

# Aarhus Vand Blue and Green Transition



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## PURPOSE

Aarhus Vand creates health through the supply of clean water – to people and the planet

## VISION

Creation of a national platform  
as a driver for local and global solutions to a healthier water cycle

## CROSS-CUTTING STRATEGIC PRINCIPLES

Customised solutions – partnership formation – investment in new technology – sustainable action

## STRATEGIC FOCUS AREAS

### COMMERCIALISATION



Exploiting the commercial potential  
to establish an independent  
business arm

### INNOVATION



Accelerate development of  
knowledge and technology for  
future solutions

### GLOBALISATION



Spread national solutions to the  
wide world and bring home  
new knowledge

### AN EXCELLENT BASIC SERVICE

Treatment of wastewater and supply of clean  
and healthy drinking water – resource-efficiently  
and climatically optimised



### A PURPOSE-DRIVEN ORGANISATION

Strengthen the organisation through  
the development of a company culture  
and leadership



# Jesper Kjelds

Chief Digital Information Officer @ Aarhus Vand

- +30 years (10 years in the USA) international experience in the global water sector
- Water modeling (water resources and urban water systems)
- Smart Water Solutions (Intelligent Water Systems & Big Data, IoT, Analytics and Models)
- Digital Transformation @ Aarhus Vand



# DIGITAL TRANSFORMATION AARHUS VAND



- Enabler and Prerequisite for Business Strategy
- Access to and Sharing of Open Data & Information
- Partnerships - Knowledge Sharing and Co-Creations
- Digital Enabled Customers – Needs and Selfserve
- Increased Productivity – Work Smarter
- New Datadriven Services and Solutions
- Driving Change

# We use data and insights to make the right decisions

- ... customers
- ... operations and service
- ... planning & construction projects
- ... innovation
- ... Biz Dev
- ... Strategy, Finance and HR



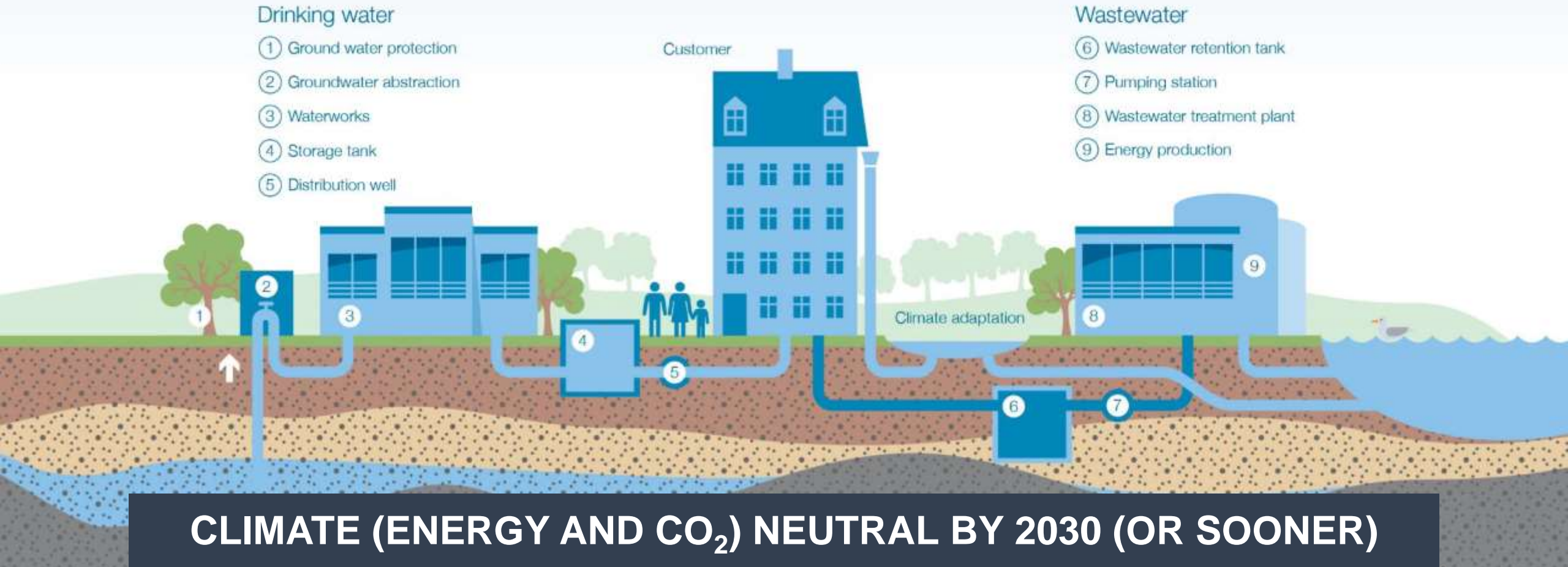


# Our Water Systems



# Operator of the entire water cycle

## INTEGRATED CONTROL AND OPTIMIZATION



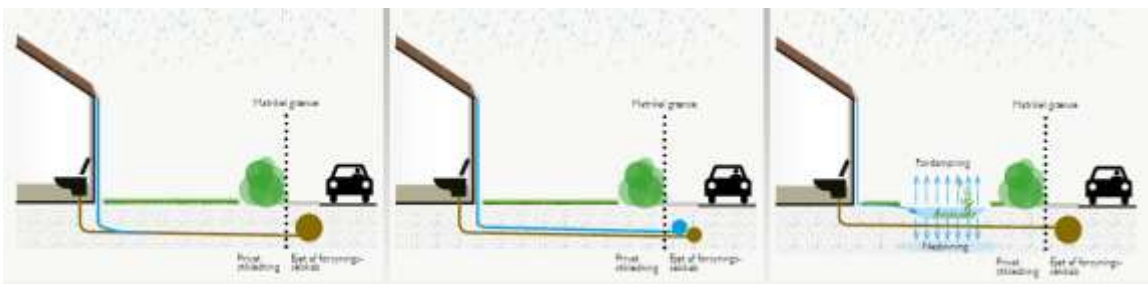


# Wastewater

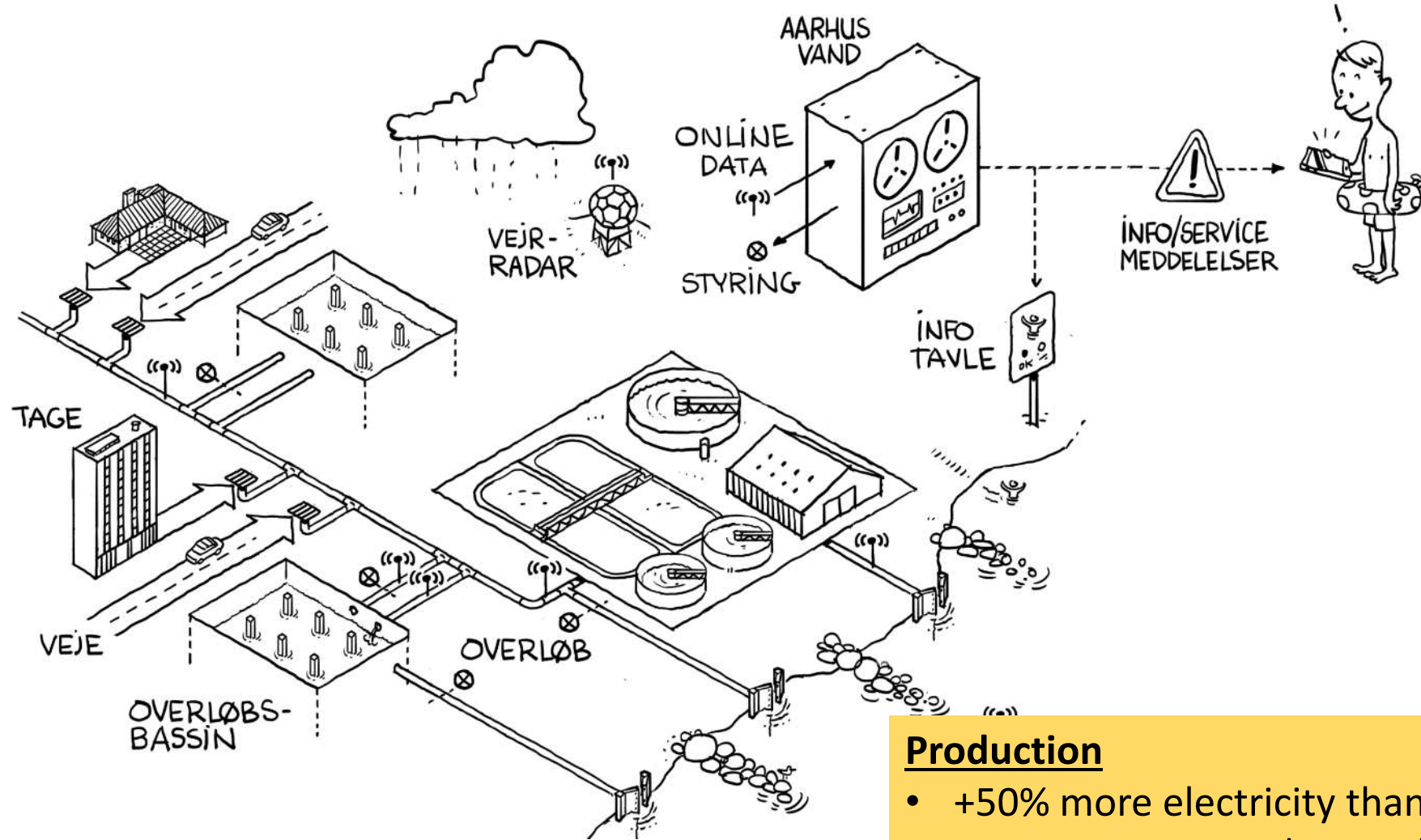
- collection, conveyance and treatment (Recovery/Reuse)



- **~400.000 customers**
- 460.000 PE load/year
- 35.000.000 m<sup>3</sup>/year
- 2.800 km of mains
- **4 waste water treatment plants**
- 100 pumping stations
- 2 Phosphorus recovery plants
- 26 % combined system



# Integrated Control – Combined Sewer Systems and Waste Water Treatment Plant

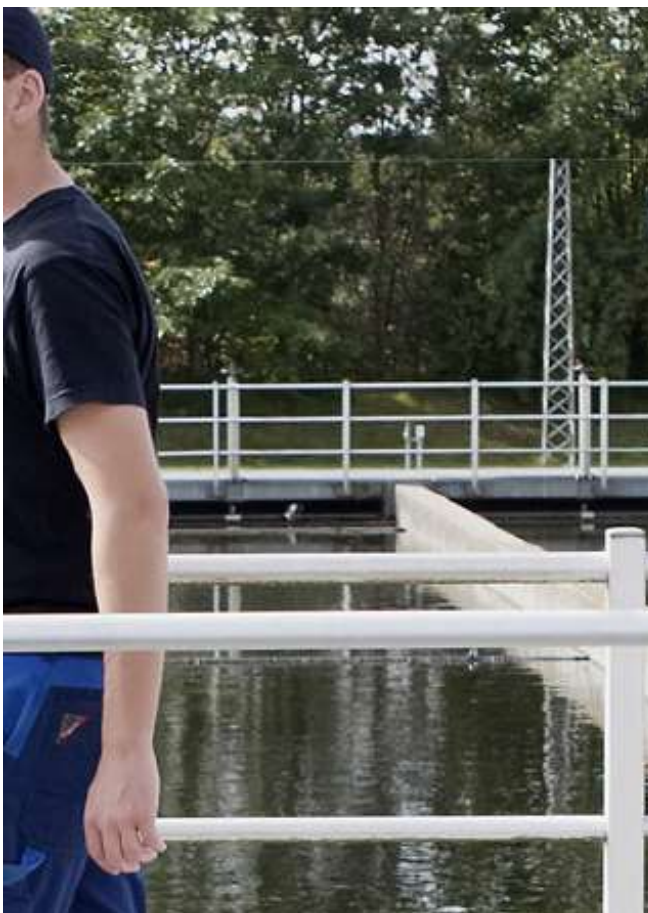
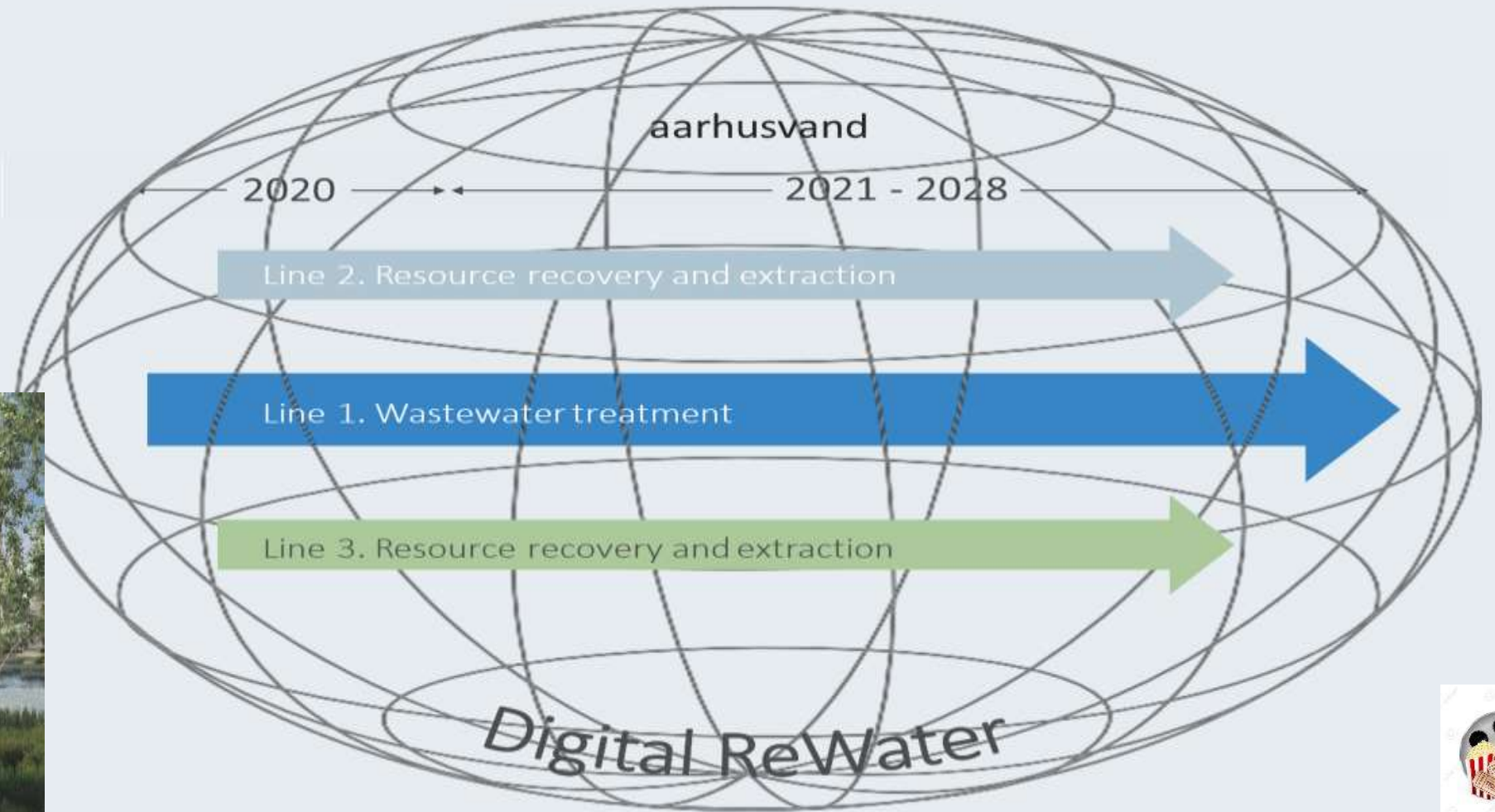


- Production**
- +50% more electricity than consuming
  - Hot water returned to DH (~50% of energy consumption)
  - Bio P as fertilizer
  - Sludge as Leca pellets as BioChar

# Aarhus ReWater

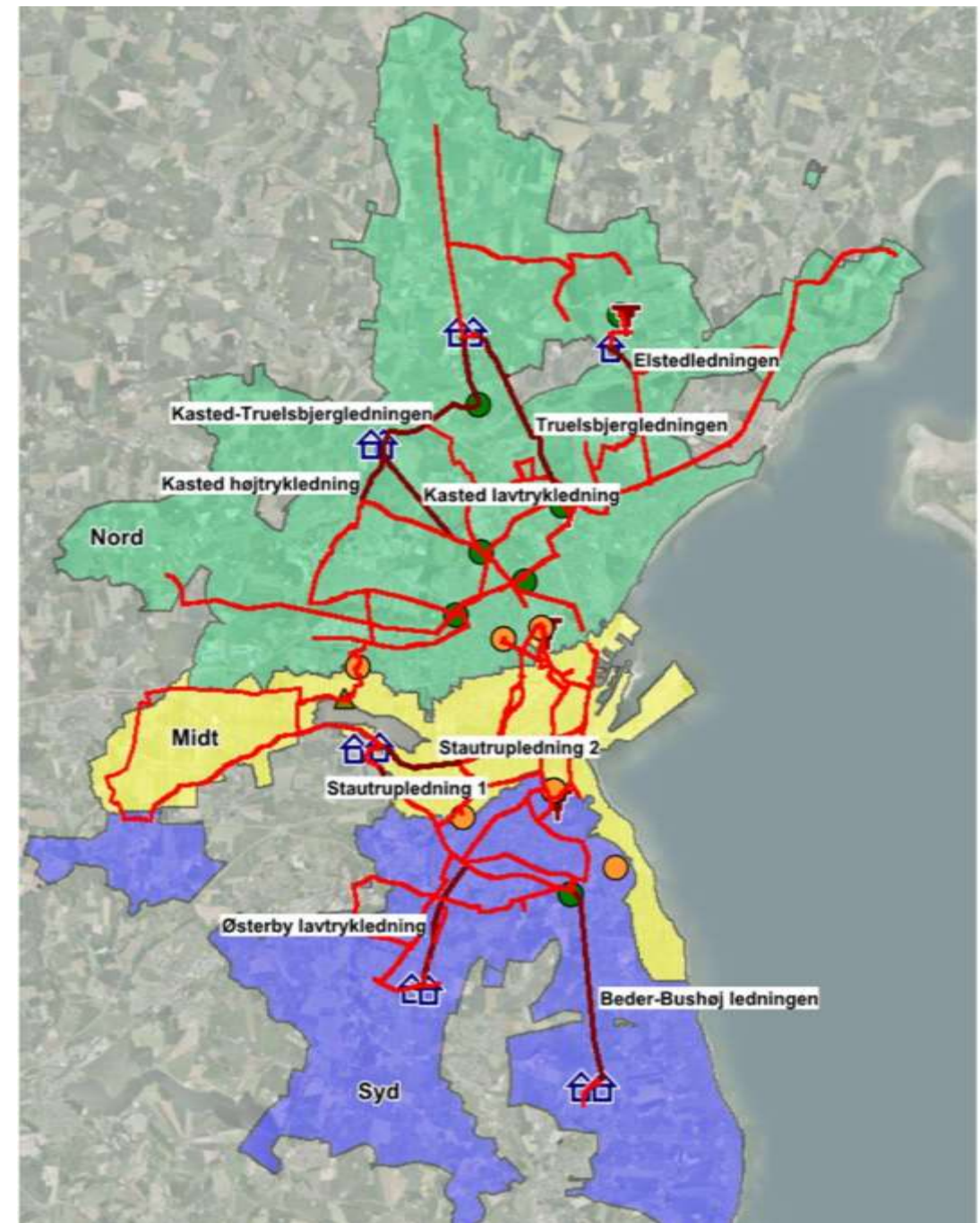
<https://www.aarhusvand.dk/en/international/our-solutions/wastewater/aarhus-rewater/>

Building the world's most resource efficient facility for wastewater treatment

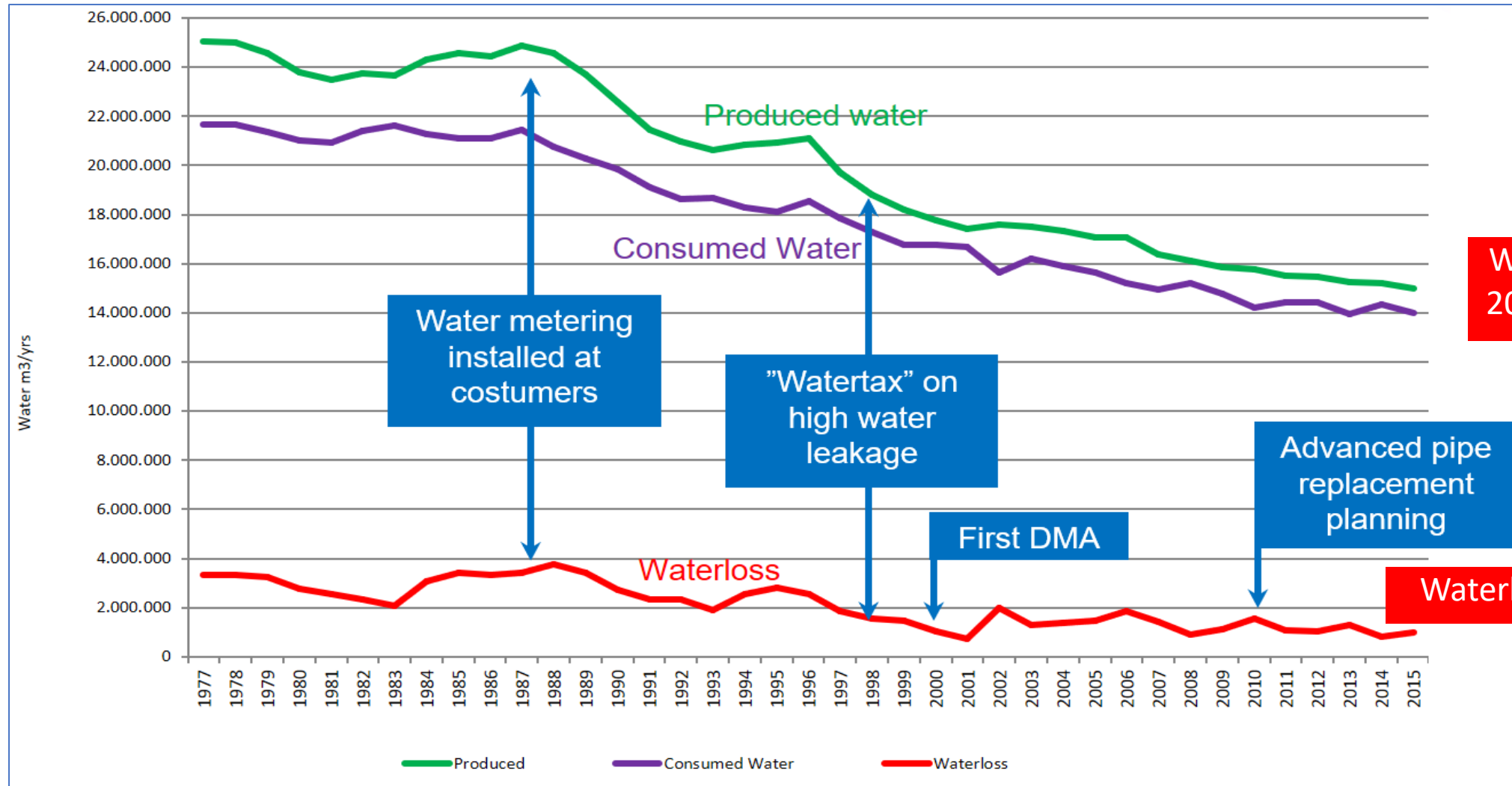


# Water Supply System

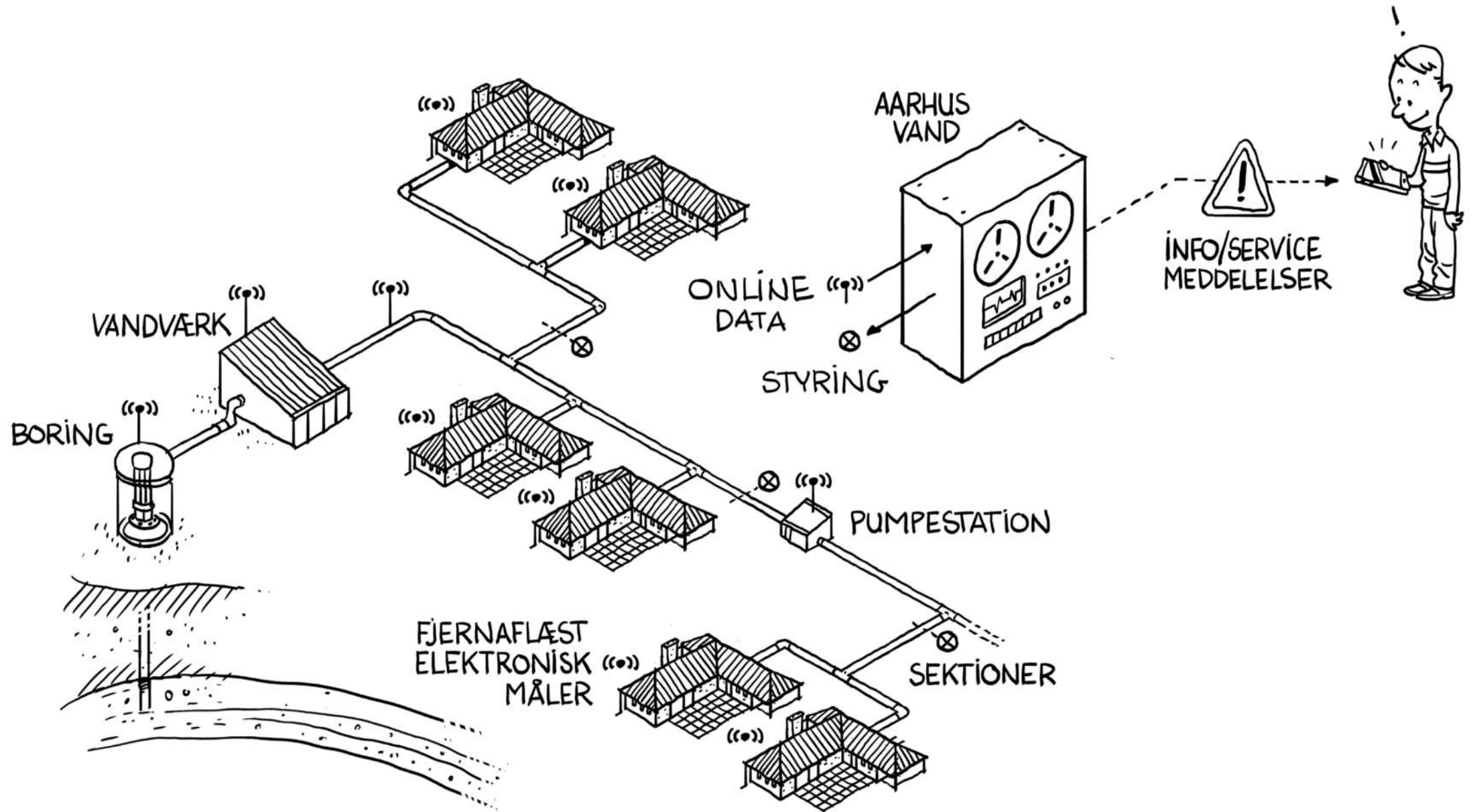
- ~300.000 population (~70.000 customers)
- **+15.000.000 m<sup>3</sup>/year**
- 1.500 km supply lines
- 90 production wells
- 8 waterworks
- 11 elevated storage tanks/pumping stations
- 1 water tower



# The history of water use and NRW reduction



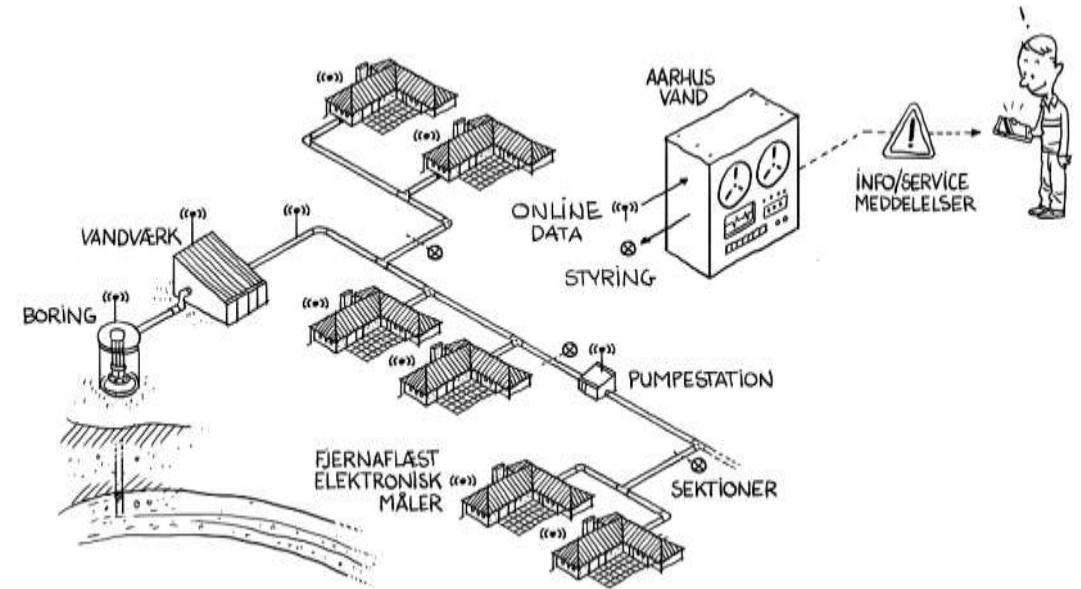
# ... Integrated control and optimization water supply and distribution



# Value Creation

## ... Integrated control and optimization water supply and distribution

- Water Quality – Less Risk by
  - Elimination of elevated storage tanks
  - Avoiding stagnant areas
- Energy Consumption / CO2 emissions
  - Reduction of average service pressure
  - Demand driven source selection
- Leakage (NRW)
  - NRW reduction – reducing amount of leakage flow
- Protection of Assets
  - Reduction of pipe breaks
  - Extended asset life time

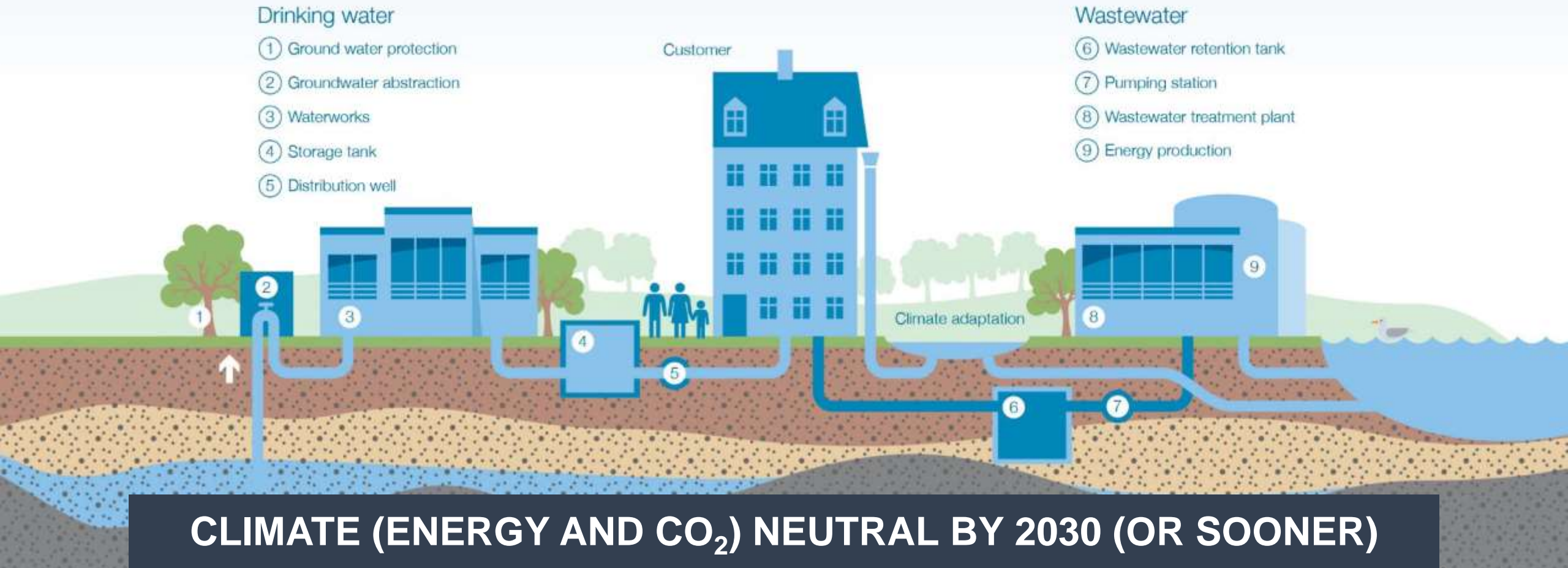


**Expected annual savings 2mio DKR**

(NRW [10%], Energy [25%], Pipebreaks [10%])

# Operator of the entire water cycle

## INTEGRATED CONTROL AND OPTIMIZATION



**CLIMATE (ENERGY AND CO<sub>2</sub>) NEUTRAL BY 2030 (OR SOONER)**



# Aarhus Vand Smart Water

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# More Information

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**For info or further questions on this webinar please contact the JASPERS Networking Platform team:**

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