
DIN Forsyning – Local utility supplier Partner

Henrik Harborg Blicher, Project director

hbb@dinforsyning.dk
+45 21 54 00 30

Who we are

- A multi-utility company
- Owned by the Municipality of Esbjerg and the Municipality of Varde
- Operating within the Danish laws and regulation of public utility supply

District heating



Wastewater treatment



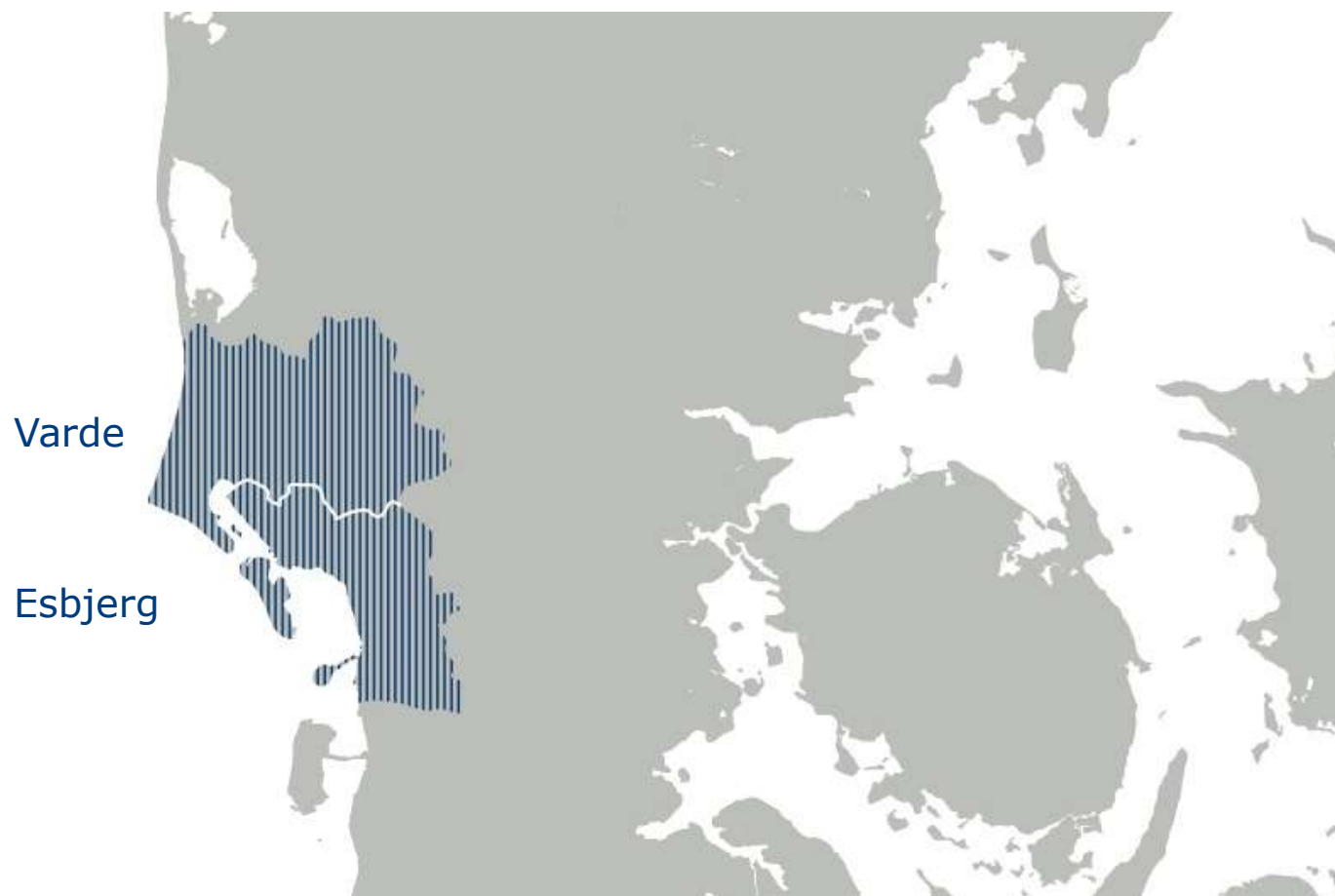
Household and industrial waste collection



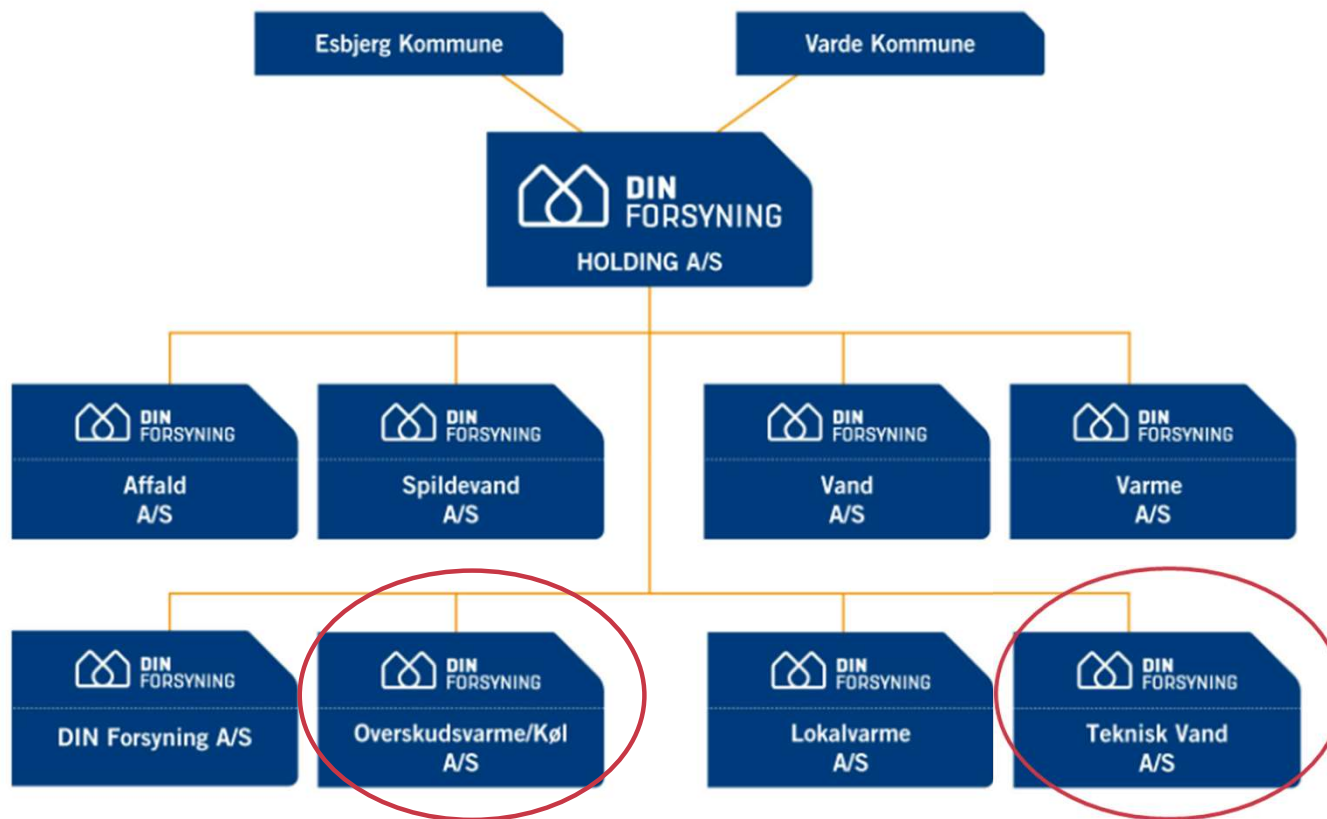
Drinking water supply



Where we operate



Corporate Structure



From capable to sustainable



Ambition 1:
ZERO WASTE



Ambition 2:
FOSSIL FREE VALUE CHAIN



Ambition 3:
FLEXIBLE BUSINESS & PARTNERSHIP



District heating

We deliver **comfort**
through heat solutions

District heating



25.500

customers*



11

small heat plants



24

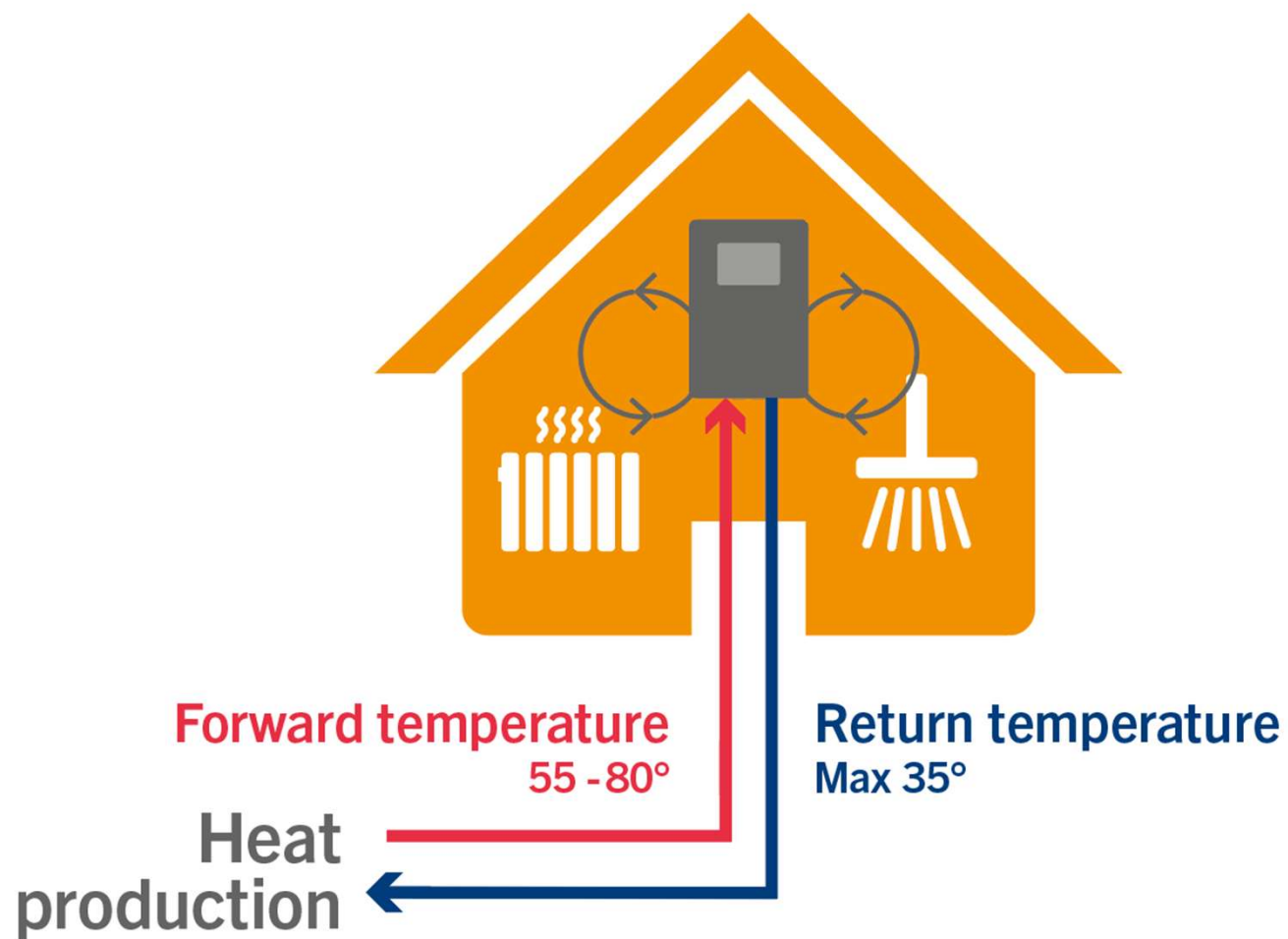
pumping stations and boosters



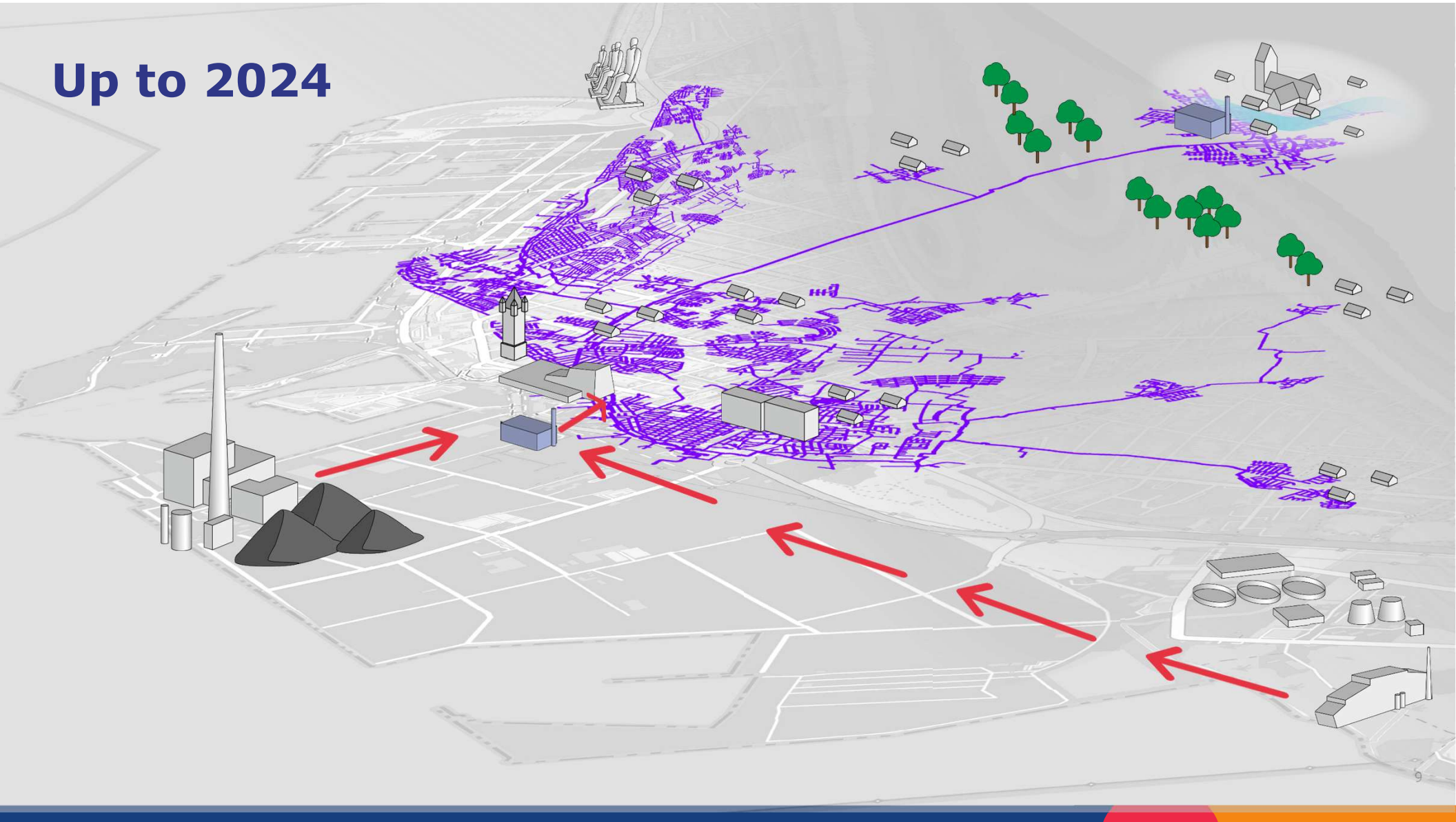
1.063

kilometers of pipes

*Calculated as customers with payment responsibility to DIN Forsyning, each customer is often several users in the same household, housing association, etc.

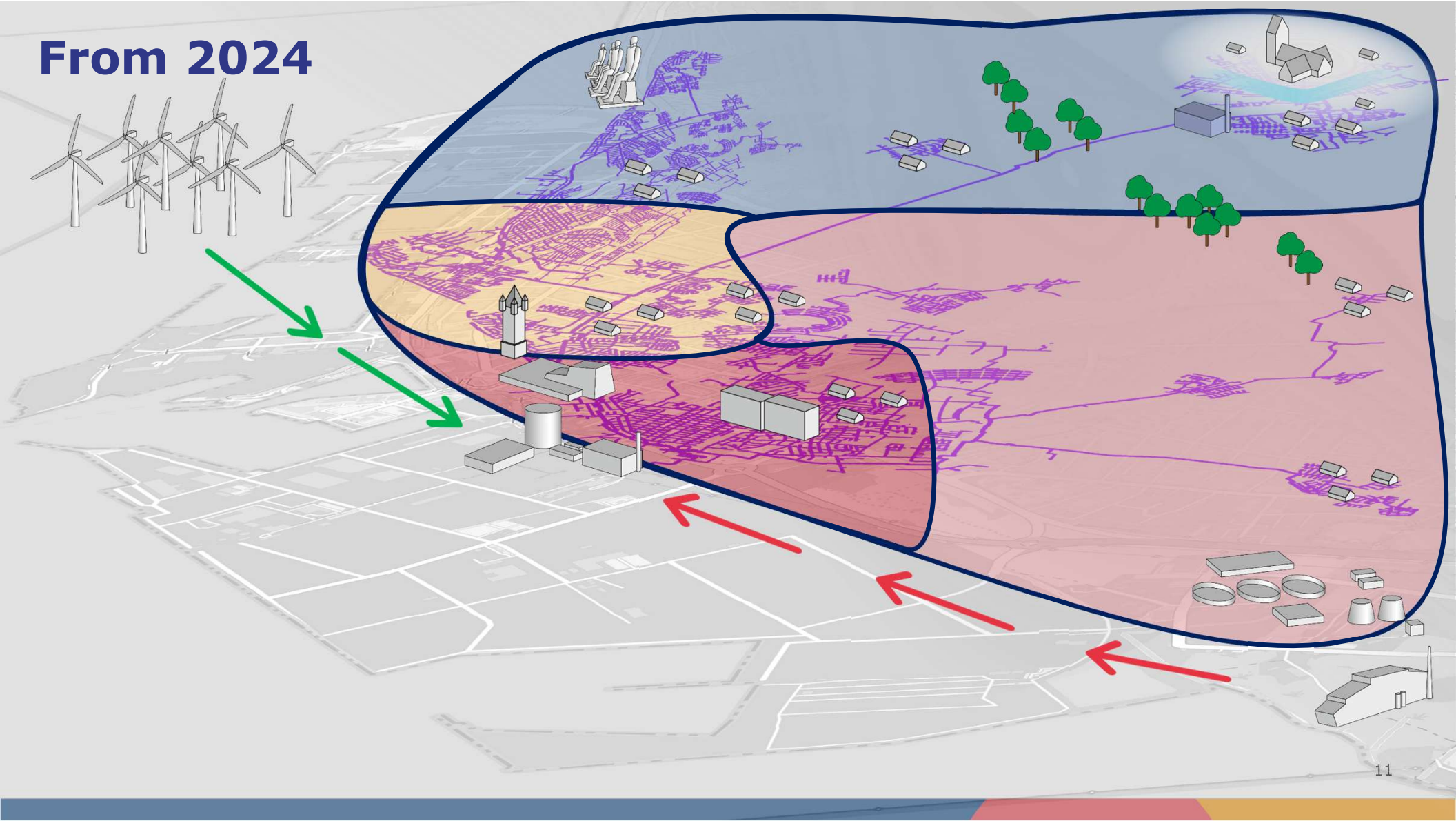


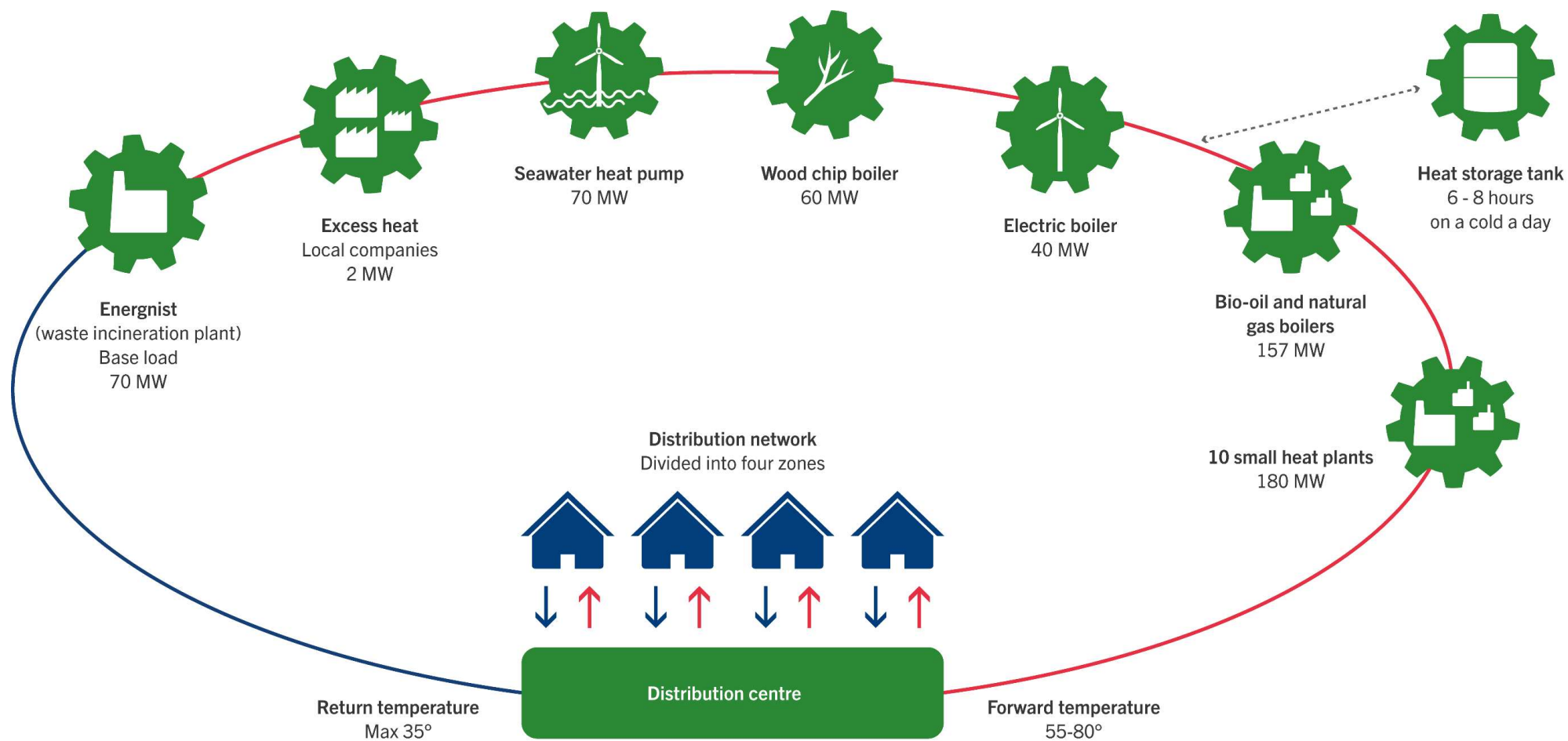
Up to 2024



District heating of the future

From 2024





Citycentralen

Varmeværk
Heating plant

2 x 50 MW biooliekedler
1 x 50 MW naturgaskedel

Ny Krone

Pumpe og fordelercentral
Pump and distribution center

Udpumpningskapacitet 400 MW
4 blandedre
16 pumper

Akkumulatortank

Heat storage tank

Indhold: 45.000 m³ liter
Energiindhold: 2.500 MWh ved 90° C

Transformatorbygning

Transformer building

2 stk. 60/10 – 25 MVA transformer
21 stk. 10/0,4 el 0,7 kV transformer
2 km 60 kV kabel
7 km 10 kV kabel
5 km fiberkabel til SCS system

Nødstrømsgenerator

Emergency power generator

2,5 MW elektrisk generator
1 MWh batterianlæg (kapacitet)
1 MW batterianlæg (last)

Spædevandstank

Tank with make-up water

Volume: 1.908 m³ liter

Flisværk

Wood chip boiler plant

48 MW fliskedel
12 MW røggaskondenseringskedel
80 meter skorsten

Flismodtagelse

Wood Chip reception

Volume: 700 m³/t
Frasorterer stykker større end 100 mm
Online flisfugtmåler baseret på røntgenteknologi

Havvandsvarmepumpebygning

Seawater heat pump building

70 MW termisk output
21 MW elektrisk input
4.000 liter havvand i sekundet
Indtag og udløb 700 meter væk
2 separate produktionslinjer

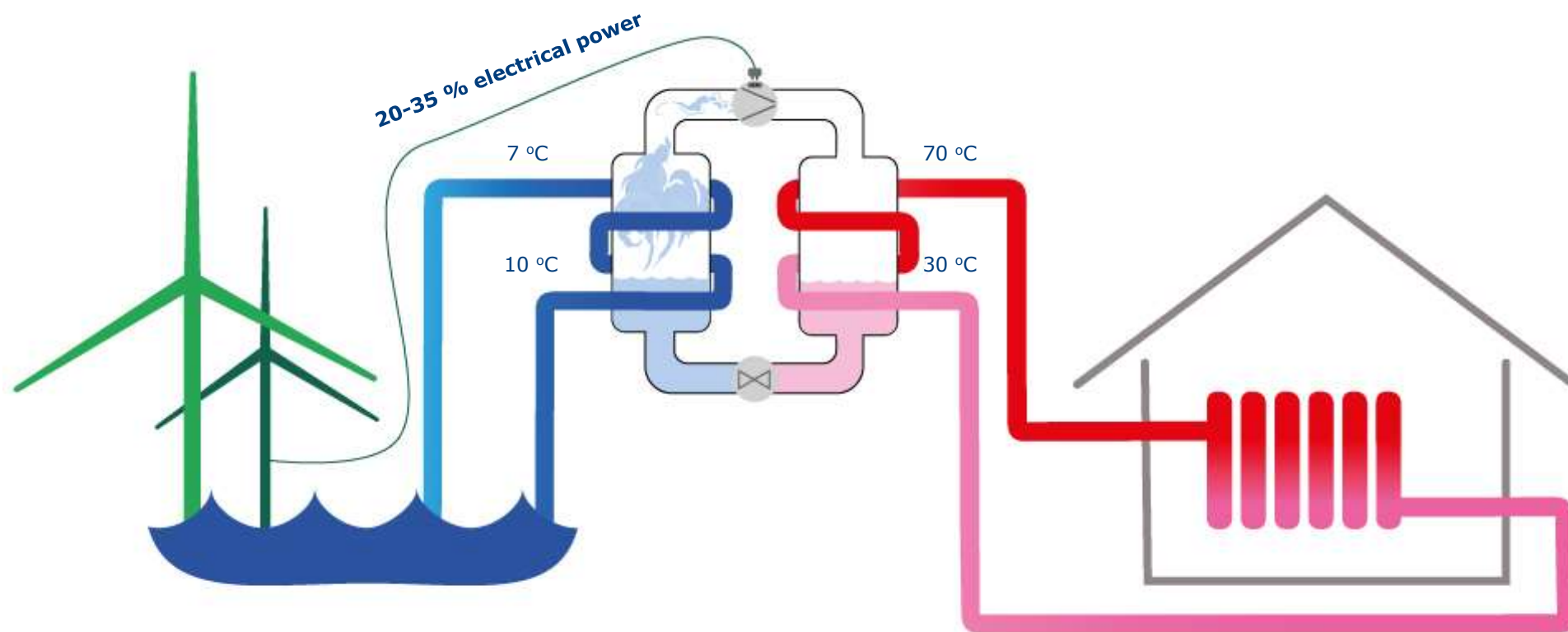
Flislager

Wood chip storage

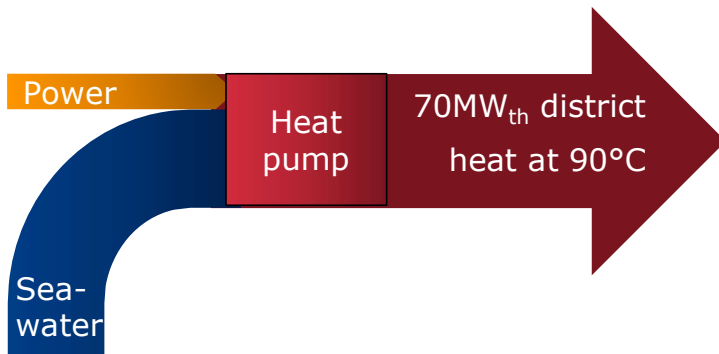
Volume: 8.000 m³
Leveringskapacitet til kedlen: 200m³/t

Første spadestik var den 23. oktober 2020
Grundarealet er på 50.000 m², og byggearealet er 7.000 m²
Totalprisen for projektet cirka 1,6 mia. kr.

Seawater heat pump



Extracting heat from seawater for district heating



- MAN Technology based on Oil & Gas standards with >100 references
- Heat pump lines with at its heart two hermetically sealed, all electric HOFIM® motor-compressor with integrated expander and power size of each 10,5 MW_{el}
- Transcritical CO₂ (R744) as refrigerants
- Fully electric (no lube oil)



Water and wastewater



Drinking water



77.300

customers*



8.035.000

m³ delivered



73

Active wells



1.511

Kilometers of pipes.

*Calculated as customers with payment responsibility to DIN Forsyning, each customer is often several users in the same household, housing association, etc.

Water

- Drinking water can be supplied by DIN Forsyning on general conditions
- Technical water can be supplied with custom made agreements



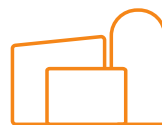


Wastewater



67.487

customers*



17

Wastewater treatment plants



29,7

mio. m³ wastewater treated



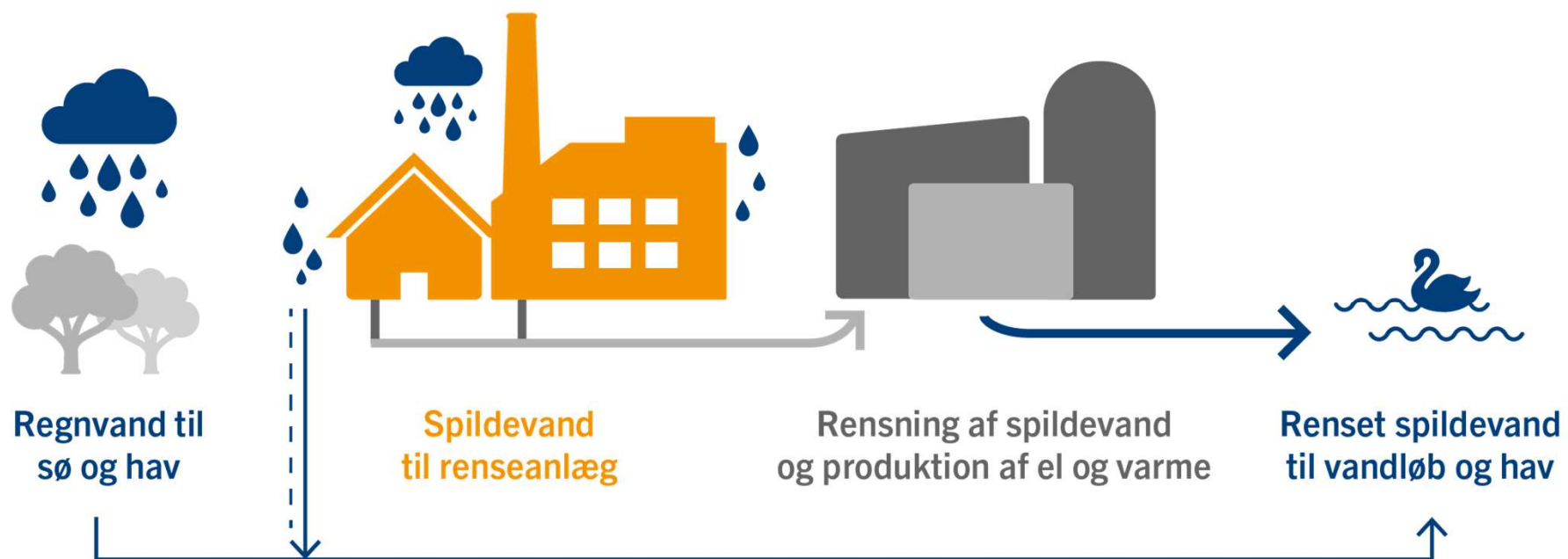
2.800

Kilometers pipes

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Wastewater

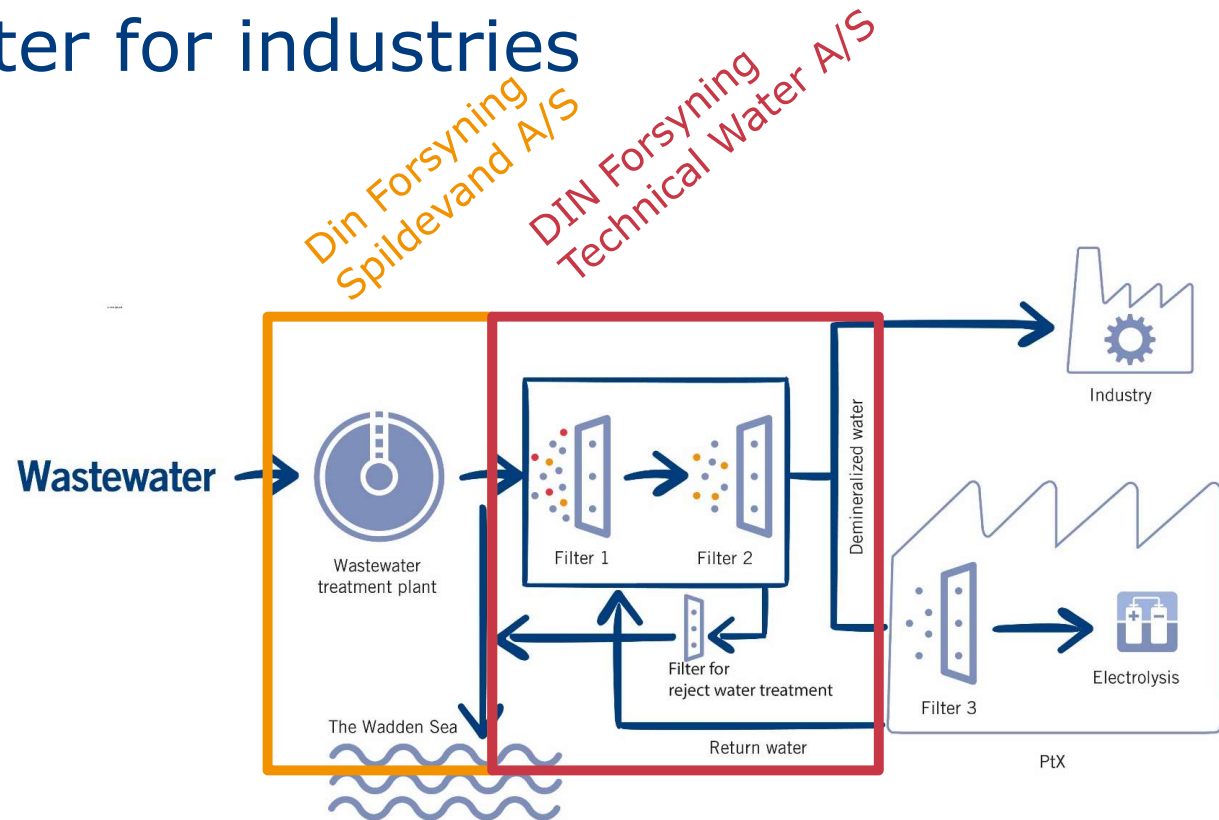
- Wastewater can be handled by public sewer system on general conditions
- Discharge permit for waste water is to be obtained from Esbjerg Kommune which will set-up requirement for the wastewater content of various compounds



Water of the future

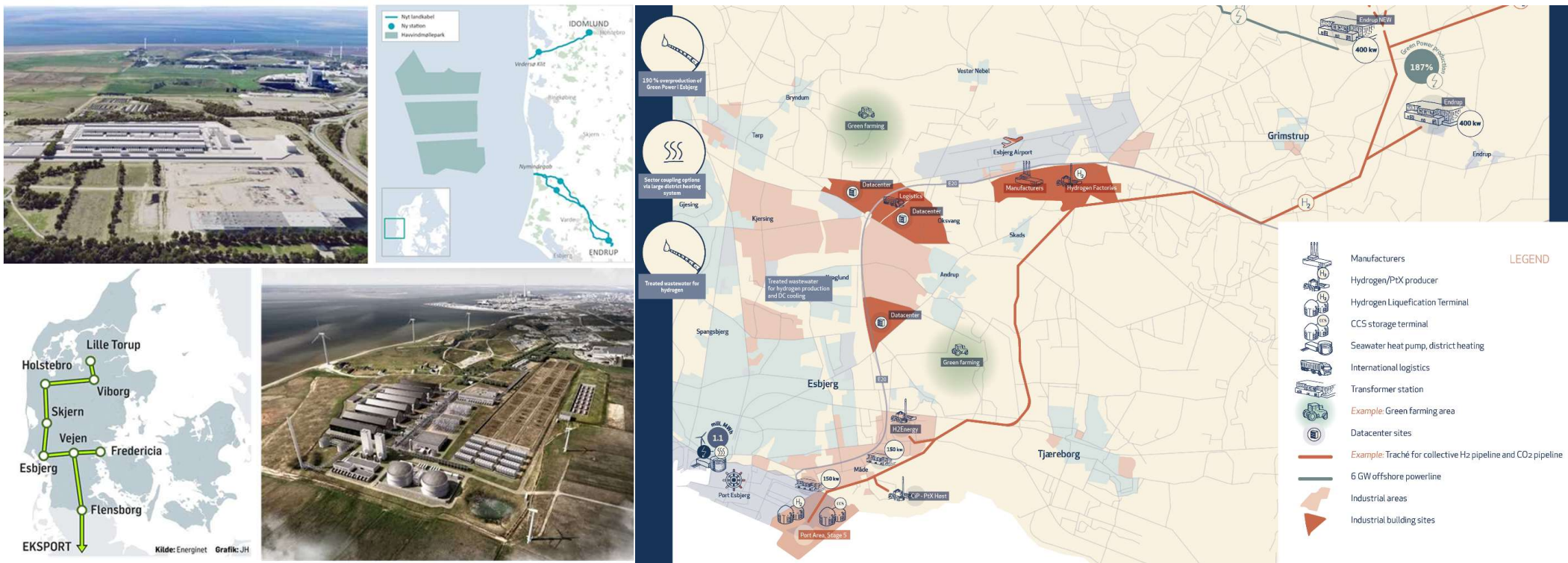
Technical water – water for industries

- Technical water or treated wastewater is to be the predominate raw water source for hydrogen production in Esbjerg
- Total amount of this raw water in the municipality is estimated to more than 6 million m³ per year
- DIN Forsyning is developing the delivery of clean technical water e.g. RO-water for PtX or datacenter
- Specific projects must be done in close dialogue with the customer, development and maturation etc. must be agreed



Sector coupling solution

Esbjerg as energy hub



Sector coupling solutions:

Future opportunities with Power-to-X, Datacentres etc.

CIP – HØST Esbjerg

H2 and NH3 production for agriculture fertilizer and ship fuel:

- Excess heat and cooling
- Technical water

MorGen (H2 Energy)

H2 production for transport and distribution via pipeline:

- Excess heat and cooling
- Technical water

European Energy

H2 production based on local wind turbines:

- Excess heat
- Technical water

Plastic to oil

Conversion of plastic waste to raw material for plastic production:

- Excess heat
- Technical water

Data center

Data exchange and storage requires large amount of electrical power:

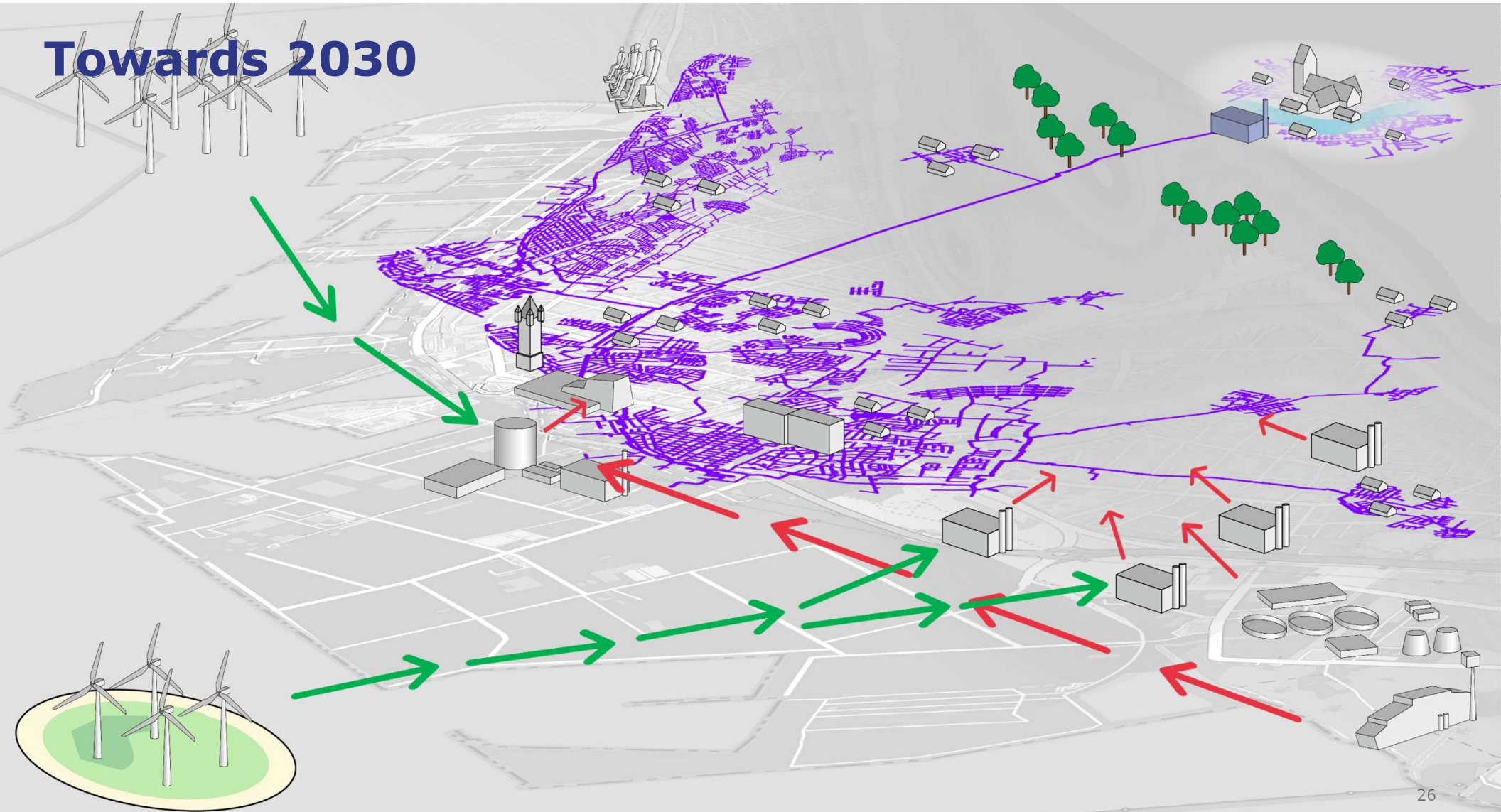
- Excess heat
- Cooling supply
- Technical water

Other business

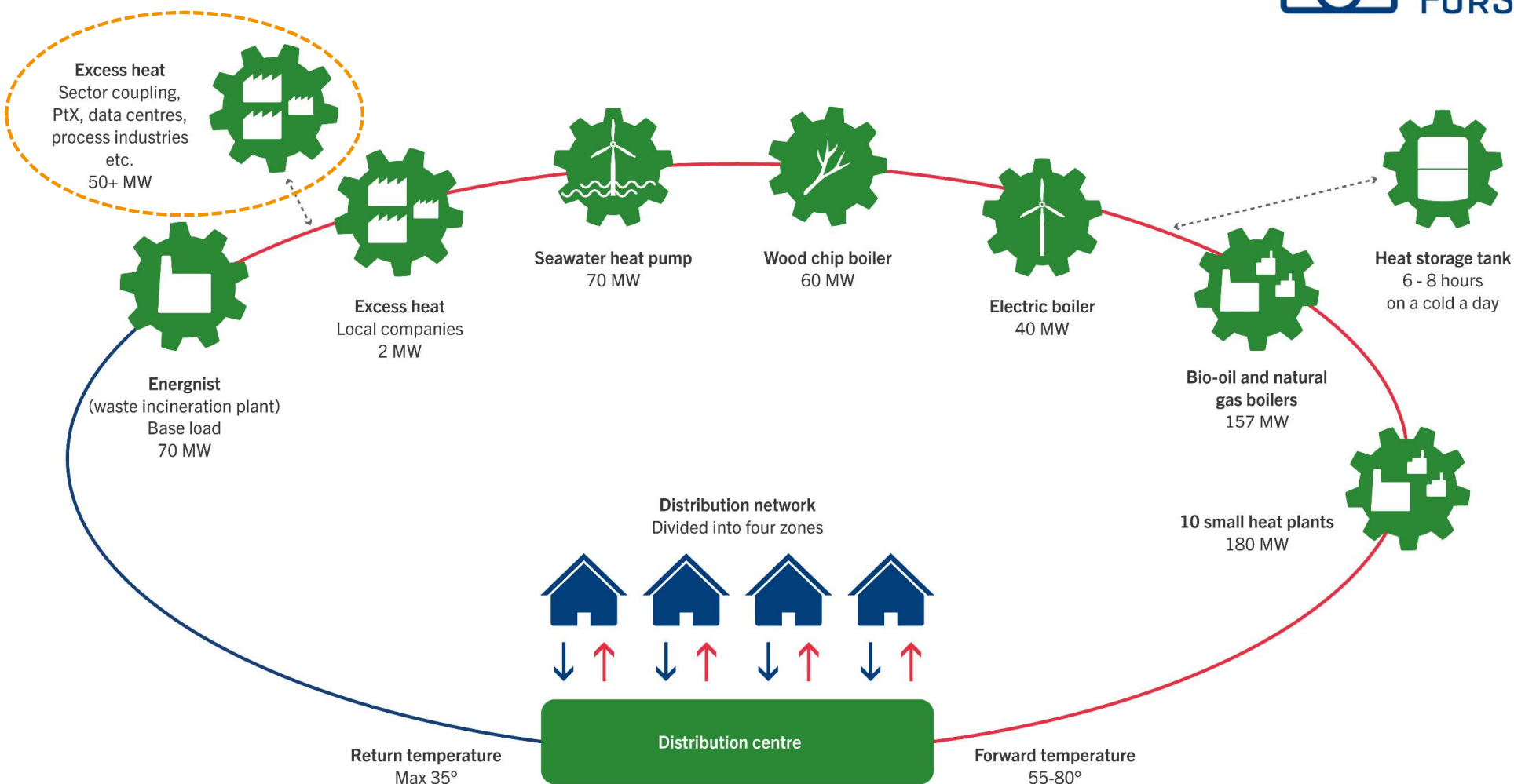
New technologies:

- Technical water
- District cooling
- Process heat
- Energy storage

Towards 2030



District heating of the future



Thank you!

Henrik Harborg Blicher

Head of projects, DIN Forsyning

hbb@dinforsyning.dk

Kim Stenholdt Madsen

Senior projekt manager, DIN Forsyning

ksm@dinforsyning.dk