



Cleantech Forum **Europe** | Stockholm

# The Circular Water Economy: Opportunity & Innovation



## The Circular Water Economy



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SVANBERG**  
Dev Leader Water  
Solutions, New  
Business &  
Innovations, IKEA  
Of Sweden



**cembrane**  
*clean water for life*

CCO & Co-founder,  
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# INTRODUCTION

*Founded dec 2014*

*Producer of ceramic membranes*

*Supply OEMs within water reuse & drinking water*

*From 3 to 27 employees*

*From 800 to 2.000 m<sup>2</sup> production area*

*2019 Sales: DKK 39 mio*

*2019 Profit: DKK 2,1 mio*

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clean water for life





# PROBLEMS *we aim to solve*

*3 out of 10 do not have access to safe drinking water*

*80% of wastewater is discharged un-treated*

*10% of worlds energy is used to pump water*

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# PRODUCT

*Our solution*

*Silicon Carbide (SiC) Ceramic Membrane*

*Loves water*

*Hard as diamond*

*Chemically inert*

*Repel sticky foulants*

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# APPLICATIONS

*where is it used*

*Drinking water*

*Industrial water reuse*

*Mobile/decentralized reuse*

*Mining water reuse*

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# APPLICATIONS *where is it used*

*Thickening of wastewater sludge*

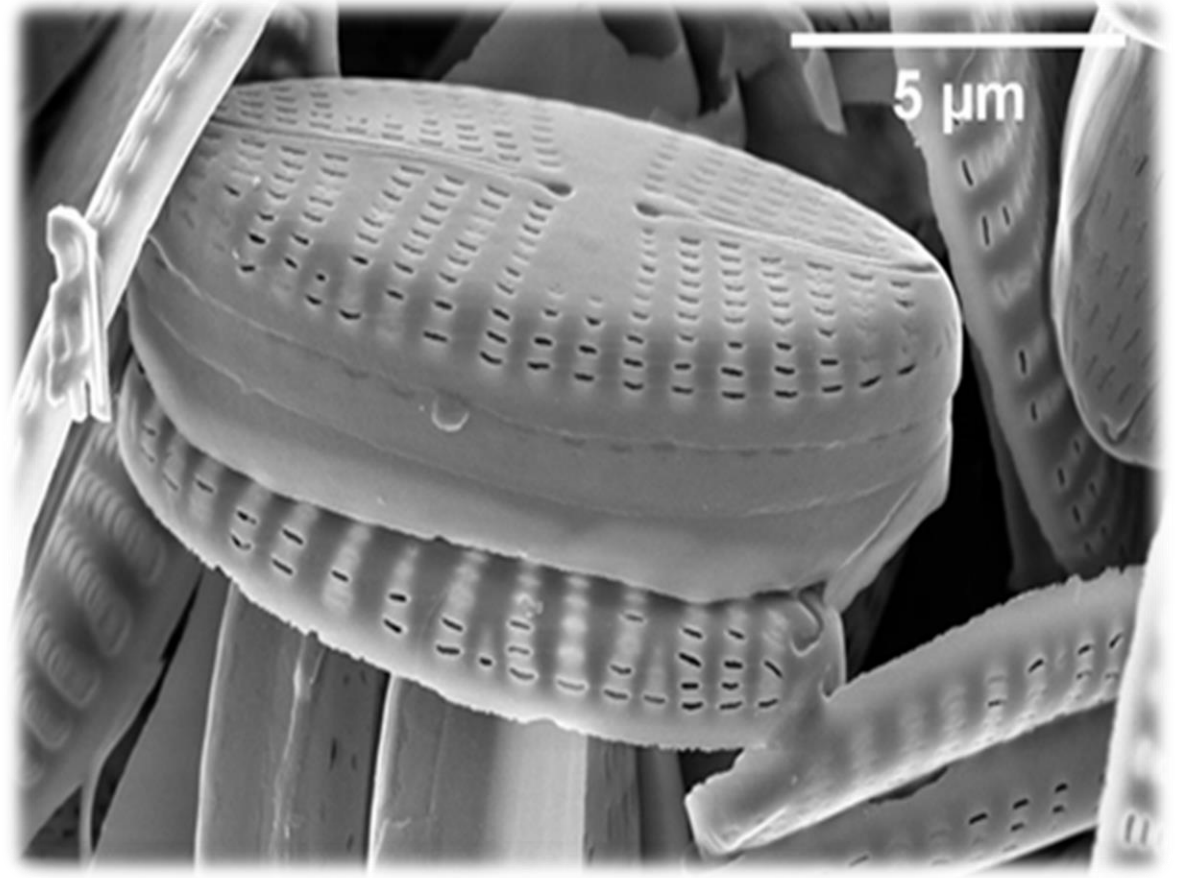
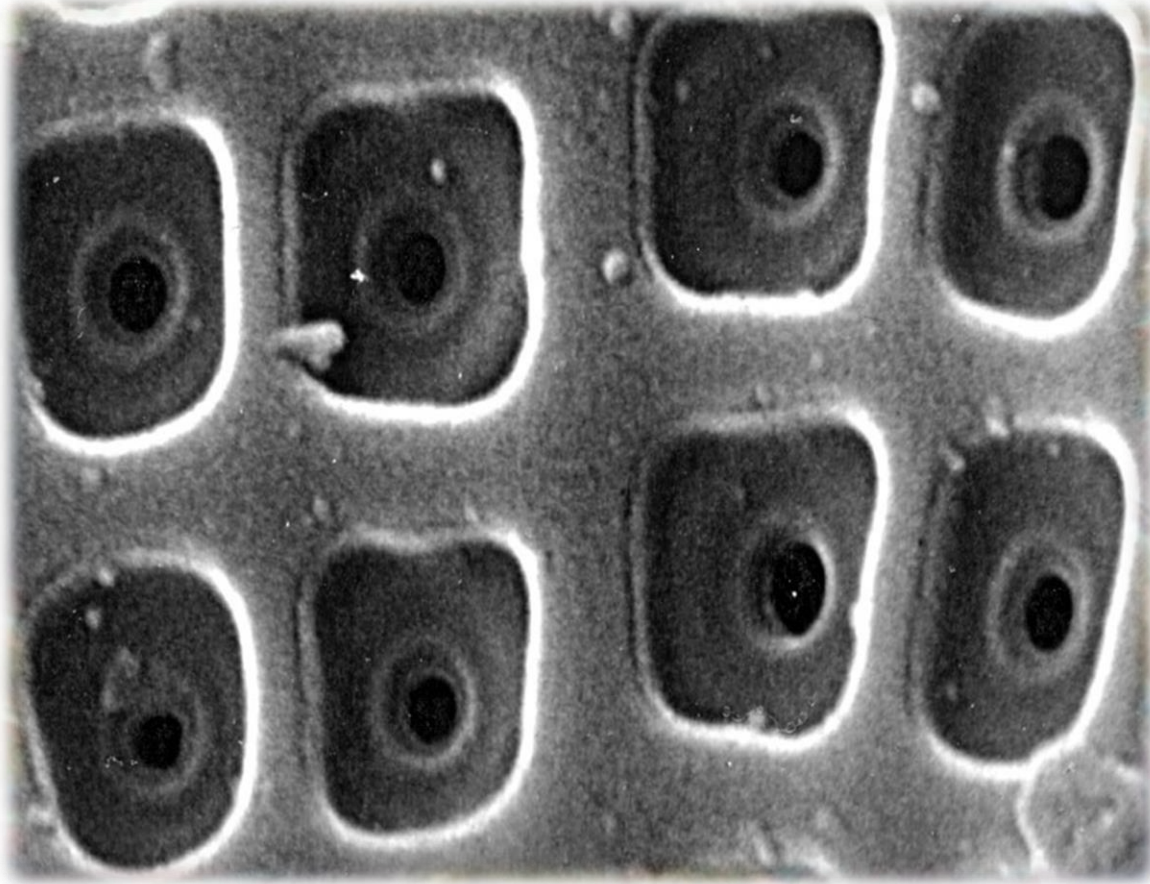
*Aquaculture / Fish farming*

*Storm water*

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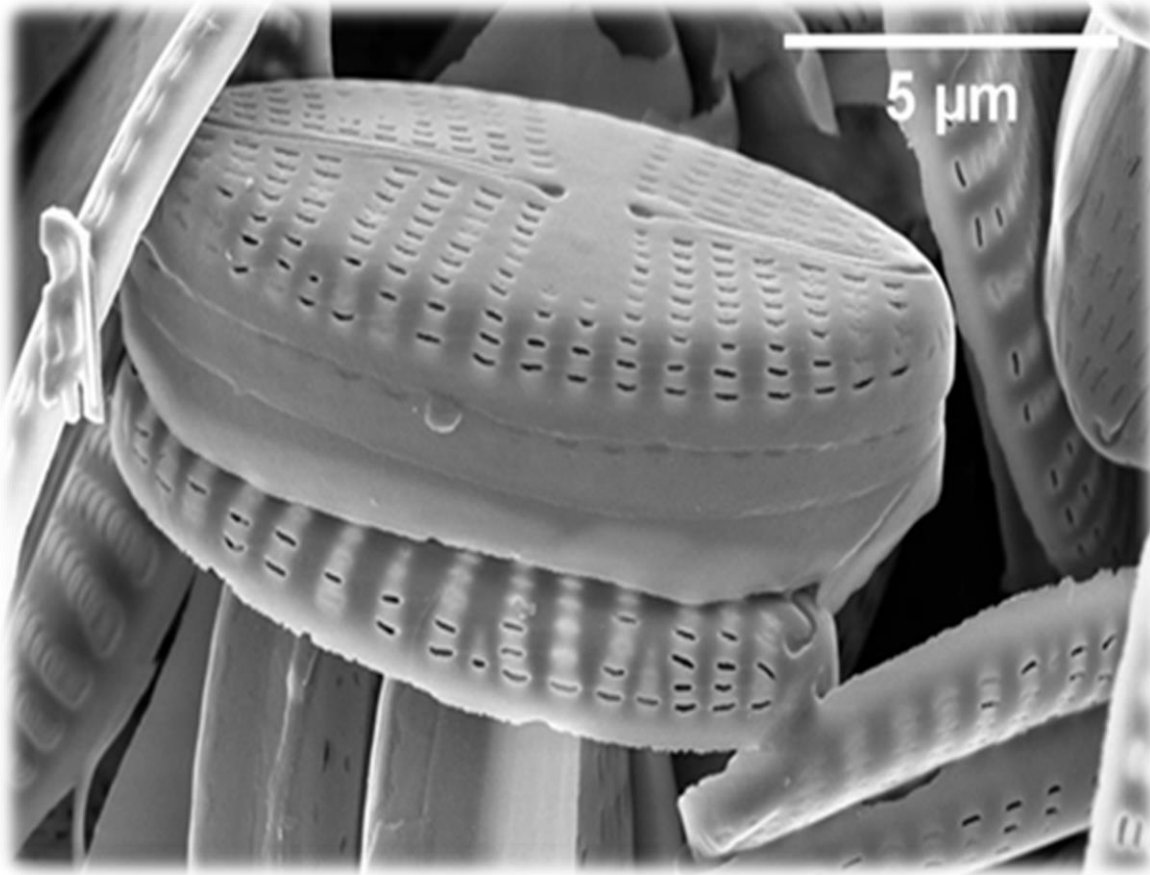


# WE CULTIVATE DIATOMS, A TYPE OF ALGAE





# SELLING TO SKIN CARE + PARTNERSHIPS IN SOLAR



## Skin care

A natural and efficient:

- Moisturizer
- Absorbent
- UV filter

Launched **one** product, **26** more in process of testing and planning launch, **5** of these are larger global skin care actors.

## Solar

Enhances efficiency with:

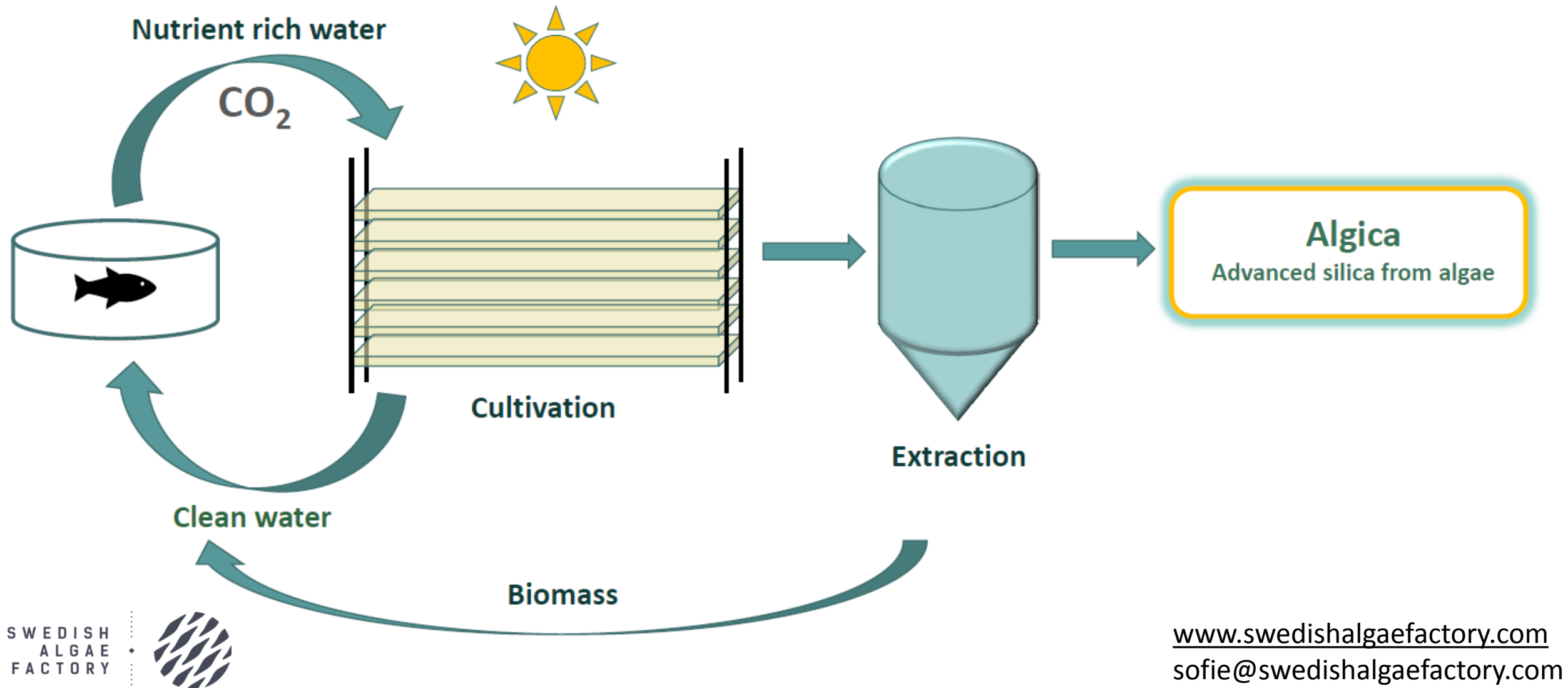
- 4 % for silicon based solar panels
- 38 % for DSSC

**3** testing partnerships, each needing **200 kg -10 tons/year**. In discussions with **6** more actors.





# CIRCULAR = SUSTAINABLE & PROFITABLE







**InOpsSys**

**Clean Water drive us all**

Cleantech Forum Europe



# Chemistry can save the world

## Challenge

(Fine)Chemical & Pharmaceutical side streams contain:

- Metals (Zn, Pd, Cr, V, ...)
- Toxic Organics
- **Active Pharmaceutical Ingredients (API)**
- Steroids/Hormones
- Surfactants (Triton X, ...)
- Solvent/Water streams (NRS)
- Solvents
- Endocrine Disrupting Compounds

**Transport  
&  
Incineration**

**@high cost**



# What we do

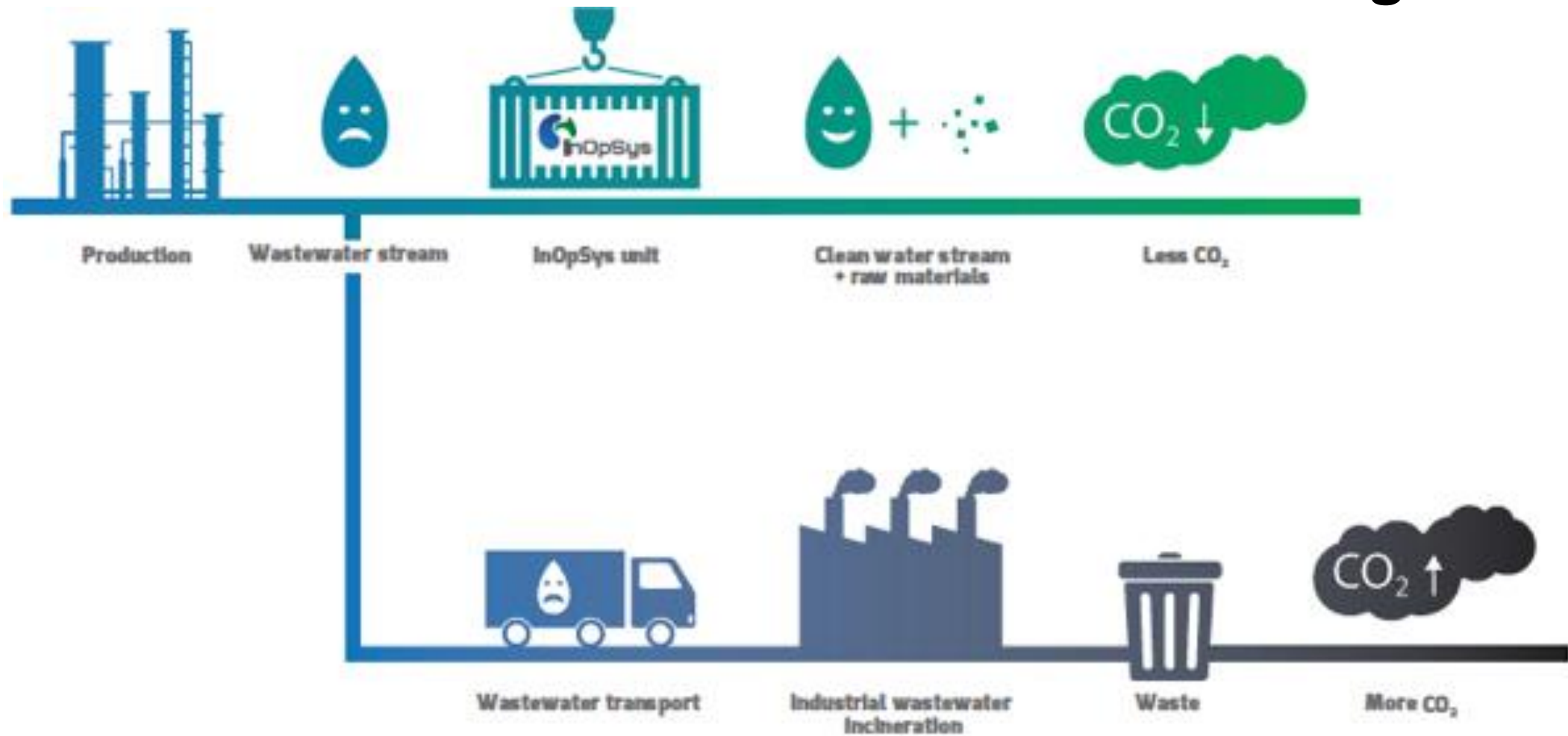
## Circular economy As A Service (CAAS)

- Design hybrid systems – combination of multiple technologies
  - AOP/BDD
  - Membranes (Polymer/Ceramic/Functionalized)
  - Adsorption (own IP)
  - ...
- Provide On-site treatment (decentral) – **No transport**
- Recuperation of **water** & valuable compounds – **No incineration**
- **Close the loop**
- We operate & take care (also ATEX)
- Attractive Business Model (OPEX)





# Paradigm Shift





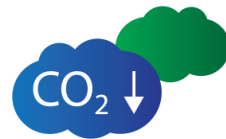
# Implemented @ Janssen Pharmaceutica (J&J)





# Our Service

- Cost Effective
- Sustainable
- Easy or no Logistics
- Capex Free
- Operations



# Complementarity Works!



A passion for chemistry, driven by sustainability





InOpsSys

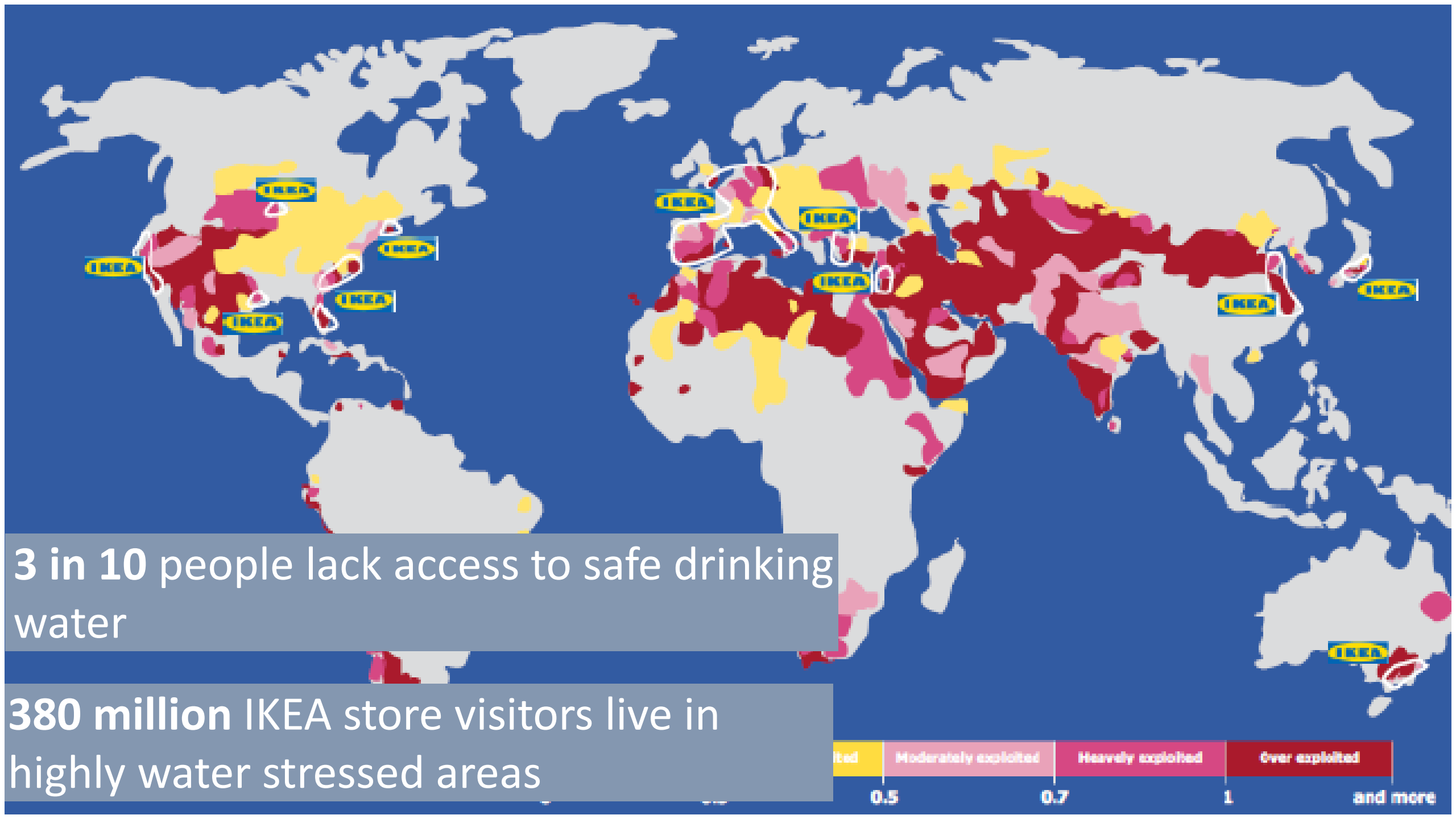
[www.inopsys.eu](http://www.inopsys.eu)





IKEA SUSTAINABILITY  
STRATEGY

**By 2030**  
**our ambition is**  
**to inspire and enable more**  
**than 1 billion people to live a**  
**better life within the limits of**  
**the planet**



**3 in 10** people lack access to safe drinking water

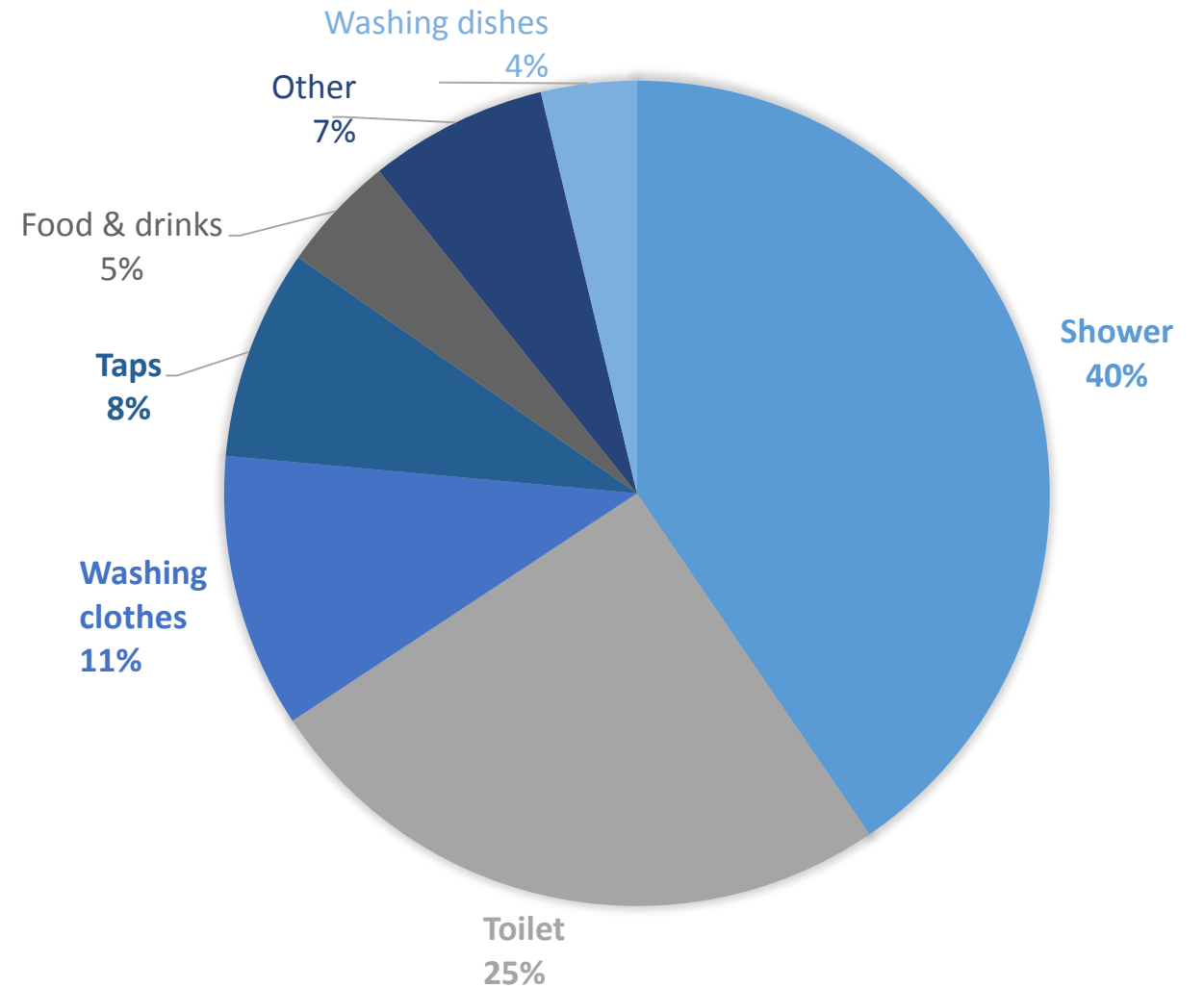
**380 million** IKEA store visitors live in highly water stressed areas



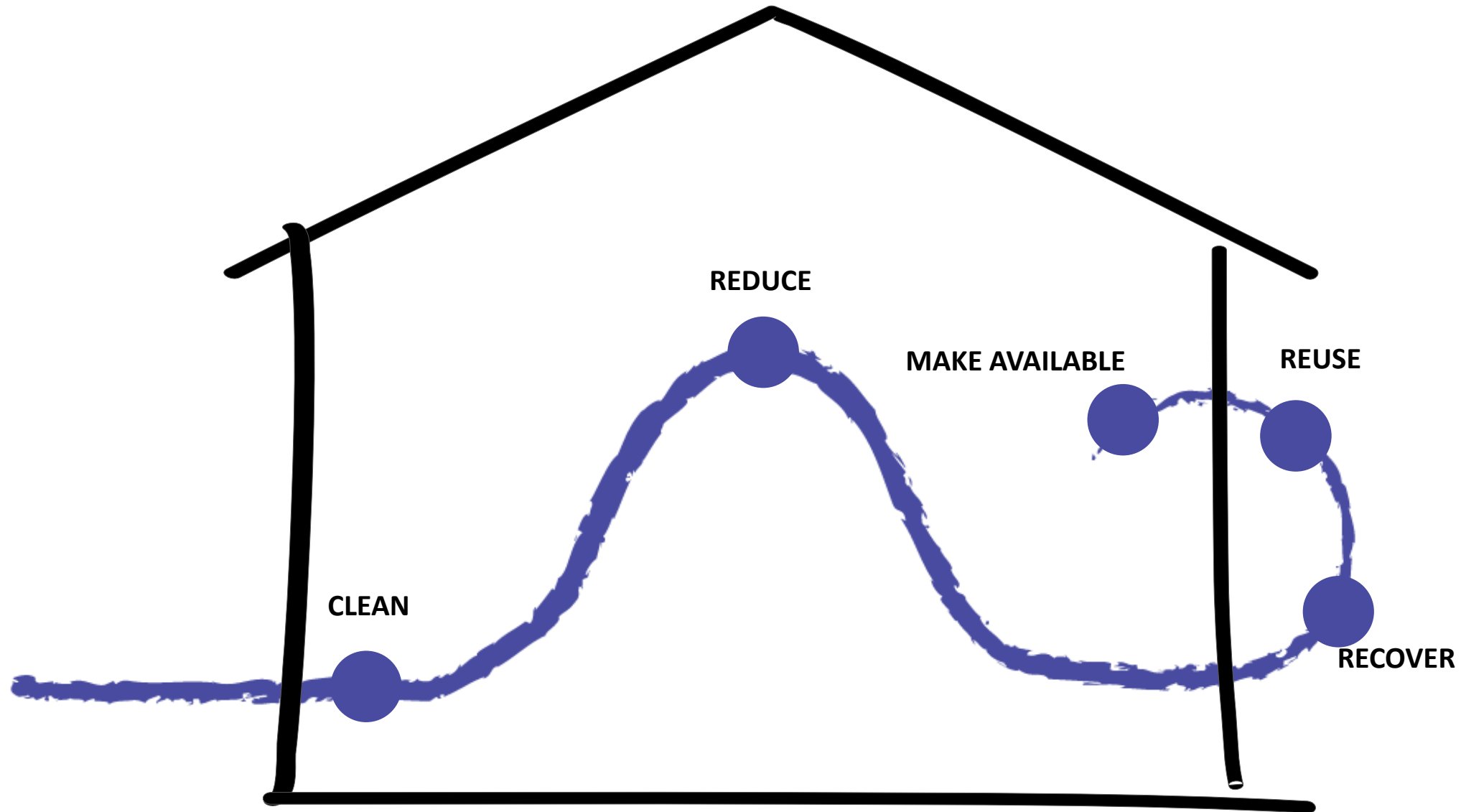




# HOUSEHOLD WATER USE

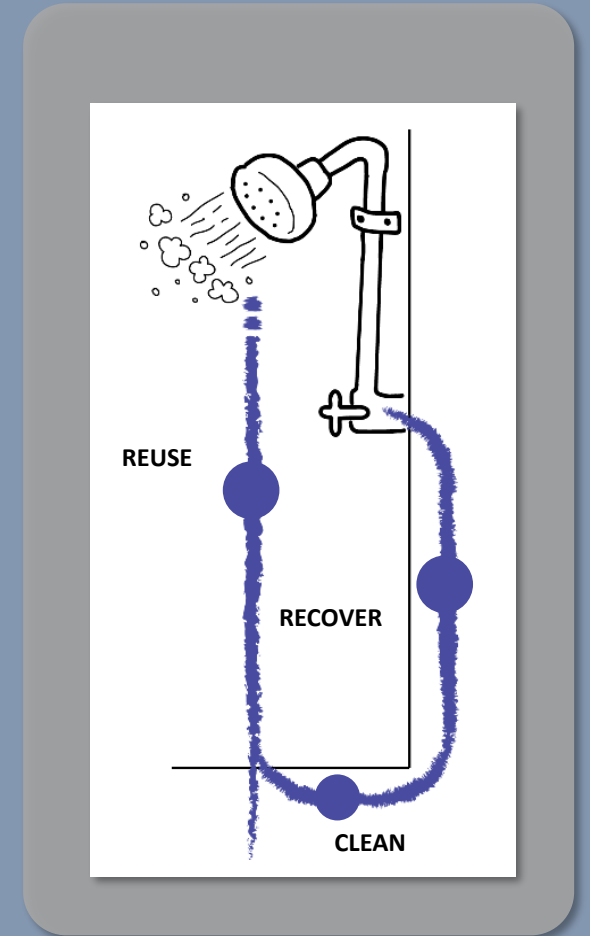
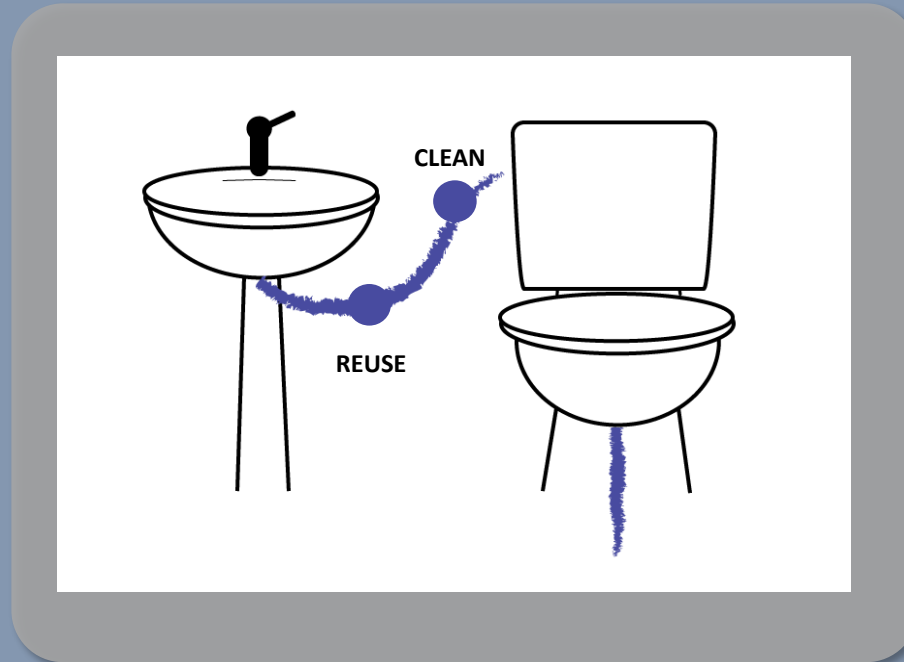
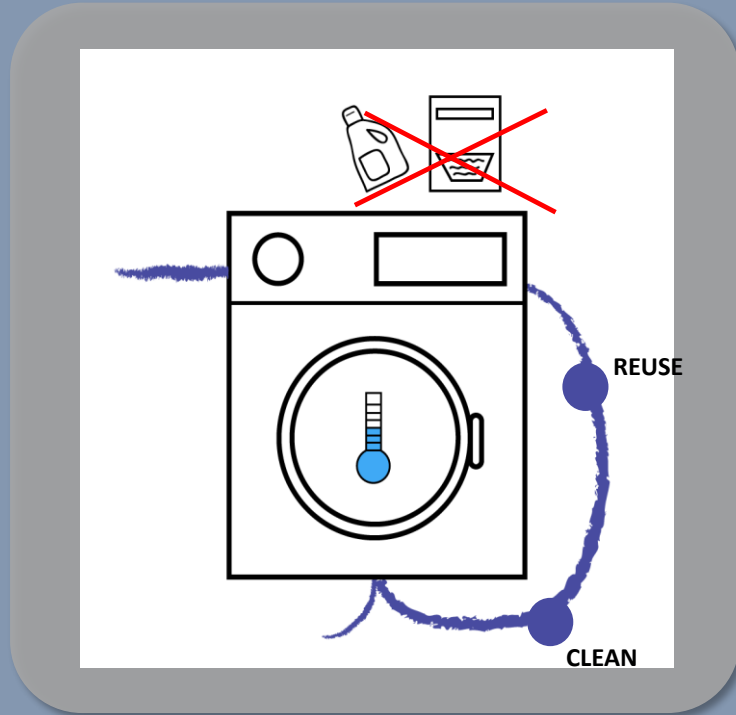


# THE WATER POSITIVE HOME





# THE ACTIVITIES WE FOCUS ON





A close-up photograph of a person's hand holding a MISTELN mist nozzle. The nozzle is white and black, with a circular mist being emitted from the bottom. The background is blurred, showing what appears to be a shower or bathroom setting.

What if 1 billion people used  
the MISTELN mist nozzle?

Together, we could save the amount of  
water used in Sweden...

...during 3  
years.





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