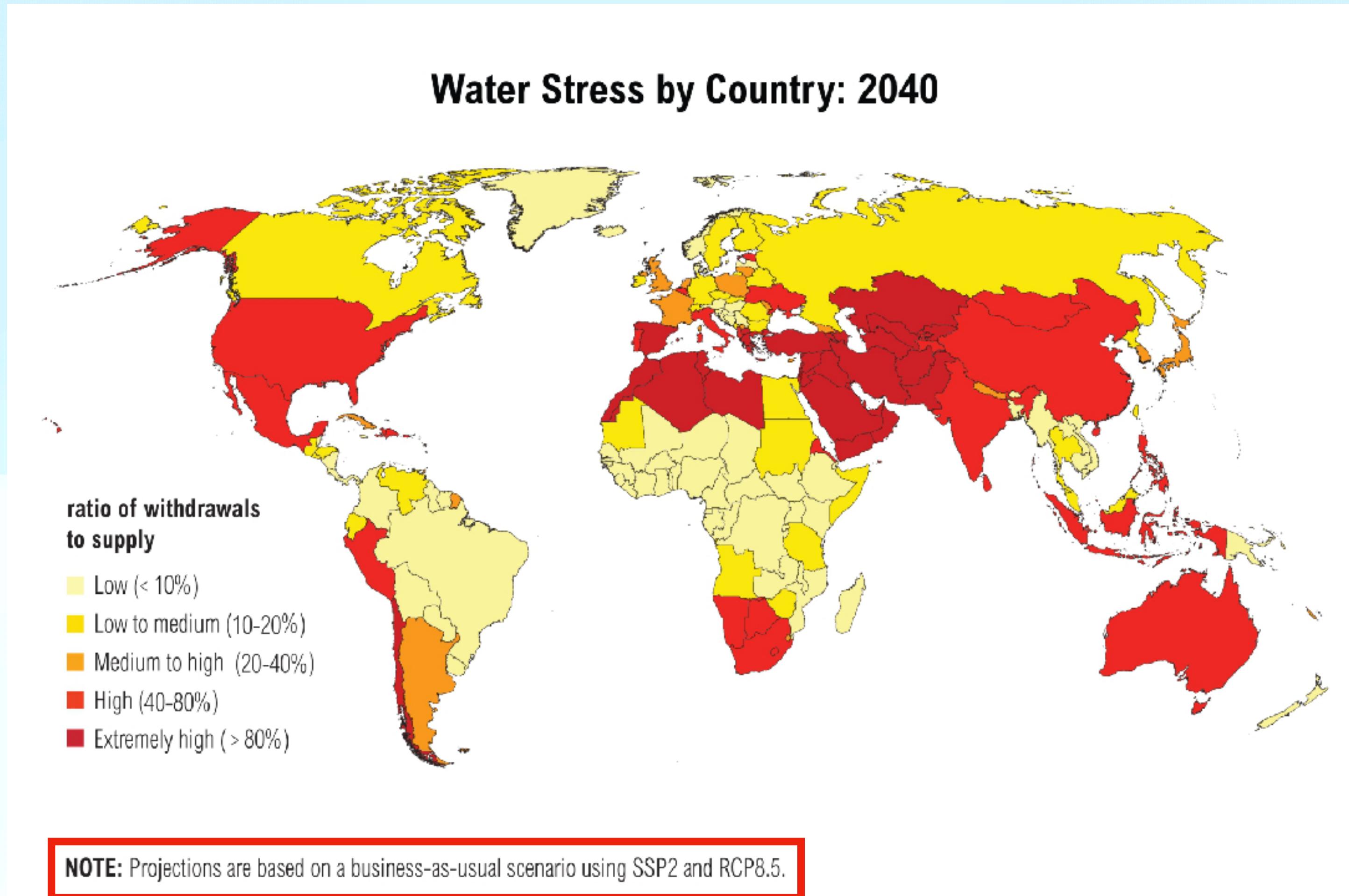


Water & Light

Securing Humanity's Access to Consumable Water

Arnaud Thiercelin - Jan 2023

Problem: Fresh Water Scarcity



For more: ow.ly/RiWop

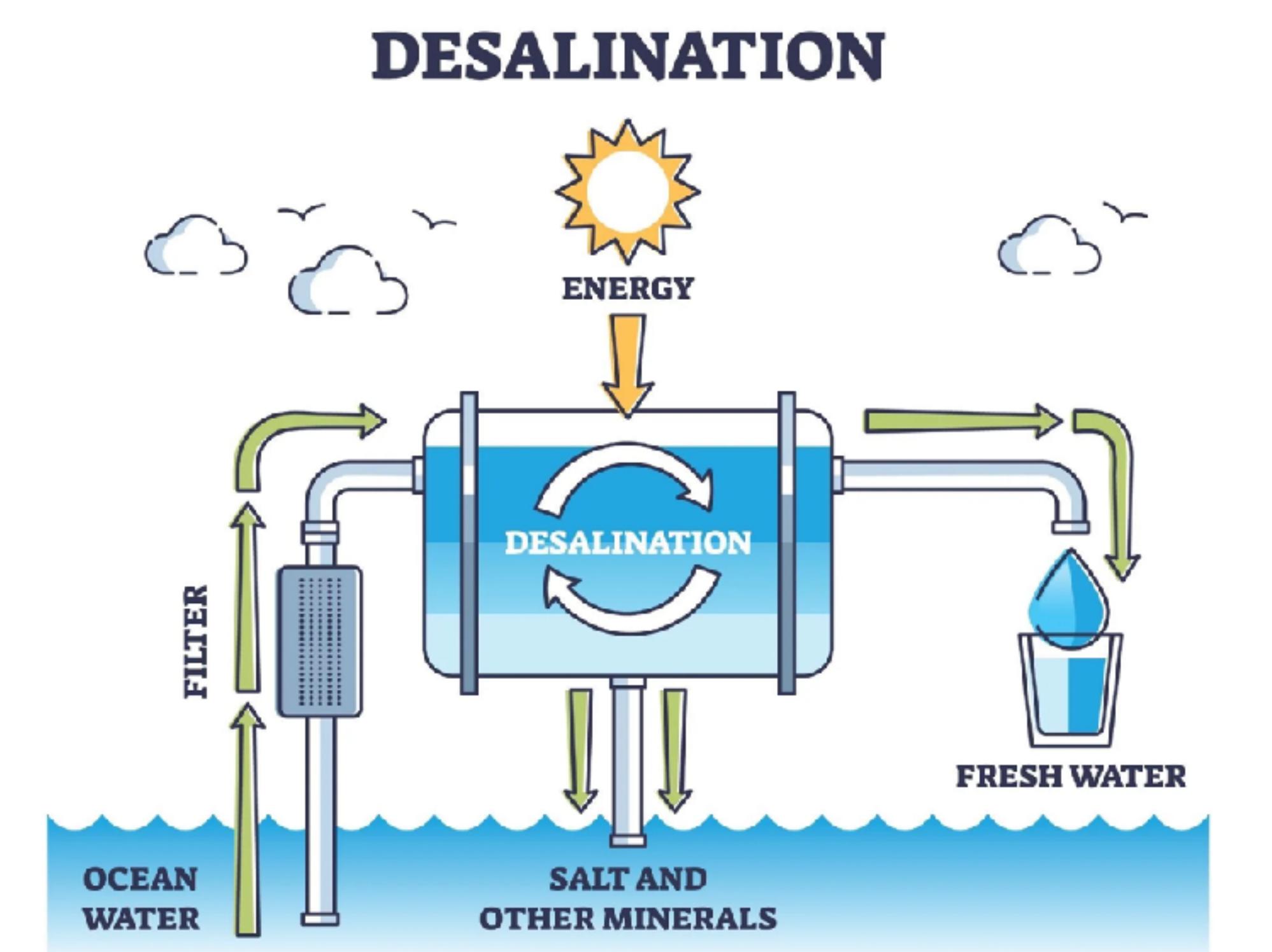


WORLD RESOURCES INSTITUTE

Current Solutions

Desalination & Water conservation

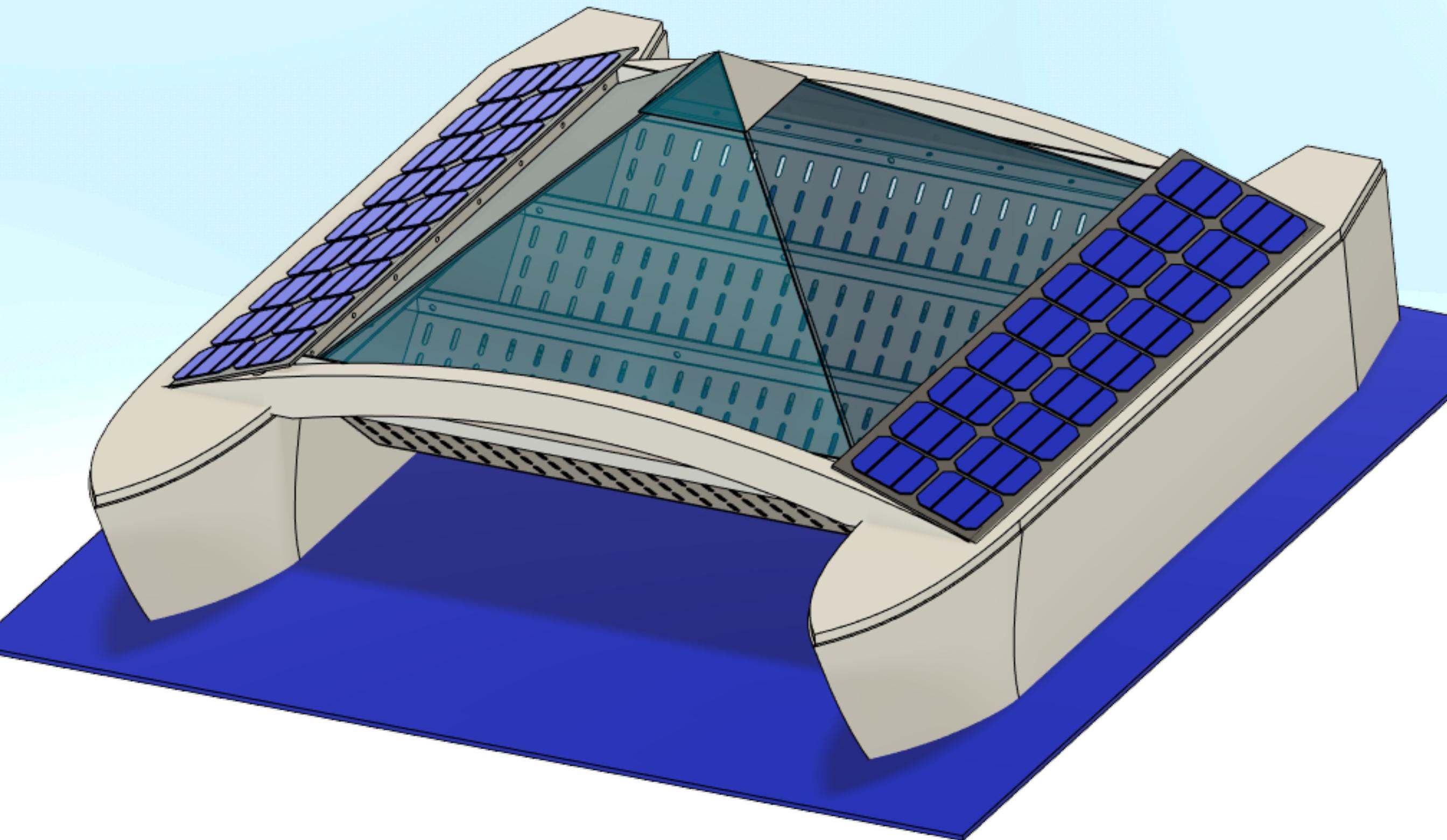
- Crash course: <https://www.youtube.com/watch?v=bfr82RB72U8>
- Huge Infrastructure cost
- Huge Energy demand
- Huge (under-estimated) Environmental impact of the brine by-product constantly dumped in the same location
- Huge carbon footprint
- Scalability problem (Large & specific land sites needed, long construction times)



Thalas

Autonomous Mobile Solar Still

- Highly Efficient, Proven heat-based desalination.
- Low unit cost and highly optimizable through existing manufacturing techniques
- Brine is redistributed over large areas and existing currents
- Infinitely scalable in configuration, shape, size and mobility
- Extendable to other application such as data collection and monitoring - including military applications



Thalas

How it works

Catamaran design for stability

2.2m x 1.6m

Dual motors

Auto-piloted with main controller

dual GPS network

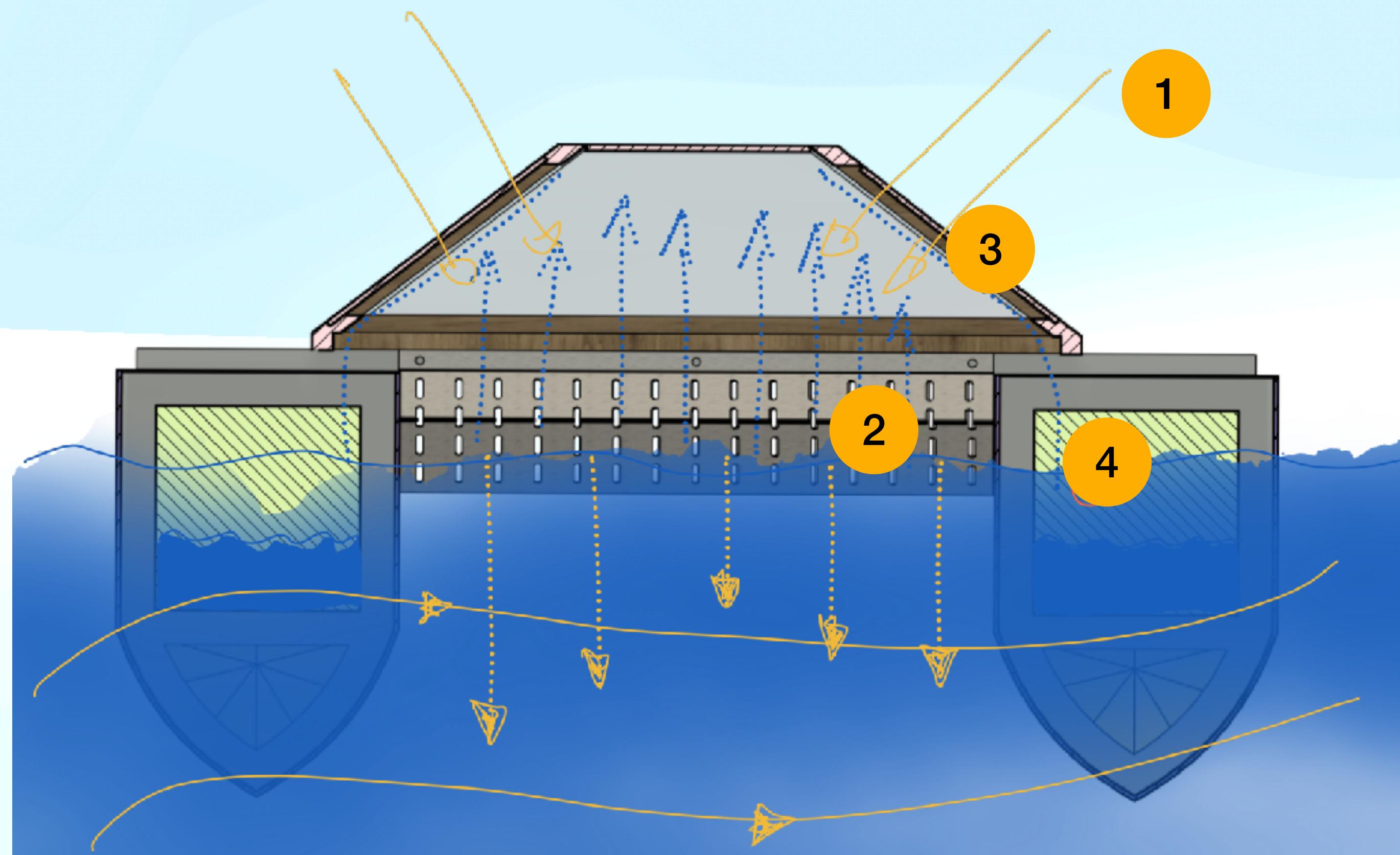
Satellite Link by Swarm (SpaceX) (not in model)

44 Galons capacity

Lights for visibility (not in model)

Solar panels (not in model)

(Optional) Heating element (10% of energy input)



1/ Evaporating chamber heats up the water on the rack and its membrane.

2/ Brine is progressively released to the current below.

3/ Water condensate on the chamber's roof and trickles to the collection gutters

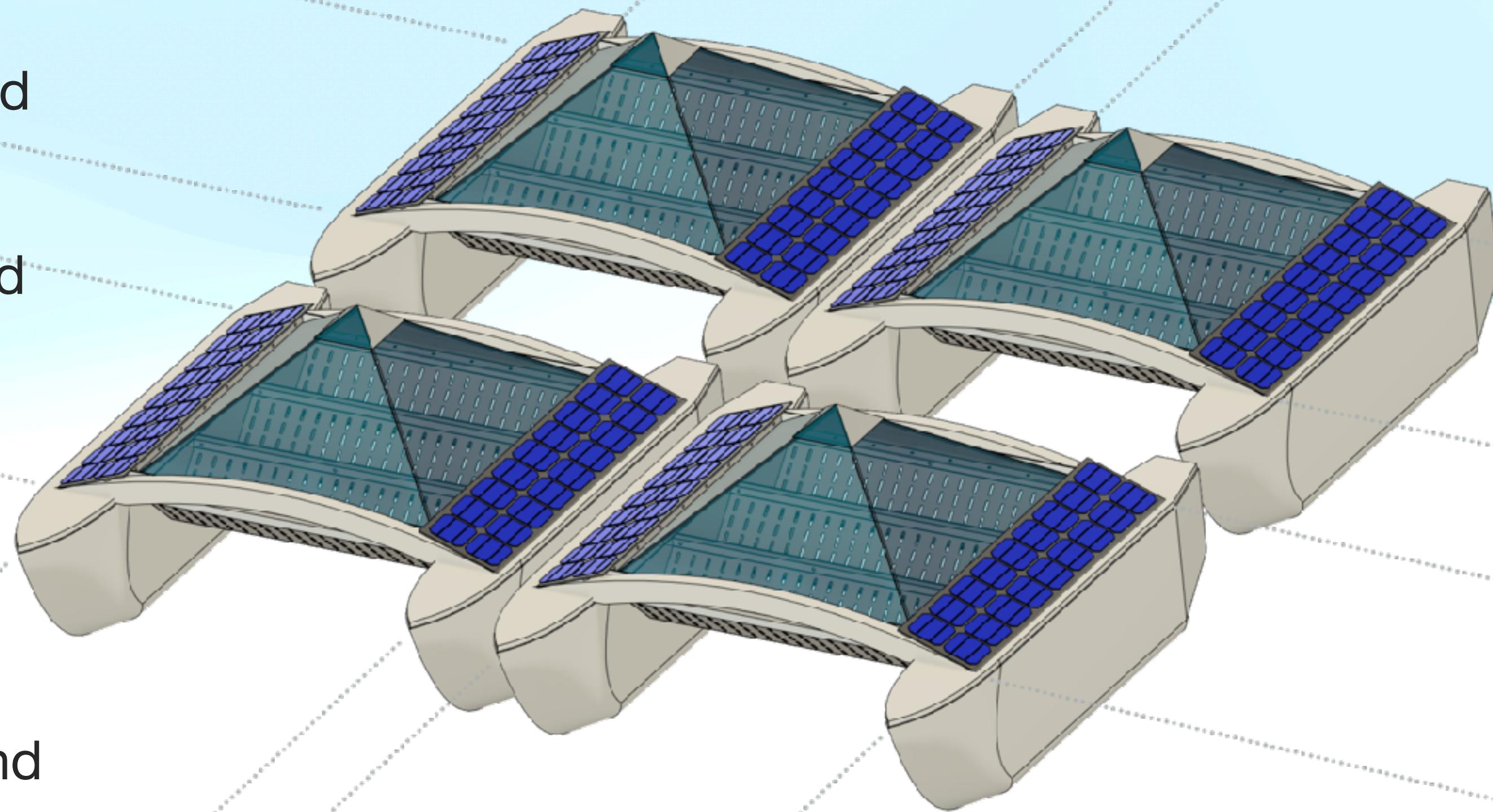
4/ Water Tanks in the hulls collect the fresh water - which will go through minor post processing

The vehicle controls send it to the ocean/water body when empty and come back to base when at capacity

Thalas

The force of numbers

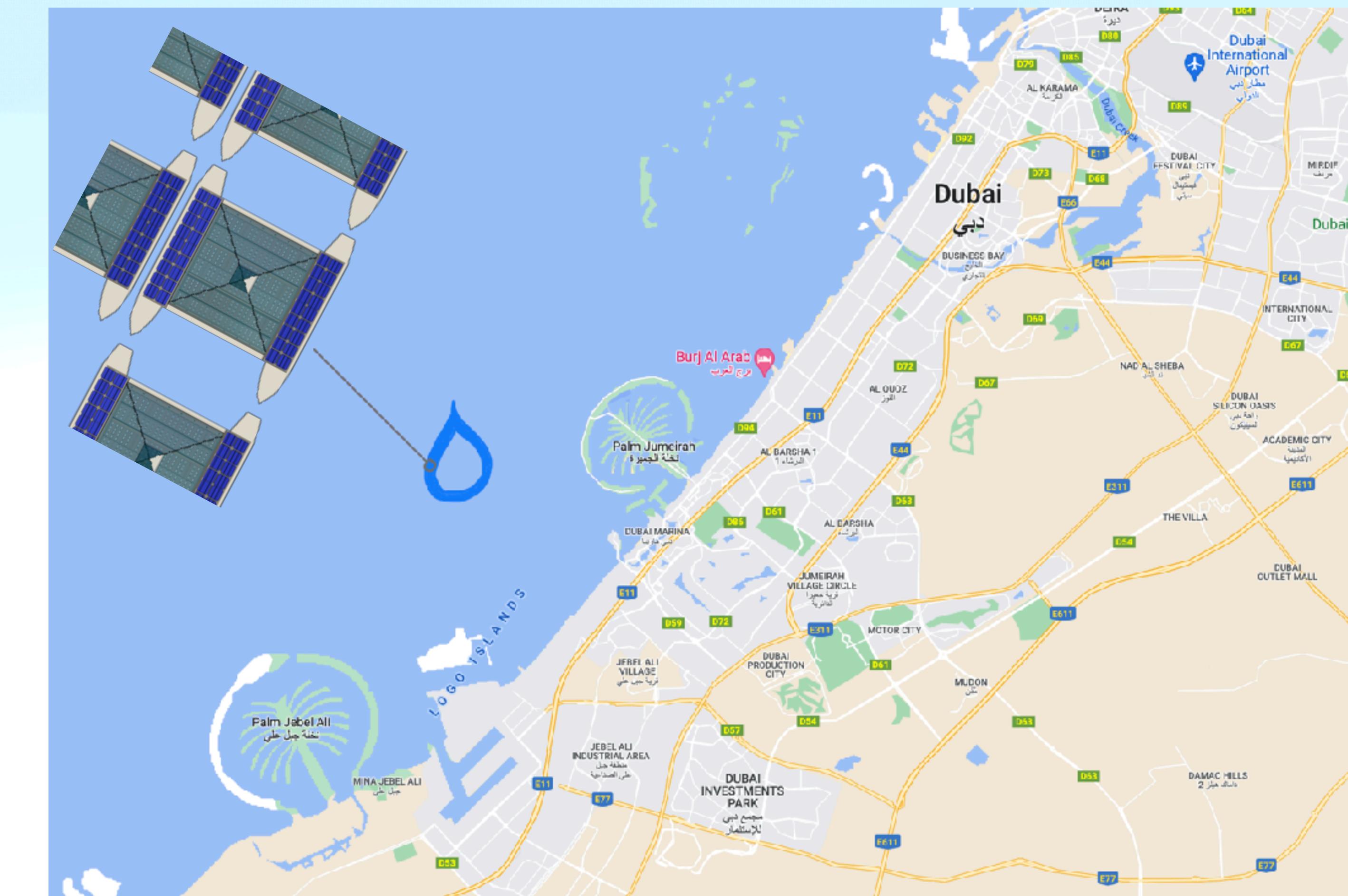
- Robots deployed in numbers scale collection and adapt to all site shapes.
- Robotic dock allow for the quick deployment and collection of robots and their water payload
- Solar panel, low mobility activity and sat connection make the platform fully power independent.
- Transportable in standard containers, a system can be deployed anywhere in the world easily and - as needed - temporarily
- -> **Millions** of these units to be deployed



Perspective

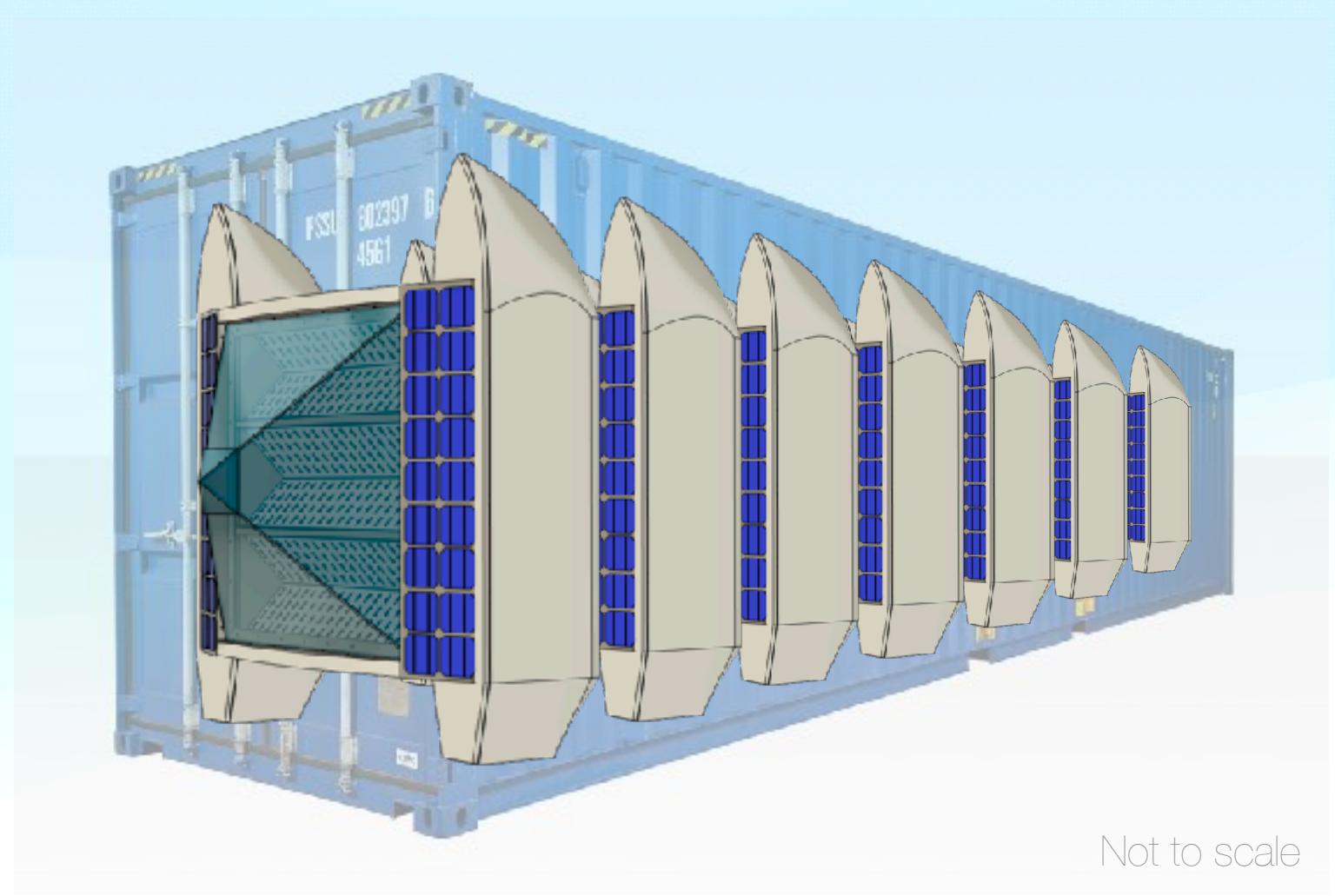
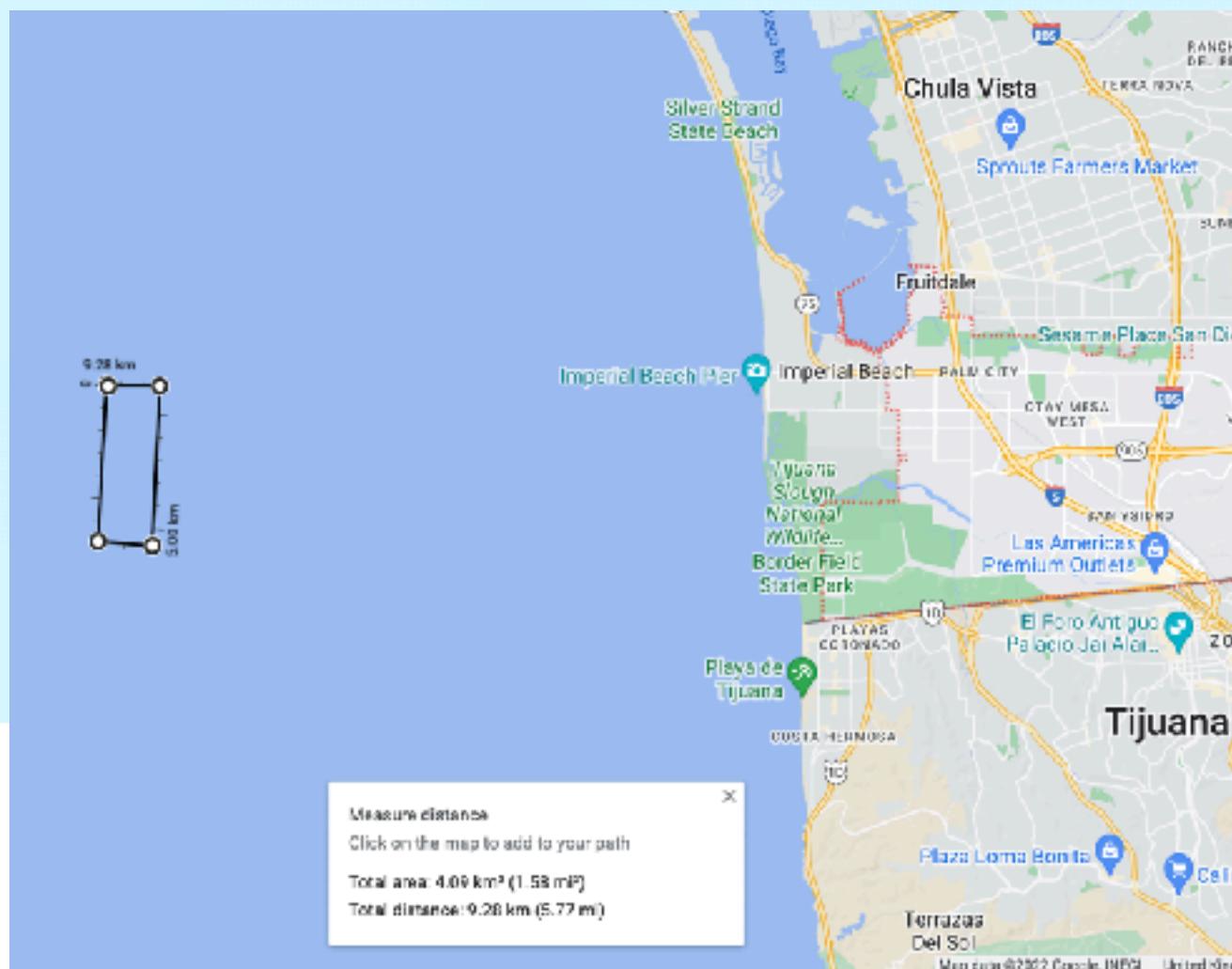
The power of numbers and agility

- Scenario 1: A massive permanent system is installed off the coast of Dubai in the shape of a water drop (or other). It provides clean water to the city while being art **visible from space**.
 - A permanent water line connects the site to the land
 - In case of maintenance, the system disassembles partially or fully to return to the docking station for repairs



Perspective

The power of numbers and agility



- Scenario 2: System is deployed at mass scale off the coast of San Diego producing the equivalent output of Carlsbad station.
- System disassembles itself and returns to base as needed for weather, maintenance and water offload.
- Scenario 3: System is packed and shipped using standard cargo container to different location around the globe, between seasons, allowing to provide missing water when it's most needed, while leveraging smaller fleet.
- Scenario 4: System is equipped with additional sensors for data collection in scientific applications

Challenges

- Unit economics need validation.
 - Cost of water is going to dramatically increase so there is a lot of room to grow here
- Modeling of water returns per UV index (or other better weather metric) to be validated.
 - Output is expected to never hit 0 and there is no operating cost to leave the platform floating, but this is a critical planning information
- Cost of unit should be around 10k USD in low numbers, but it's to be confirmed.
- Docking station will be necessary for large scale operations.
- Educating the market on the difference of this approach (low carbon, low impact) will be difficult.

Revenue

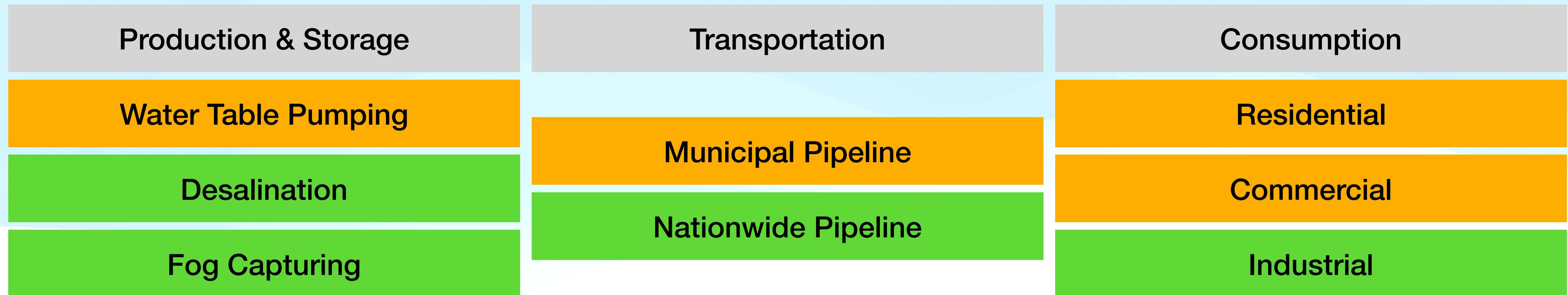
The paths are multiple

- 1/ We offer our low carbon water to beverage companies who can afford a higher cost water and need the PR
- 2/ We offer the solution to areas which are severely impacted by drought. This can be deployable seasonally
- 3/ We partner with existing water company to provide a low carbon extra capacity to existing systems
- 4/ We sell water directly to the end-user



End Game

The 8th wonder of the engineering world



- Multi-Trillions Dollars; Multi-National powerhouse owning the green production and treatment of water
- Complete lineup of green water production and treatment solutions
- Owning Nationwide transport infrastructure
- Providing consumption systems for industrial/heavy commercial customers.

Team & Investment

Team

Arnaud Thiercelin

15+ years experience building high tech products - including hardware - as a founder and in leading robotics companies such as DJI and Auterion.

Investment

GBP 3M (~3.75M USD) Seed for ~35%

- > Build advanced prototypes (3 units)
- > First engineering hires
- > Patents (3 in the pipeline)
- > Validate unit economics
- > Validate operations
- > Prep GTM