

A satellite map of Greece is visible on the left side of the image, showing the coastline and islands. The map is partially obscured by the large date text.

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09
23

**Capture
the future:
evolution and
technologies for
decarbonization.**

*The Ecospray journey towards
2050 goals: development of the
carbon capture technologies for
the shipping industry.*

Second Decarbonization Seminar

21st SEPTEMBER 2023
INTERCONTINENTAL HOTEL
ATHENAEUM ATHENS
Syngrou Avenue 89-93
11745, Athens

ECOSPRAY
technologies for the planet



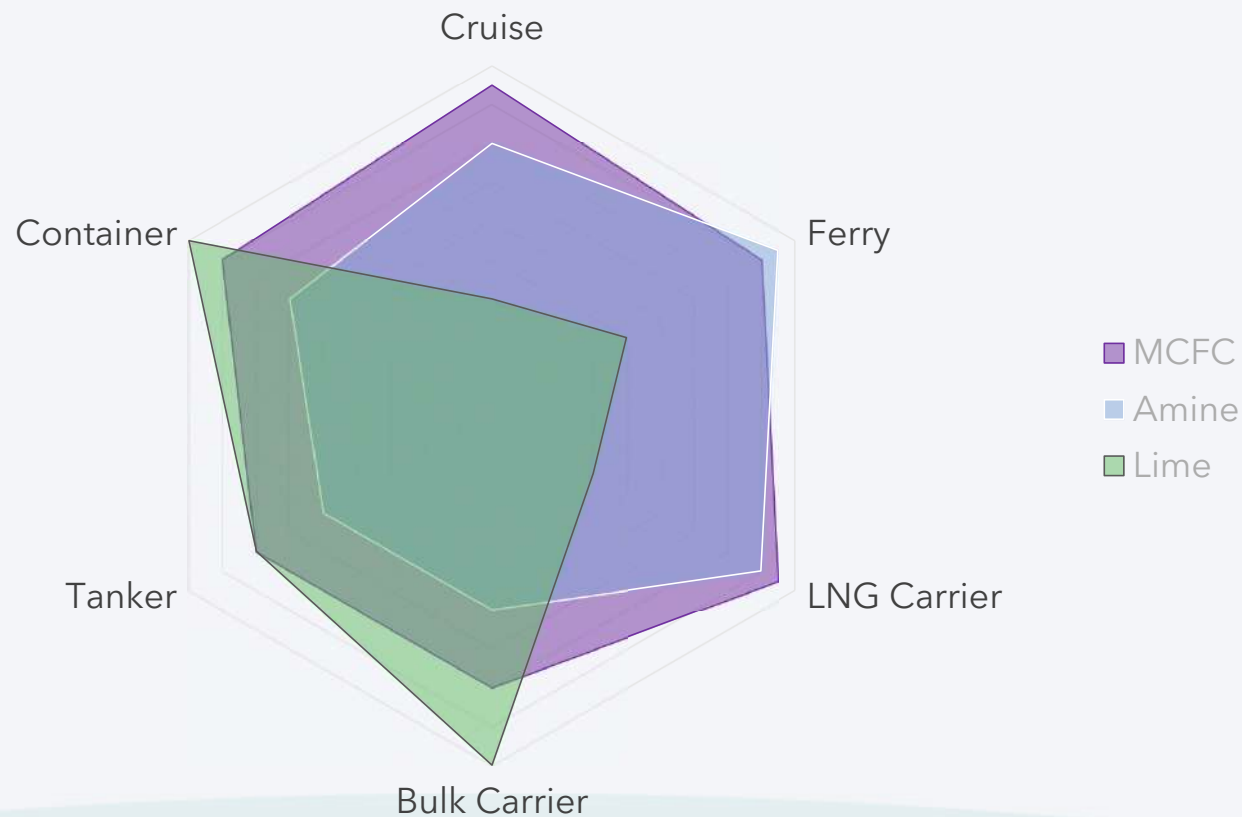
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FEASIBILITY STUDY FOR ONBOARD-SHIP INTEGRATION OF CARBON CAPTURE TECHNOLOGIES

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WHICH TECHNOLOGY FITS BEST?



CASE STUDY 1 - 15K TEU CONTAINER SHIP WITH CALCIUM HYDROXIDE BASED CARBON CAPTURE SYSTEM



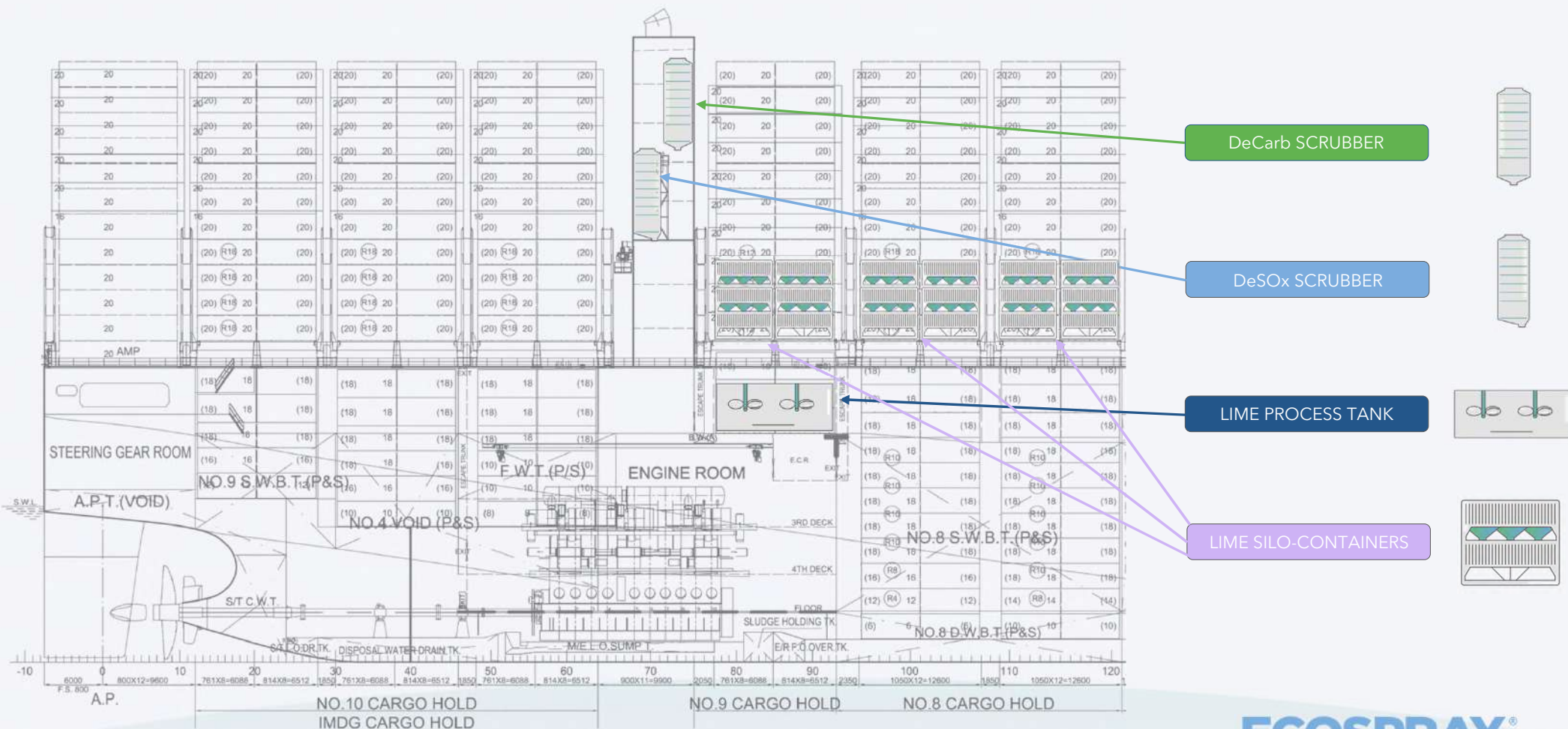
Vessel & CO₂ parameters

Total engines power	28,0 MW
Type of Fuel	HFO
CO ₂ emissions by engines	15,65 t/h
Target NET CO ₂ capture rate	50%
Carbon Capture System impact on cargo capacity	1,6% cargo loss
Captured CO ₂ storage method	Discharged Overboard as Calcium Carbonate

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CASE STUDY 2 - 15K TEU CONTAINER SHIP WITH MCFC BASED CARBON CAPTURE SYSTEM



Vessel & CO₂ parameters

Total engines power	30,0 MW
Type of Fuel	LNG
CO ₂ emissions by engines	11,8 t/h
Target NET CO ₂ capture rate	50%
Carbon Capture System impact on cargo capacity	1,7% cargo loss
Captured CO ₂ storage method	Liquefied and stored onboard

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CASE STUDY 3 - CRUISE SHIP MCFC BASED CARBON CAPTURE SYSTEM

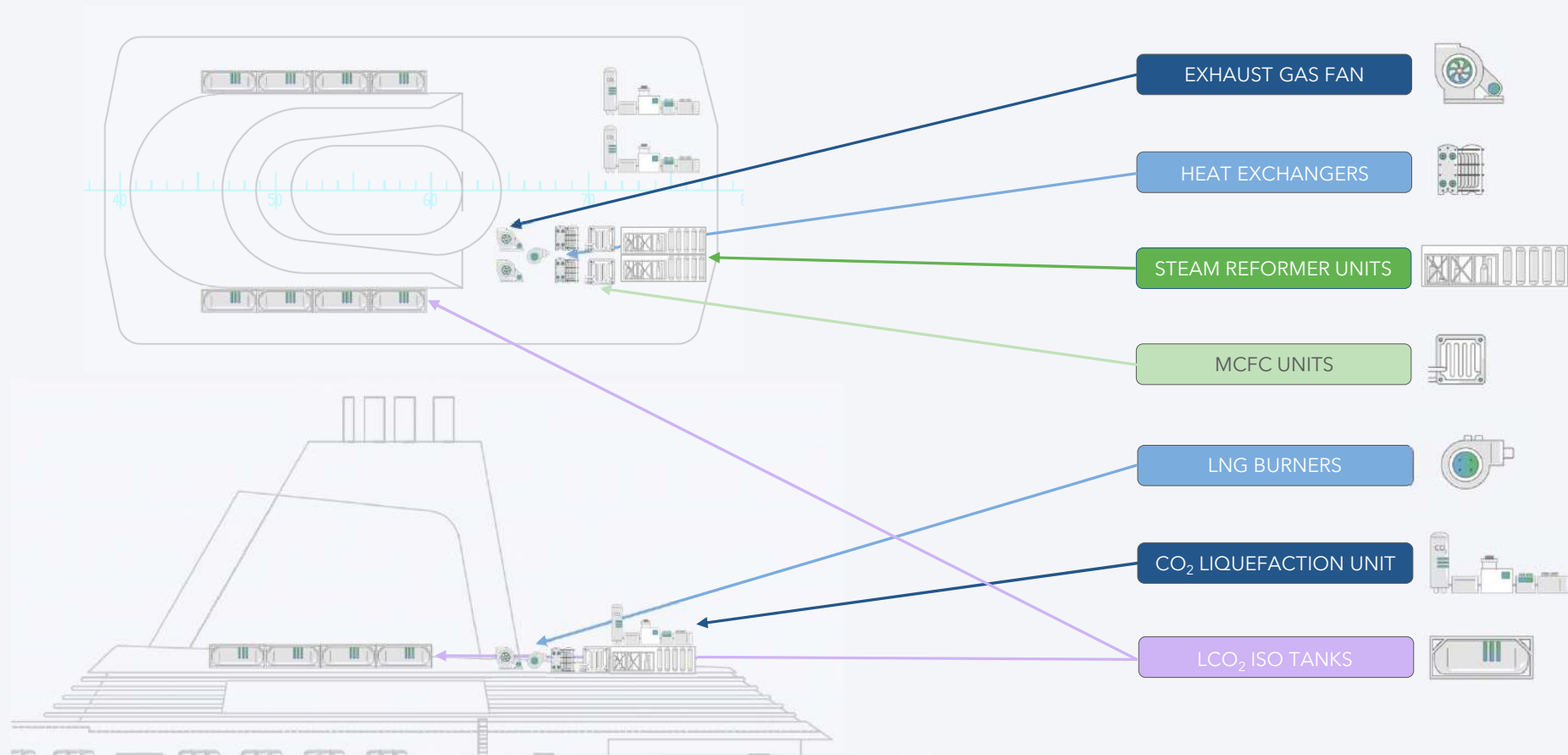


Vessel & CO ₂ parameters	
Total engines power	9,72 MW
Type of Fuel	MGO
CO ₂ emissions by engines	6,1 t/h
Target NET CO ₂ capture rate	20%
Carbon Capture System impact on cargo capacity	N.A.
Captured CO ₂ storage method	Liquefied and stored onboard



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DETAILED FEASIBILITY STUDIES FOR ON BOARD INSTALLATION

Vessel & CCS parameters		
	 ALPHA MARINE CONSULTING P.C.	 GMT GREEN MARITIME TECHNOLOGY
Vessel type	PCTC	Bulk Carrier
CCS technology	Amine based carbon capture	Amine based carbon capture
CCS target capture rate	40%	20%
Feasibility study status	Completed at medium detailed stage	Completed at medium detailed stage

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Thank you

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