
OceanScore
FuelEU
From Challenge to Opportunity

OceanScore at a glance

OceanScore's vision is to support shipping's transition towards sustainability.

OceanScore

Serving shipping since 2020.

Our Solutions

Leading EU ETS and FuelEU management solutions.

Our Backers

Leading industry players (MSC, Doehle Group, Portline), investors (the DOCK, Motion Ventures, Stolt Ventures) and individuals.

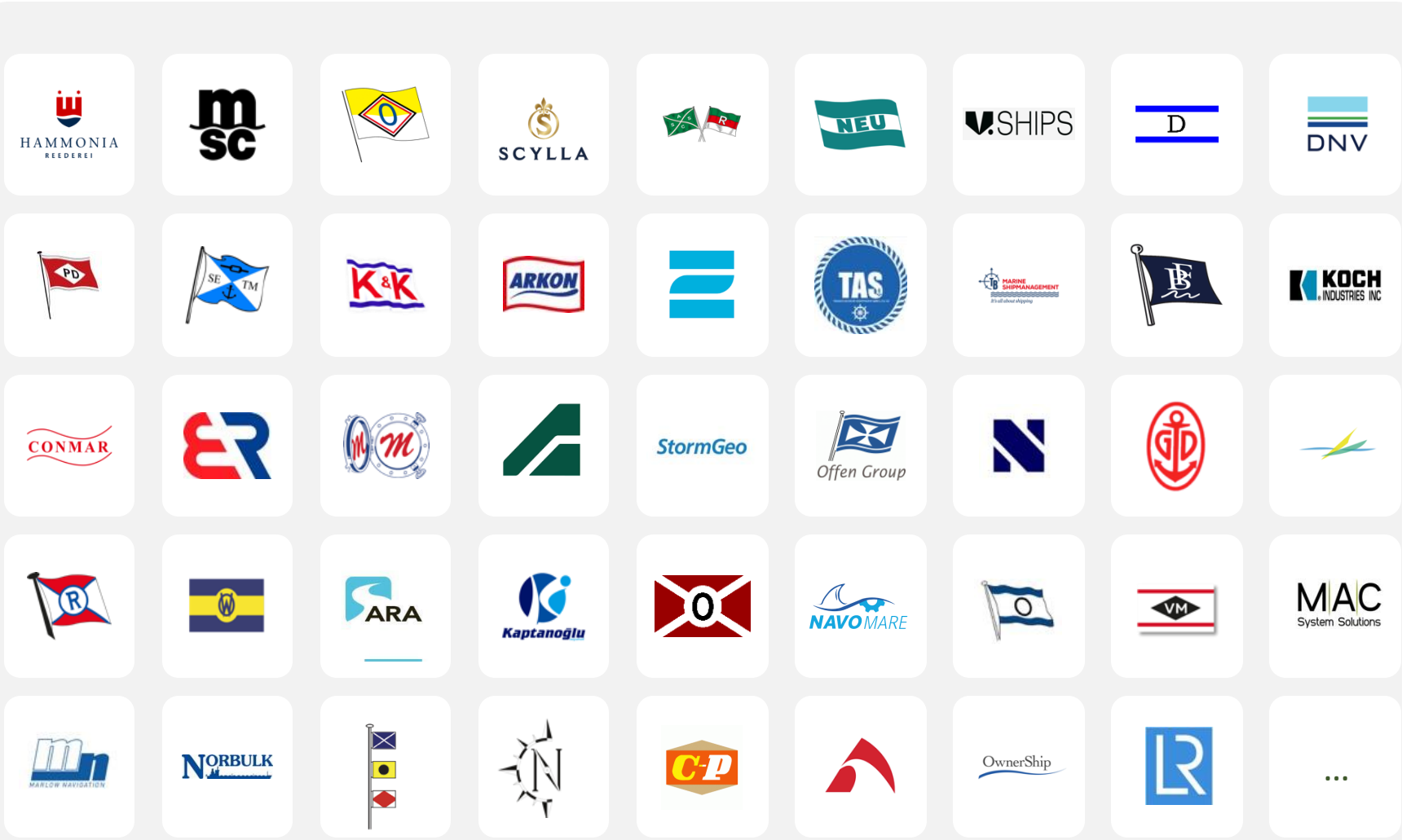
Our Team

25 industry veterans, data scientists and customer enthusiasts based in Germany, Poland, Portugal and Singapore. Growing quickly.

OceanScore

Thank you

to our fantastic customers and partners



FuelEU is Complex and Keeps Evolving

Progressing as the regulation develops

$$\frac{\sum_i^{n\,fuel} M_i \times CO_{2eqWtT,i} \times LCV_i + \sum_k^c E_k \times (CO_{2eq_{electricity,k}} = 0)}{\sum_i^{n\,fuel} M_i \times LCV_i \times RWD_i + \sum_k^c E_k}$$

Fuel Type	Palm Oil (open effluent pond)	Palm Oil (Methane capture)	Bio Diesel (Rape Seed)	Bio Diesel (Soy Beans)	Bio Diesel (Sunflower)
gCO2eq/MJ	77,184	53,084	51,584	48,484	46,184

Discounts (Wind Propulsion, Ice Class, Sailing in Ice, OPS, RFNBOs)

Bank, Borrow, Pool, Pay

$$\frac{\sum_i^{n\,fuel}\sum_j^{m\,engine} \times M_{i,j} \times \left[\left(1 - \frac{1}{100} C_{slip\,j}\right) \times \left(CO_{2eq,TtW,i,j}\right) + \left(\frac{1}{100} C_{slip\,j} \times CO_{2eqTtW,slip,i,j}\right)\right]}{\sum_i^{n\,fuel} M_i \times LCV_i \times RWD_i + \sum_k^c E_k}$$

FuelEU: VERY Different from EU ETS

Complexity in the Math and in the **Choices to be Made**

EU ETS

- Pay as you go “Carbon Tax”
- Focus on **process**:
  - Efficiently manage commercial processes between stakeholders
  - Secure transparency, manage risk

ETS cost of €220/ton of (conventional) bunker burnt

FuelEU

- Compliance surplus or deficit
- Focus on **choices**:
  - Improve Compliance Balance: bunker, shorepower, wind propulsion
  - Manage Balance: Pay, pool, bank,…

Penalty of €62/ton bunker burnt vs. extra net revenue of €100s/ton

Many Decisions to Be Made

Limiting the Exposure, Capturing the Opportunities

Improve Compliance

- **Bunker**: Value of surplus possibly higher than extra cost of fuel
- **Shore Power**: Real option
- **Wind Assisted Propulsion**
- **(Ice Class, sailing in ice)**

+

Manage Balance

- **Penalty** (10%+ per year on repeated penalty)
- **Borrow** (10% interest p.a.)
- **Pool**
- **Bank**

+

Agree Clauses

- **Charter Party** (TC / VC)
- **Spot**
- **ShipMan**

Requiring solid engagement between stakeholders, based on reliable data and tools

Container Ship Intra-EU 2025

OceanScore

Container Ship Intra-EU Scenario

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Baseline

Modern container ship. All the latest energy efficiency devices, but **not relevant for FuelEU compliance**

Baseline bunker profile
12,000 tonnes HFO
1,000 tonnes MGO

GHG intensity = 91.67 g CO_{2eq}/MJ
→ Not compliant
→ **negative 327.6 tonnes** of $VLSFOeq$ compliance balance

Penalty = € 786.2K

Container Ship – Replacing HFO

The Compliance Perspective

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GHG intensity and compliance balance

GHG intensity: 82.44 g CO2e / MJ

Compliance Surplus: 973 tons VLSFOe

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Pool

- **Externally:** Sell into pool for up to €2.3m
- **Internally:** Enough to make 43.000 tons LFO compliant

Replacing all HFO with B25

- Blend based on rape oil
- 10% lower LCV
- Bought for $1,200 / tonne (bio component)

Container Ship – Replacing HFO

The Commercial Perspective

Financial impact <u>per tonne</u> HFO replaced

\+ €187 higher bunker cost (price + volume effect)

\- €241 FuelEU penalty saved, compliance surplus ”sellable”

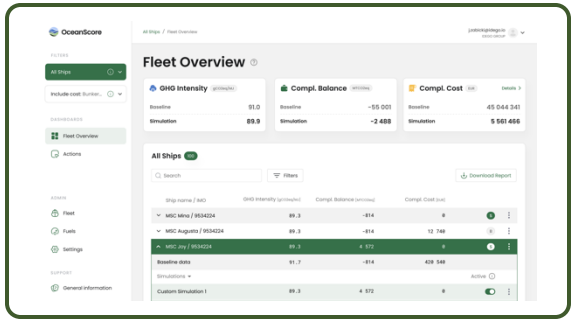
\- €55 ETS savings

➢ **€109 / tonne HFO replaced by B25 net saving**

➢ **€1.3m total** (if waste cooking oil based: Net savings up to €3.8m)

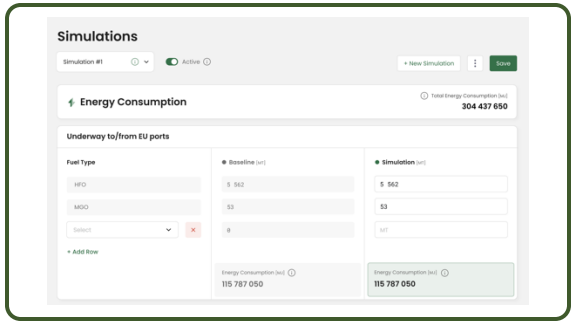
3 Step Compliance Optimization

OceanScore FuelEU Planner: For Budget, C/P and ShipMan Discussions, Voyage Planning



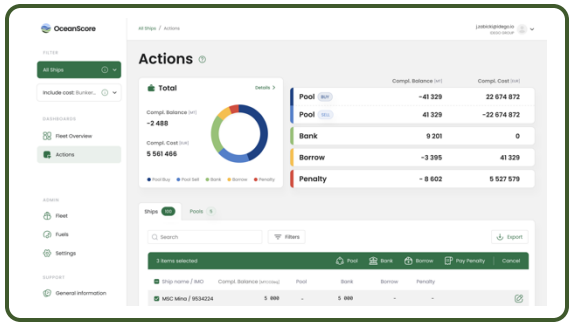
Step 1: Assess

- Baseline: historic data, deployment plans, fleet changes
- Work vessel by vessel, aggregate to fleets and pools



Step 2: Improve

- Compare bunker options, OPS and alternative propulsion
- Assess impact on compliance balances and total cost



Step 3: Manage

- Manage compliance balances (penalty, pool, bank, borrow)
- Consider cost to buy / sell compliance balances, to borrow,...

OceanScore: Beyond Compliance Accounting

OceanScore's FuelEU Planner: Helping You Make the Best Out of FuelEU

Commercial Perspective

Consider FuelEU penalties, bunker prices, LCVs, effect on ETS cost. Include financial implications of borrowing, pooling

Vessel by Vessel, Fleet by Fleet

Aggregate perspectives to fleets and possible compliance pools

Flexible as Shipping Needs to Be

Add and delete vessels as needed. Build, compare and store multiple scenarios per vessel. Analyse different pooling options

Expert Support

OceanScore experts to support setting baselines, building scenarios, defining strategies. Defined workshop sequence per customer

OceanScore

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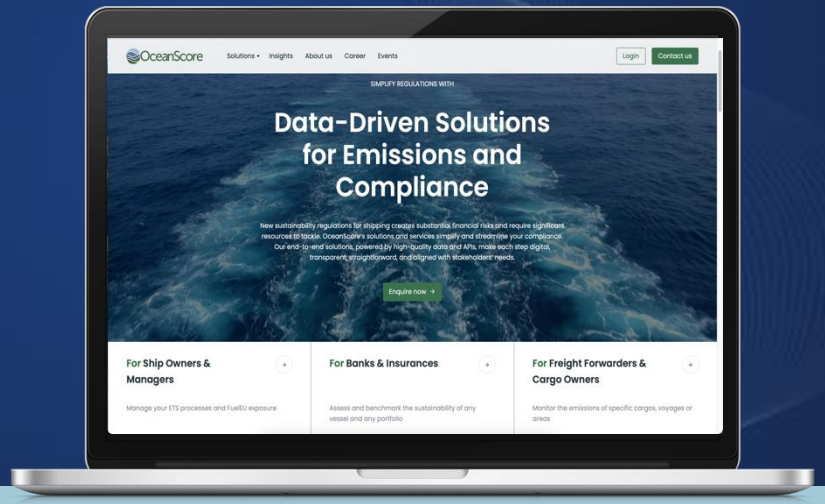
Any further questions?

Contact us

More information can be found on our website **www.oceanscore.com**



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