

17-21 JUNE 2019  
**EU SUSTAINABLE ENERGY WEEK**  
SHAPING EUROPE'S ENERGY FUTURE



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# **Sailing towards Paris: Can shipping be zero-emission?**

**A cruise company approach**

Tom Strang Carnival Corporation & plc



# Carnival Corp & plc

- 9 cruise line brands
- 104 ships in operation – 1 LNG powered
- 21 ships on order – 10 LNG powered
- 120,000 employees
- 11.5 Million guests carried per year
- 225,000 daily cruise guests
- 100,000 shipboard employees
- Bunker 3.3 Million MT fuel / year
- Demand roughly 80% Fuel Oil, 19% distillate & **1% LNG**





# LNG – the cleanest fuel available today

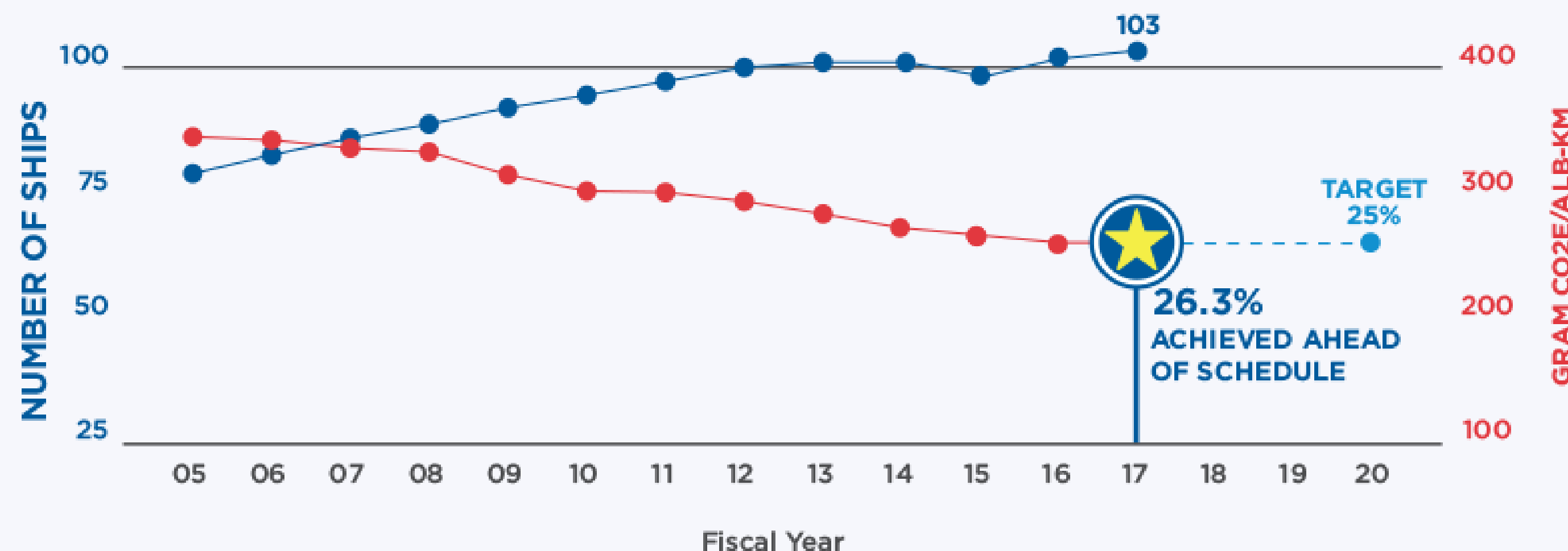


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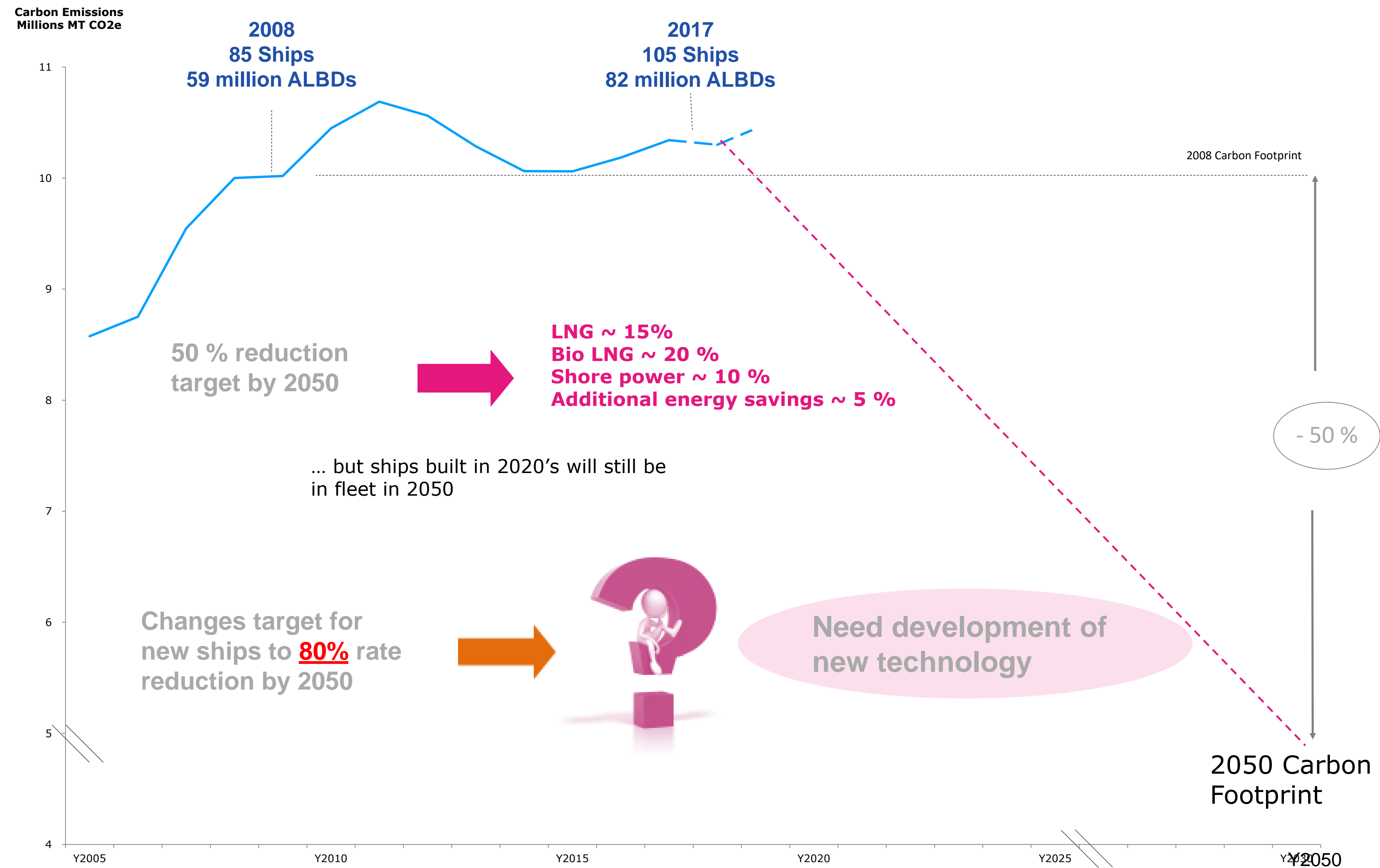
# GHG – current status against target

- Reduce the intensity of CO<sub>2</sub>e (equivalent carbon dioxide) emissions from our operations by 25% by 2020 relative to our 2005 baseline, measured in grams of CO<sub>2</sub>e per ALB-km (available lower berth-kilometre)



- On track to make 40% reduction relative to 2008 by 2030
- Will need to continue year on year improvement

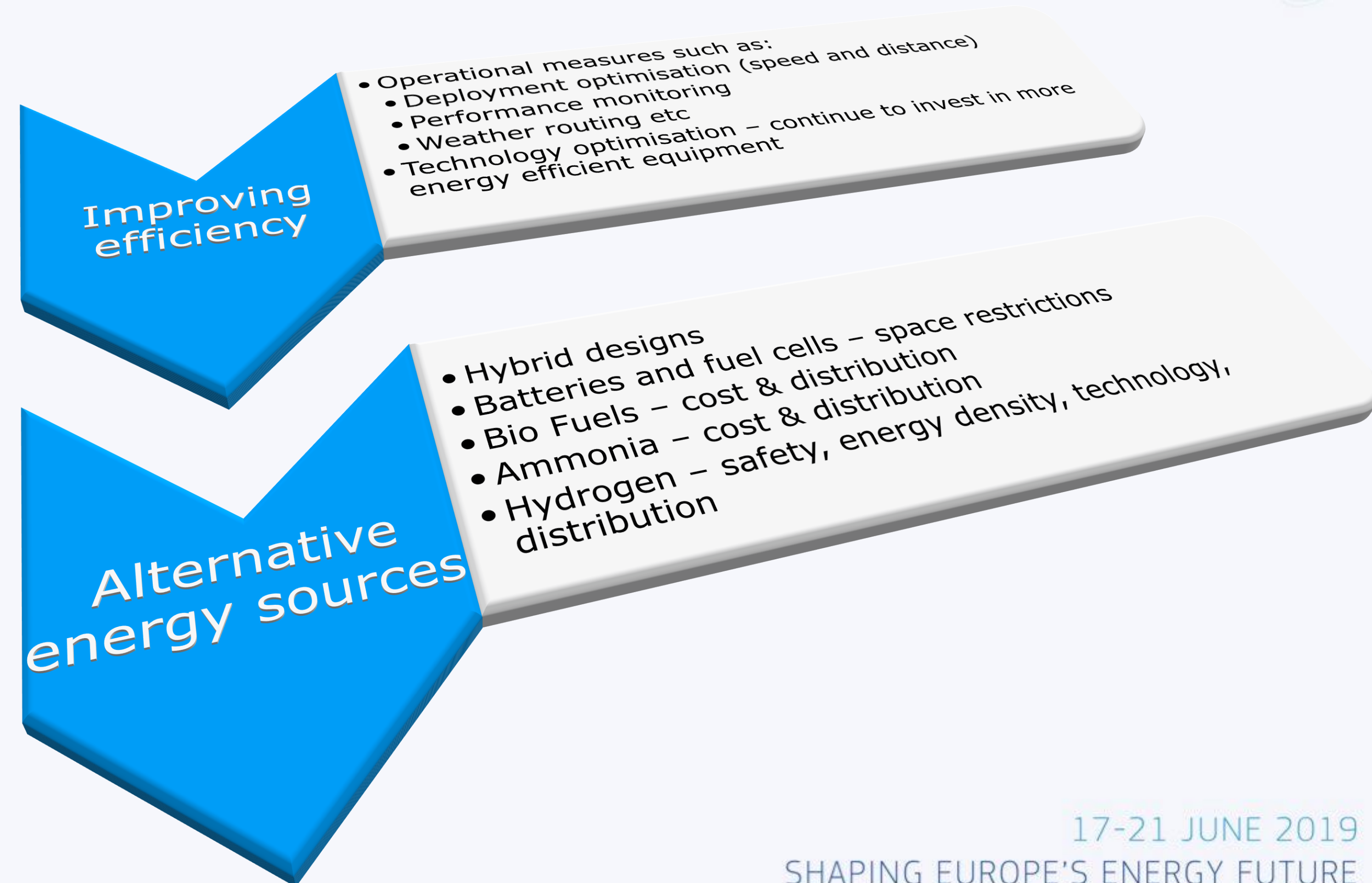
# Real challenge is 50% absolute reduction by 2050





# What are we doing?

- Continue to invest in BAT
  - That is LNG right now
  - Maximise benefits, reduce methane slip, take maximum advantage of local pollutant reduction and lower GHG
- Investigating options to add renewable bio/synthetic LH4 to improve carbon footprint
- Investigate alternatives such as LH2 and Ammonia





# Thank you – any questions



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