

Hammarby Sjöstadsverk

KTH – IVLs gemensamma pilot- och demonstrationsanläggning för kommunal vattenrening

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Importance of water treatment



- ➔ Serious illness due to poor fresh water quality
 - Contamination of fresh water resources



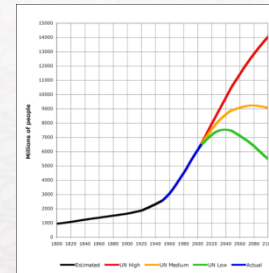
- ➔ Urbanization

- ➔ Industrialisation

- ➔ Global warming
 - Farming consumes 2/3 of fresh water



- ➔ Growing population



英文中國郵報
The China Post

“TAIPEI, Taiwan -- With the government set to launch phase-two water rationing on Thursday, electronics, chemical, base metal, textile, petrochemical, and pulp and paper industries will be the hardest hit, according to the Ministry of Economic Affairs (MOEA)”

MOODY'S
INVESTORS SERVICE

Rationing in Brazil Would Hurt
Heavy Industry,
Consumer Services

“Chairman of SITE Association of Industry Salim Parekh said that due to water shortage more than 50 per cent of export industries have closed down and more are near collapse”

“Industries close down as water shortage hits SITE”

Bloomberg



"Welcome to the Cantareira desert," reads the graffiti on a car that used to be submerged in Sao Paulo's main reservoir system

BBC
NEWS

@ivl

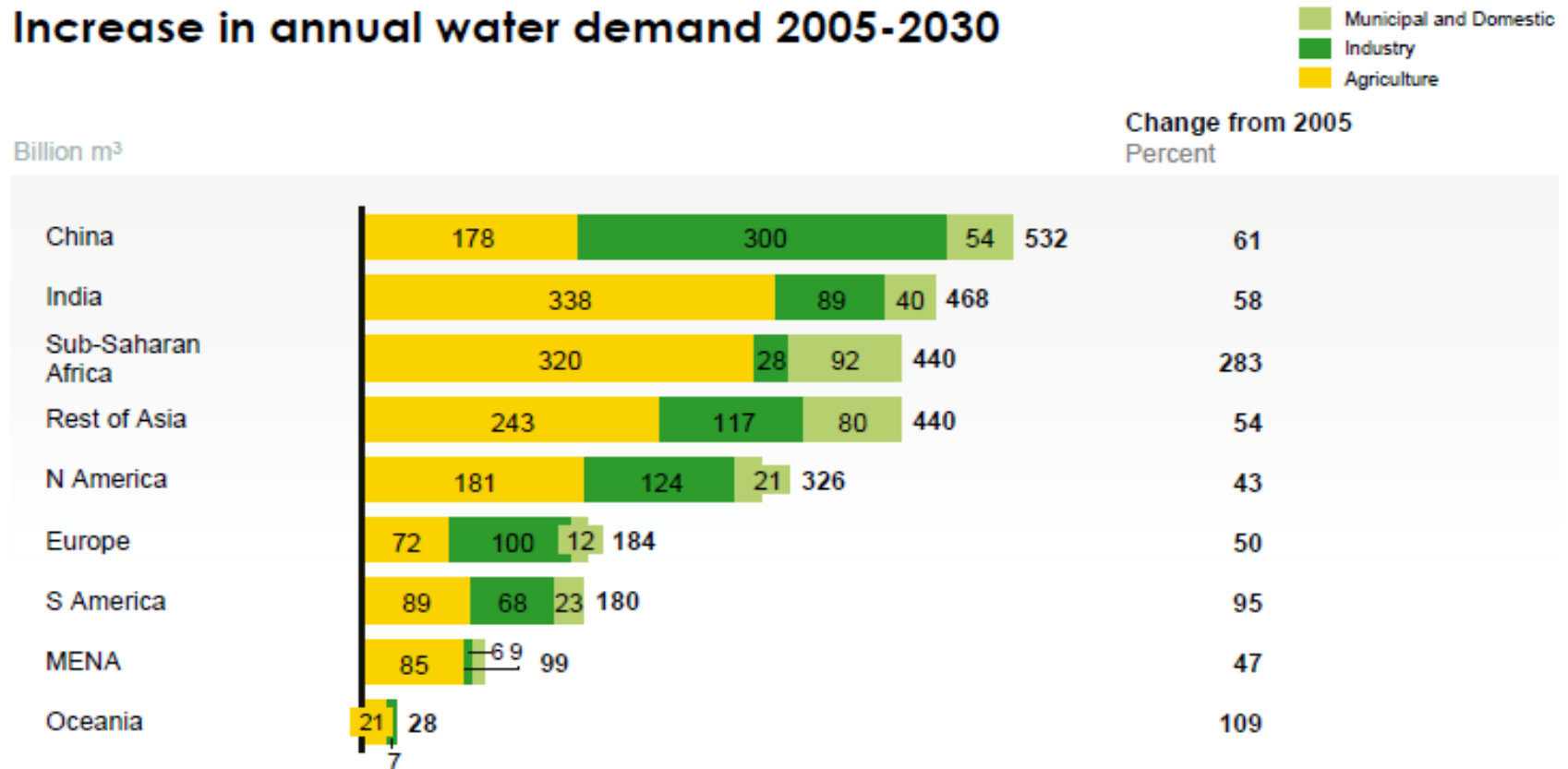
World Economic Forum, Global Risks 2015

Top 10 risks in terms of
Impact

- 1 Water crises
- 2 Spread of infectious diseases
- 3 Weapons of mass destruction
- 4 Interstate conflict
- 5 Failure of climate-change adaptation
- 6 Energy price shock
- 7 Critical information infrastructure breakdown
- 8 Fiscal crises

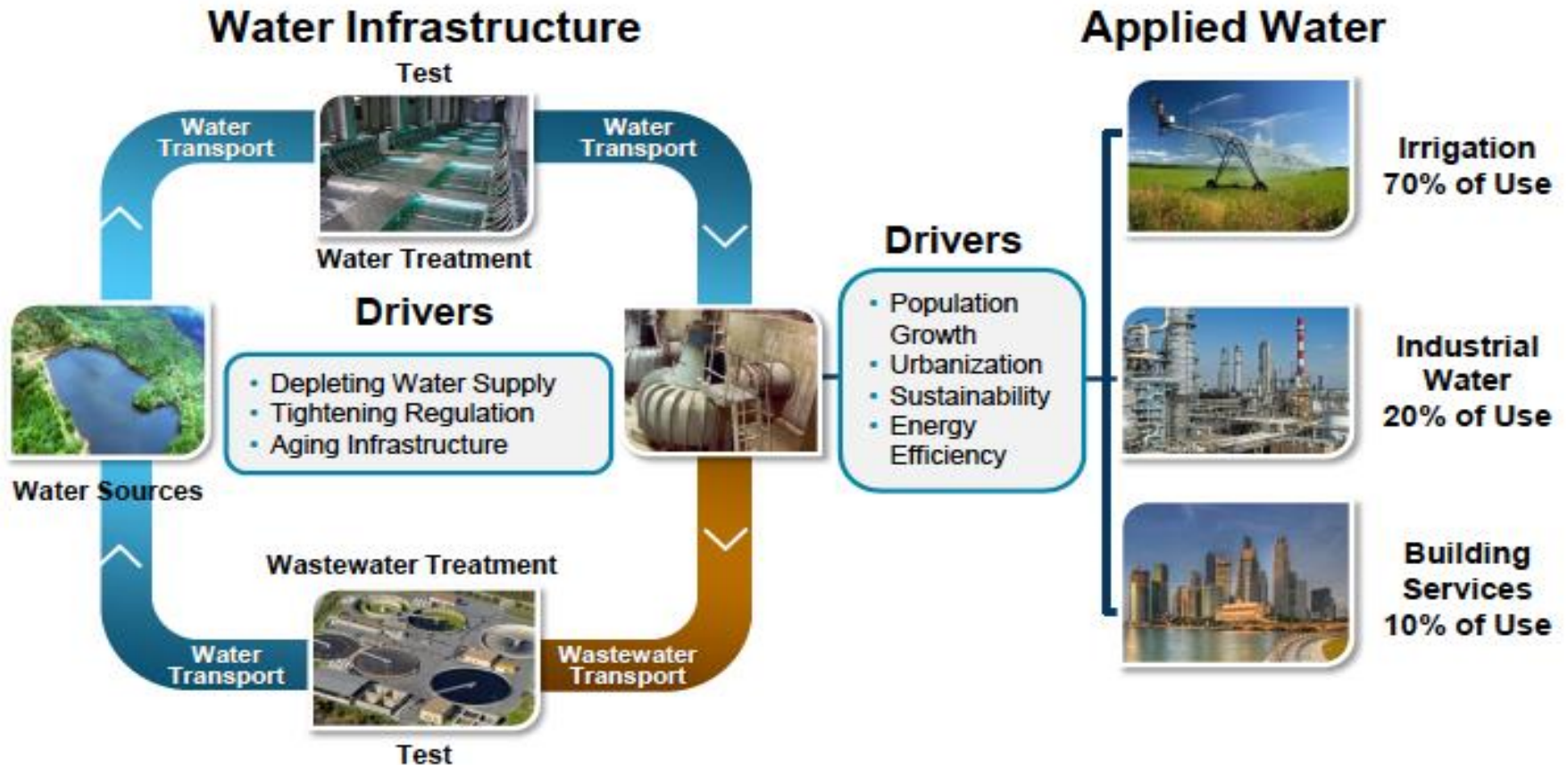
Increased demand on water

Increase in annual water demand 2005-2030

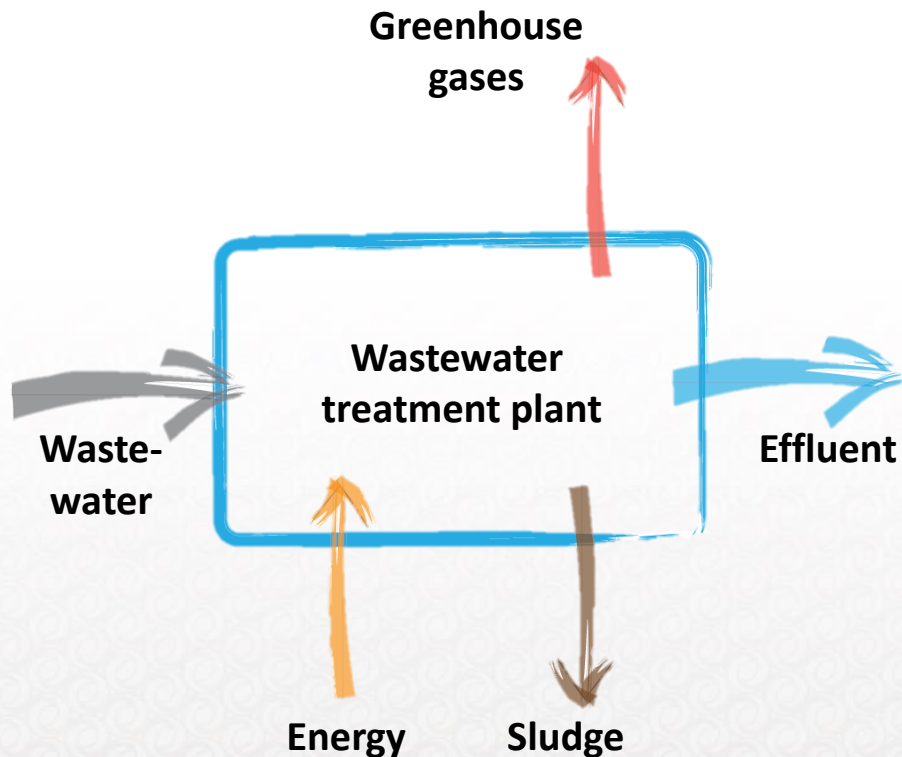


SOURCE: 2030 Water Resources Global Water Supply and Demand model; baseline agricultural production based on IFPRI IMPACT-WATER base case

Global Water Industry \$500Bn



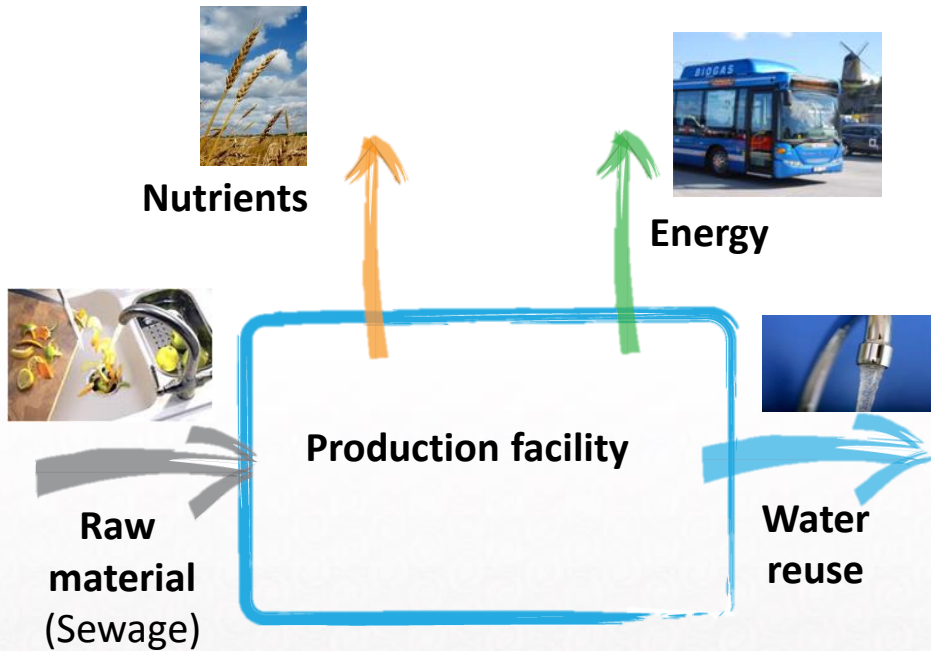
What we have: A treatment facility



Challenges

- The water sector is a major energy user
- Green house gas emissions
- Treated water is not used
- Outflows may contain pollutants, viruses, pathogens etc.
- Sludge seen as a problem

What we want: A production facility



Opportunities

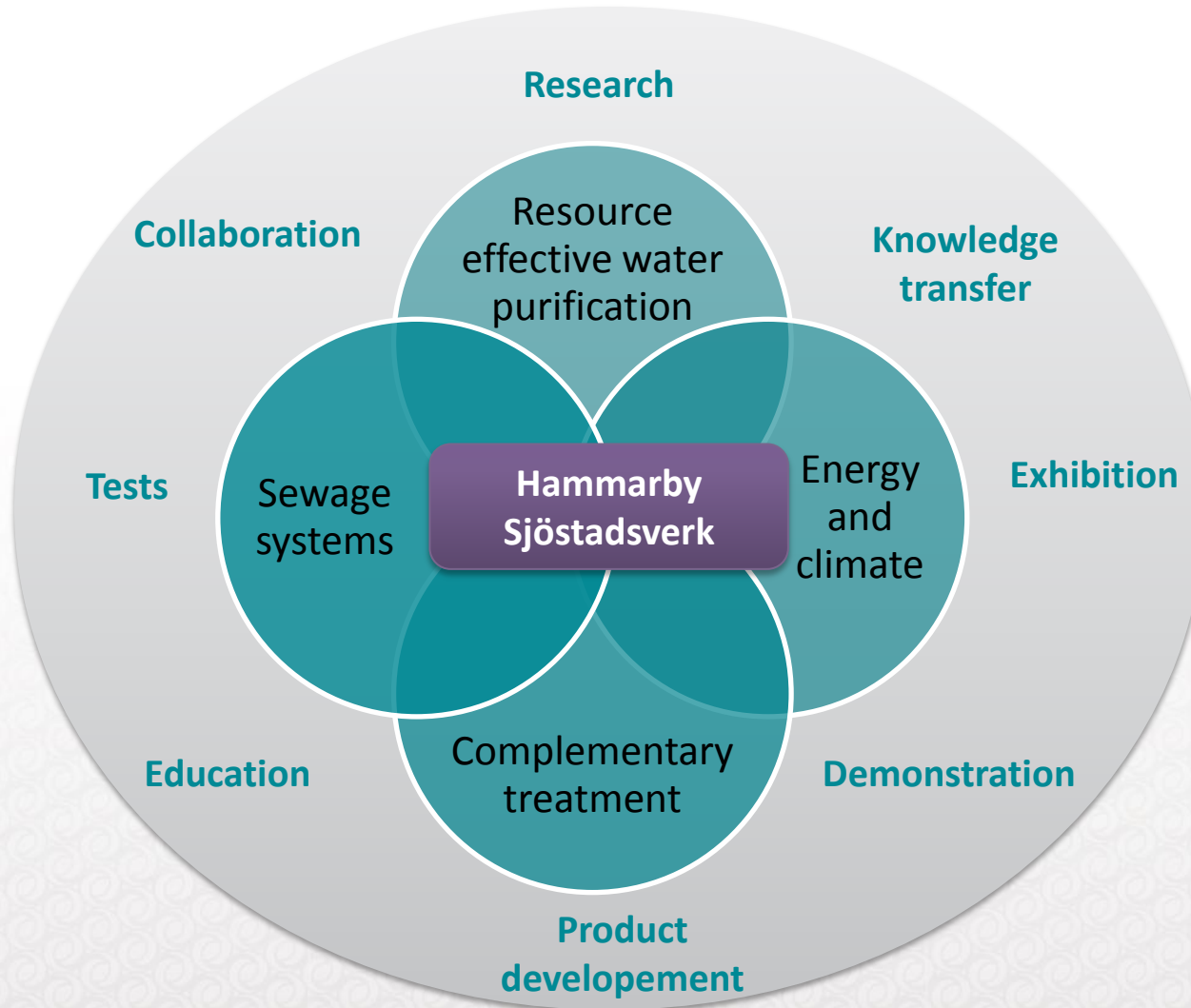
- ➔ Waste as resource
- ➔ Net energy production
- ➔ Nutrients recovery/reuse
- ➔ Improved treatment
- ➔ Water reuse (reuse of potable water)

- ➔ **Sustainable production of energy and resources**
- ➔ **Market opportunities**

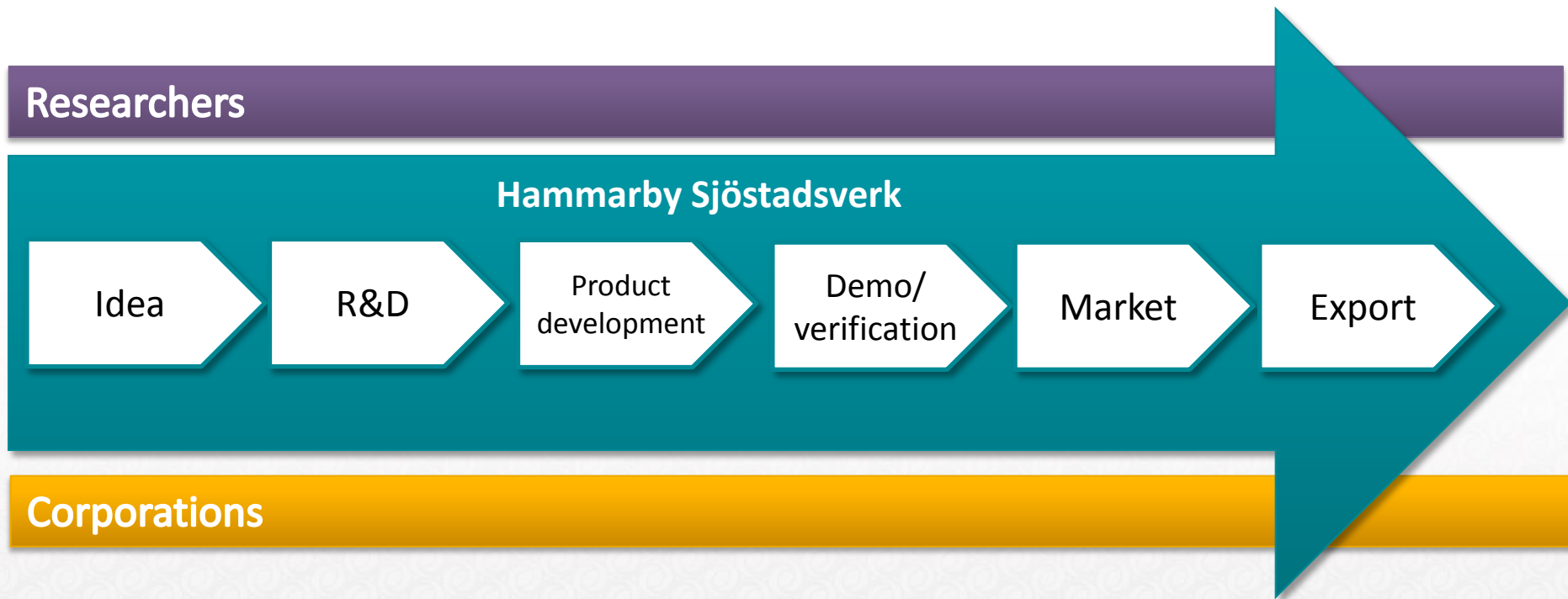




A platform for wastewater intelligence



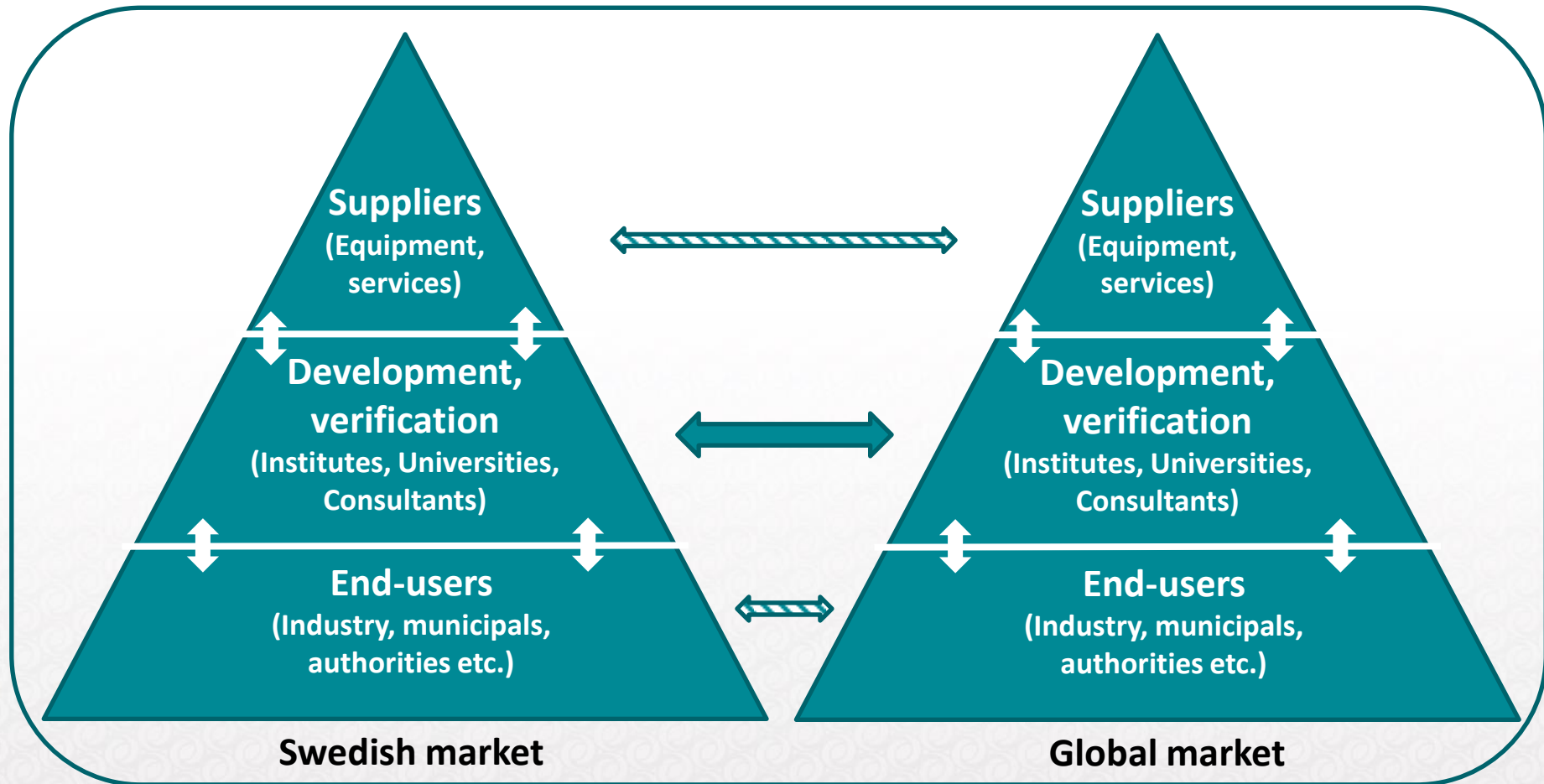
An innovation platform



On-going projects at Hammarby Sjöstadsverk

- MembraneBioReactor (MBR) and high-capacity SBR
- Wastewater reuse/reclamation treatment systems
- Removal of pharmaceuticals and other substances
- Enhanced biogas production and increased net-energy production
- Sustainable sludge handling
- Anammox: resource effective nitrogen removal in both side- and mainstream
- Measuring and minimizing the release of GHG by wastewater treatment
- Online water quality monitoring and control of processes

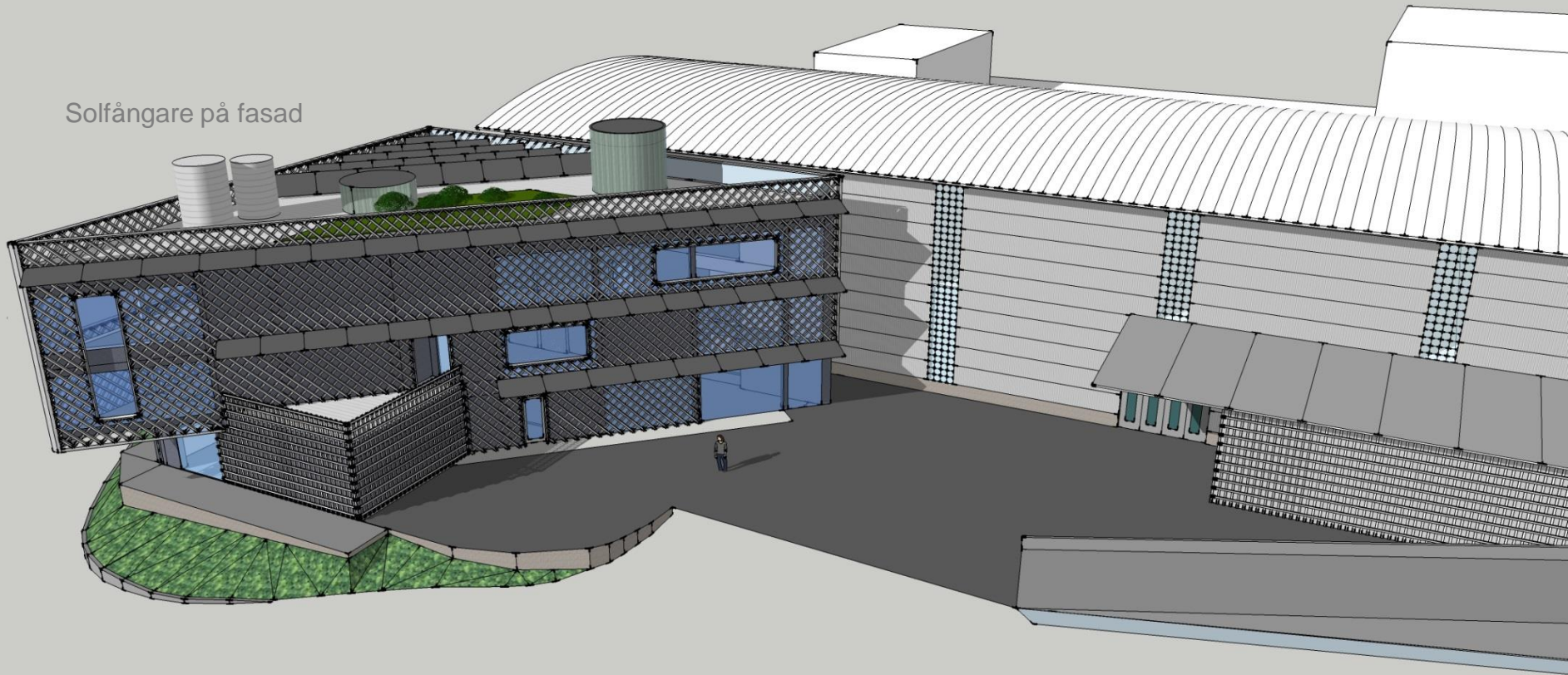
Business model for longterm business development



Collaboration partners and sponsors



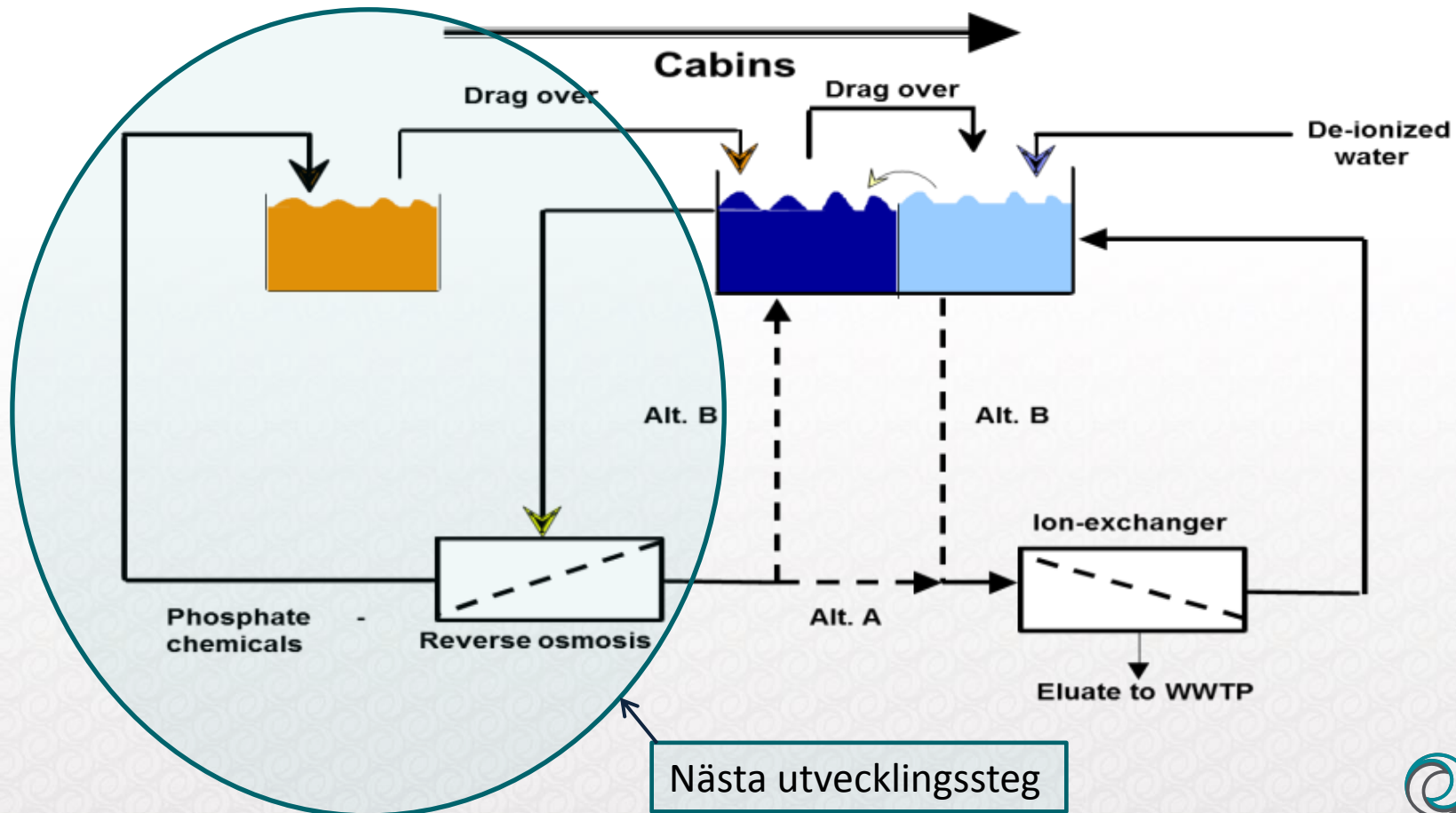
SJÖSTADSVERKET OM – OCH TILLBYGGNAD



Testbädd för industriell vattenrening



Cirkulär ekonomi – återvinn istället för att bilda avfall



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