CINEA
European Climate Infrastructure and Environment Executive Agency

Upgrade DH – Final Workshop

15 September 2021

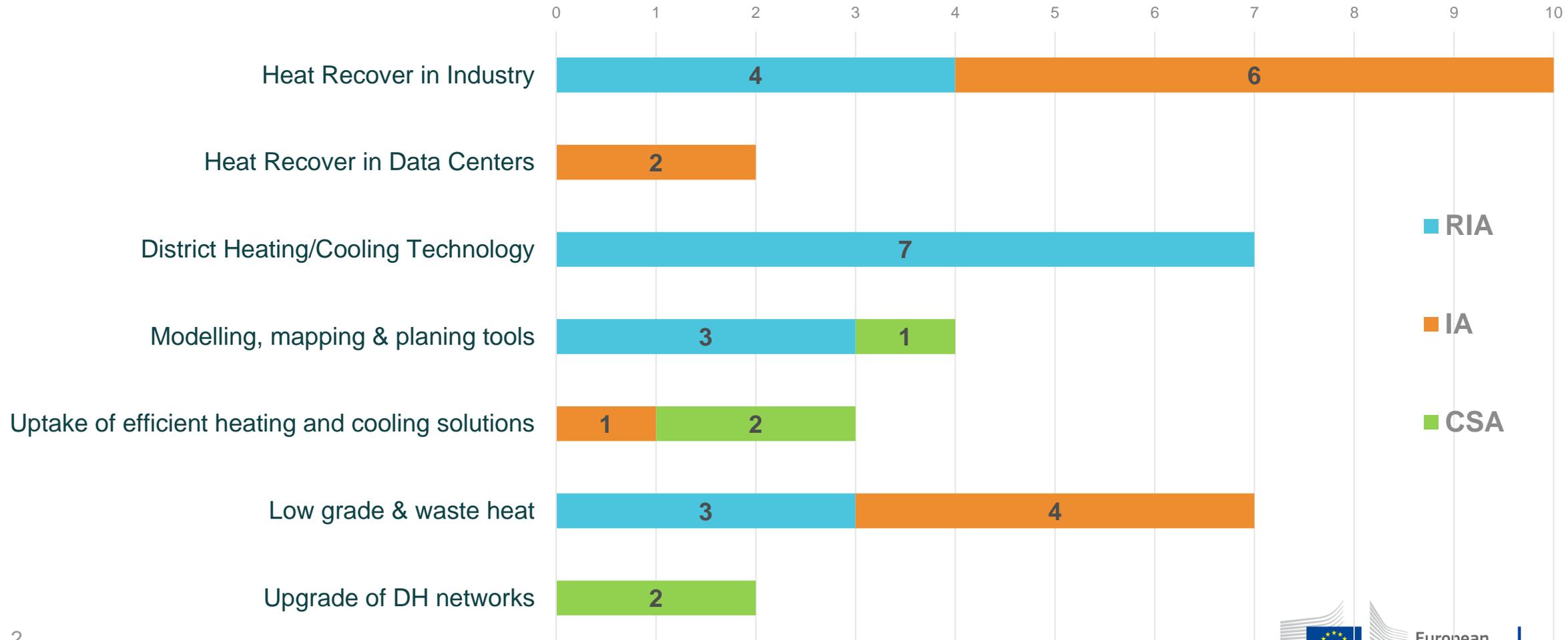**Stavros STAMATOUKOS**

Project Manager

Dep. C – Unit C.2 Horizon Europe Energy

What we have achieved in H2020

35 projects funded (17 RIA, 13 IA, 5 CSA)

Heat Recovery in Industry (RIA)

- TASIO - Waste Heat Recovery in Energy Intensive Industries

- i-THERM - Industrial Energy Recovery Conversion and Management

- SusPIRE - Industrial Recovery and Storage

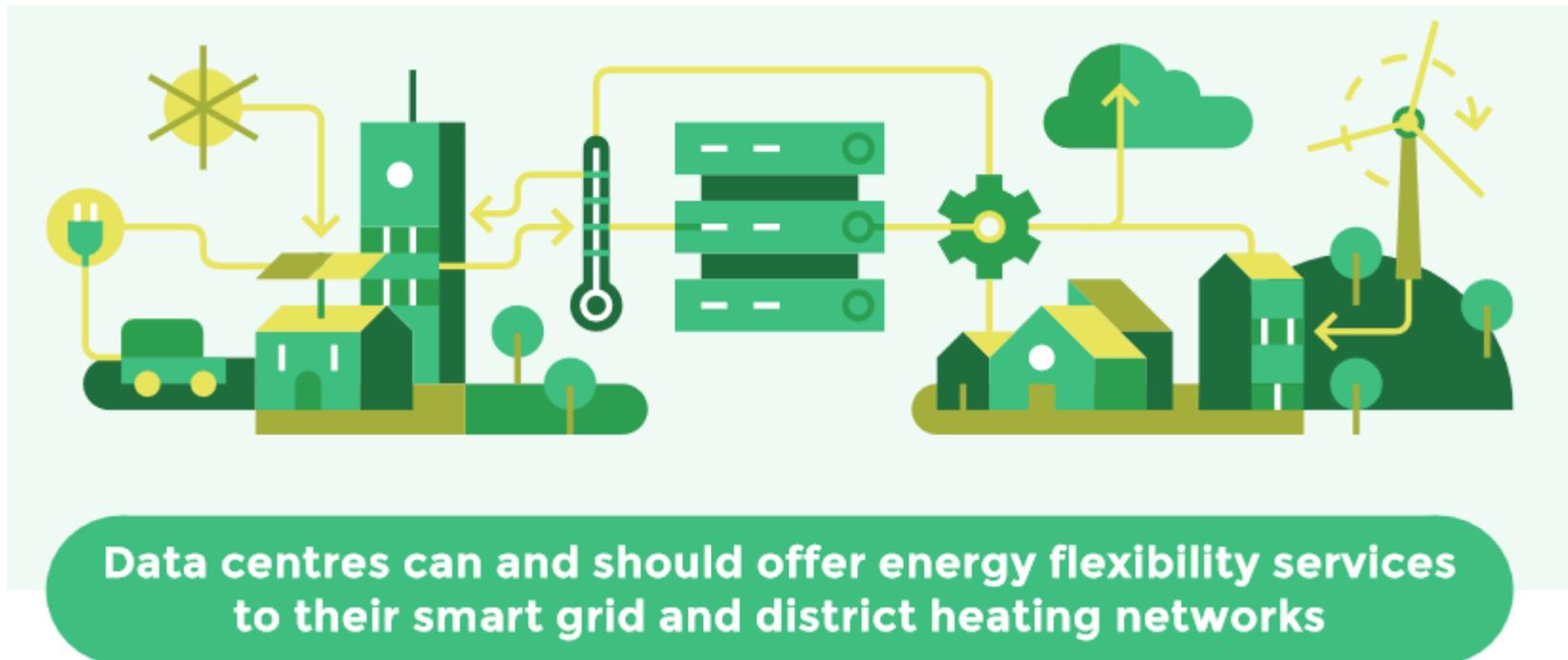- Indus3Es - Industrial Energy and Environment Efficiency

European Commission

Heat Recovery in Industry (IA)

- DryFiciency - Waste Heat Recovery in Industrial Drying Processes

- Smartrec - Waste heat recovery and thermal storage

- ETEKINA - Heat pipe technology for thermal energy recovery

- EMB3Rs - Energy-matching & business prospection tool for industrial excess heat/cold reduction, recovery and redistribution

- SO WHAT - Supporting new Opportunities for Waste Heat And cold valorisation

- CO2OLHEAT - CO2 power cycles demonstration in Operational environment Locally valorising industrial Waste Heat

Heat Recovery in Data Centers

- Catalyst - Converting DCs in Energy Flexibility Ecosystems

- BodenTypeDC - Prototyping the most energy and cost efficient data center in the world

Data centres can and should offer energy flexibility services to their smart grid and district heating networks
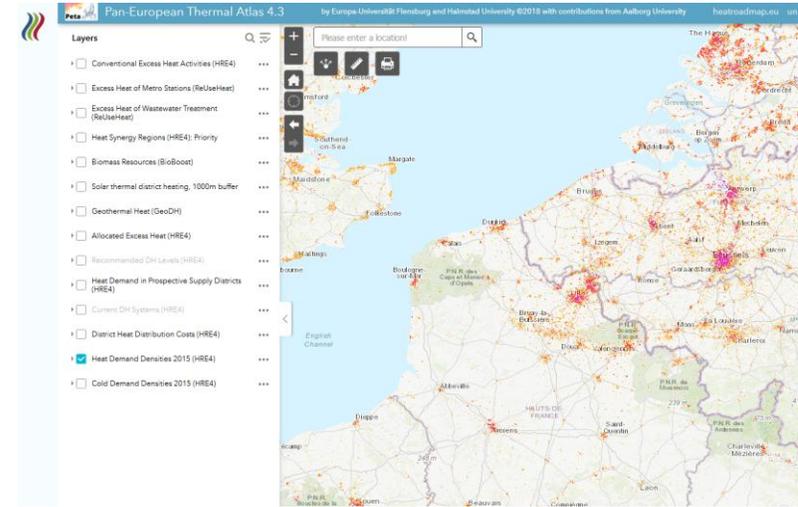
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District Heating/Cooling Technology (RIA)

- **E2District** - Energy efficient optimised district heating and cooling

- **FLEXYNETS** - Low temperature, high exergy district heating/cooling networks

- **H-DisNet** - Intelligent hybrid thermo-chemical district networks

- **InDeal** - Innovative technology for district heating and cooling

- **INDIGO** - New generation of intelligent efficient district cooling systems

- **OPTi** - Optimisation of district heating cooling systems

- **STORM** - Self-organising thermal operational resource management

European Commission

Modelling, mapping & planning tools

- HRE - Heat Roadmap Europe (CSA)

- HotMaps - Tool for mapping and planning of energy systems (RIA)

- THERMOS - Thermal energy resource modelling and optimisation system (RIA)

- Planheat – Tool for development of sustainable plans for low carbon heating and cooling (RIA)

European Commission

Uptake of efficient heating and cooling solutions

- **LabelPack Aplus** - Energy labelling for space, combi and water heaters (CSA)

- **SuperSmart** - Expertise hub for a market uptake of energy-efficient supermarkets (CSA)

- **MultiPACK** - Integrated cooling and heating packages for commercial and public buildings (IA)

Low grade & waste heat (RIA)

- **Innova MicroSolar** - Innovative micro solar heat and power system for residential buildings

- **LOWUP**- Low valued energy sources for buildings and industrial uses

- **MPC-.GT**- Integration of geotabs in low grade thermal energy systems

Renewable and Storage-integrated Systems to Supply Comfort in Buildings

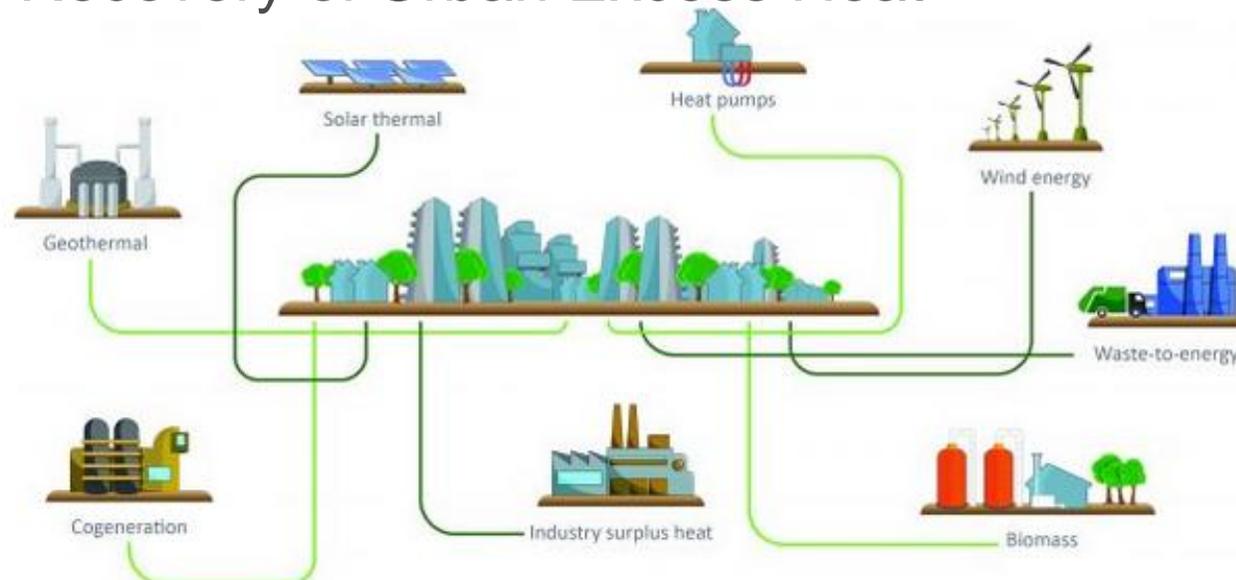PRE-DESIGN AND CONTROL FOR hybridGEOTABS PROJECTS

Wim Boydens, Lieve Helsen, Bjarne W. Olesen, Lukáš Ferkl, Jelle Laverge
edited by Eline Himpe

hybrid **GEOTABS**

Low grade & waste heat (IA)

- COOL DH - Low grade Heat Sources for Buildings

- TEMPO - Temperature Optimisation for Low Temperature District Heating

- RELaTED - Renewable Low Temperature District

- ReUseHeat - Recovery of Urban Excess Heat
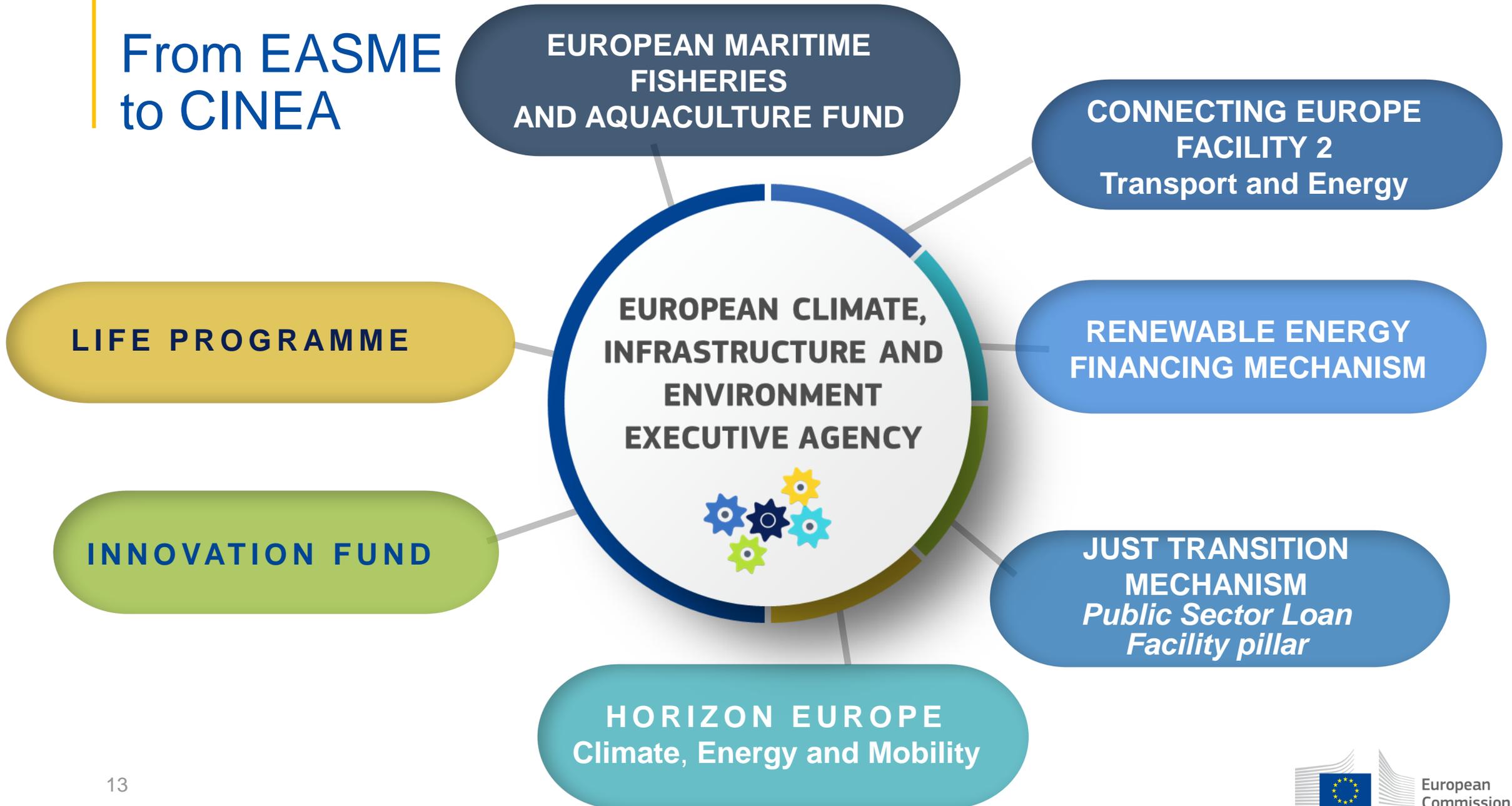
Upgrade of DH networks (CSA)

- **KeepWarm** - Improving the performance of district heating systems in Central and East Europe

- **Upgrade DH** - Upgrading the performance of district heating networks in Europe

KeepWarm (Apr-18 to Dec-20)

- **Geographic coverage:** Austria, Croatia, Czech Republic, Latvia, and Slovenia, Serbia and Ukraine
- Main outcomes
  - **Capacity enhancement** of 617 employees of DH operators & 196 external stakeholders
  - **Tailor-made technical advisory services** for the modernisation of 24 existing DH systems in Central and Eastern Europe: pre-feasibility analyses; advice on business plans; technical support; legal advice; identification of possible financing sources;
  - Support for the development of 39 **national and local energy and climate plans**;
  - Contribution to **investment decisions** for the modernisation of 12 DHS (100 EUR million)
  - Recommendations and guidance in the development of the **comprehensive assessment** under Art. 14 of the EED
  - A sustainable adoption roadmap for future **replication**

European Commission

From EASME to CINEA

EUROPEAN MARITIME FISHERIES AND AQUACULTURE FUND

CONNECTING EUROPE FACILITY 2 Transport and Energy

LIFE PROGRAMME

EUROPEAN CLIMATE, INFRASTRUCTURE AND ENVIRONMENT EXECUTIVE AGENCY

RENEWABLE ENERGY FINANCING MECHANISM

INNOVATION FUND

JUST TRANSITION MECHANISM *Public Sector Loan Facility pillar*

HORIZON EUROPE Climate, Energy and Mobility

European Commission

Heating & Cooling under Horizon Europe

Destination-3: Sustainable, secure and competitive energy supply

- Renewables
  - Micro-CHP and hybrid heating systems (D3-03-08)
  - Geothermal energy (D3-03-15)
  - Renewables storage in off-grid applications (D3-01-05)
  - Agro-Photovoltaic systems (D3-01-06)
- Energy Storage
  - Innovative forms of storage (D3-01-11)
  - Thermal energy storage (D3-01-14)

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Heating & Cooling under Horizon Europe

Destination-4: Efficient, sustainable and inclusive energy use

- Buildings
  - Industrialisation of deep renovation workflows (D4-01-02)
  - Multi-functional prefabricated holistic renovation packages (D4-02-02)
  - Energy positive homes (D4-01-02)
  - Smart-grid ready and smart-network ready buildings (D4-02-04)
- Industry
  - Heat upgrade technologies (D4-01-04)
  - Industrial waste heat-to-power (D4-01-05)

HORIZON EUROPE

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District Heating & Cooling under Horizon Europe

Destination-3: Sustainable, secure and competitive energy supply

- Energy Sector Integration (D3-02-05)

Destination-4: Efficient, sustainable and inclusive energy use

- Resilience, preparedness & responsiveness of the built environment for climate adaptation (D4-02-01)
- Regeneration of neighbourhoods (D4-02-02)

Other resources

- **LIFE Clean Energy Transition**
  - Coordination and support actions (€1 billion)

- **Innovation Fund**
  - Demonstration of innovative low-carbon technologies and big flagship projects that can bring significant emissions reductions (€10 billion)

- **Connecting Europe Facility**
  - Energy infrastructure networks (€8.7 billion)

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Thank you

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