

shipShape



Efficiency at Sea, Emission-Free
Group 7 : Knot2Far



Agenda

01 SHIPSHAPE

02 Safe Route

03 Smart Route

04 CargoSync

ShipShape's Efficient Management

Maritime Management

Cargo Registration

Vessel Registration

Matching Page

Maritime Management

Cargo Registration

Register Cargo

Supplier ID

Tonnage

Type

Current Latitude

Current Longitude

Destination Latitude

Destination Longitude

Due Date

dd/mm/yyyy

Submit

Register Vessel

Vessel ID

Capacity

Current Capacity

Type

Start Latitude

Start Longitude

End Latitude

End Longitude

Start Date

dd/mm/yyyy

End Date

dd/mm/yyyy

Submit

A need for SafeRoute

Shipping Lane Closures

- War zones, piracy, accidents, and natural disasters can suddenly close critical shipping lanes
- Increases fuel consumption, extends delivery times, and significantly raises CO2 emissions
- A solution is required that considers multiple viable alternatives and visualises the anticipated cost – enabling a more transparent decision making process



Your solution, SafeRoute

Route Comparison Results

	Route	Distance (nm)	Time (days)	Fuel (tons)	CO2 (tons)	Description
0	Default Route	11157.7	35.8	1692474.4	5426073.0	Standard route following the most direct navigable path
1	Northern Route	18327.6	58.7	2788321.7	8939359.2	Alternative route passing through Strait of Gibraltar, Panama Canal
2	Southern Route	14104.1	45.2	2137390.2	6852473.0	Alternative route passing through Strait of Malacca, Cape Horn

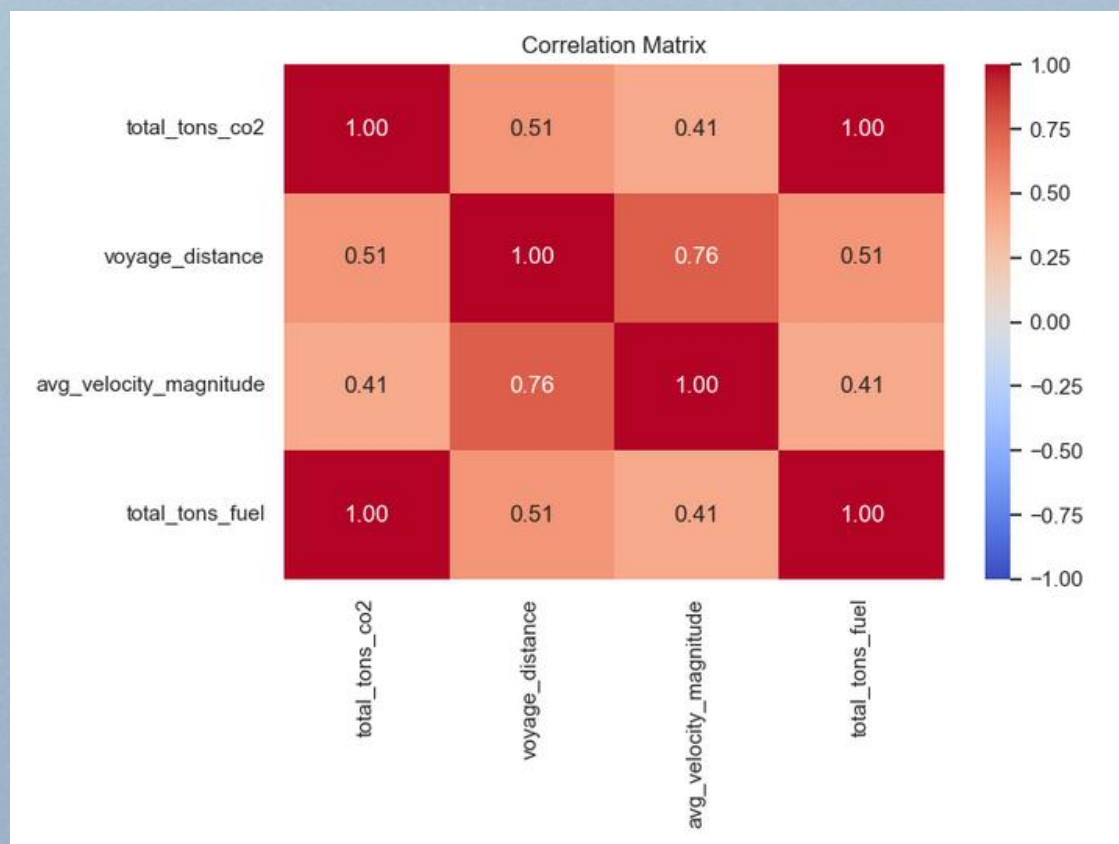
All Routes Comparison



Enter SmartRoute

Tailoring our Approach

- **Emissions Tracking:** Essential for vessel operators in today's environmentally-conscious regulatory landscape
- **Empirical evidence:** Your emissions are impacted by the actions that your vessels take
- **Business-Conscious Solutions:** Our routing optimizes both on-time delivery and emissions reduction, addressing the dual priorities of modern shipping



Reacting to changing conditions to maximise efficiency based on real-time data.



Faster routes:
Minimizing delays
caused by port
congestion



Fuel efficiency: Adjusting
routes according to ocean
currents

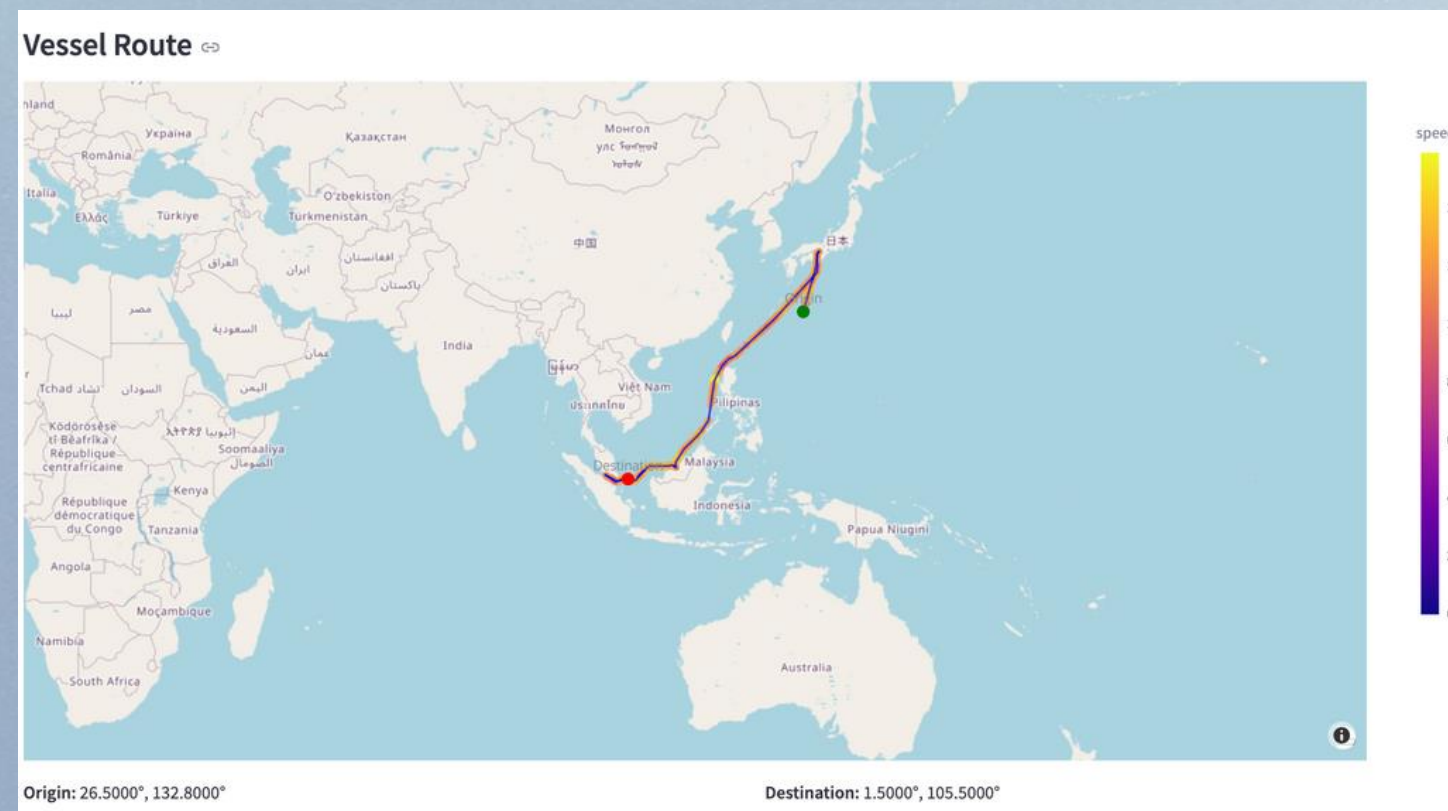


Vessel efficiency:
Optimizing the cargo
load on each vessel

Monitoring AIS Data

Our Approach

- AIS data provides us with different vessel characteristics at different time intervals
- We build a model to derive bunker fuel consumed and emissions for each voyage
- Visualisation in dashboard



Select Vessel

139296.0



Vessel Type

Gas carrier

DWT

84,303 tons

Voyage Start

2024-08-31

Voyage End

2024-09-30

Route Map

Speed & Distance

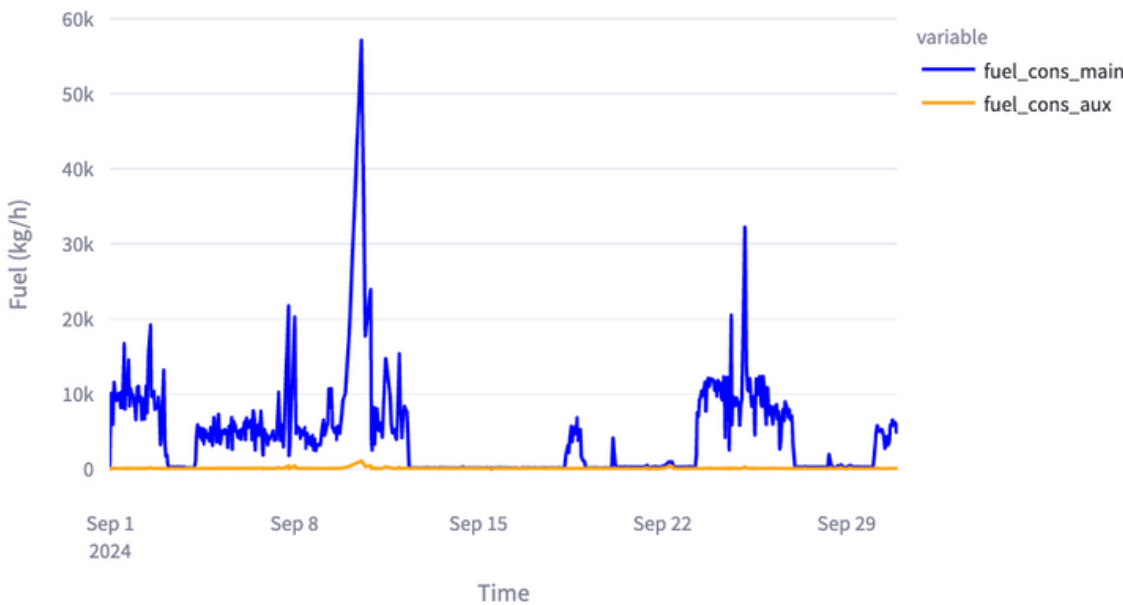
Velocity Analysis

Fuel Consumption

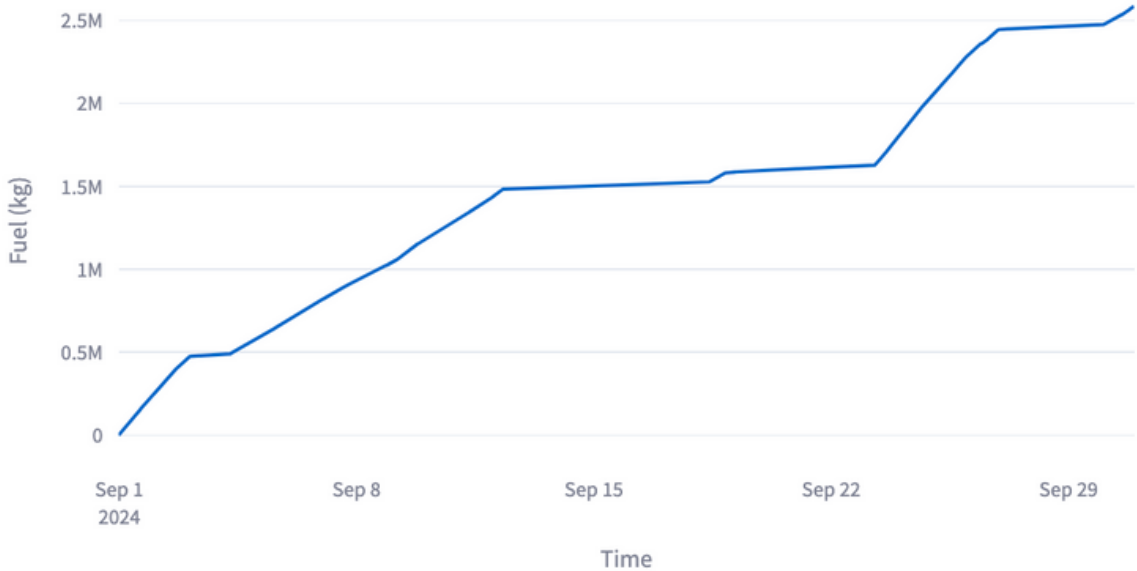
GHG Emissions

Fuel Consumption Analysis

Fuel Consumption Rate (kg/h)



Cumulative Fuel Consumption (kg)



Total Fuel (Main Engine)

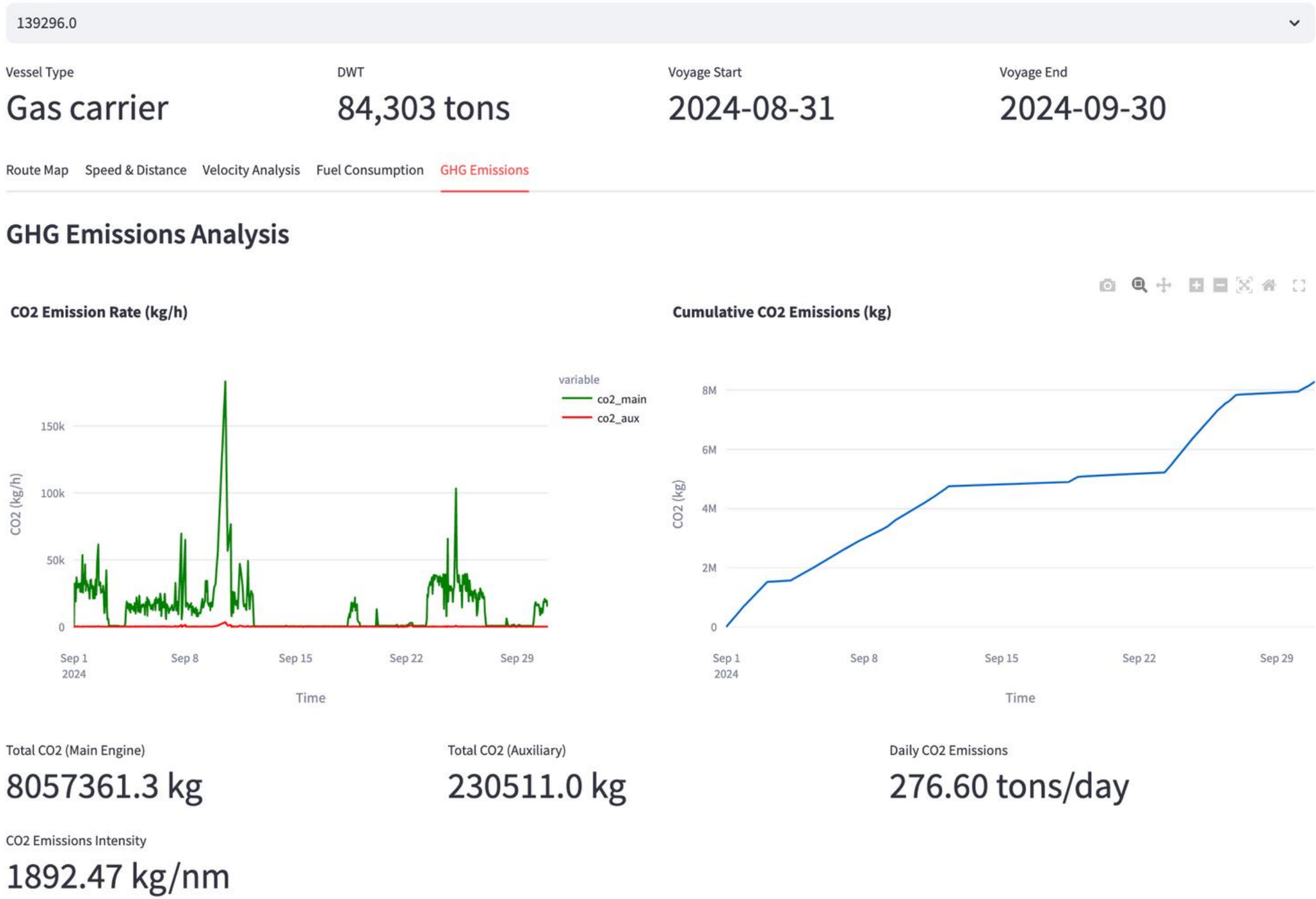
2513214.2 kg

Total Fuel (Auxiliary)

71900.0 kg

Daily Fuel Consumption

86.30 tons/day



From data to decisions

Noon report

Form

March 6, 2024
Noon Report

Status: **Approved**

Reject

Open for Resubmit

Add Attachment

Print

Resubmit

Vessel Name: LORD BYRON 21

Location: In Port

Date/Time: 03/06/2024 12:00 GMT+1:00

Latitude: 0°34' 8" N

Voyage Number: 202403

Longitude: 0°52' 0" E

Port: AT SEA

Port ETD: Select

Reference Port:

Remarks: 03/05/2024 FROM 16:36LT/15:36UTC TILL 17:38LT/16:38UTC PERFORMED SHIFTING OF DRIFTING POSITION, DISTANCE RUN 8 NM ; 03/06/2024 FROM 08:18LT/07:18UTC TILL 09:12LT/08:12UTC PERFORMED SHIFTING OF DRIFTING POSITION, DISTANCE RUN 8 NM

Distance and Vessel

CP / Ordered Speed: 0

Reported Speed: 8.89

Observed Distance: 16

Engine Distance: 18.87

Main Engine Revs: 53737253

ME Output %: 28.56

Slip %: 15.21

Boiler Hours: 23

Incinerator Hours: 0

FW Generator Hours: 0

Salinity: 1.025

Ballast: 48443

Generator 1 Hrs: 0

Generator 2 Hrs: 0

Generator 3 Hrs: 24

Generator 4 Hrs: 0

Main Engine KWhrs: 4484

Generator 1 KWhrs: 0

Generator 2 KWhrs: 0

Generator 3 KWhrs: 990

Generator 4 KWhrs: 0

Main Engine Hrs: 1.8

Average RPM: 48.05

Average BHP: 6014

Fixed Draft: 6.5

Wt: 8

Alt Draft: 0.5

Heading: 95

Steaming Hours: 1.8

DWT: 51180.7

Displacement: 75947.9

Vessel Condition: Ballast

Cargo Weight: 0

PDF viewer

Weather

Air Temp: 33

Sea Temp: 33

Bar Pressure: 1025

Sea State: 03 SLIGHT

Swell: 03 MODERATE SW

Wind Force: 03 GENTLE BREEZ

Sea Movement: 0

Sea Direction: 180.0 S South

Swell Direction: 180.0 S South

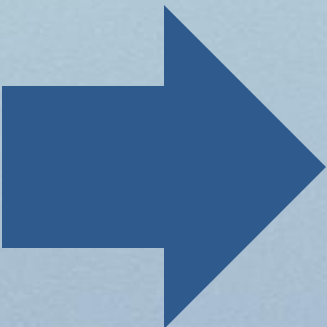
Wind Direction: 180.0 S South

Bad Weather Hours: 0

Bad Weather Distance: 0

Sea Height: 1

Swell Height: 1



(myenv) (base) despog@HUANS-MacBook-Pro challenge-2 % /Users/despog/Downloads/T7/challenge-2/									
2022-08-02 00:00:00 11.0 264.0 26200.0 83997.2									
2022-08-03 00:00:00 10.4 249.60000000000002 32200.0 103233.2									
2022-08-04 00:00:00 10.9 261.6 32500.0 104195.0									
2022-08-05 00:00:00 11.3 271.20000000000005 35100.0 112530.6									
2022-08-06 00:00:00 11.1 266.4 32500.0 104195.0									

Raw Data

Stats : Velocity, Distance, Fuel,
GHG Emissions

CargoSync

```
Processing vessel: gas carrier, Cargo Weight: 30999.999999999996, CO2: 5458.2, Distance: 6258.7
Processing vessel: bulk carrier, Cargo Weight: 40550.0, CO2: 14815.8, Distance: 8983.0
Processing vessel: tanker, Cargo Weight: 2396.0, CO2: 409.3, Distance: 3009.3
Processing vessel: bulk carrier, Cargo Weight: 63553.0, CO2: 13398.8, Distance: 5709.8
Processing vessel: tanker, Cargo Weight: 9500.0, CO2: 296.5, Distance: 2114.3
Processing vessel: bulk carrier, Cargo Weight: 9552.0, CO2: 246.4, Distance: 1868.8

GHG Emissions per Tonne of Cargo per Kilometer for Each Vessel Type (in gCO2e):
Gas carrier: 89.894619 gCO2e per tonne-kilometre
Tanker: 132.257231 gCO2e per tonne-kilometre
Bulk carrier: 414.963734 gCO2e per tonne-kilometre
```

AIS data



Influencing Factor

**Key consideration factor when mapping cargos to
available vessels**

Our Solutions for you

Vessel Owners



**SAFE Route
Smart Route**

Cargo Exporters



CargoSync

Thank You!



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