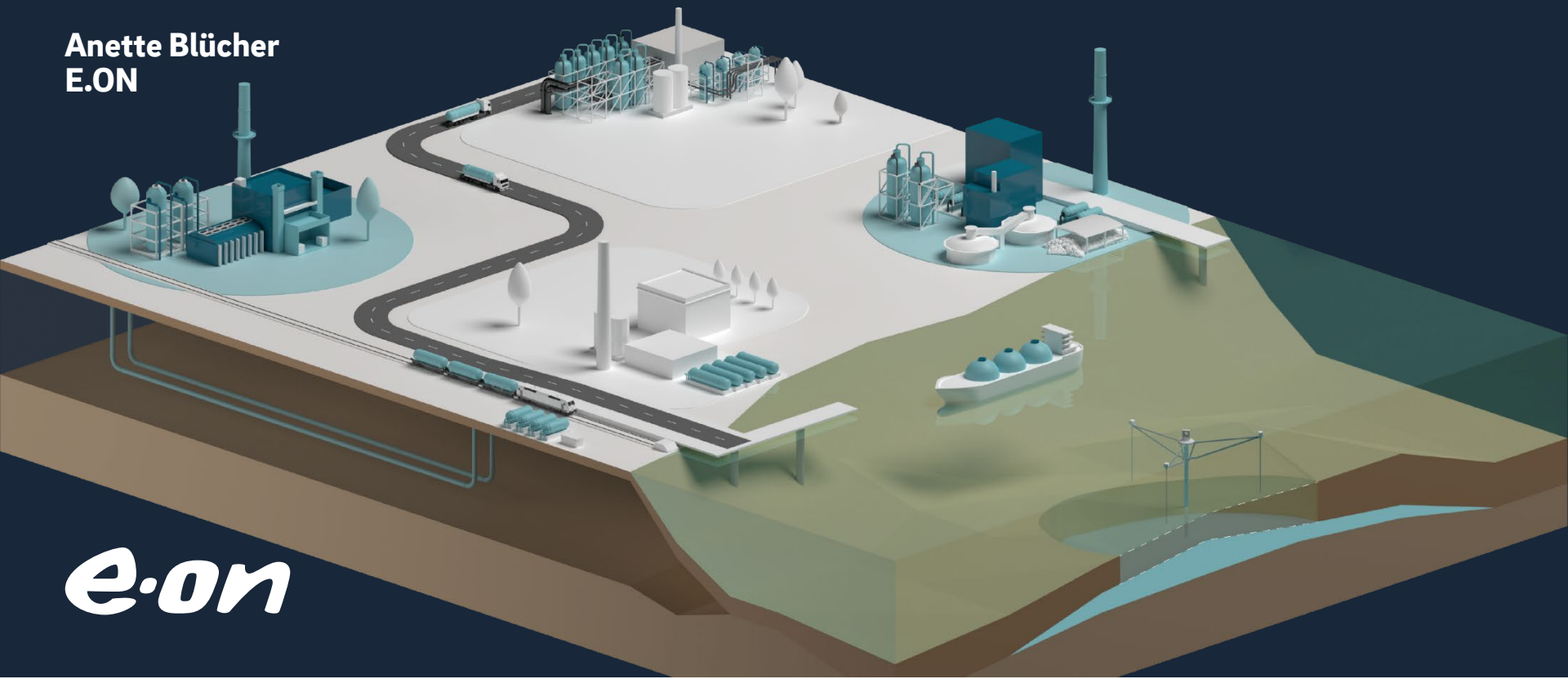



# CCS – enabler for a circular district heating

Anette Blücher  
E.ON



*e.on*

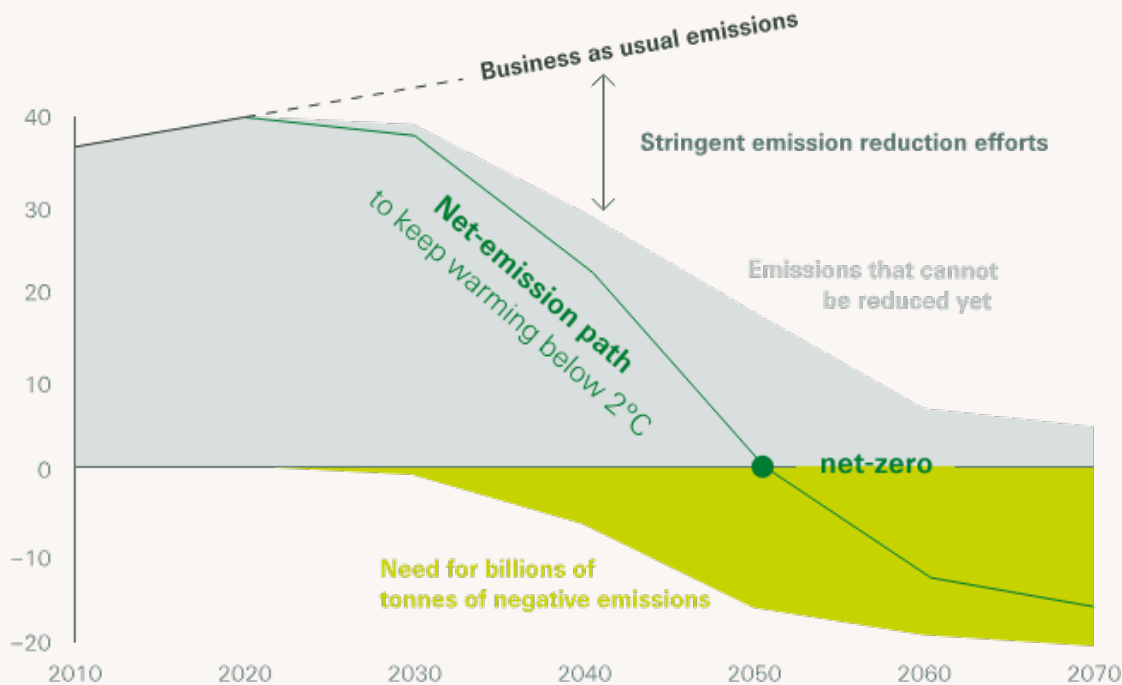


**Over 10 billion tons of  
CO<sub>2</sub> /year need to be  
removed by 2050**

... in order to maintain global warming below 1,5 °C

## Global CO<sub>2</sub> emissions

Billion tonnes per year



Source: IPCC

### Paris agreement 2015

→ Limit global warming to well below 2°C, preferably to 1.5°C

### EU Climate Goals incl. EU Green Deal and Taxonomy

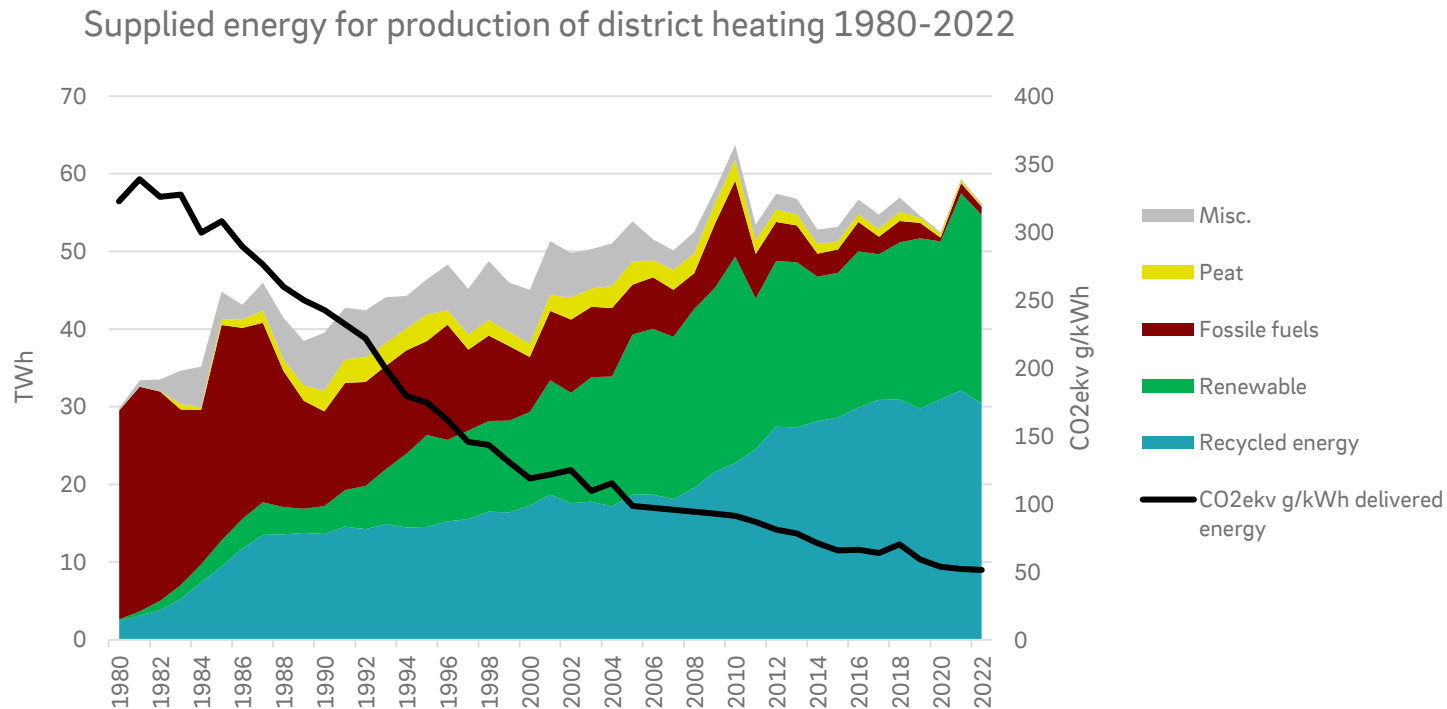
→ 55% GHG reduction by 2030 from 1990 levels and net-zero-emissions by 2050 and **net negative** after 2050

**E.ON Group NetZero (Scope 1) 2040**

**75% reduction by 2030**

**E.ON Sverige NetZero (Scope 1-3) 2035**

# The road towards emissions free DH



Source: energiföretagen.se

# E.ON's project pipeline for technical carbon removals



## Power plant Biomass 1 (GER)

Biogenic CO<sub>2</sub>: 270 kto/a  
Fossile CO<sub>2</sub>: 0 kto/a  
Client: UPM



## Power plant Biomass 2 (GER)

Biogenic CO<sub>2</sub>: 210 kto/a  
Fossile CO<sub>2</sub>: 0 kto/a  
Client: Bayer & District Heating



## Power plant WtE 3 (SWE)

Biogenic CO<sub>2</sub>: 130 kto/a  
Fossile CO<sub>2</sub>: 110 kto/a  
Client: District Heating



## Power plant Biomass 4 (SWE)

Biogenic CO<sub>2</sub>: 250 kto/a  
Fossile CO<sub>2</sub>: 0 kto/a  
Client: District Heating



## Power plant WtE/Biomass 5 (SWE)

Biogenic CO<sub>2</sub>: 270 kto/a  
Fossile CO<sub>2</sub>: 200 kto/a  
Client: District Heating



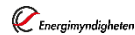
## Power plant Biomass 6 (UK)

Biogenic CO<sub>2</sub>: 370 kto/a  
Fossile CO<sub>2</sub>: 0 kto/a  
Client: District Heating

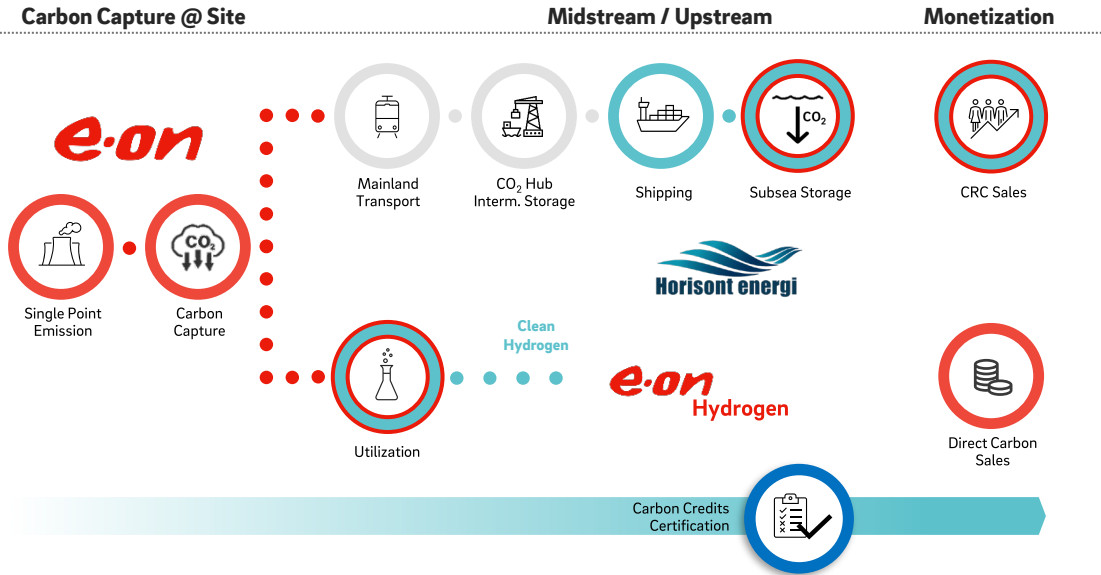


## Power plant Biomass 7 (UK)

Biogenic CO<sub>2</sub>: 260 kto/a  
Fossile CO<sub>2</sub>: 0 kto/a  
Client: District Heating



# BECCU/S Value Chain – our involvement



## End-to-End Carbon Management Solution for customer & own assets

### E.ON to build, own and operate

Carbon Capture systems onsite – site specific, technology agnostic, optimal efficiency

## Optimize value extraction

### Utilization

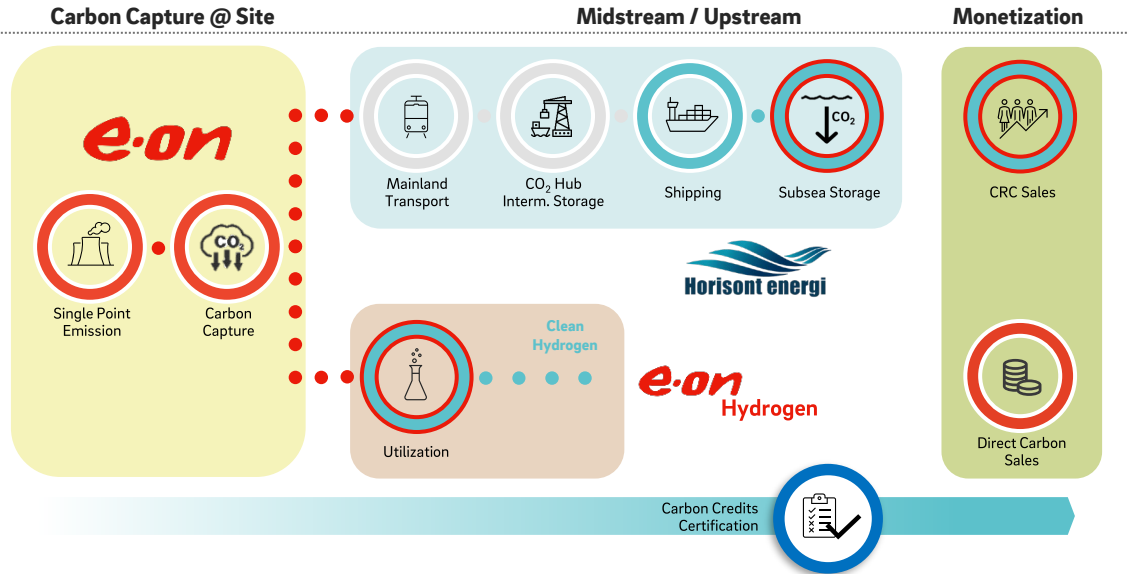
Carbon and H<sub>2</sub>/NH<sub>3</sub> (imported or onsite electrolysis) create base for recycled / clean base chemicals

### Transport & Storage





Delivery of optimized T&S value chain, monetization via Carbon markets (EU ETS/ CRC market)



# BECCU/S Value Chain – our team



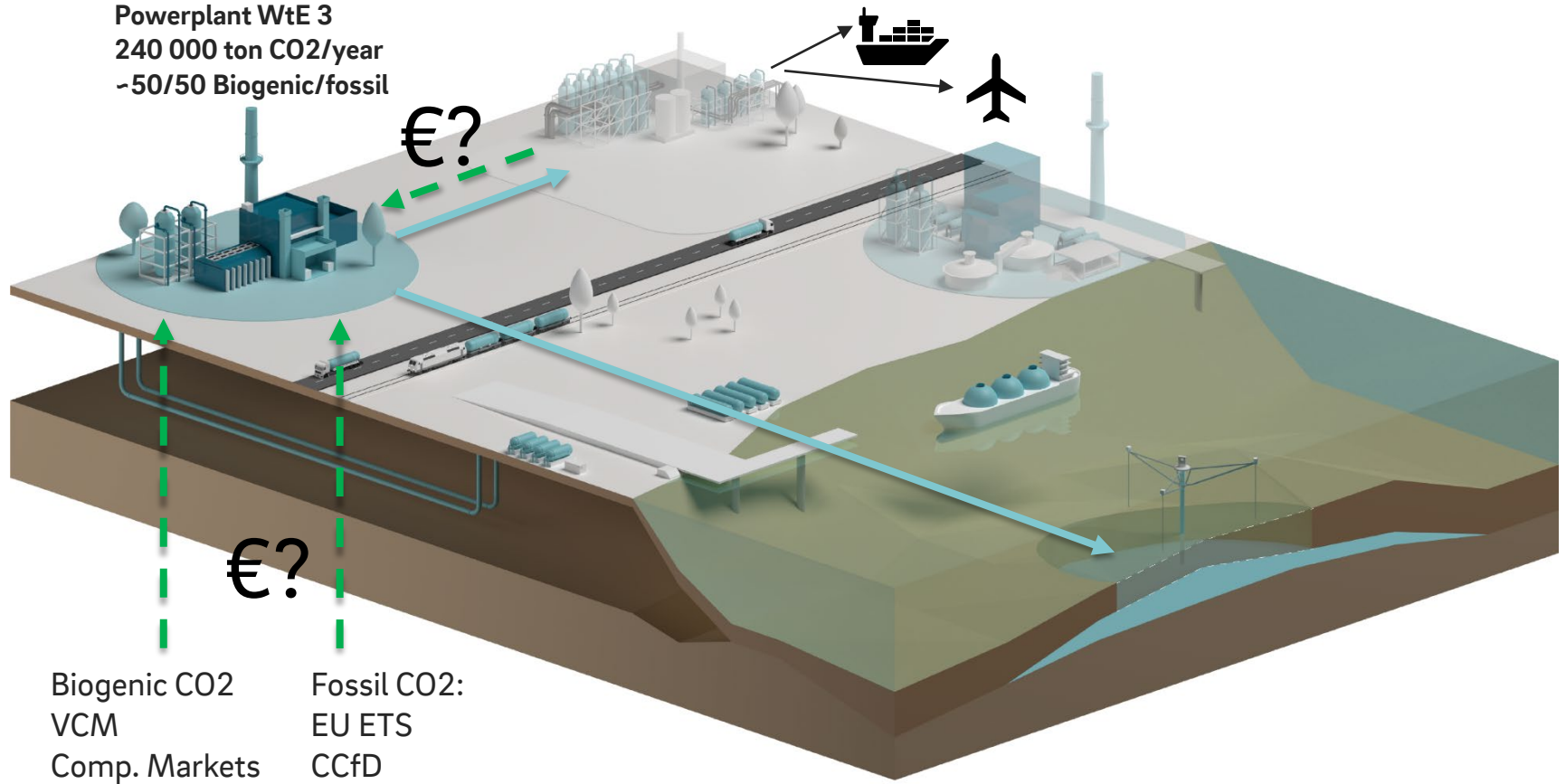
We have dedicated teams to offer CCUS service

-  Team on-site carbon capture
-  Team transport and storage
-  Team utilization
-  Team carbon markets



20+ team members by the end of 2023

# Where's the revenues? - Main challenge for all CCS projects





**The world needs  
CCS!**

**But what does it  
take...**



**Capabilities**



**Cooperation**



**Capital**



**Courage**

An aerial photograph of a dense evergreen forest, likely spruce or fir, with varying shades of green. The trees are packed closely together, creating a textured canopy. The word "Tack!" is written in a large, white, sans-serif font in the center of the image. At the top of the image, there is a horizontal bar with a color gradient from red to yellow to cyan. In the bottom center, the logo "e.on" is written in a white, lowercase, sans-serif font.

**Tack!**

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