

# Allard van Hoeken

- Innovator, entrepreneur, sailor with passion for clean energy & oceans
- Founder Oceans of Energy @oceans\_ofenergy
- COO The Ocean Cleanup 2016-recent
- Engineer of the Year, Prins Friso Ingenieursprijs 2015
- Tidal energy
- Offshore oil & gas. Houston, Latin America
- MBA at INSEAD
- MSc Mechanical Engineering TU Delft 1987 - 1993
- NTNU Trondheim Norway, Marine Structural Hydrodynamics



An aerial photograph of the ocean's surface, showing a dense collection of floating debris. The water is a deep blue, and the debris includes various types of plastic waste such as bottle caps, fragments of plastic, and pieces of wood. There are also some natural-looking items like sticks and leaves. The overall scene illustrates the scale of marine plastic pollution.

IMAGINE WE COULD  
SOLVE A WORLD PROBLEM

## A CHALLENGE OF EPIC PROPORTIONS

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About 1 to 2 million tons of plastic enters the ocean every year. It accumulates in 5 ocean garbage patches, the largest one of which is between Hawaii and California.

Plastic pollution doesn't only endanger over 200 marine species, but it also carries toxic pollutants into the food chain – a food chain that includes three billion people.

The plastic doesn't go away by itself, and gets more harmful over time, fragmenting into dangerous microplastics that can enter the food chain.

What if there would be a way to clean it up?



01

05

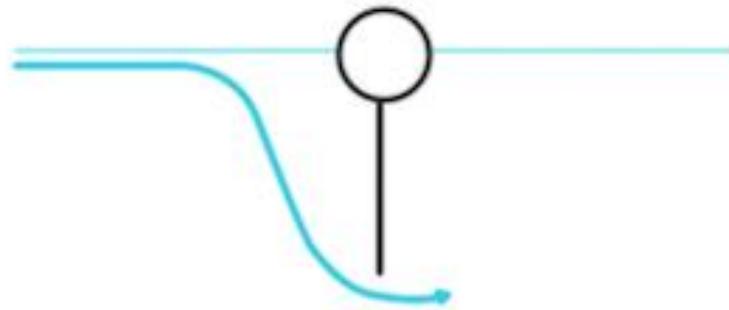
02

03

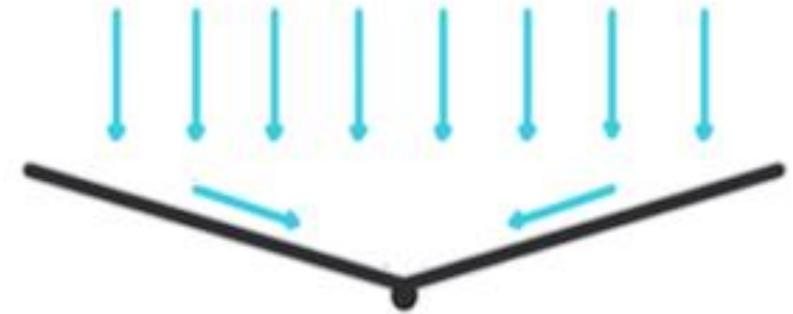
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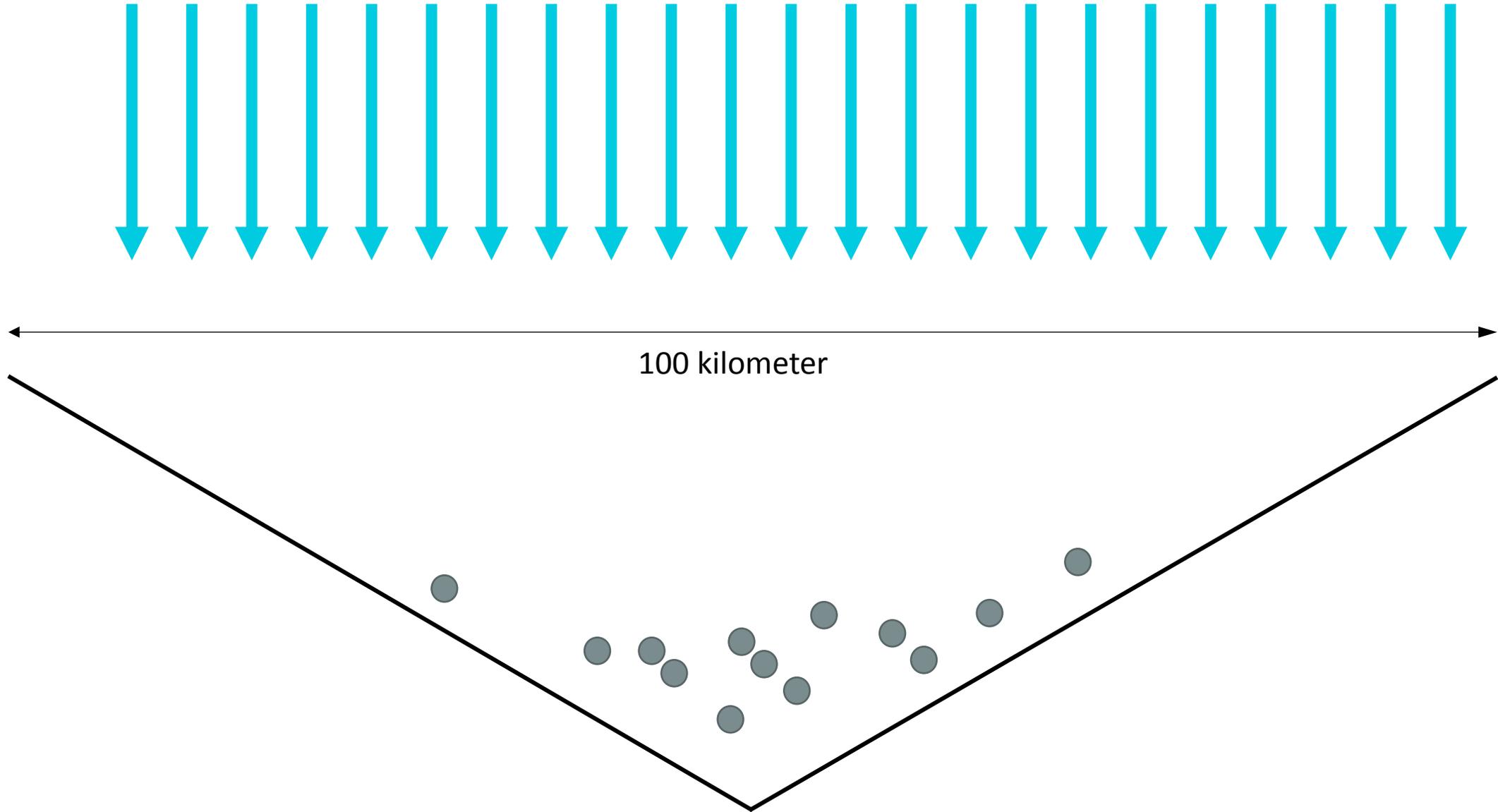
- 1** Why move through the oceans, if the oceans can move through you? Instead of going after the plastic using boats and nets, The Ocean Cleanup will use long floating barriers, using the natural movement of the ocean currents to passively concentrate the plastic itself.

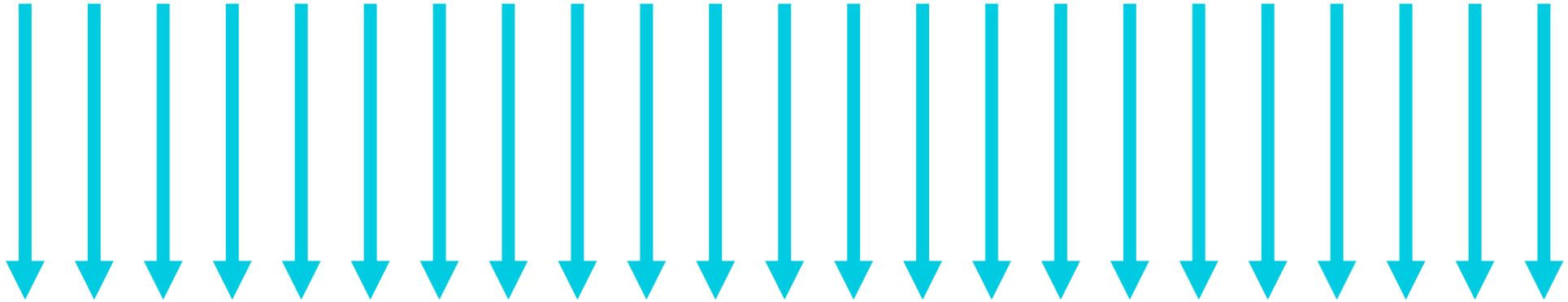


- 2** Virtually all of the current flows underneath these booms, taking away all (neutrally buoyant) sea life, preventing by-catch, while the lighter-than-water plastic collects in front of the floating barrier.

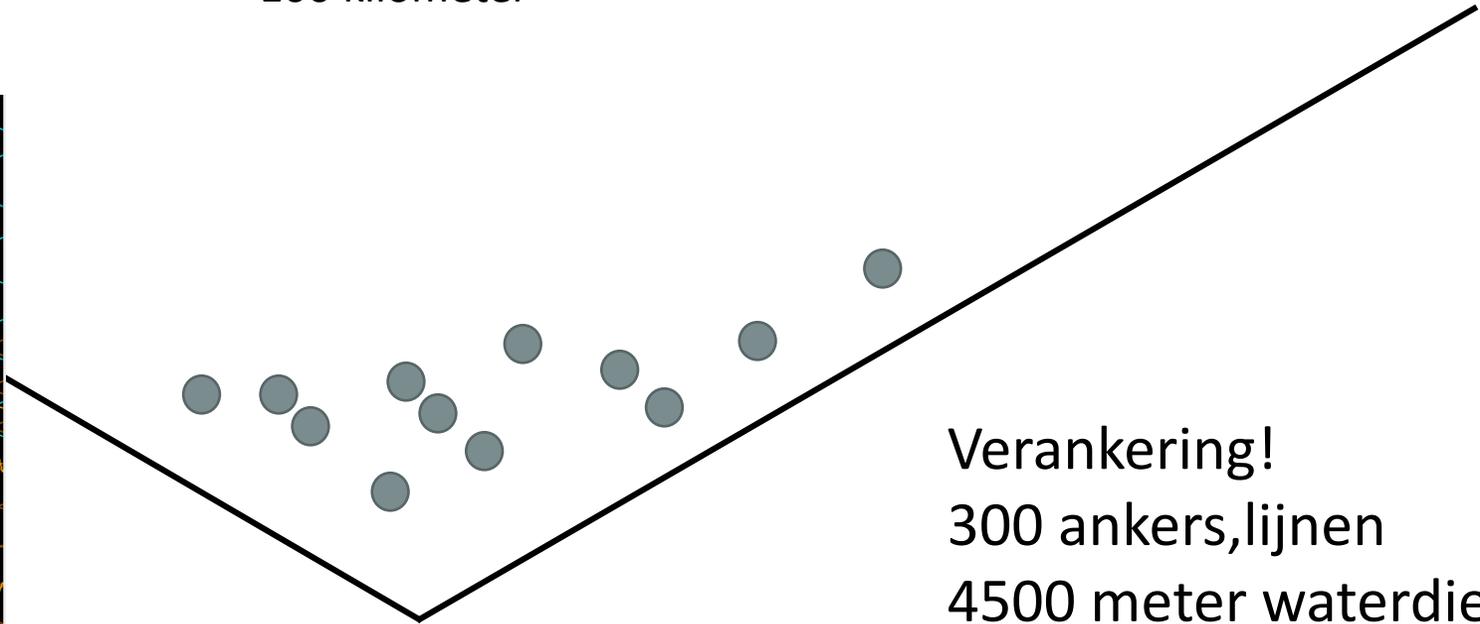
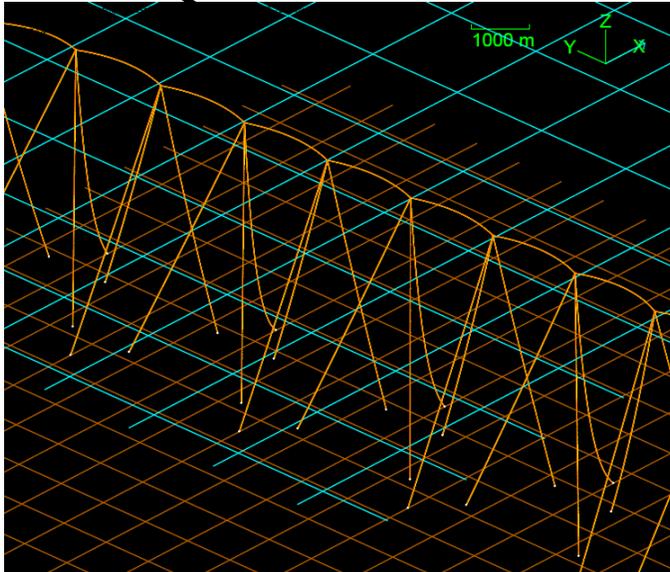


- 3** The scalable array of floating barriers, attached to the seabed, is designed for large-magnitude deployment, covering millions of square kilometers without moving a centimeter.





100 kilometer



Verankering!  
300 ankers,lijnen  
4500 meter waterdiepte

FPSO SHUTTLE TANKER

SEMI-SUB RIG

Traditionele verankering

FPSO ANCHOR LINES

DRILL CENTRE

LOYAL

WATER INJECTION

NORTH DRILL CENTRE

WATER INJECTION

DRILL CENTRE

WEST

WATER INJECTION

PRODUCTION

FLOW LINES

CENTRAL

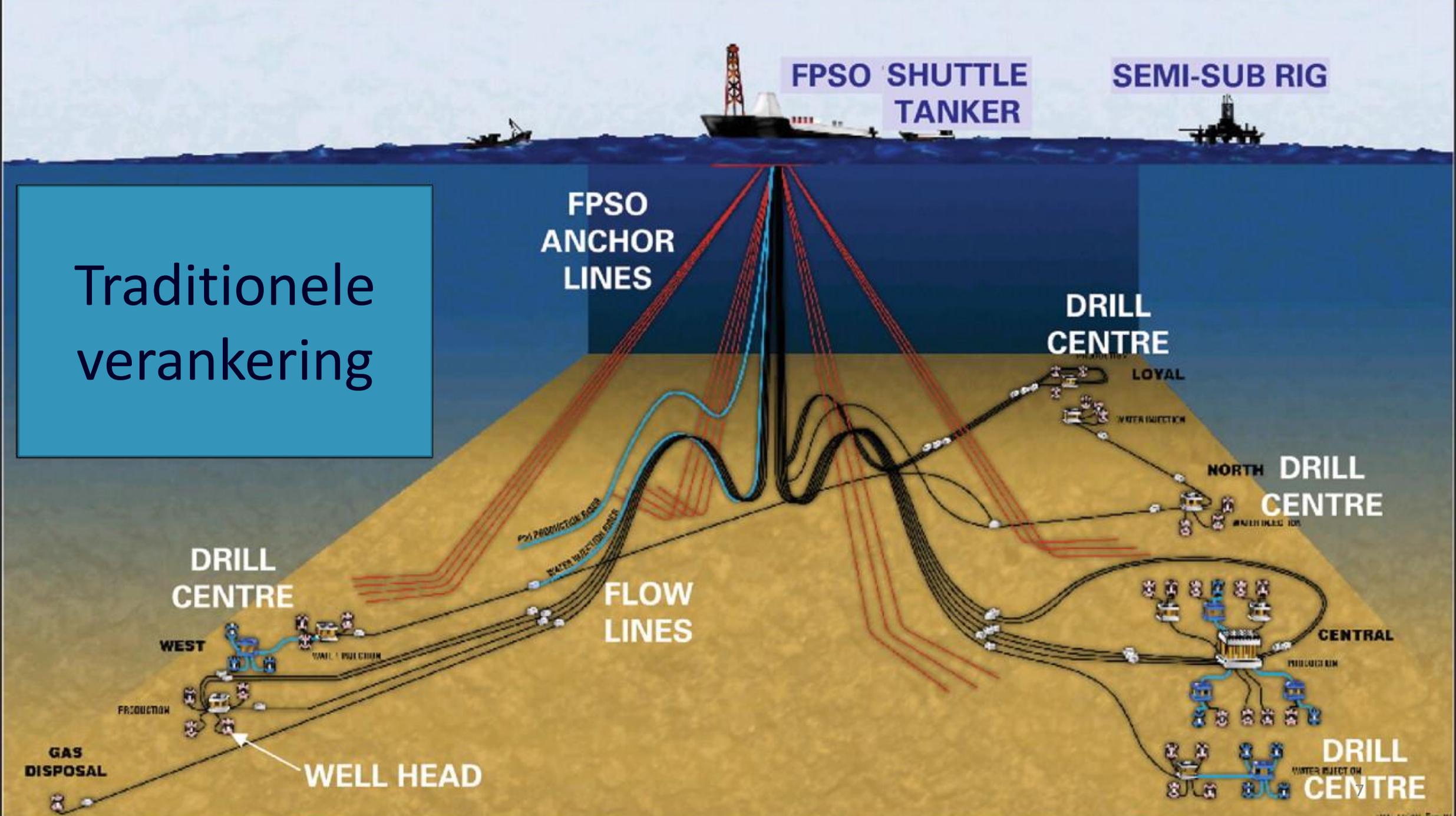
PRODUCTION

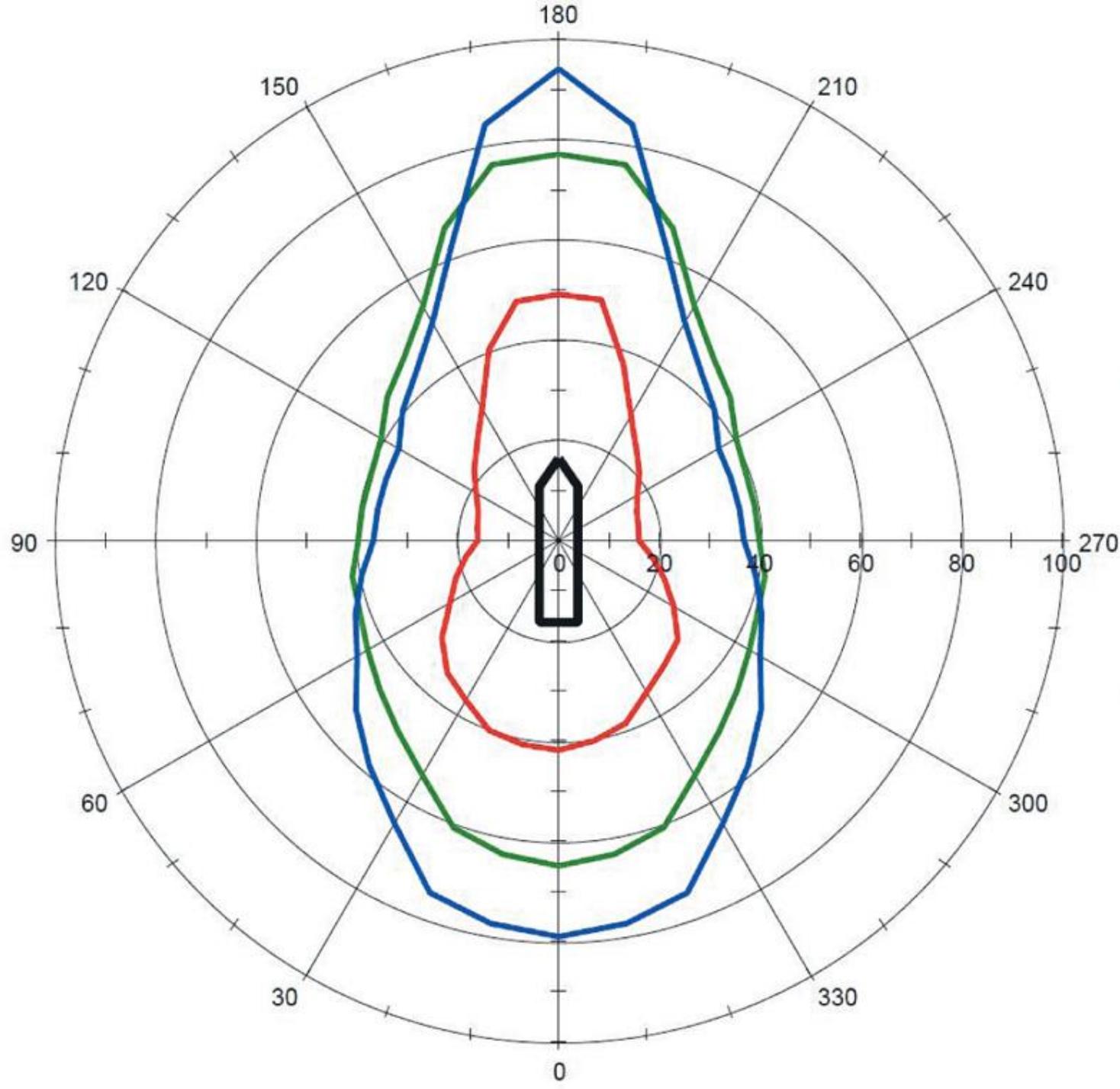
GAS DISPOSAL

WELL HEAD

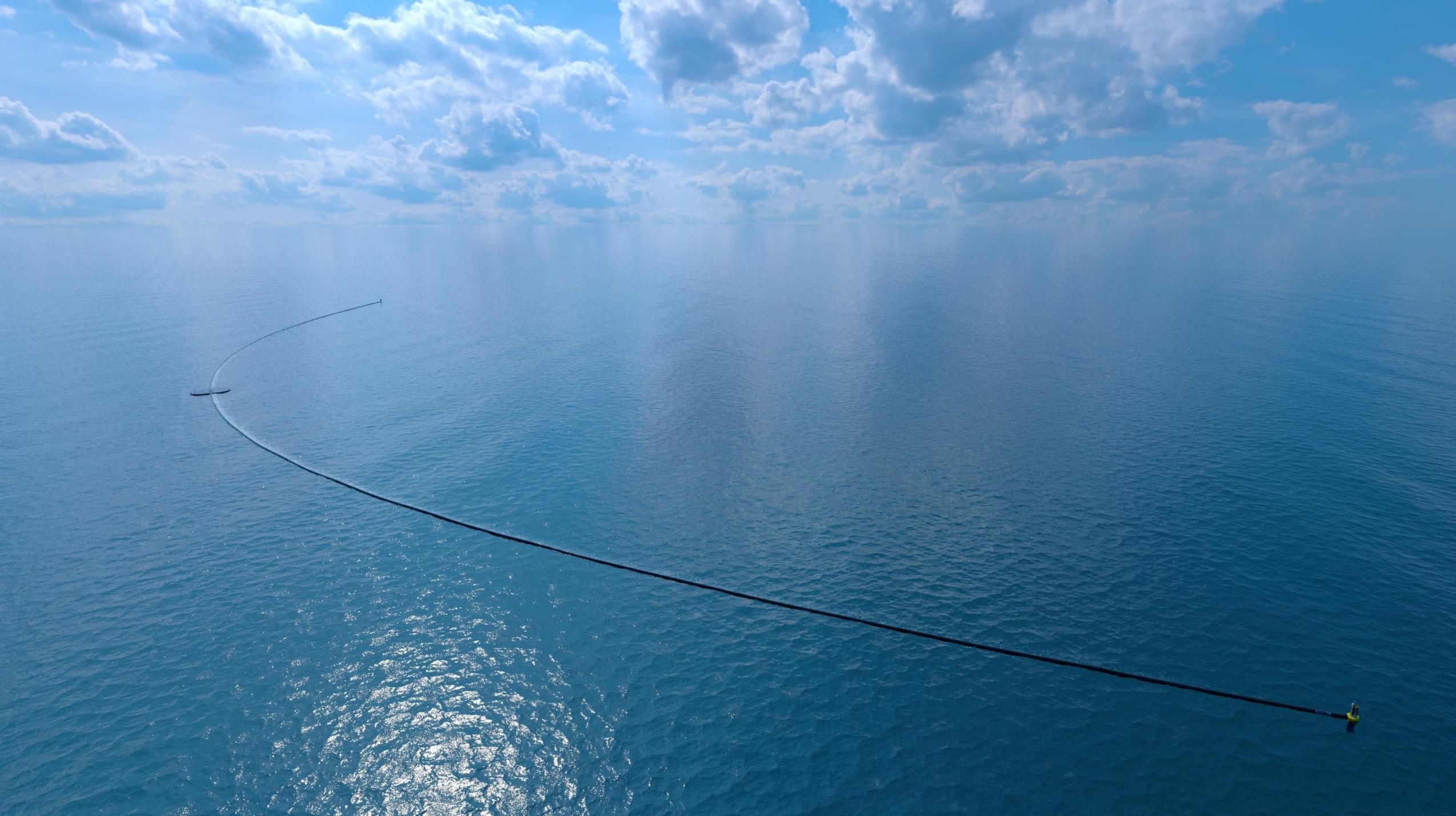
DRILL CENTRE

WATER INJECTION

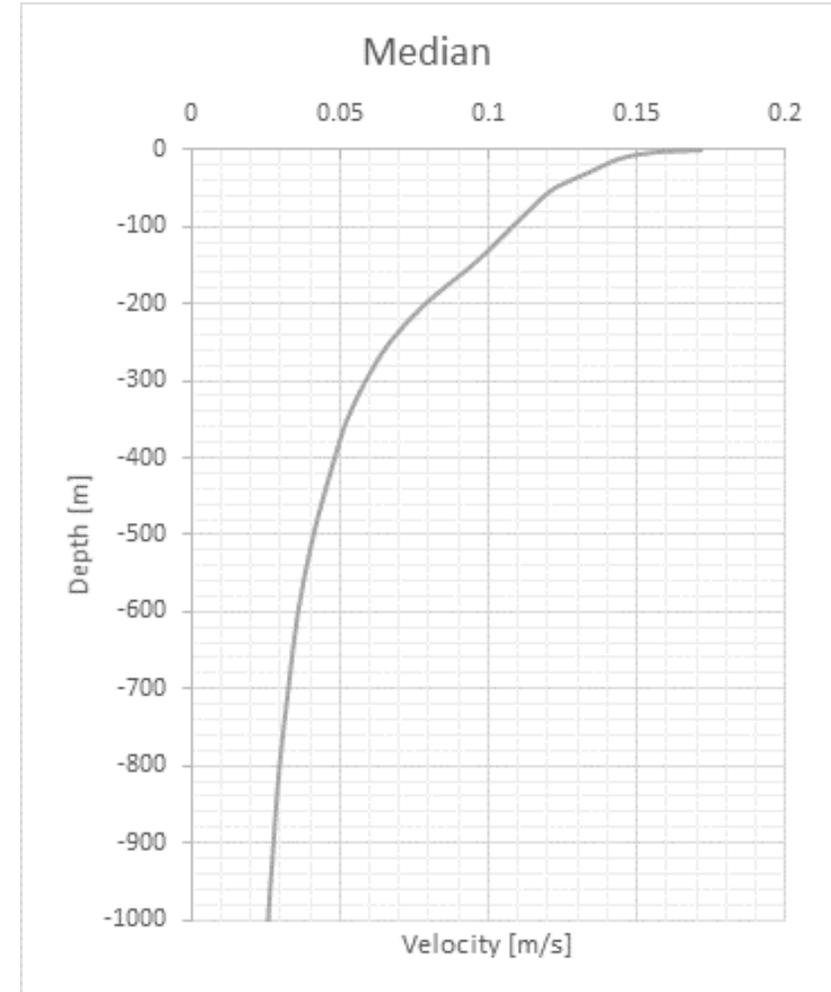
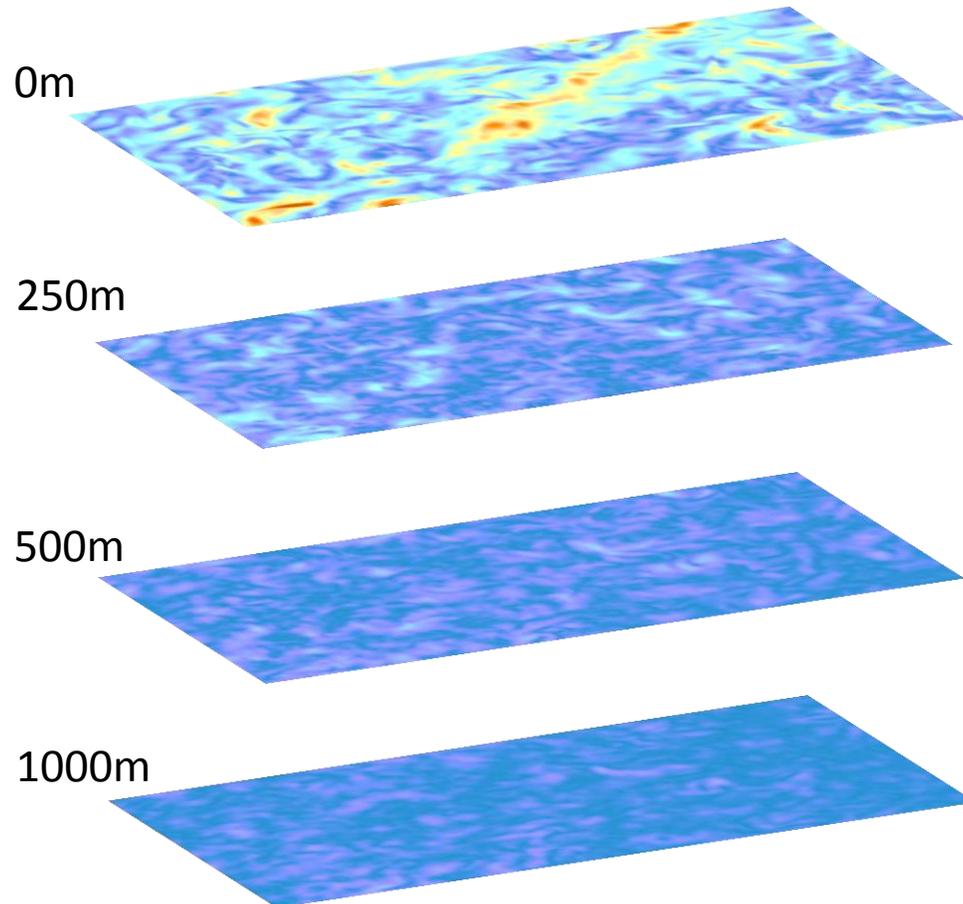




- LLC - Bus A1 out  
- Wind [knots]
- LLC - FWD Tunnel out  
- Wind [knots]
- Conv - Bus A out  
- Wind [knots]

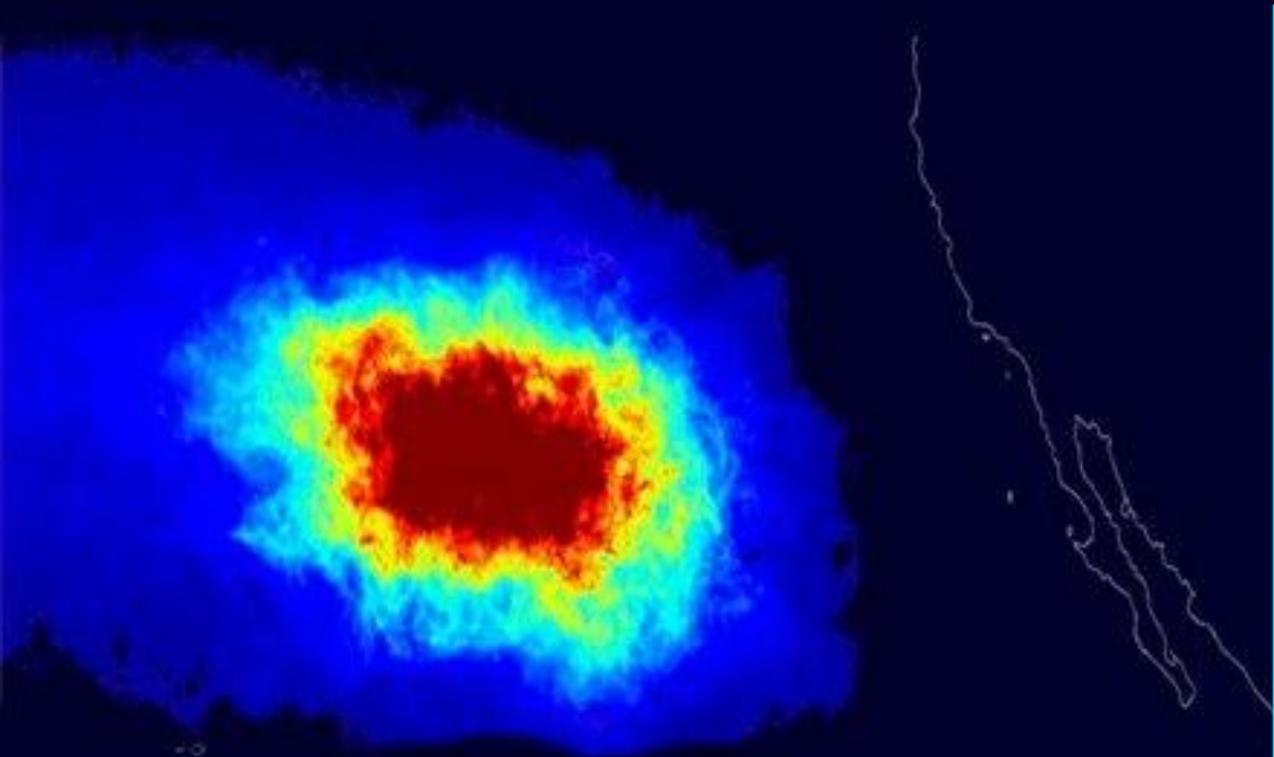


# Surface and Sub-Surface Currents

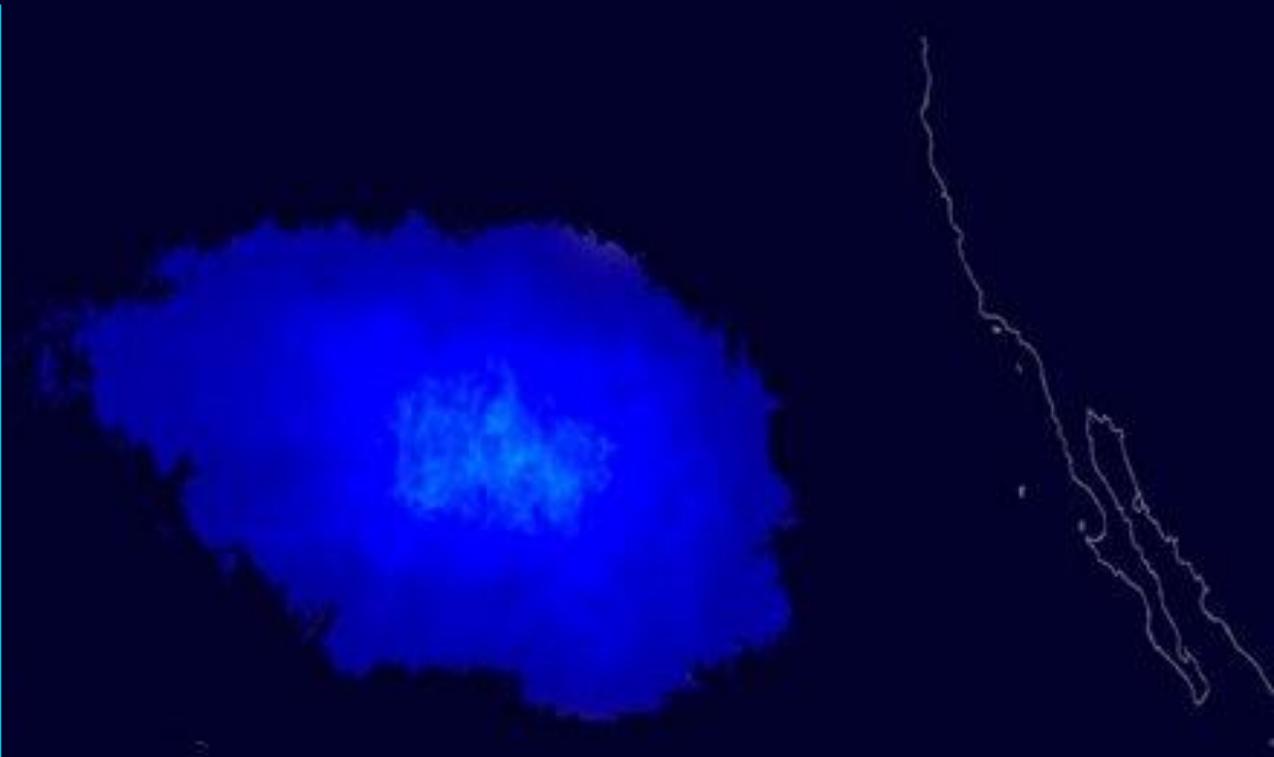




2030



WITHOUT CLEANUP



WITH CLEANUP

Concept phase concluded. Now building the first system



## THE TEAM THAT WILL MAKE IT HAPPEN

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Cleaning the ocean is hard. There are plenty of obstacles to overcome, but with the right people and partners, we believe success is a likely outcome.

Our engineering team is lead by COO Allard van Hoeken, who was previously named *Engineer of the Year* for developing world's first operational floating tidal turbine. Our founder and CEO Boyan Slat is a recipient of the United Nations' highest environment award.

The Ocean Cleanup actively collaborates with offshore industry and various universities, and is supported by a scientific advisory board.

# Allard van Hoeken

Using skills from  
offshore oil & gas industry  
for  
Clean Energy  
and a  
Clean Planet





# Energy production is possible

- **Clean**



# Energy production is possible

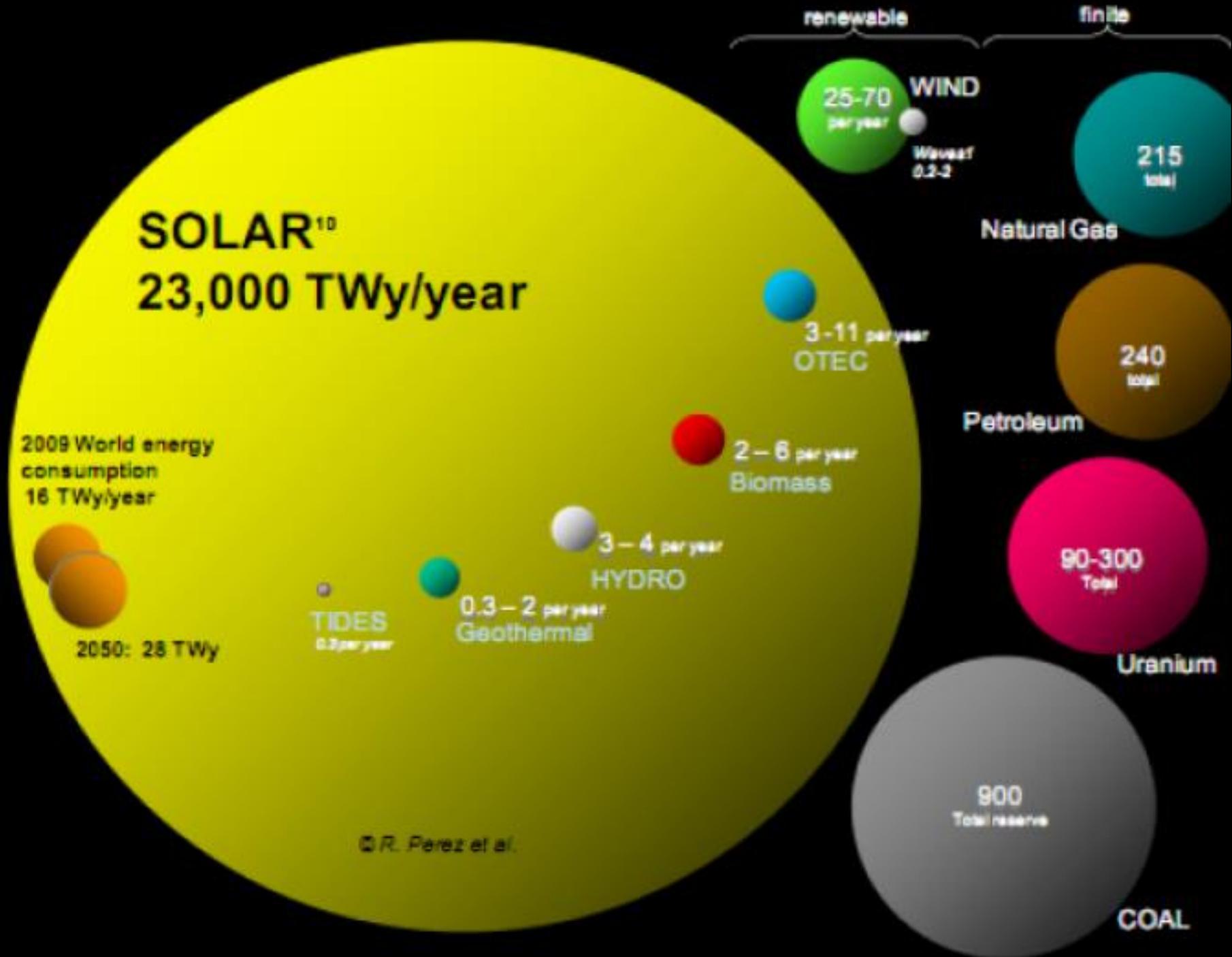
- Clean
- Local

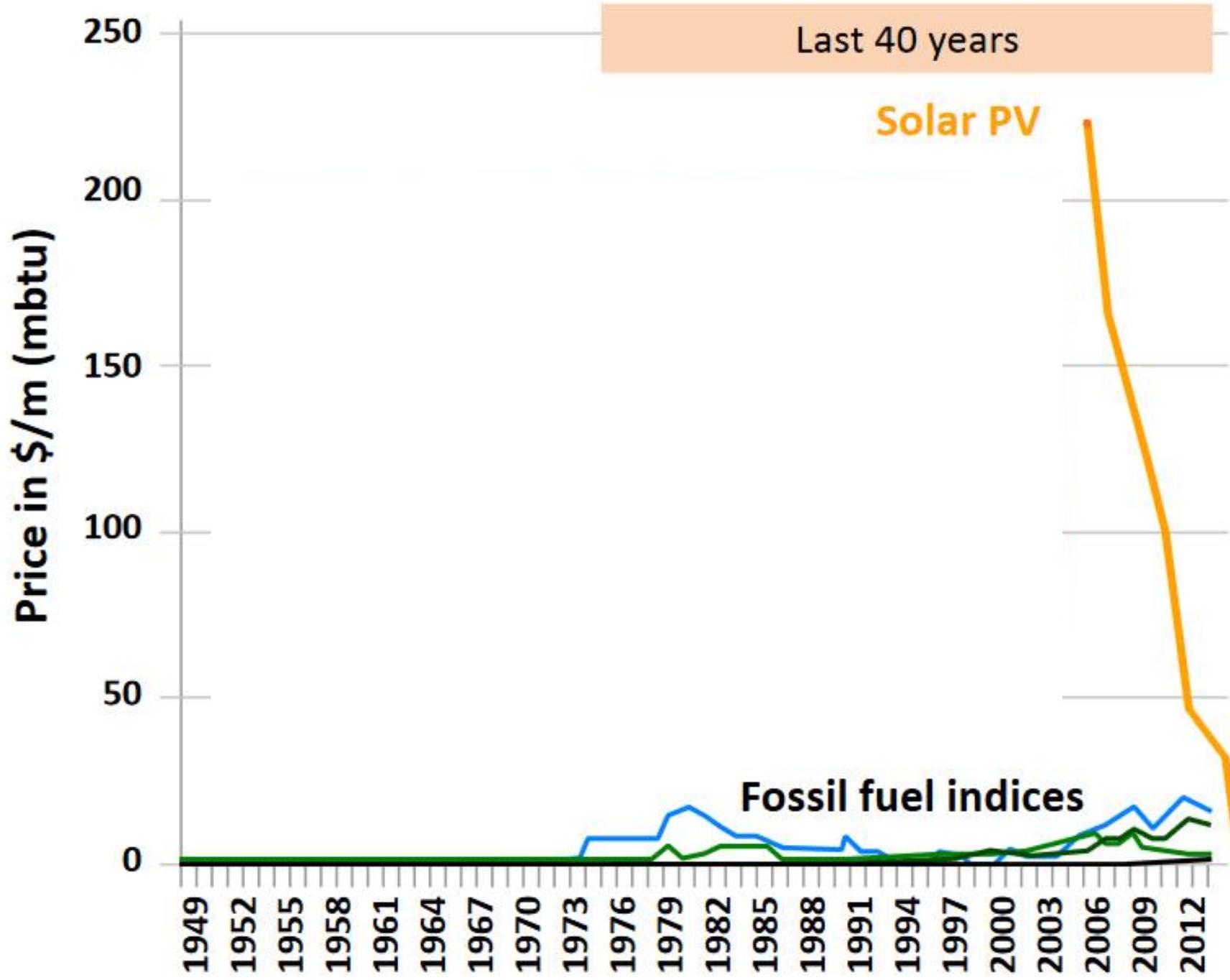


# Energy production is possible

- **Clean**
- **Local**
- **Infinite**





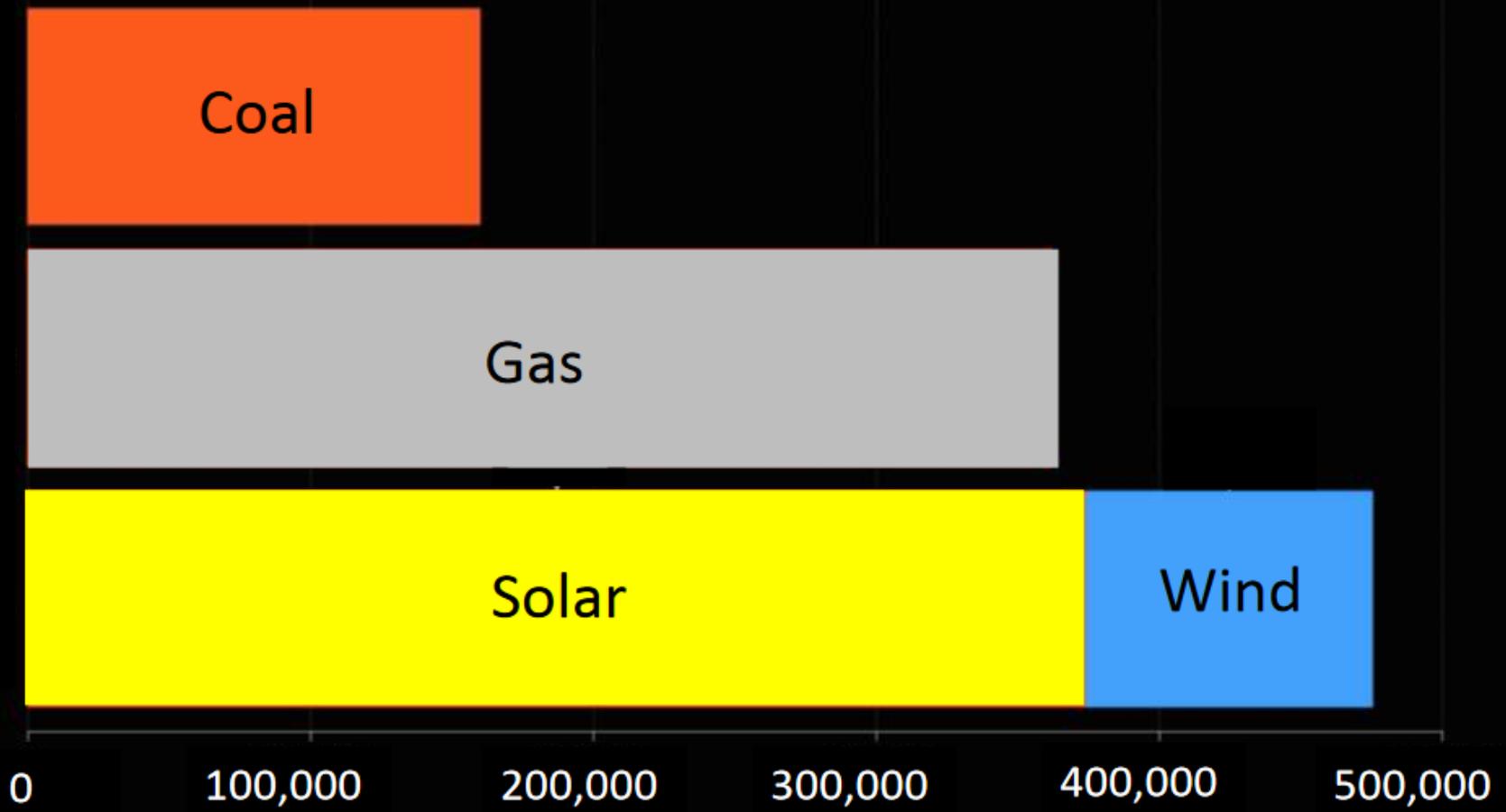


Source: Alliance Bernstein

23<sup>rd</sup> Apr  
2017

# US workers in solar and wind in 2016: 475,000 ....more than coal and gas

Bloomberg



Source: US Department of Energy



There is abundant ocean space

Let's use it!

@oceans\_ofenergy