

DHC+

Under the umbrella of



Update on Research & Innovation in DHC

Aksana Krasatsenka, Euroheat & Power / DHC+

3 March 2023, Heat Highway, WSED

Who we are

We Are All **Connected**

Decarbonising District Energy For Our Cities

#DHCities



International association for sustainable district heating and cooling



Voice and Forum of the sector
Influence & Networking



Platform

Research & Innovation



150+ members from more than 30 countries

National DHC associations, utilities, manufacturers, equipment suppliers, start-ups, universities, research institutes and consultancies

What we do

Access to funding and Network

Foster participation and matchmaking of our members in EU projects



Knowledge Transfer

Be the key portal to access district energy related resources



Advocacy and Communication

Set priorities for DHC technology development & funding in Europe



Replication & Scale up

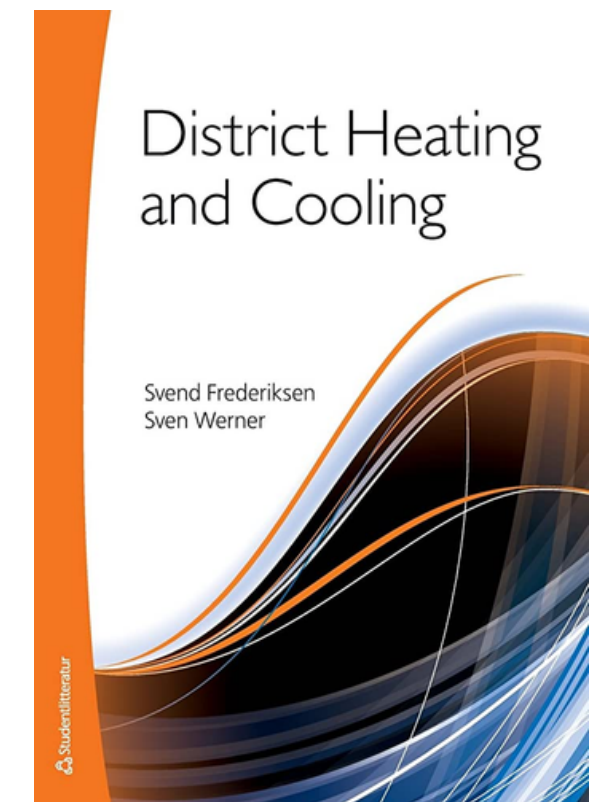
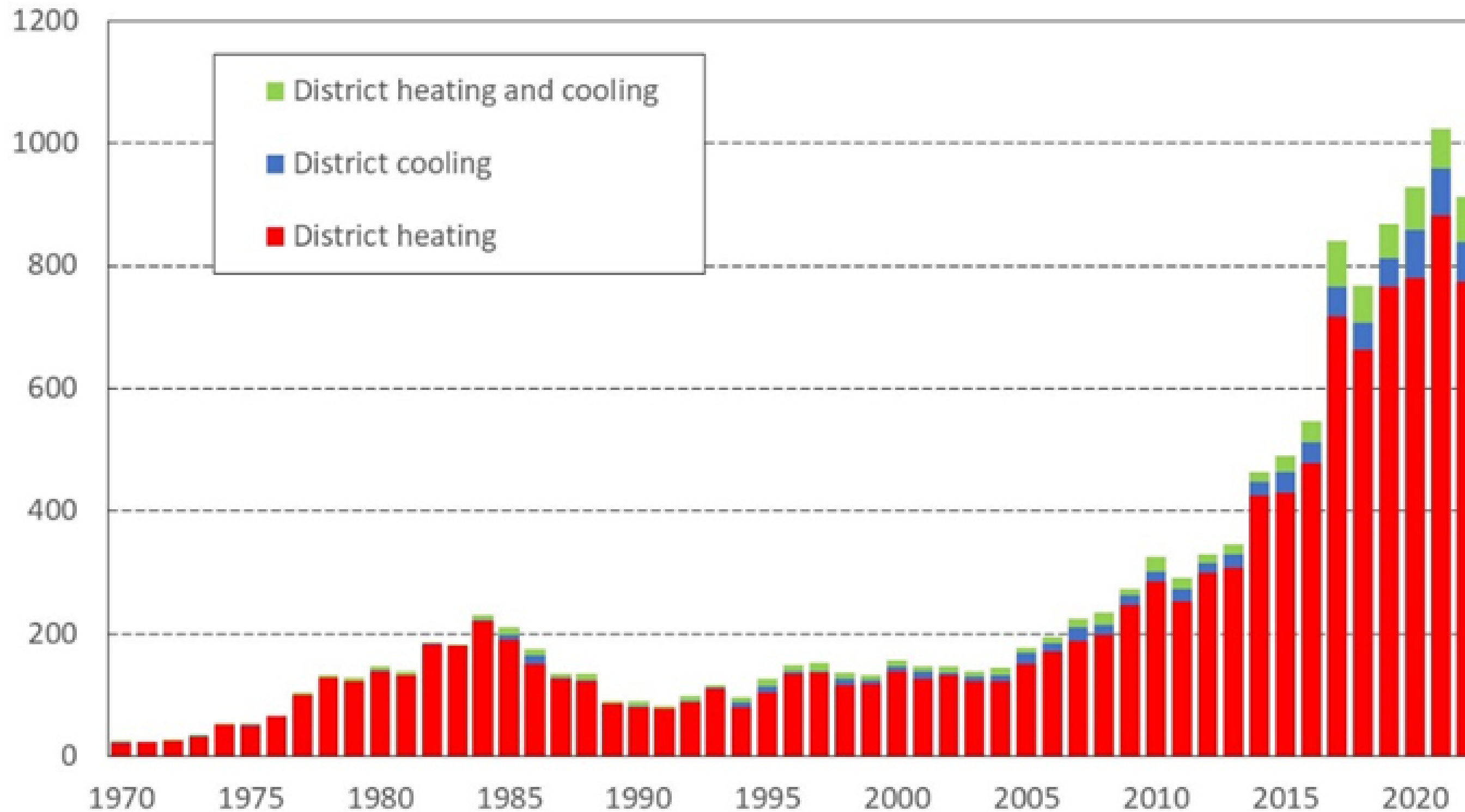
Accelerate the development and replication of sustainable district energy on the ground



EU Projects - cross cutting

Advancing Research

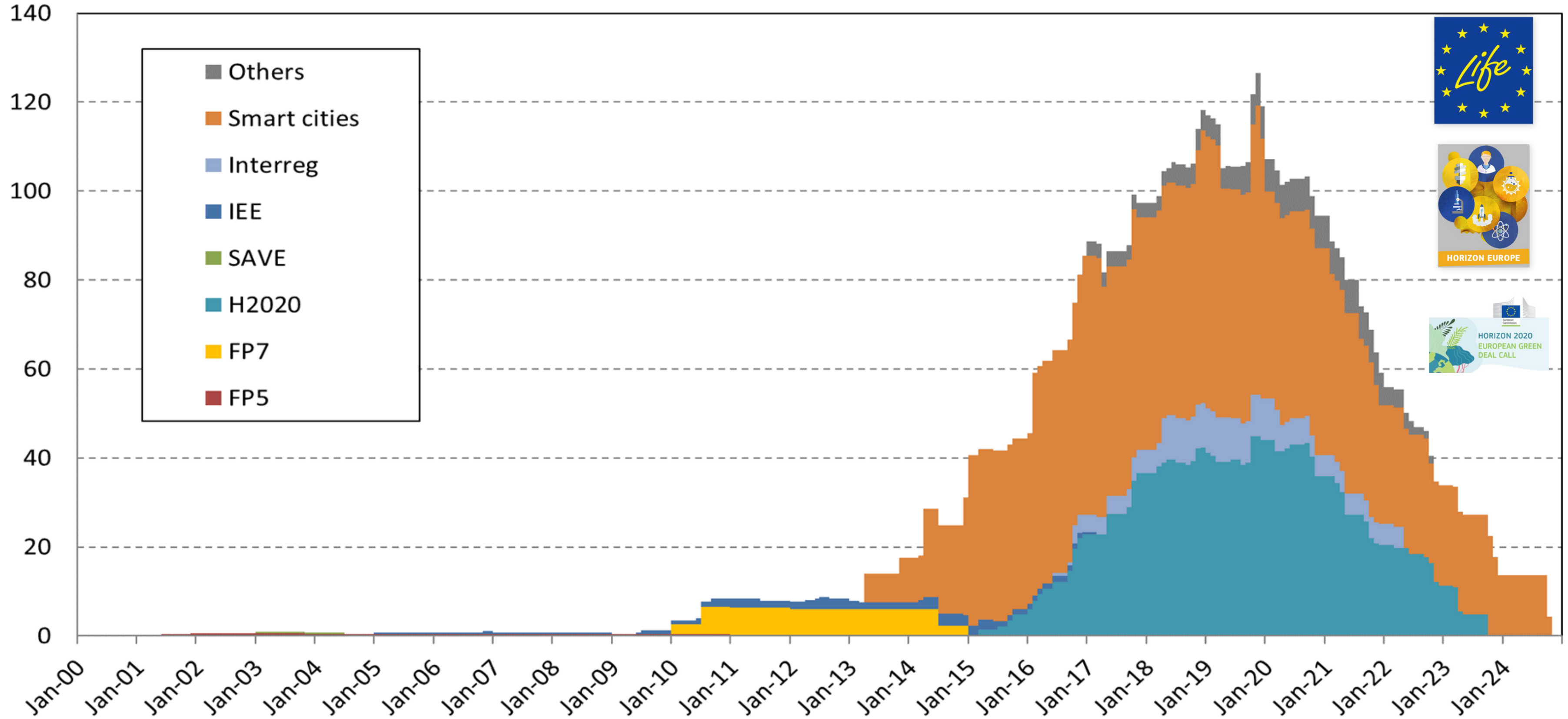
Number of scientific documents about DHC in the Scopus database



English (2013)
Swedish (2014)
Korean (2017)

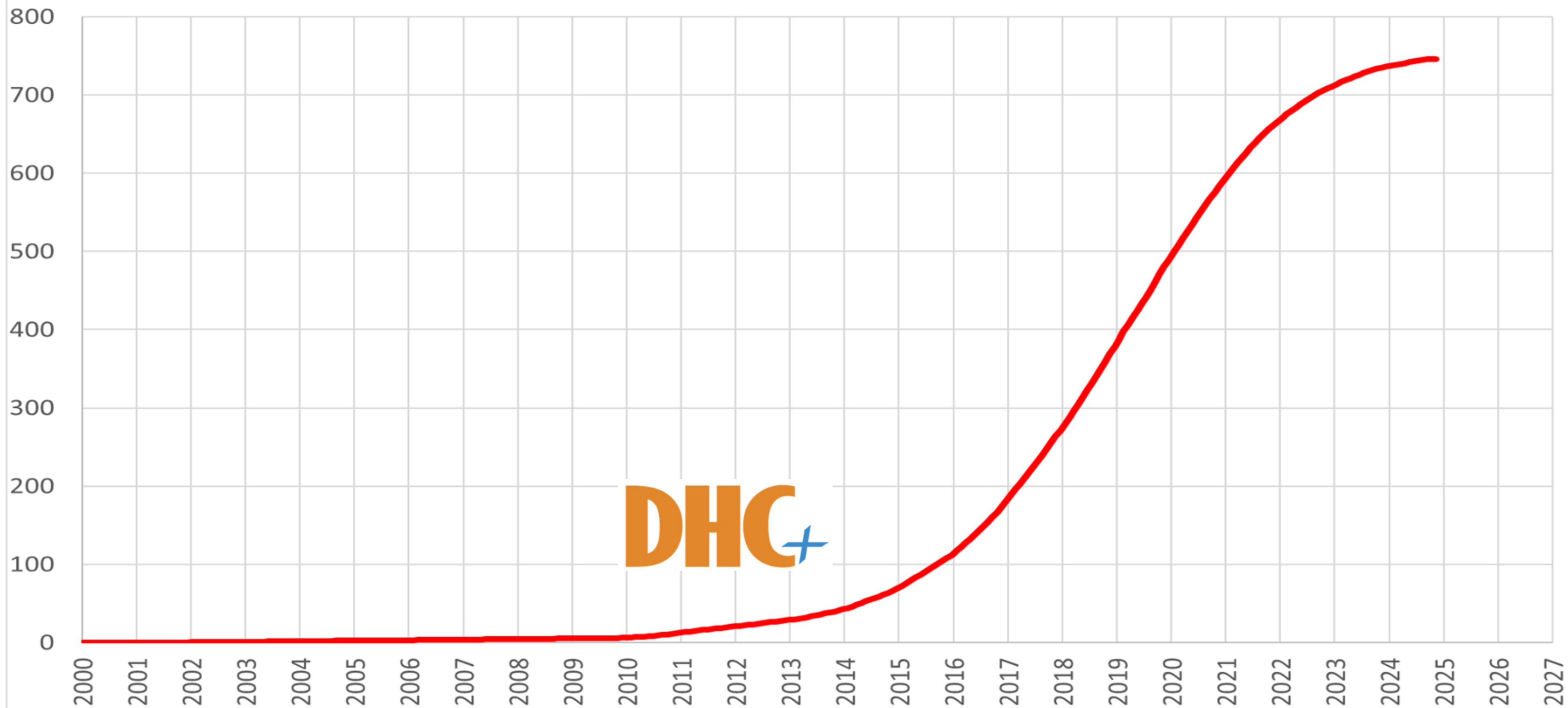
million euro per year

Total funding in EU research projects with DHC focus, updated until 2019 calls



Total funding for DHC projects in EU programmes

million euro



Source: Sven Werner, Halmstad University

Celsius brochure on DHC projects

- 69 projects starting from 2013 until 2021
- Total budget (EU contribution) 493 M €
 - Number of RIA (Research & Innovation Action) projects - 34
 - Number of IA (Innovation Action) projects - 16
 - Number of CSA (Coordination & Support Action) projects - 16
- Average reduction in GHG emissions - 46,9%



The widest EU project portfolio

among EU energy associations



BUILDINGS

DIGITALISATION

SMART READINESS
INDICATOR



SYSTEMS INTEGRATION

DIGITALISATION

RENEWABLES

ENERGY COMMUNITIES



WASTE HEAT

DEMAND RESPONSE

CITIZENS & PROSUMERS

STORAGE

RENEWABLES

FINANCIAL UPSCALE

INDUSTRY HEATING



RENEWABLES

POLICY SUPPORT



RENEWABLES

POLICY SUPPORT



STORAGE

WASTE HEAT

ENERGY COOPERATION



[Find out more!](#)

Main Innovation priorities

for DHC sector



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

LTDH

WASTE HEAT

SYSTEM INTEGRATION

DIGITALISATION

RES INTEGRATION

LONG TERM STORAGE

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
Total	1,055	1,035	2,090

Urban waste heat recovery

- Urban waste heat potential and implications
- Business aspects
- Findings from demonstration sites (data centre, hospital, metro, awareness raising dashboard)
- Comparison between low-temperature district heating and other alternative heat sources
- The European Waste Heat Map, which displays all low-grade heat sources available in cities
- Training modules



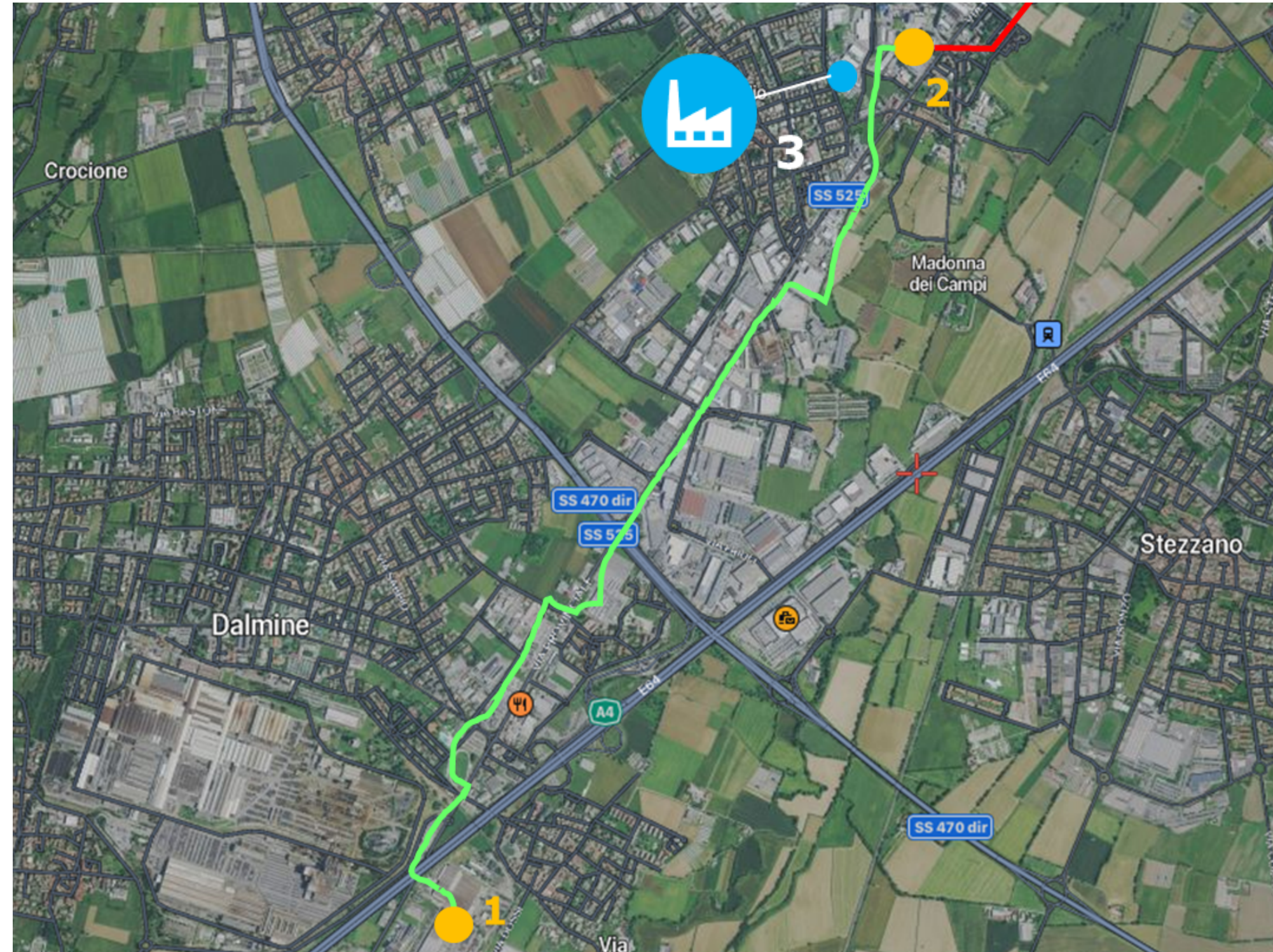
Handbook for
increased recovery of
urban excess heat





Industrial Symbiosis & Energy Cooperation

- New line connecting the Dalmine Waste-to-Energy Plant (1) to the existing DHN grid of Bergamo (2)
- Thanks to R-ACES tool, a Paper Mill (3) discovered the energy potential and will connect as well
- Cost savings: 62.000 EUR/year
- CO2 emission reduction: 4,2 ton/year



The Albertslund Case

- Danish municipality built in 1960s-1970s known for its experimental urban planning
- DH network from 1960s transformed from HTDH to LTDH
- Waste heat recovery from a data center
- Waste heat recovery from 2 supermarkets planned
- Preparing network for LT enabling higher use of waste heat
- Shunt strategy dividing network into small groups to make way for LT



Recapturing excess heat could power most of Europe, say experts



Preventing heat waste largely being ignored as solution to energy crisis, say environmental campaigners



A data centre in France. Such energy-intensive facilities are deemed prime candidates for heat recycling. Photograph: Clement Mahoudeau/AFP/Getty Images

Excess heat produced across Europe could almost power the entire region but preventing this waste is largely being ignored as a solution to the energy crisis, say environmental experts.

Waste Heat is Hot!

Bloomberg

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Markets
Future of
British
Business

Harnessing Waste Heat Could Save Europe €67 Billion

- Excess energy is enough to meet region's heat, hot water needs
- Technology to reuse surplus already available: Danfoss

By [Celia Bergin](#)

22 February 2023 at 01:01 CET Updated on 22 February 2023 at 10:39 CET

Europe's industries and transportation systems waste so much heat that capturing the excess and reusing it could save consumers more than €67 billion (\$71.3 billion), a Danish engineering company said.

The surplus produced each year by factories, supermarkets, wastewater facilities, data centers and subways amounts to 2,860 terawatt-hours, nearly the same as the European Union's total demand for heat and hot water in residential and service-sector buildings, [Danfoss A/S](#) said.

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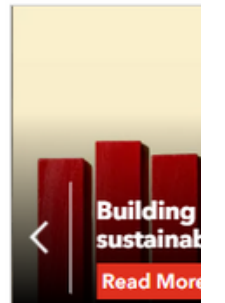


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Creating meaningful business and the

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EUROHEAT & POWER TORINO CONGRESS 2023



22-24 May 2023

350+
PARTICIPANTS

15+
SESSIONS

50+
SPEAKERS

20+
EXHIBITORS

Thank you,
ask your question!

 @AksanaKras

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