

The new European Bauhaus, 16th of June 2021

The energy transition of cities & industries

Stefan Håkansson

Global Director City Energy Solutions, E.ON SE

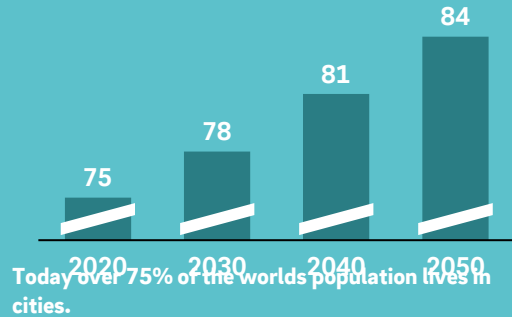
Chief Executive Officer, E.ON Business Solutions GmbH

e-on

Urbanization has become a major cause of pollution with cities responsible for over 70% of greenhouse gases

Cities and communities are growing

Proportion of European citizens in urban areas (%)

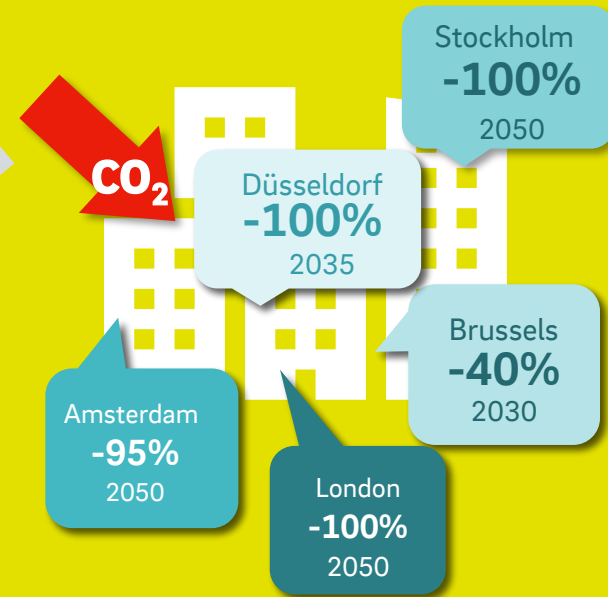


All city dwellers need energy for transport, light, heating and cooling, generated by combustion.

Cities are responsible for 75% of global CO₂ emissions

Buildings being among the largest contributors due to their large heating and cooling demand

Sustainability on top of municipal agendas



EIS is committed to become change agent – Four strategic approaches guide the way for our own and our customers assets

Strategic approaches to decarbonize electricity and heat

A Avoidance



- Increasing energy efficiency of generation assets, buildings and/or production processes
- Substituting CO₂-rich feedstock with feedstock low in CO₂

B Recycling



- Using energy more than once
- Using waste-heat recovery
- Using waste from one process as input for another, e.g. CO₂, organic waste

C Sector-Coupling



- Integration of energy consuming sectors (e.g. buildings, transport) with power producing sectors e.g. Connection of PV, e-Mobility, heating & cooling)

D Substitution



- Replacing fossil energy by green/CO₂-free energy
- Electrification of production processes

Funding programmes & regulations accelerate the development towards smart and CO₂-neutral cities

CO₂-tax | in Germany from 2021 (25 €/t successive increase to 55€/t in 2025)

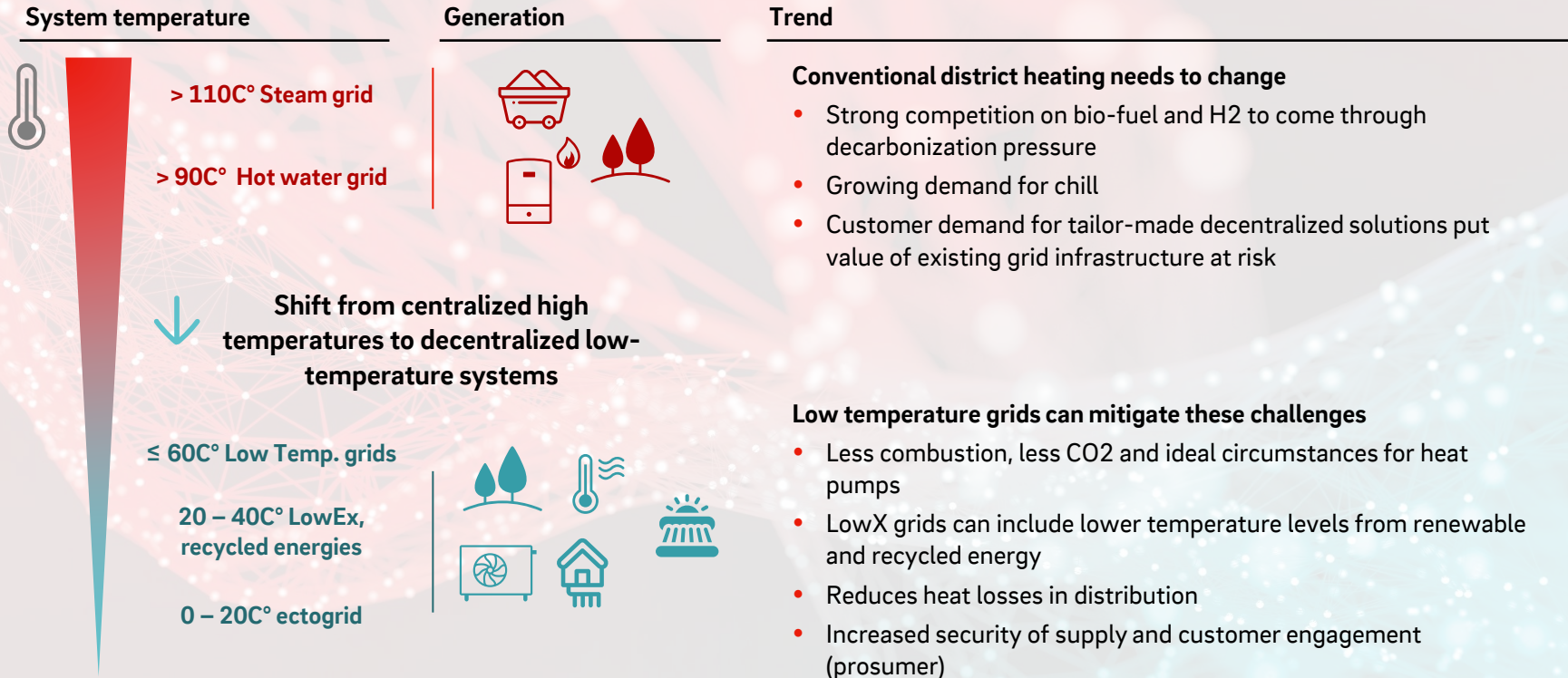
EU funding programmes | >250 billion Euro for sustainable, innovative infrastructure and modernisation

Covid-19 Recovery – Next Generation EU | >750 billion Euro for a greener, more digitally oriented and crisis-proof Europe

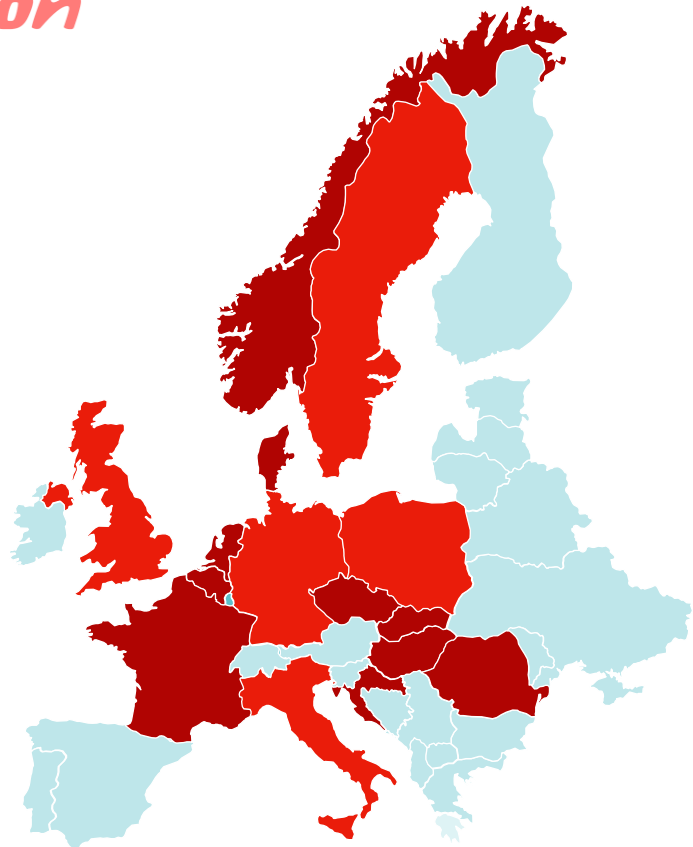
EU taxonomy | key framework for environmental sustainability at EU level



The EU Green Deal will drive development in district heating in 3 areas - funding as accelerator for green transformation



About E.ON Energy Infrastructure Solutions



**Serving customers all over Europe across
15 countries**

■ Core regions
 ■ Growth regions
 ■ No E.ON Energy Infrastructure Solutions business

Energy Infrastructure Solutions: Core part and growth driver of E.ON Customer Solutions

Customers	>1.5 m
# of plants	-4,100
Heat, chill & steam production	-19 TWh
Electricity production	-12 TWh
Heat, chill, steam grids	-5,000 km
Operative Sales 2020	-€ 2 b
Employees	-4,000

Our vision for a sustainable future:

We want to support customers to manage their sustainable energy transition

A close-up photograph of two hands, one from the left and one from the right, cupping a glowing incandescent lightbulb. The background is a soft, warm glow, suggesting a sunset or sunrise. The hands are positioned as if presenting or protecting the lightbulb, symbolizing care and support.

Our engine: Improving peoples lives

- **We empower our customers**
- **We are dedicated to climate protection and make energy cleaner**
- **We recycle energy and use what use energy efficiently**
- **We are bringing energy into the digital age**

Given our societal role, we put special emphasis on specific aspects of sustainability, without discounting the relevance of others



Market need

Renewable energy generation

Primary energy reduction

Energy Efficiency measures

Independency / Decentralized energy solutions

Low temperature solutions

E.ON offers solutions around heat, chill, power generation and efficiency

Core customer segments



Real estate



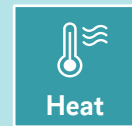
Commercial



Industry



Public & municipal entities



Heat



Cooling



Power



Energy Efficiency



Waste heat recovery



Digital Services



eMobility



Local Networks

E.ON is actively driving the transition to a sustainable and more decentral energy world

Decarbonization

Decentralization

Digitization



Innovative & sustainable solutions – E.ON is safeguarding their customers asset values through state of the art technology

Selected examples of initiatives



**Deep
geothermal**



**Waste heat to
power**



Digitization

How we support our customers...

Generation of 100% green heat or electricity enabling baseload supply – sustainable and secure supply at reasonable commercials

Significantly reduce electricity cost of our customers by transforming waste heat into reliable and CO₂-neutral electricity

Digitization of assets and networks for optimized steering and operations, enable peak shaving, cost reduction and higher availability

... and 4 UN Sustainable Development Goals



Ensure access to affordable, reliable, sustainable and modern energy for all.



Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.



Take urgent action to combat climate change and its impacts.



Make cities and human settlements inclusive, safe, resilient and sustainable.