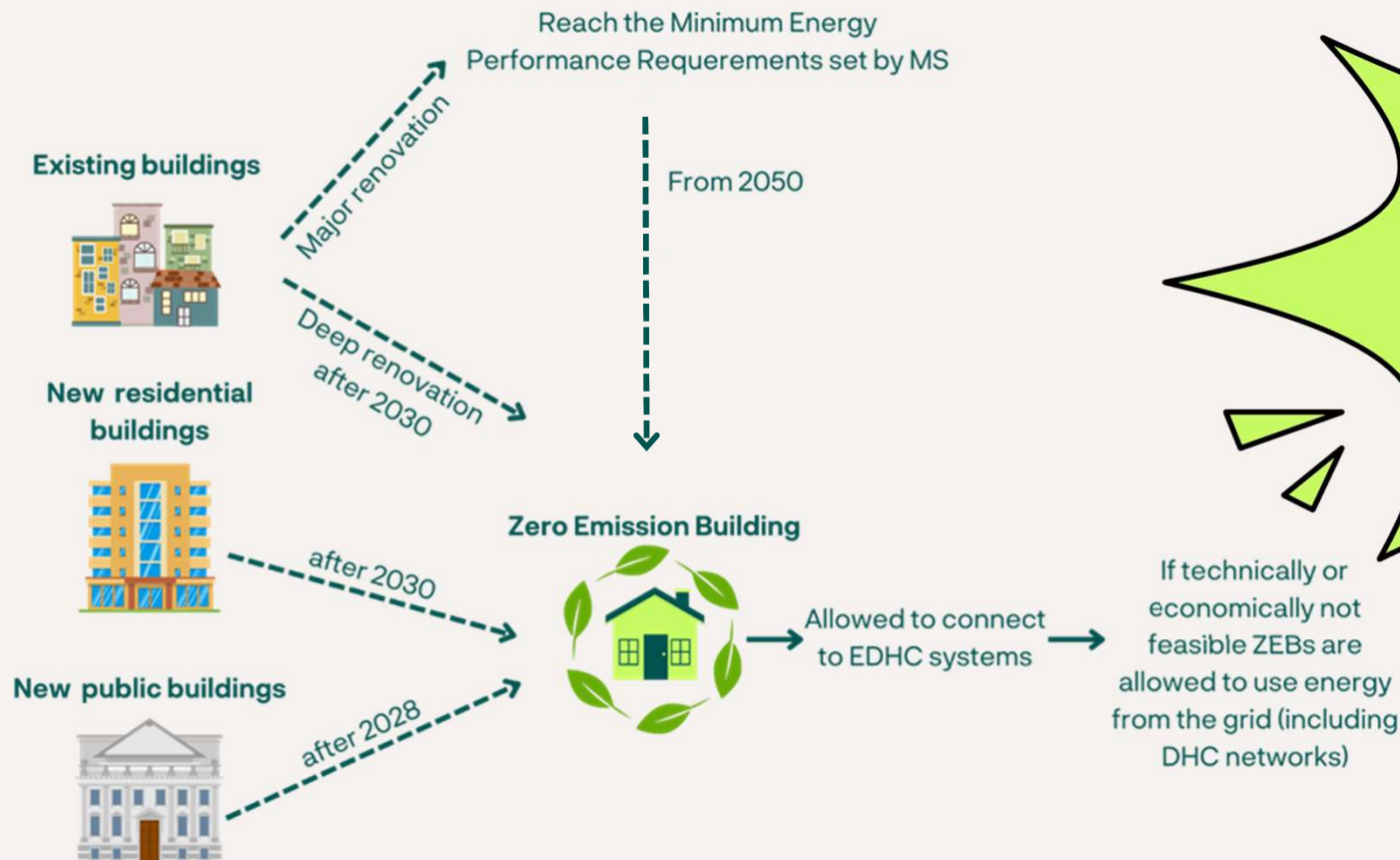


- **service facilities** (such as wastewater treatment facilities and LNG facilities) with an input exceeding 7MW to assess utilisation of waste heat on and off-site,



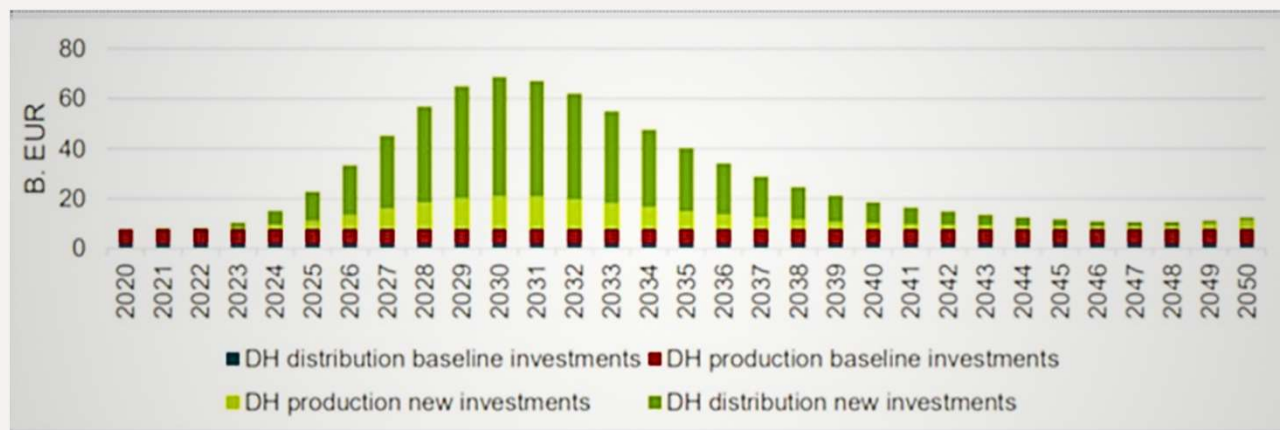
- **data centres** with energy input exceeding 1MW to assess the cost and benefit analysis of utilising waste heat and to connect to a DHC network.

# EPBD - Zero Emission Buildings



**Zero Emission Buildings are allowed to connect to efficient district heating and cooling systems in accordance with EED Art. 26**

# Private financing is fundamental to accelerate the decarbonisation of DHC



Source: Mathiesen et al. 2019



144 bln € needed and up to 65 bln € private investment required by 2030 to reach 2050 scenario



High up-front costs and long term ROI make hard to get private investments



Need for a supportive policy framework to attract more private investments in DHC



Innovative business models and financial schemes

*BUT*

DHC can be now  
what wind and solar were before

# Main Innovation priorities for DHC sector



LTD  
H



WASTE  
HEAT



SYSTEM INTEGRATION



DIGITALISATIO  
N



RES  
INTEGRATION



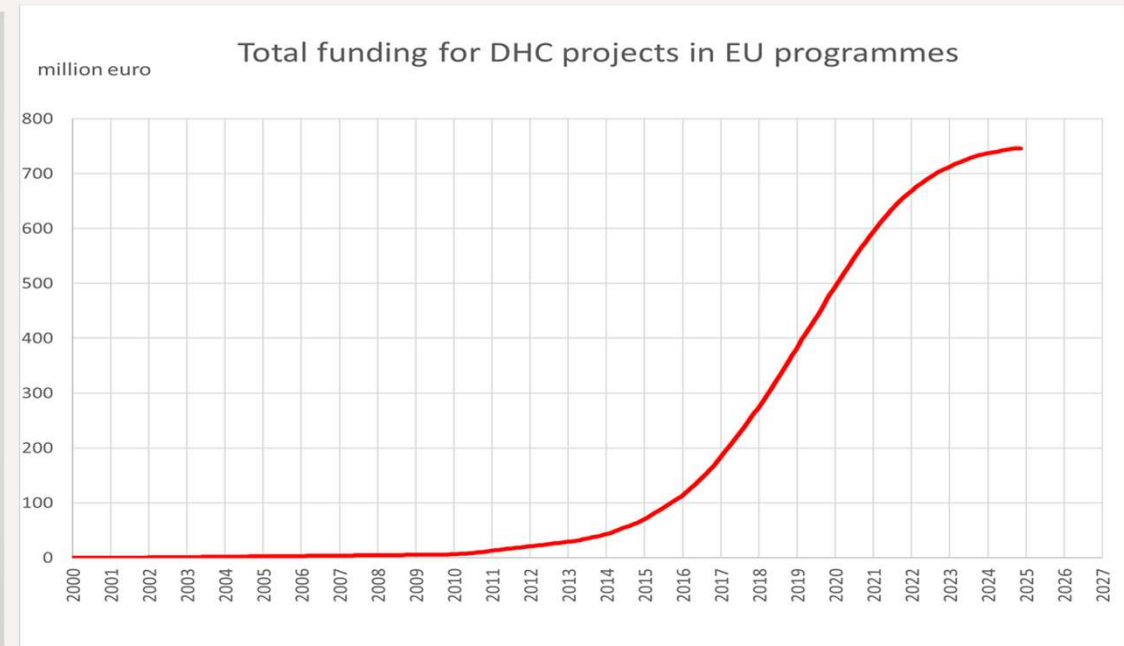
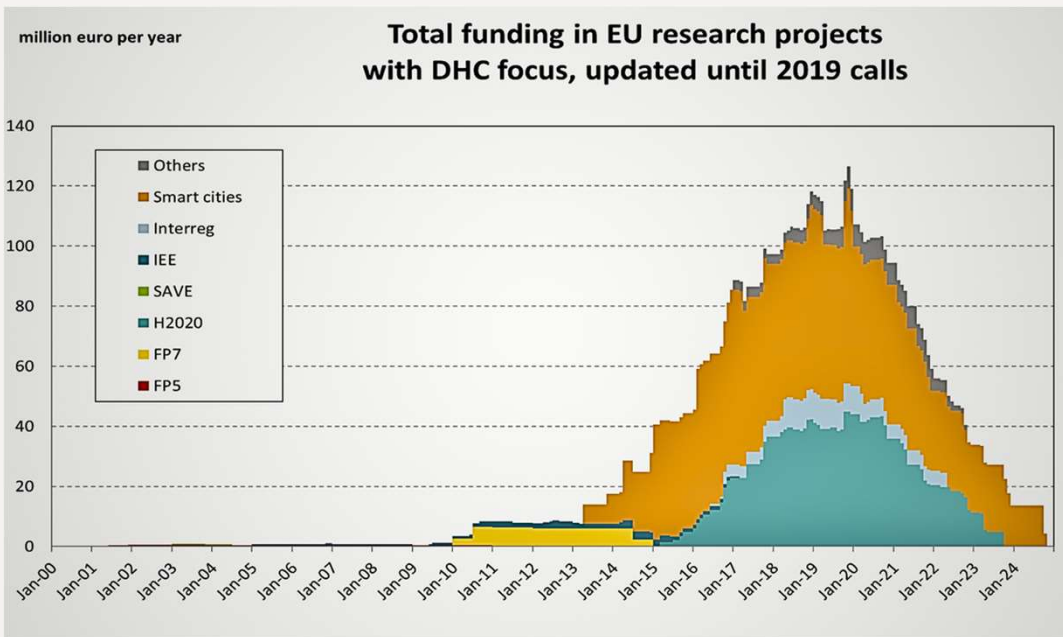
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The provision of 100% renewable energy-based heating and cooling (100%RHC) in Europe is achievable even by 2040.

## Budget needs 2021-2027

	Funding needed (million euro)		
	Public	Private	Combined
Waste heat	55	135	190
District cooling	200	150	350
LTDHC	250	200	450
Energy integration	175	150	325
Digitalisation	125	150	275
TES	250	250	500
<b>Total</b>	<b>1,055</b>	<b>1,035</b>	<b>2,090</b>

## Public Funding for DHC research & innovation is steadily increasing in the last 10 years





# Heating & cooling decarbonisation action plan



## Umbrella Communication: Heating & Cooling Strategy review (VISION)

Recall the importance of H&C and all clean heat technologies to achieve the 2040 target  
Identify challenges, opportunities and guidelines for action



## Citizen deal: lift the financial & administrative burden off EU consumers (ACCEPTABILITY)

Heat planning & implementation VS emergency replacement

Zonal incentives based on Heat plans

Facilitate consumers' access to affordable clean heat solutions + consumer protection



## Financing + de-risking of sustainable RES & recovered heat projects (COMPETITIVENESS / MARKET UPTAKE)

Dedicated support covering DEVEX/CAPEX/OPEX support (where project deemed relevant by H&C AP)

Dedicated instruments to de-risk, leverage private finance and facilitate access to funding

Streamlined permitting based on H&C plans (infrastructures, go to areas, etc)




## Heat Pump Action Plan (INDUSTRIAL STRATEGY)


# Thank you!

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