

# Decarbonising Marine Transport: What, How, and When?



Sandith Thandasherry  
Founder & CEO, Navalt







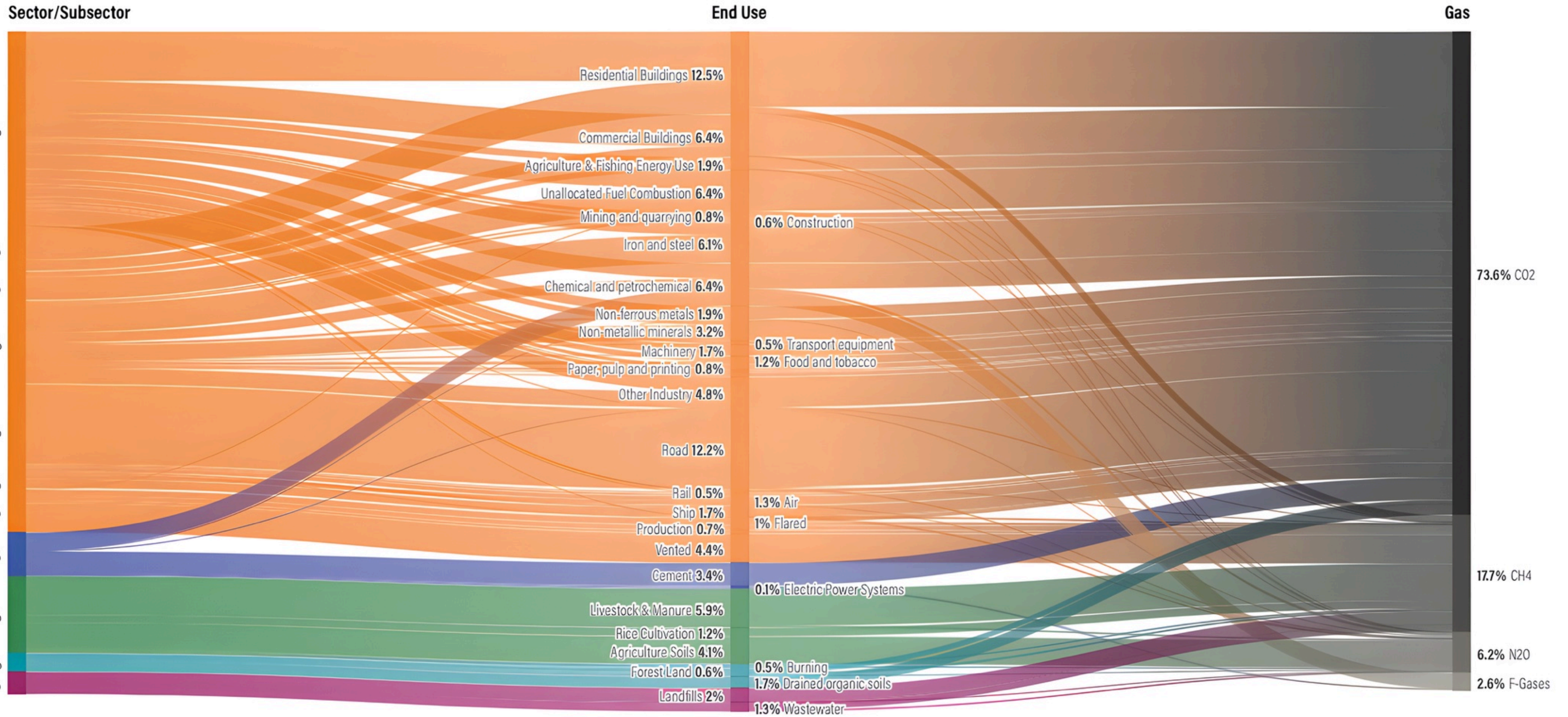






# Flow of global greenhouse gas emissions in 2021

Sector Energy Industrial Processes Agriculture Land Use Change and Forestry Waste





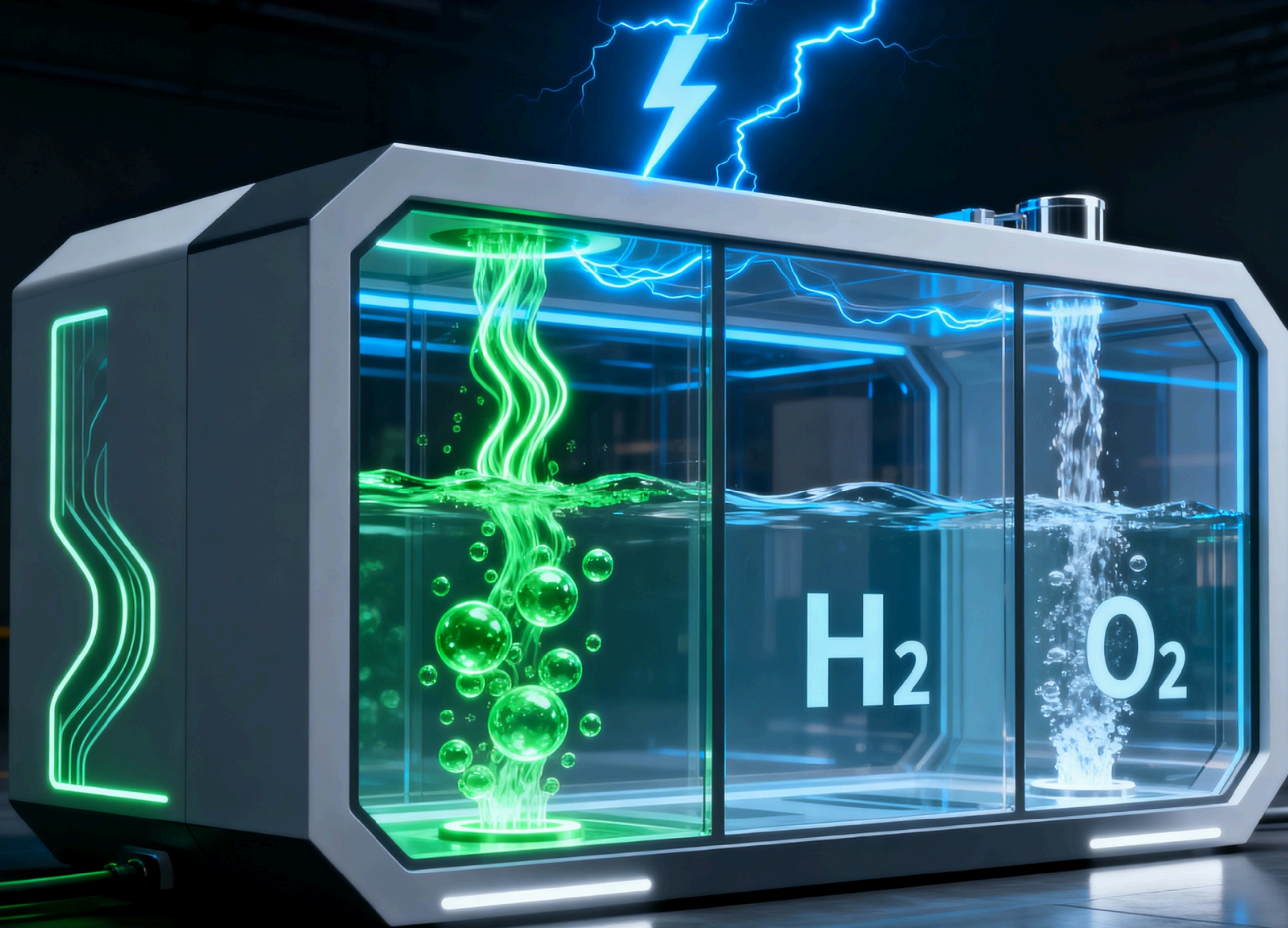




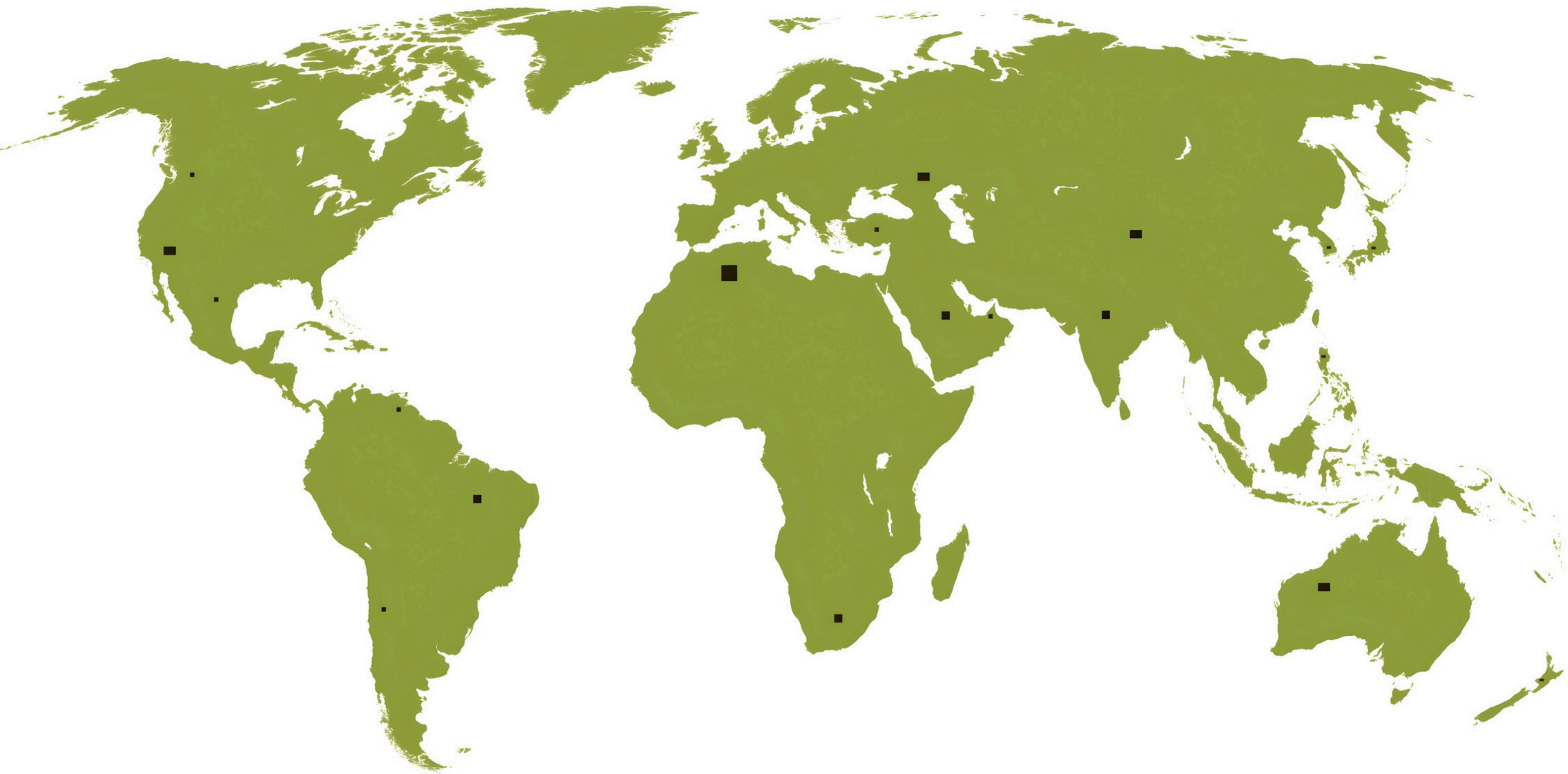


power grid





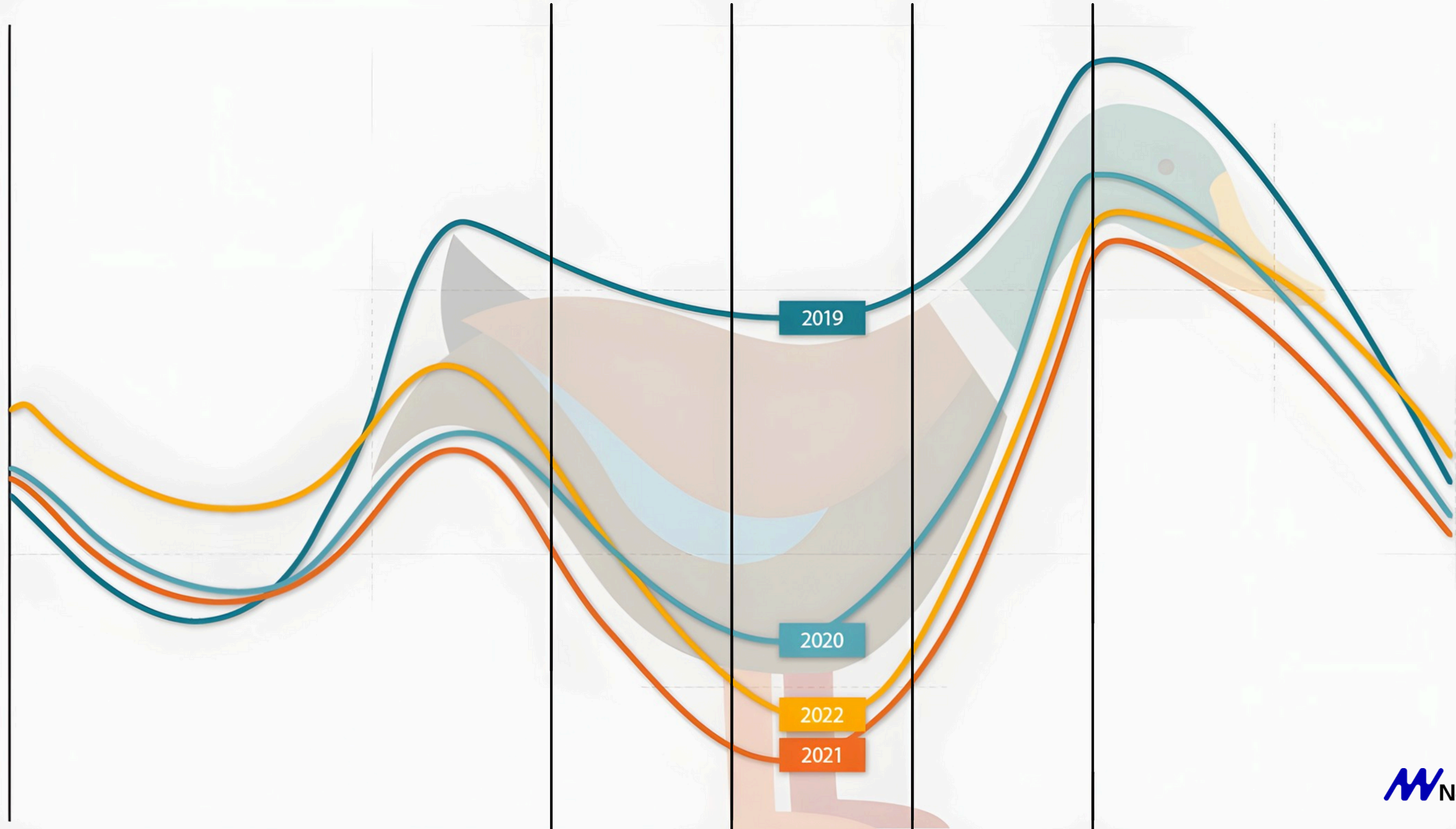






9AM 12PM 3PM 6PM

28,000  
26,000  
24,000  
22,000  
20,000  
18,000  
16,000









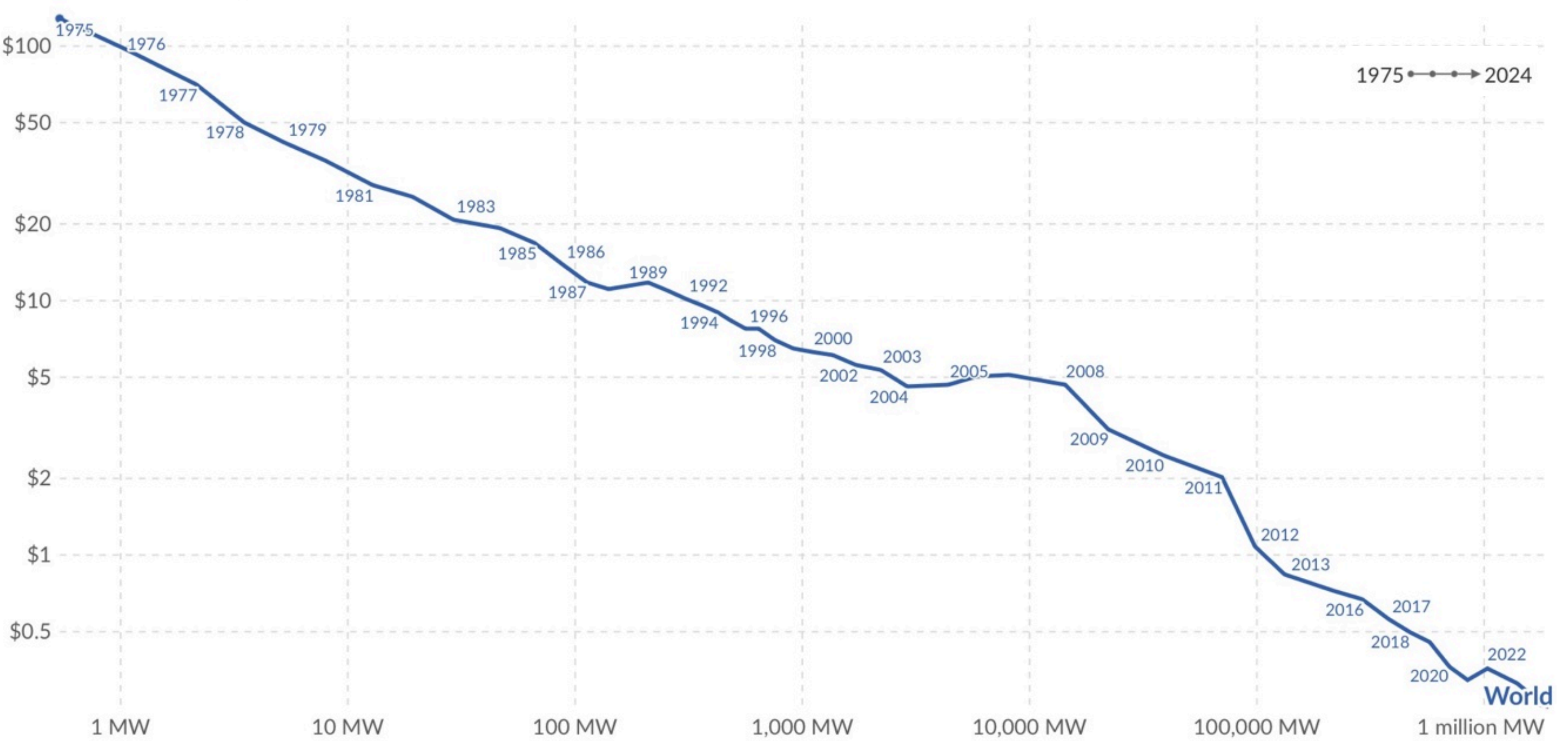


TECHNOLOGY

ECONOMICS



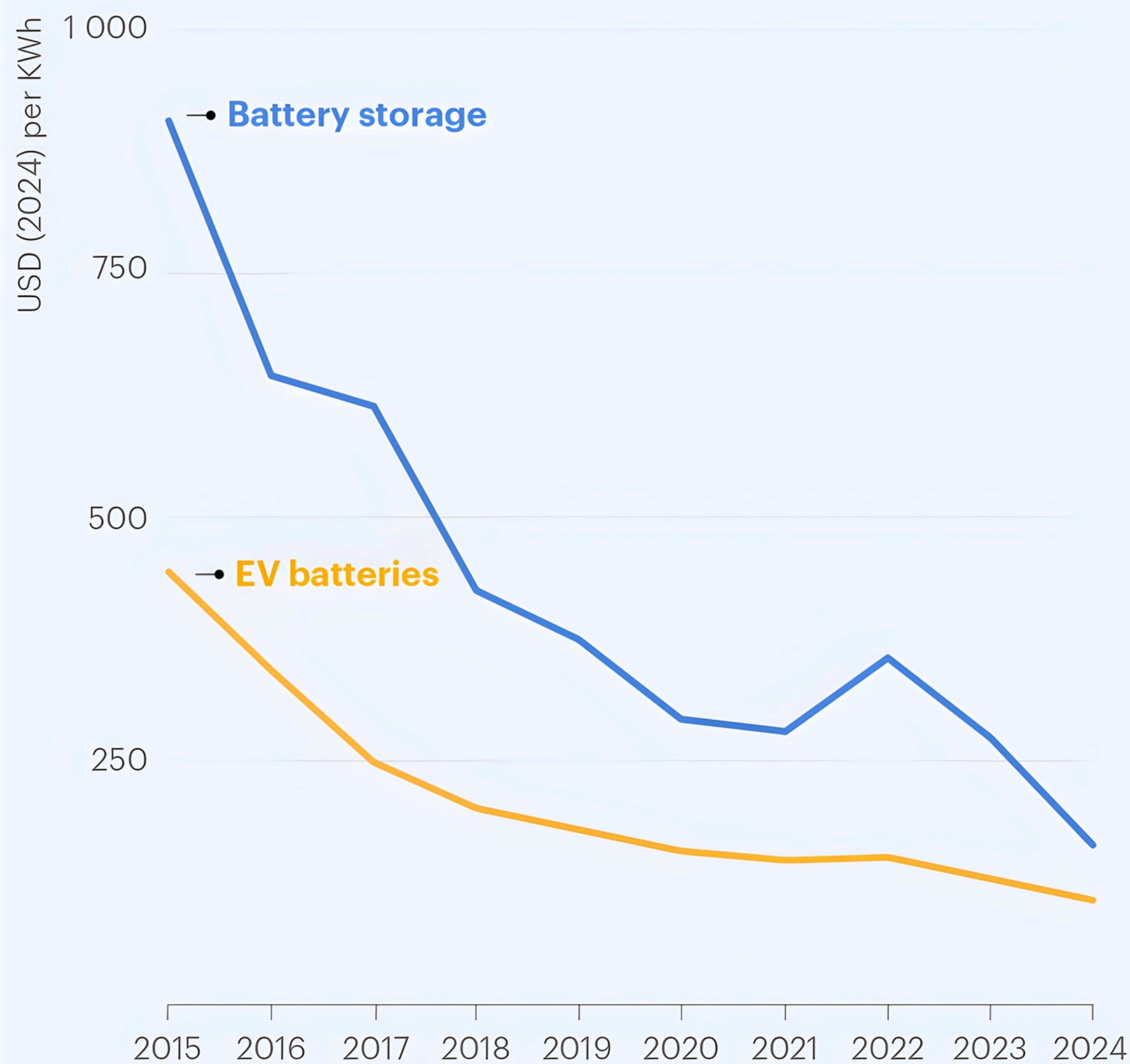
# Solar (photovoltaic) panel prices vs. cumulative capacity



Data source: IRENA (2025); Nemet (2009); Farmer and Lafond (2016)



# Global Average Battery Pack Prices





# Types Of Energy



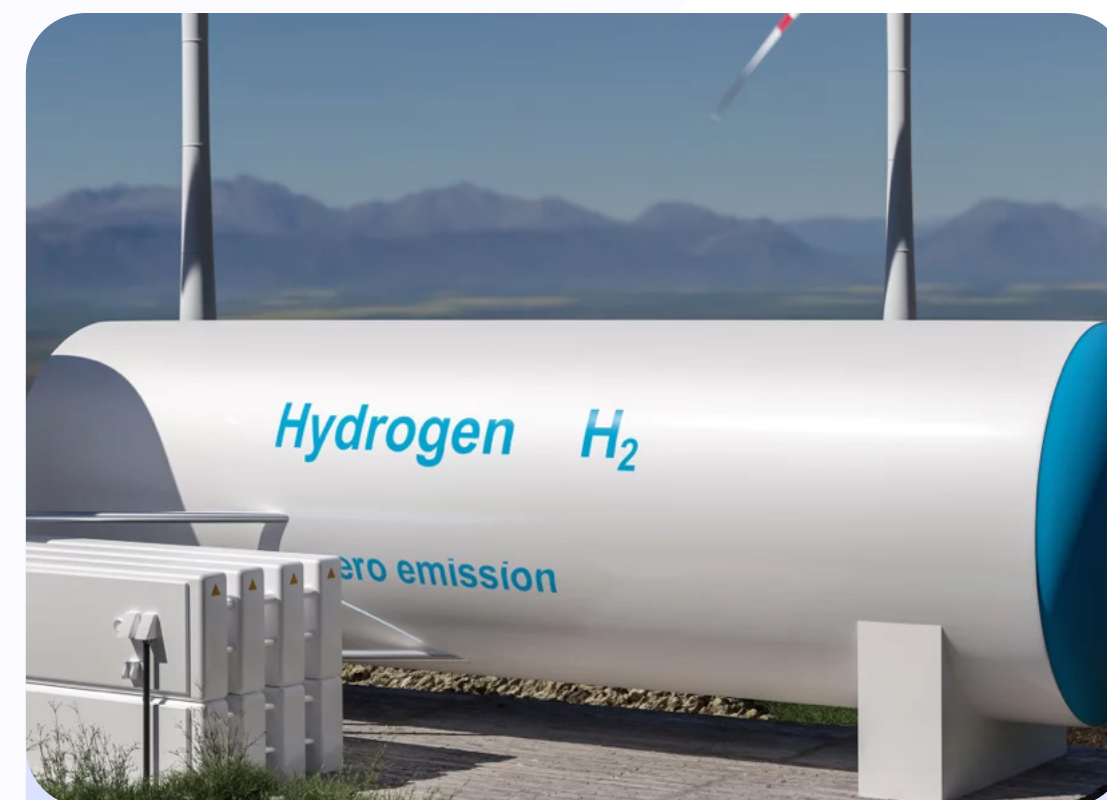
Grid + Battery



Solar



Wind



H2 fuel + Fuel cell

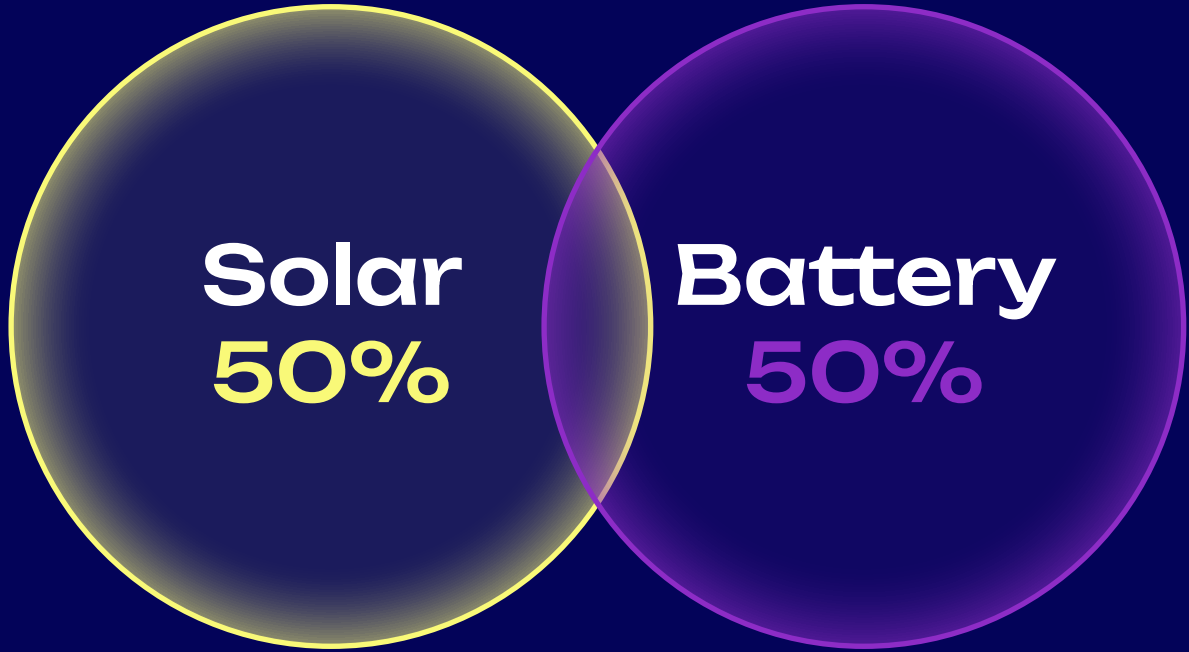


Diesel Fuel + Engine

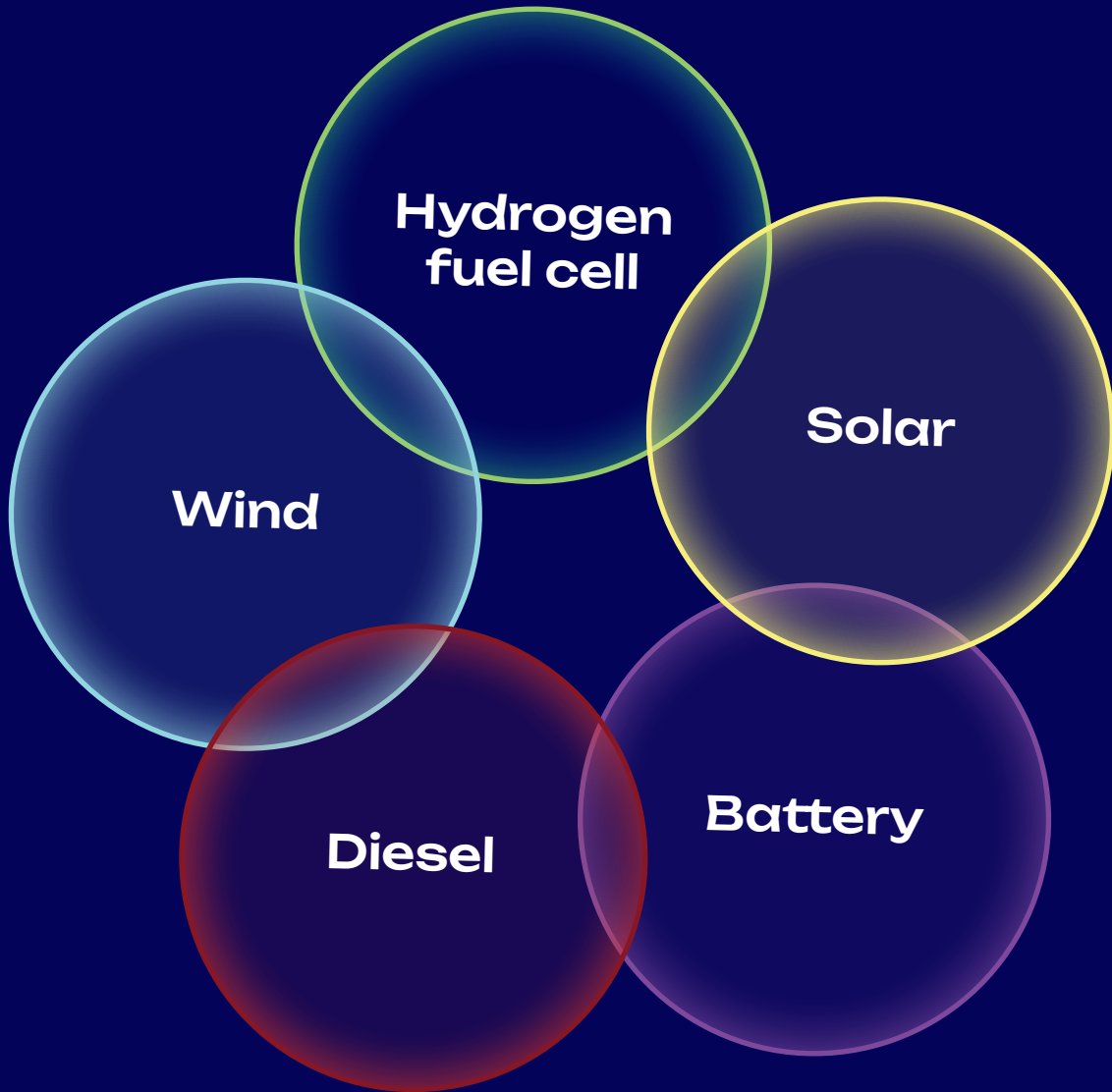


# Combination

## Boats (<50m)

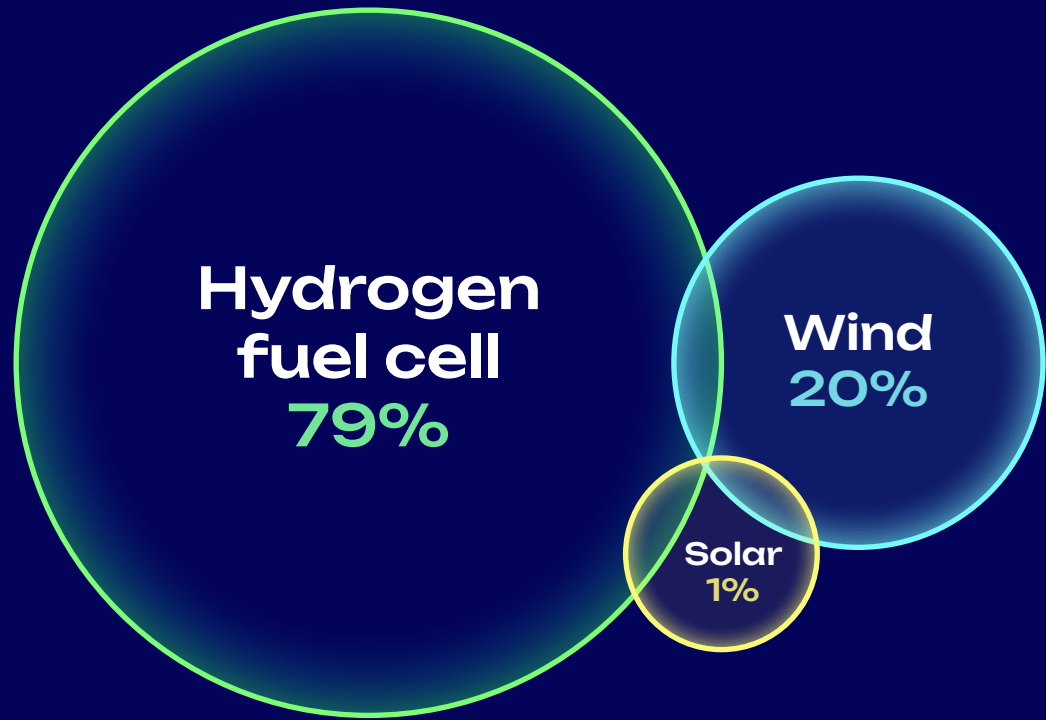


## Boats (50-100m)



Combination

## Ships (>100m)



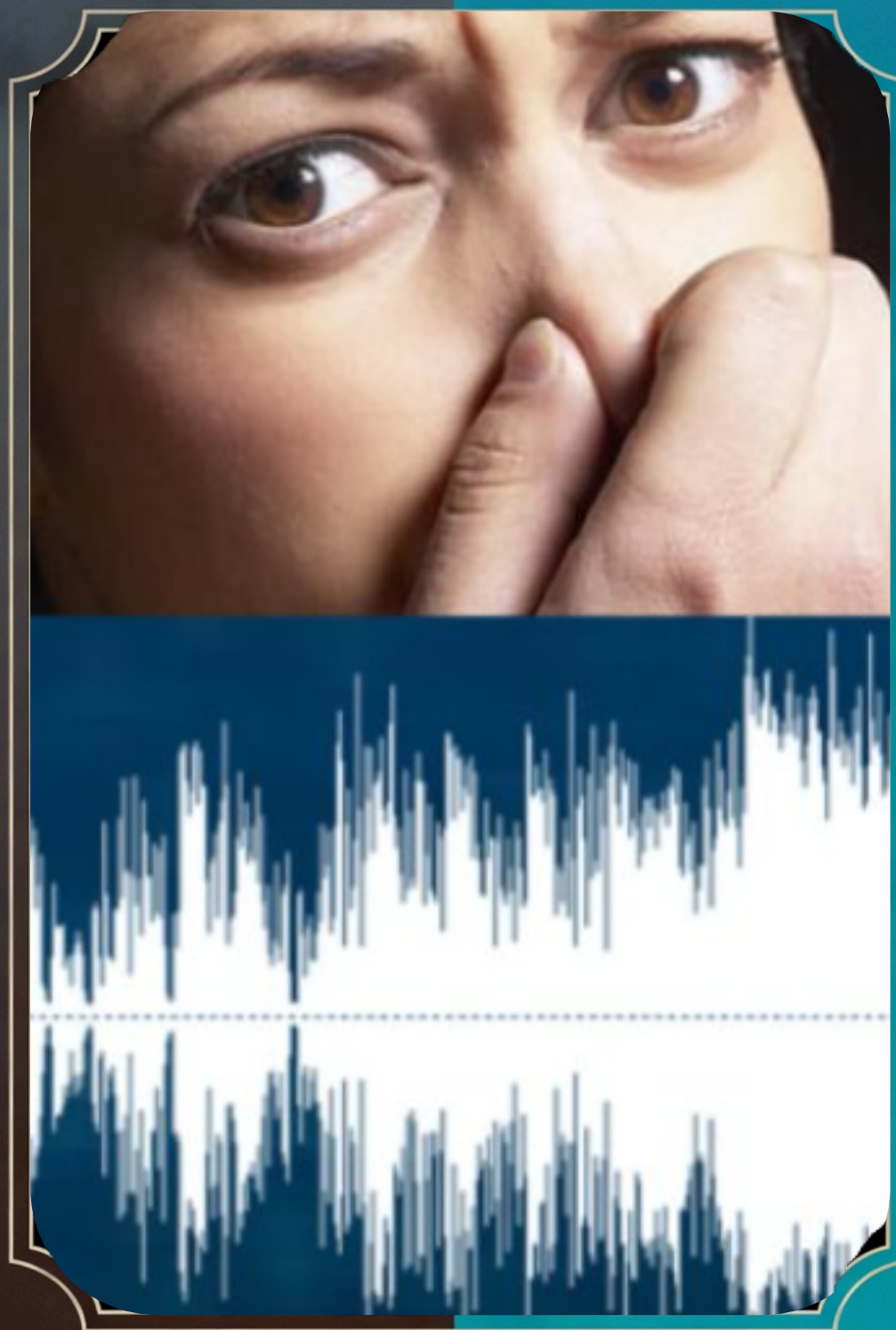
















# OPEX





Weight

## Challenge

from 35 Ton → to **17 Ton**



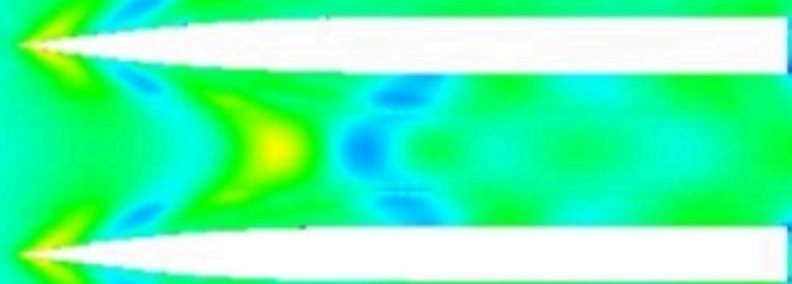




Hull Efficiency

## Challenge

from 45 KW  $\longrightarrow$  to 15 KW





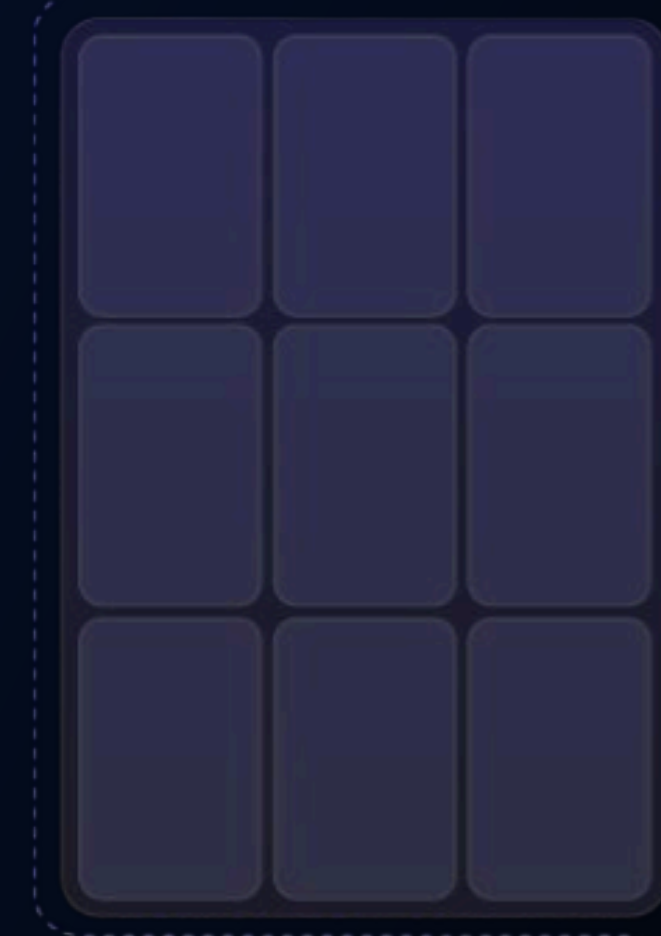
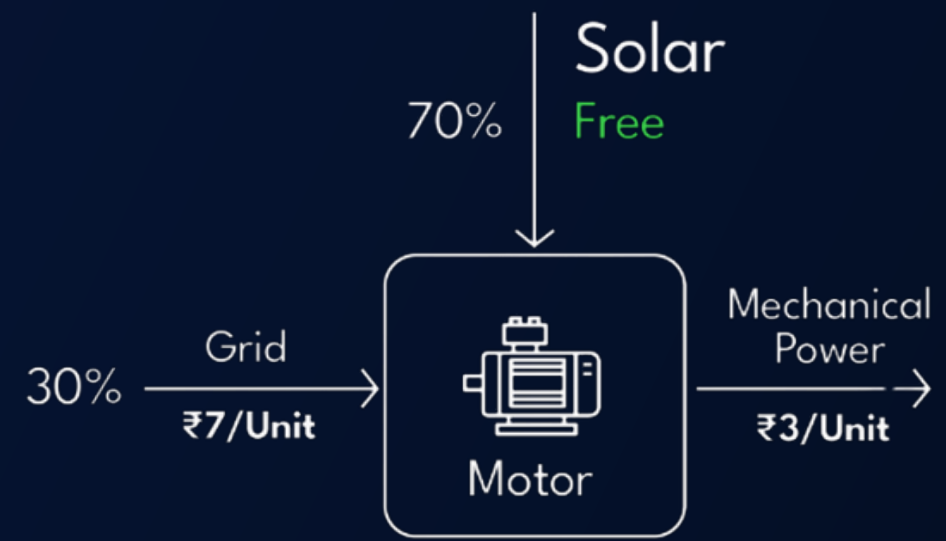
### Diesel Boat



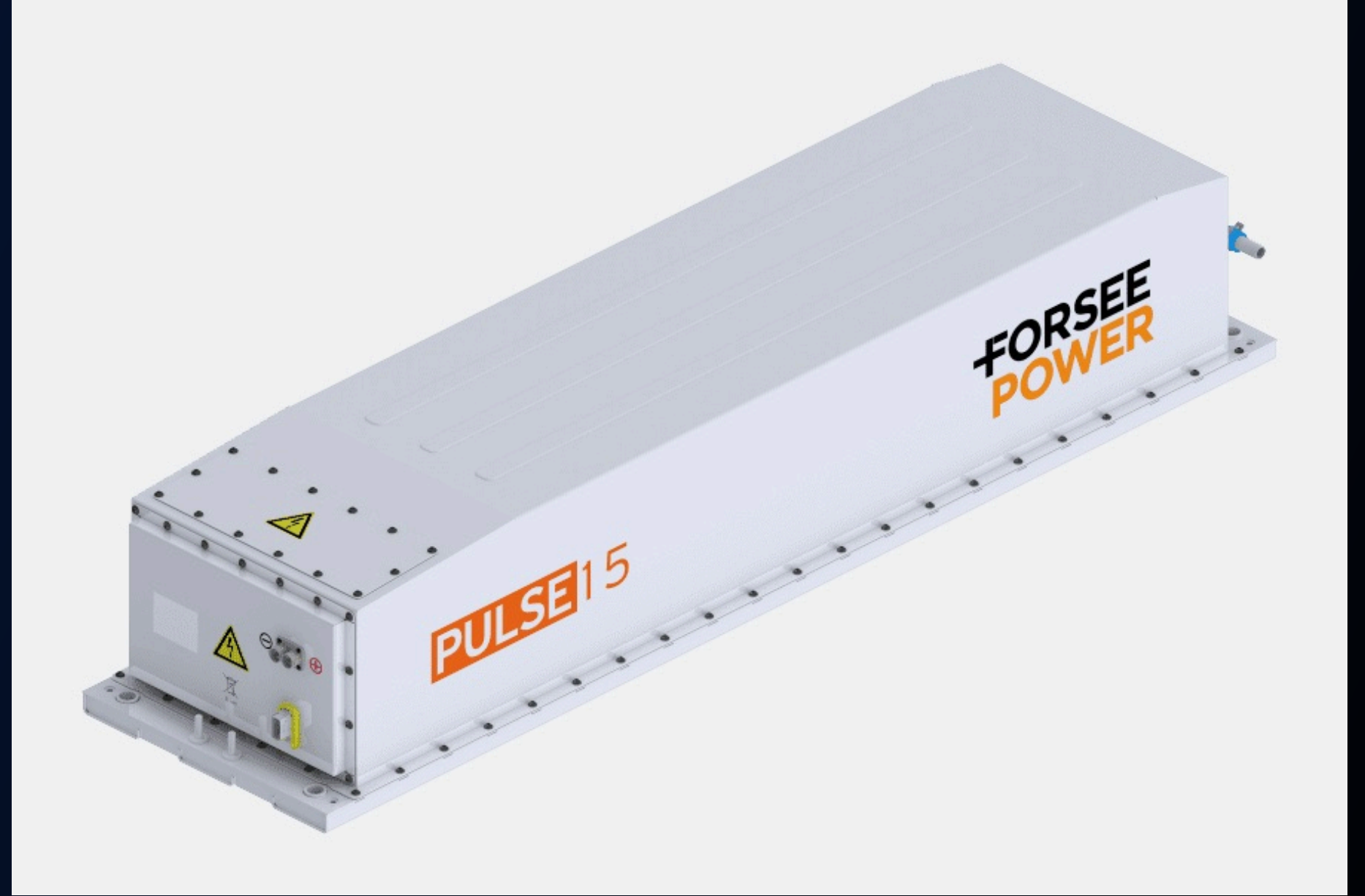
### Electric Boat



### Solar Electric Boat









# ADITYA

## India's First Solar Ferry



**8+** years s  
in operation

**3.1** lakh+ litres  
of fuel saved

**2.6 Crore+**  
rupees fuel money  
money saved

**30L** passengers  
served

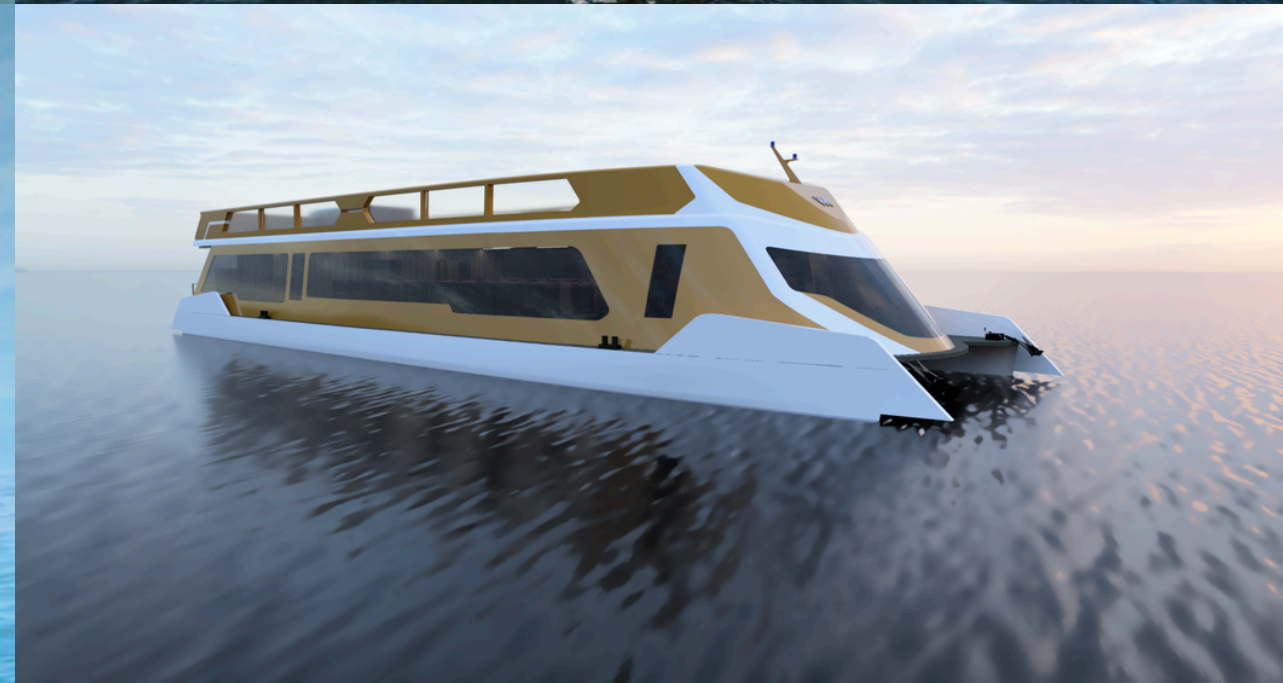
**403**  
tonnes CO2  
savings

trees saved  
**4200+**  
trees saved









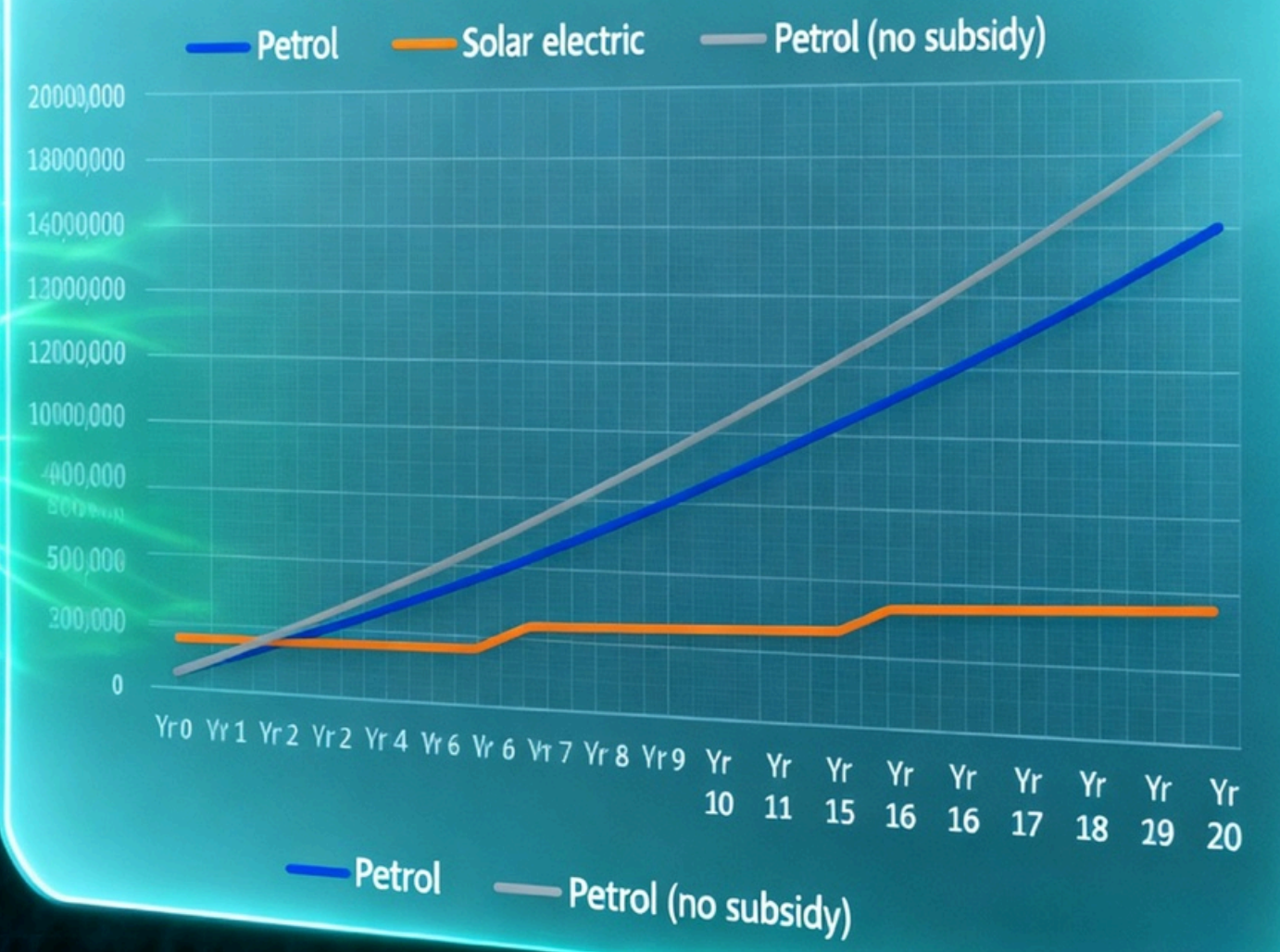




Srav



### TCO of Petrol and Solar boats















 Navalt







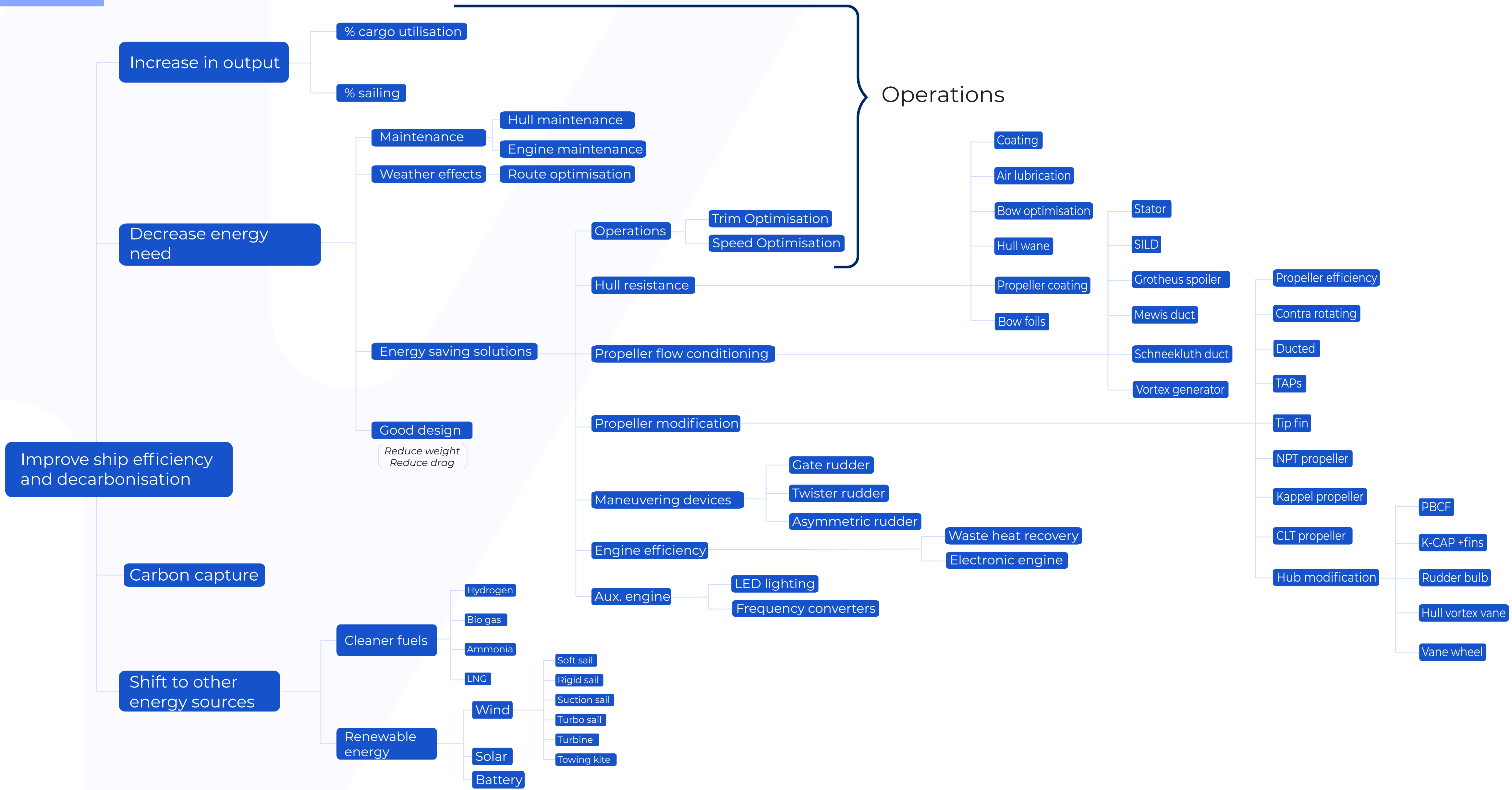








# Decarbonisation Pathway









77 Total No. of Boats

40 Boats in Operation

37 Boats in Construction



Locations		
Canada 01	India — 72	
	Kerala — 47	
	Uttar Pradesh — 06	
	Punjab — 04	
	Maharashtra — 03	
	Madhya Pradesh — 02	
	Odisha — 05	
	West Bengal — 01	
	Karnataka — 01	
	Tamil Nadu — 01	
	Himachal Pradesh — 01	
	Goa — 01	
Israel 01		
Maldives 01		
Seychelles 01		

Applications	
Tourism —	47
Passenger Transport —	19
Fishing —	06
Vehicle Transport —	02
Work Boat —	02



The background of the image is a close-up, high-contrast photograph of ocean waves. The water is a deep, dark blue, with highlights catching the light on the crests and troughs of the waves, creating a textured, almost ethereal appearance. The waves are moving from the top right towards the bottom left, with some smaller ripples visible in the foreground.

Oceans, Electrified.