

# Costa Group - Setting the course to zero-emission cruising



Bernard Vanheule, EU Affairs Director,  
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# Agenda



Who we are

Pathways to decarbonisation

Addressing the decarbonisation paradox

# Costa Group – who we are



## COSTA GROUP'S EUROPEAN DNA

### 2 EU brands



### EU Flag

26 vessels under  
IT flag

### Built in EU

26 vessels built  
in EU yards

### EU Destination

World N°2

### EU suppliers

10,500

### COSTA GROUP IMPACT IN EUROPE (2019)\*:

**€ 12.6**

Billion  
Economic  
Impact

**63,000**

Jobs created

\* Pre-Covid figures

## OUR UN SDGs VISION ALIGNS WITH EU GREEN DEAL



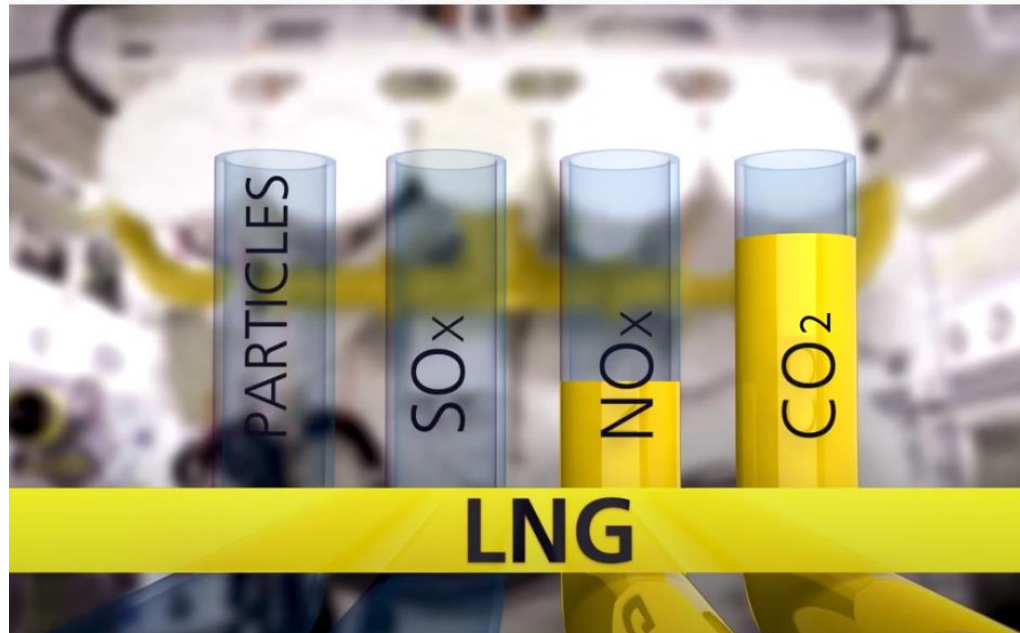
Aim to be the **first zero-emission cruise operator.**



# LNG: Immediate and future benefits



AIDAnova: world's first LNG cruise ship, ordered in 2015, delivered in Dec. 2018



## Today:

- LNG is good for reduction of
  - 20% CO<sub>2</sub>
  - 85% NO<sub>x</sub>
  - 100% SO<sub>x</sub>
  - ~100% PMs

## Tomorrow:

- Bio-LNG blending potential:
  - 20% bio-LNG = up to 34% less CO<sub>2</sub>\*
- Full Bio-LNG potential:
  - 90% less CO<sub>2</sub> or even carbon negative



\*SeaLNG, Bio-LNG in Transport: Making Climate Neutrality a Reality, 11 2020, with respect to conventional fuels



# Shore Power: When ships are at berth

## Major benefits:

- Large decarbonisation contribution for ships at berth;
- 51% of Costa Group fleet is technically prepared;
- Joint feasibility study with French environment agency ADEME and Marseille Port Authority

## However:

- Supply: limited EU infrastructure available so far (only 6 ports); none in the Mediterranean Sea
- Demand: shore power must be convenient compared to other sources (no tax barriers)



AIDAsol since April 2017



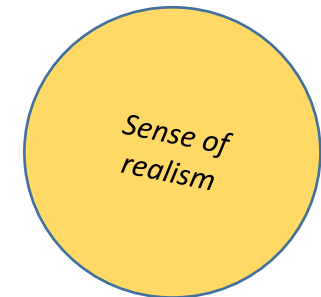
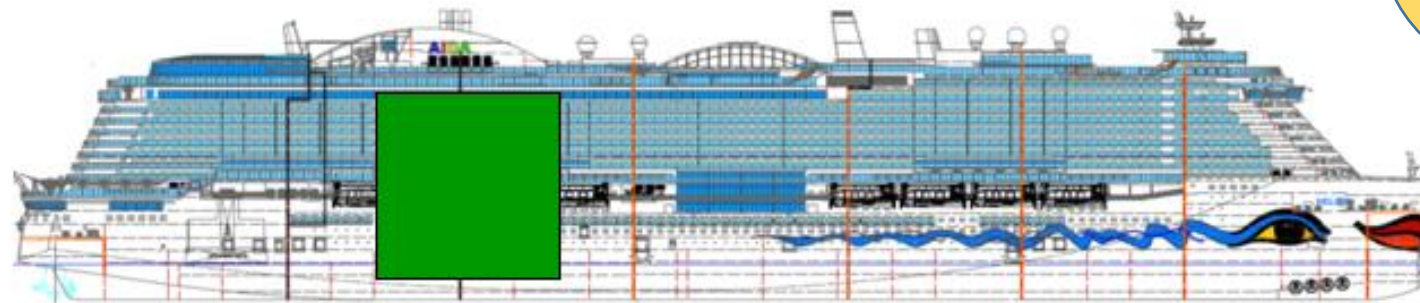
# Battery: Essential to optimize hybrid systems

## Major benefits:

- Vessels maneuvering in/out of port: leads to zero emission but autonomy is limited  
=> purely on batteries
- Vessels at sea: improves energy efficiency (“peak shaving”), emissions reduction, increased safety, ...  
=> hybrid mode

## However:

- Battery as a single energy carrier is not a realistic option for ocean going vessels...



Example: for 7 day autonomy electrification alone is not feasible for ships in global operation



# Fuel Cell: Enabler for clean fuel

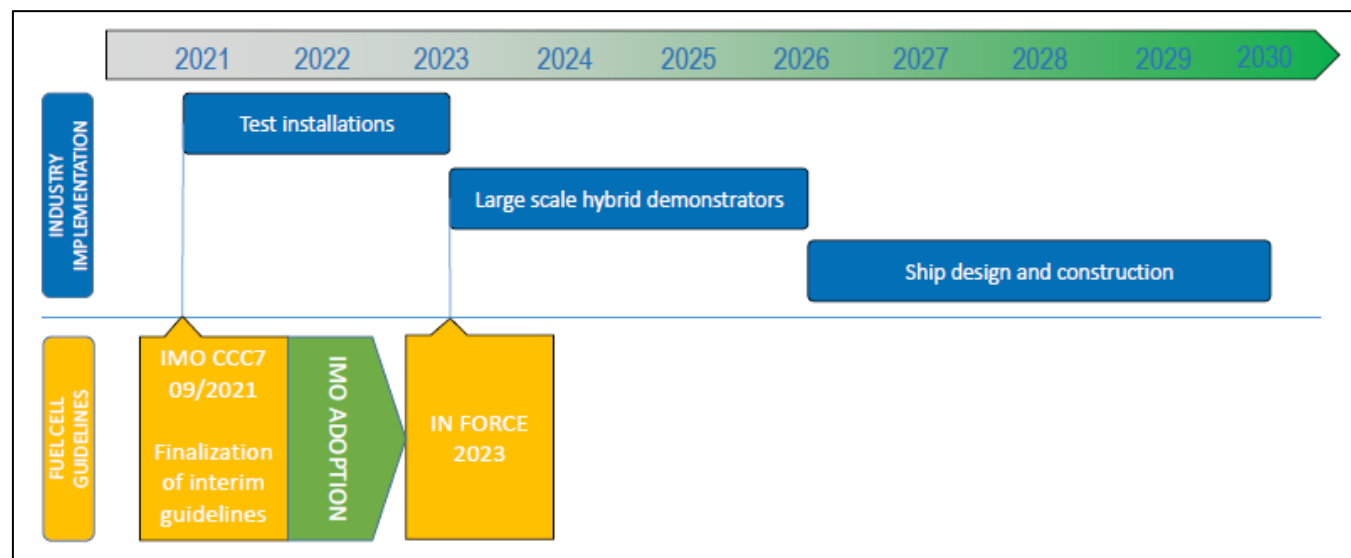


## Major benefits

- Fuel cell technology can adapt to different fuels
- Higher energy efficiency meaning less fuel demand
- Conversion from fuel to electric energy without additional emissions (combustion free)

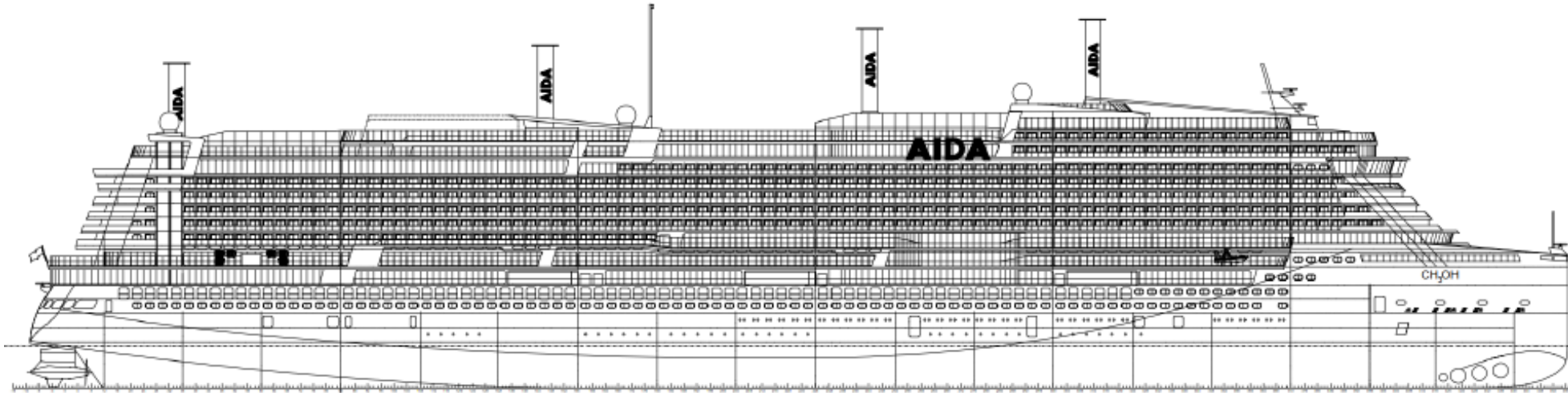
## However:

- Shipping far behind land developments and we need demonstration projects now;
- No IMO “Interim Guidelines” for power installation standards with levels equivalent to conventional fuels



#1

# Costa Group: World's first zero emission cruise ship



Battery

Fuel Cell

Methanol

Solar

Wind

**Costa Group is working to build the first zero-emission cruise ship for global operation by 2030**



# Addressing the decarbonisation paradox



## ***Paradox:***

Shipping is recognized as the most challenging sector to decarbonize but ... Member States' AFID allocated budgets to waterborne are under-represented: < 5% \*

## ***Recommendations:***

There are hybrid solutions and future EU policy is key:

1. Allocating biomass to leverage the immediate benefits of LNG
  - *AFID, RED III, EU Fuel Maritime etc.*
2. Deploying shore power for vessels at berth
  - *AFID, RED III, ETD, EU Fuel Maritime etc.*
3. Securing a regulatory framework making demo / pilot projects possible for alternative propulsion methods (batteries, fuel cells etc.)
  - *IMO Solas, Interim Guidance, EU*
4. Allocating waterborne transport its fair share of financial support
  - *ETS, ETD, etc*

**More info:**

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