Why major shipping companies are adopting

Summary of evaluations and testimonials.

Sulnox Eco





# xcnlus

With impressive results achieved, several marquee shipping names are now placing their trust in us. New partnerships are developing – Sulnox is gaining rapid momentum in the marine sector.

# Trusted by



















Idan Ofer throws weight behind Constantine Logothetis green fuel venture



Marfin Management expands its trial of Logothetis-linked fuel additives



Constantine Logothetis and Idan Ofer-backed SulNOx moves into cruise sector with Crystal fleet deal











CRYSTAL



in their own

words.





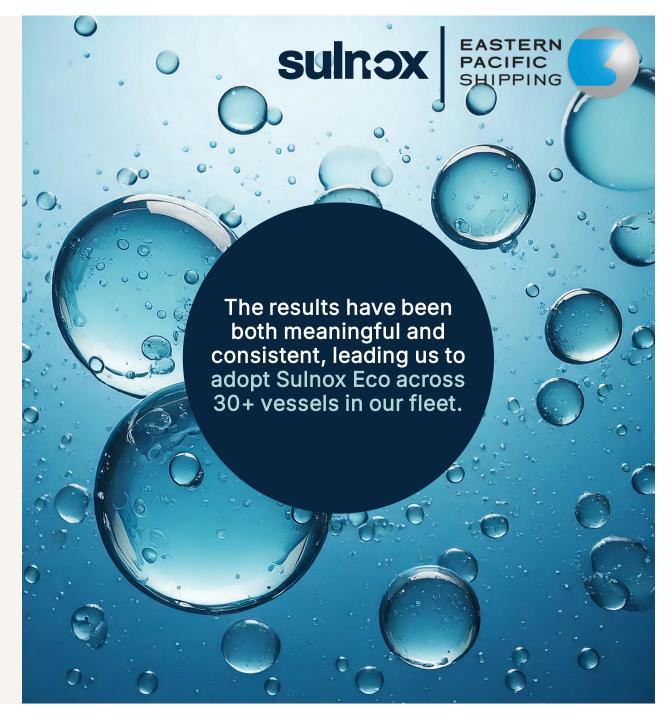


At Eastern Pacific Shipping, we are constantly seeking innovative solutions to improve efficiency and sustainability across our fleet.

Over 8 months, we conducted a comprehensive evaluation of Sulnox Eco, a 100% organic fuel conditioner, across multiple vessels including:

- Tankers
- Bulk carriers
- Vehicle carriers
- Chartered container ships

Using Heavy Sulphur Fuel Oil (HSFO), Very Low Sulphur Fuel Oil (VLSFO), and B30 biofuels.



Three reasons

we chose

Sulnox Eco.

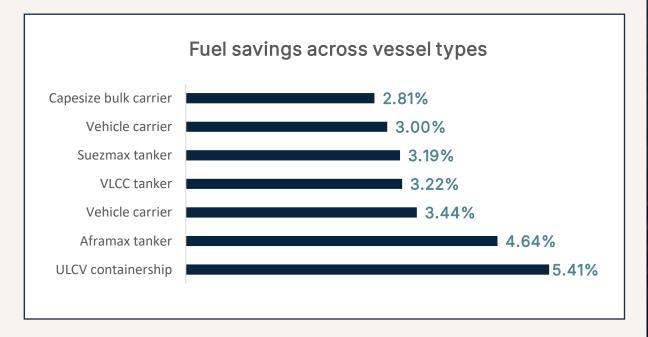








During the evaluation period (April-November 2024), fuel savings were **up to 5% per vessel**, aligning with typical savings seen across the marine industry.





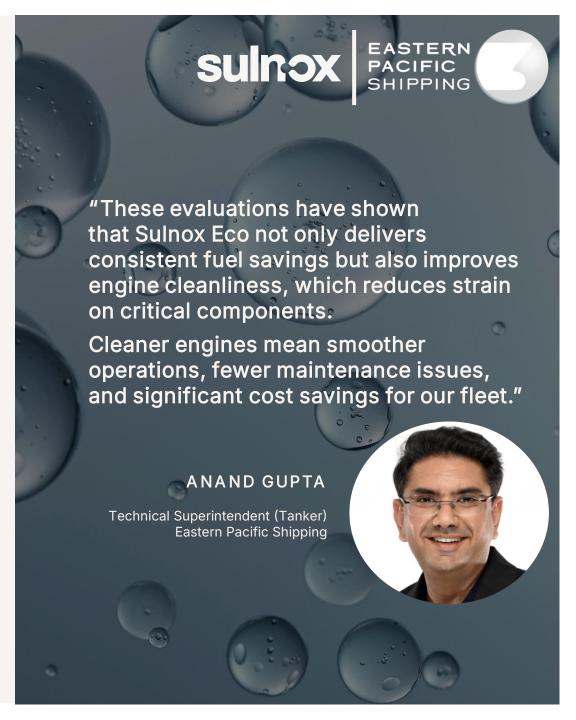


The evaluation period also revealed significant additional benefits for our vessels' engines. Onboard inspections noted:

- ✓ Reduced carbon deposits
- √ Significant reductions in black smoke
- ✓ A much cleaner condition of combustion components

Captains and Chief Engineers provided further observations, reporting:

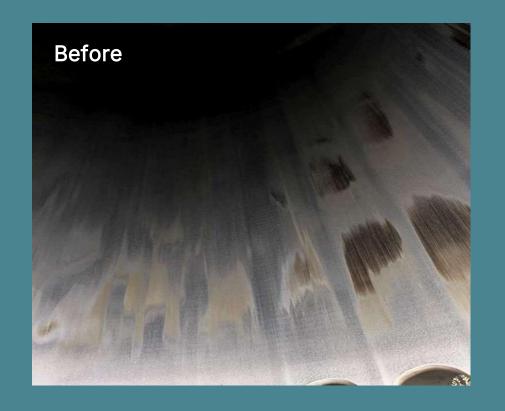
- ✓ Purifiers working very effectively with minimal sludge accumulation
- ✓ Piston tops with no carbon accumulation
- ✓ Clean piston rings and grooves
- ✓ Fuel injectors in good, clean condition with no sludge formation







# Better engine health in action: Before and after Sulnox Eco









# Better engine health in action: Before and after Sulnox Eco



Sludge accumulation was measured extensively on one vessel, 82 days without Sulnox Eco and 83 days with Sulnox Eco.

#### The results showed:



12.5%

Reduction in total sludge generation.





| Voyage Route       | Date From  | Date To    | No. of<br>Days | Sludge<br>Generated<br>(M³) | Avg. Per<br>Day (M³) | Scavenge<br>Drain Box<br>(M³) |
|--------------------|------------|------------|----------------|-----------------------------|----------------------|-------------------------------|
| Without Sulnox Eco |            |            |                |                             |                      |                               |
| CNYTN → USLAX      | 1/15/2024  | 1/21/2024  | 6              | 6.1                         | 1.01                 | 1.1                           |
| USOAK → CNNSA      | 2/22/2024  | 03/07/2024 | 14             | 5.7                         | 0.4                  | 1                             |
| MYPKG → MAPTM      | 3/19/2024  | 4/13/2024  | 25             | 29.5                        | 1.18                 | 1.9                           |
| MAPTM → CAHAL      | 4/15/2024  | 4/18/2024  | 3              | 5.2                         | 1.7                  | 0.1                           |
| USCHS → MYPKG      | 05/09/2024 | 06/12/2024 | 34             | 25.4                        | 0.74                 | 3.5                           |
| Total              |            |            | 82             | 71.9                        | 0.88                 | 7.6                           |
| With Sulnox Eco    |            |            |                |                             |                      |                               |
| CNYTN → USLAX      | 07/02/2024 | 7/14/2024  | 12             | 12.7                        | 1.06                 | 0.8                           |
| USOAK → TWKHH      | 7/26/2024  | 08/10/2024 | 15             | 8.4                         | 0.56                 | 1.8                           |
| SGSIN → CAHAL      | 10/04/2024 | 10/30/2024 | 26             | 20.2                        | 0.78                 | 2.5                           |
| USCHS → MYPKG      | 11/24/2024 | 12/24/2024 | 30             | 21.6                        | 0.72                 | 2.8                           |
| Total              |            |            | 83             | 62.9                        | 0.76                 | 7.9                           |



Reducing our emissions is a key priority for EPS, as part of our commitment to sustainability.

During the evaluation, Sulnox Eco helped lower greenhouse gas and particulate matter emissions by encouraging more complete combustion. These reductions support our environmental goals while helping us meet strict port air quality standards.

In addition, the reduced fuel consumption also lowers our carbon allowance costs under the Emissions Trading System, providing both financial advantages and environmental benefits.





## Why Sulnox Eco is the right choice

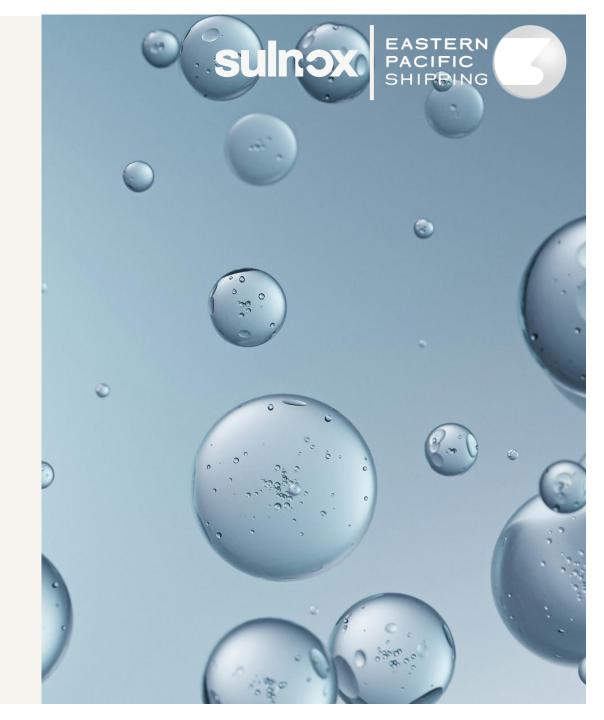
After eight months of consistent results across multiple vessel types, we have decided to adopt Sulnox Eco on 30+ vessels in our fleet – and plan to introduce this product to other shipping fleets.

"Following these successful evaluations, expanding Sulnox Eco across our fleet was an easy decision.

It's a self-funding solution that delivers tangible fuel savings, cleaner engines, and supports our broader efficiency and sustainability goals."

#### SACHIN SAHARAWAT

Technical Director Eastern Pacific Shipping



(Why Marfin)

Management

adopted.)



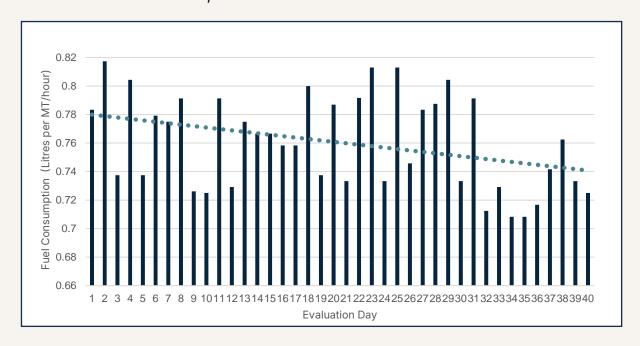




#### A long-term partner since 2023

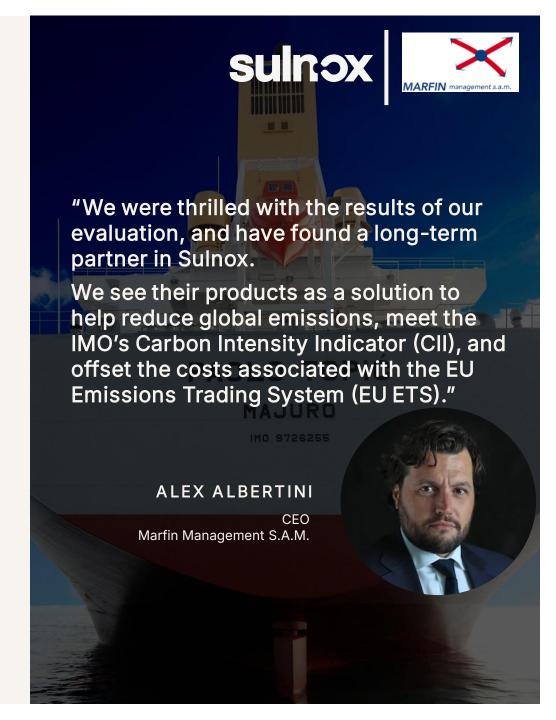


In November 2023, the 60,000 MT DWT bulk carrier Paolo Topic underwent a 3.5-month evaluation of Sulnox Eco using Very Low Sulphur Fuel Oil (VLSFO). With a thorough analysis of consistent conditions, the results were as follows:



# 6.4% Fuel reduction agreed

With fleetwide adoption and a long-term partnership secured.



# (Spring Marine's)

success.







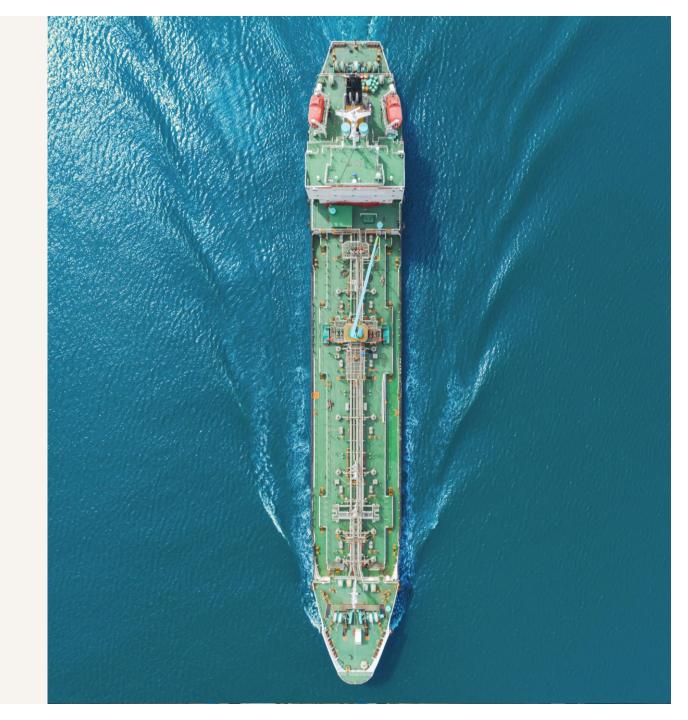




Evaluations of Sulnox Eco across a selection of Tankers and Bulk carriers have demonstrated a consistent reduction in Specific Fuel Oil Consumption (SFOC), confirming the product's effectiveness in improving fuel efficiency.

Across multiple vessel types and engine loads, consistent fuel savings of 4-7% were achieved, with results showing a clear and sustained downward trend over time.

These findings are why Spring Marine continues to **roll-out Sulnox Eco across their fleet.** 



Why Crystal

(Cruises)

adopted.)







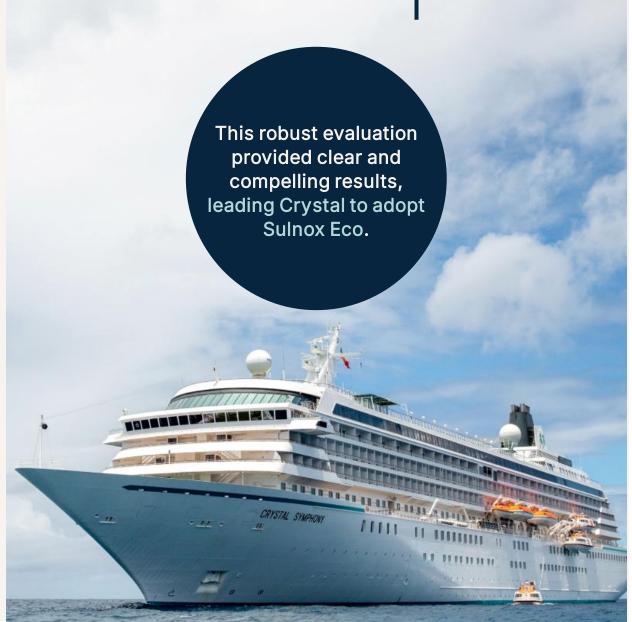


# Sulnox CRYSTAL®

Crystal Cruises, a leader in exceptional cruise experiences, conducted an 8-month evaluation of Sulnox Eco to assess its fuel efficiency and emissions reduction benefits.

The 100% organic fuel conditioner was evaluated from May to December 2024 aboard the Crystal Symphony, using VLSFO and MGO, organised in collaboration with Sulnox master distributor A&S International.

The Nassau-registered 51,068 gross tonnage vessel, powered by six Wärtsilä-Sulzer diesel engines, took three deliveries of Sulnox Eco - initially while berthed in Greece in April 2024, then Germany in August, and Italy in November.











Dosing system filled with Sulnox Eco



Crystal's team reviewing Sulnox Eco in action

Three reasons

we chose

Sulnox Eco.







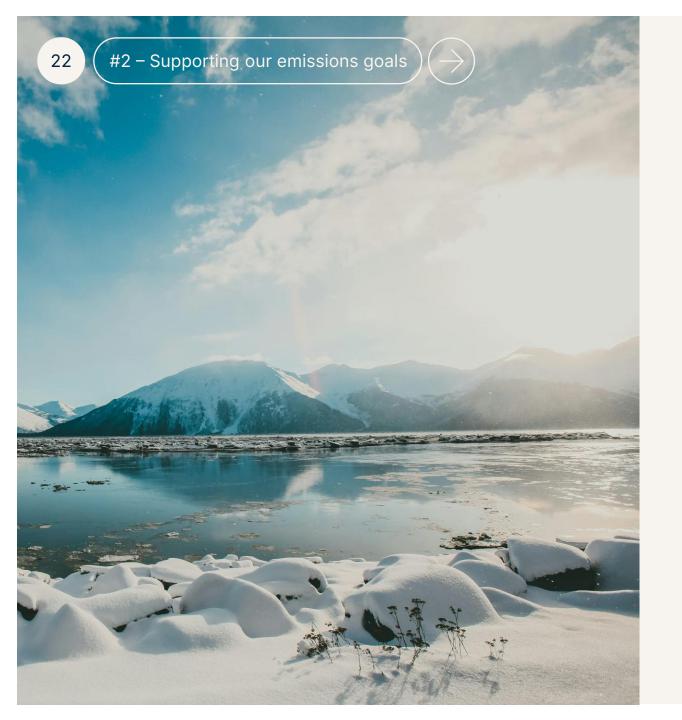
#1 – Proven fuel savings



Fuel represents one of the biggest operating costs in the cruise industry.

During the evaluation, Crystal Symphony achieved an <u>average fuel saving of 3.4%</u>, reducing consumption without requiring any capital investment or changes to operations.







Cruise ships operate in some of the world's most environmentally sensitive regions, including the Norwegian fjords and protected marine ecosystems.

With Sulnox Eco delivering more complete combustion, Crystal saw a significant reduction in black smoke from Symphony's stack; minimising their environmental impact while ensuring continued access to these pristine waters.

This reduction in particulate matter (PM) supports their commitment to responsible tourism and cleaner cruising.

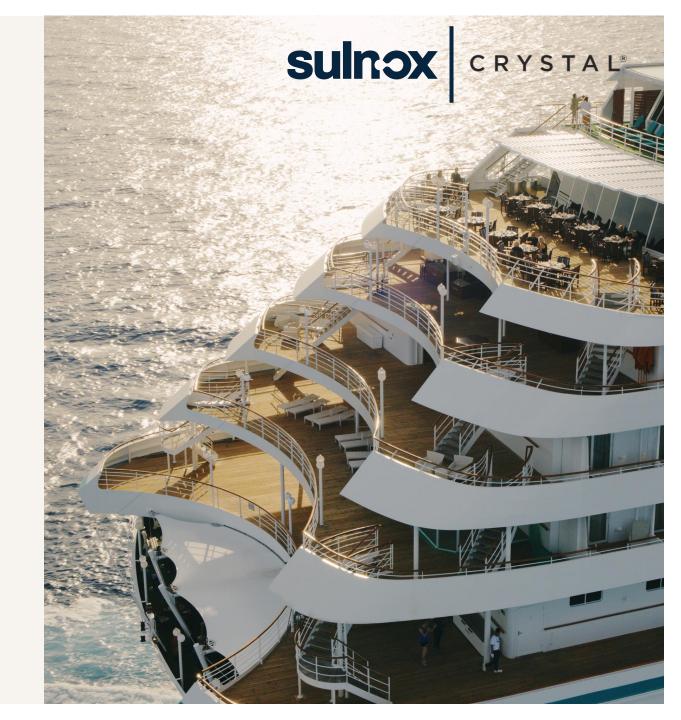




Reducing black smoke emissions supports
Crystal's commitment to sustainability—but it
also brings direct onboard benefits:

- ✓ Enhanced air quality for guests and crew
- ✓ Cleaner pools and outdoor areas
- ✓ Less soot buildup on decks and exterior surfaces

By cutting emissions at the source, Sulnox Eco helps maintain a cleaner, fresher onboard experience while reducing long-term maintenance needs.





## Sulnox Eco: A clear success for Crystal

Following a successful evaluation, Crystal are preparing to adopt Sulnox Eco across their fleet, ensuring that their guests experience the highest standards of luxury while they continue their journey toward a more sustainable future.

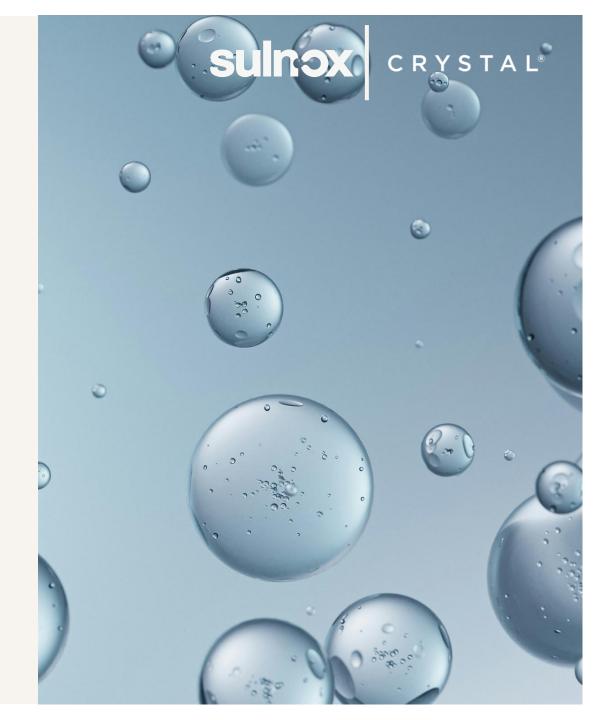
"After the introduction of Sulnox Eco... we observed measurable fuel savings, cleaner engines, and reduced emissions.

This innovation helps us enhance operational efficiency, reduce our environmental impact, and provide a more sustainable experience for our guests."

**ROBERTO FAZI** 

Senior Vice President of Marine Operations Crystal Cruises





Across vessels.

Across fleets.

Across the world.



xcnluz



### Lower fuel costs, no matter the vessel



| Vessel Type                | Vessel Sub-type      | Av. Fuel Reduction |  |  |
|----------------------------|----------------------|--------------------|--|--|
| Tanker                     | Small product tanker | 7%                 |  |  |
|                            | Suezmax              | 5%                 |  |  |
|                            | Aframax              | 5%                 |  |  |
|                            | Bunkering barge      | 4%                 |  |  |
|                            | VLCC                 | 3%                 |  |  |
|                            | Average              | 5%                 |  |  |
| Bulk Carrier               | Ultramax             | 6%                 |  |  |
|                            | Supramax             | 5%                 |  |  |
|                            | Handysize            | 5%                 |  |  |
|                            | Capesize             | 3%                 |  |  |
|                            | Average              | 5%                 |  |  |
| Containership              | ULCV                 | 5%                 |  |  |
|                            | Feeder               | 4%                 |  |  |
|                            | Average              | 4%                 |  |  |
| Ro-Ro Vessel               | Vehicles carrier     | 3%                 |  |  |
|                            | Average              | 3%                 |  |  |
| Offshore Support<br>Vessel | Crew boat            | 9%                 |  |  |
|                            | Supply vessel        | 6%                 |  |  |
|                            | Average              | 8%                 |  |  |
|                            | Cruise ship          | 5%                 |  |  |
| Passenger vessel           | Superyacht           | 5%                 |  |  |
|                            | Average              | 5%                 |  |  |
|                            | Combined Average     | 5%                 |  |  |





"Particulates were considerably reduced. Average Levels of NOx produced are just 30% of the untreated ones. Carbon monoxide reductions are also evident. All vessels tested found to be well within the strict Green Award Foundation regulatory limit

3x River Cruise vessels, Independent emissions monitoring study, Europe

"Visible reductions in black smoke."

Captain, Containership M/V Rumba, Myklebusthaug Management, Norway

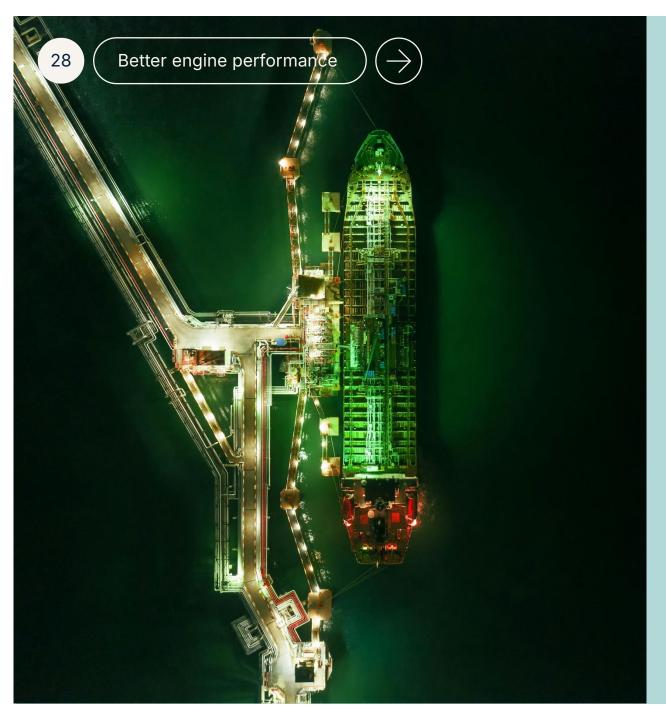
"Smoke looks clearer, and the tanks looked better/cleaner."

Captain, Crystal Cruises, US

"The vessel has reported seeing reduced 'black' emissions compared to last time."

Bunkering barge, Singapore







"... The sludge build up in the scavenging space has significantly decreased compared to our previous inspection. Additionally, I noticed that the machine marks on the liner are visibly clearer, indicating a positive impact. The top land of the piston and piston crown showed minimal sludge build up, and lubrication appears to just the right amount, with the piston rings well lubricated overall."

Chief Engineer, Europe

"Power has increased >19%, torque >15%, and all operating temperatures reduced."

Dredging and Heavylift Vessel, Europe

"Significant improvements in cleanliness of engine components, specifically piston crown, piston ring stack, and liner surface of the main engine."

Several vessel types, Singapore

"Removal of water contamination issues in fuel."

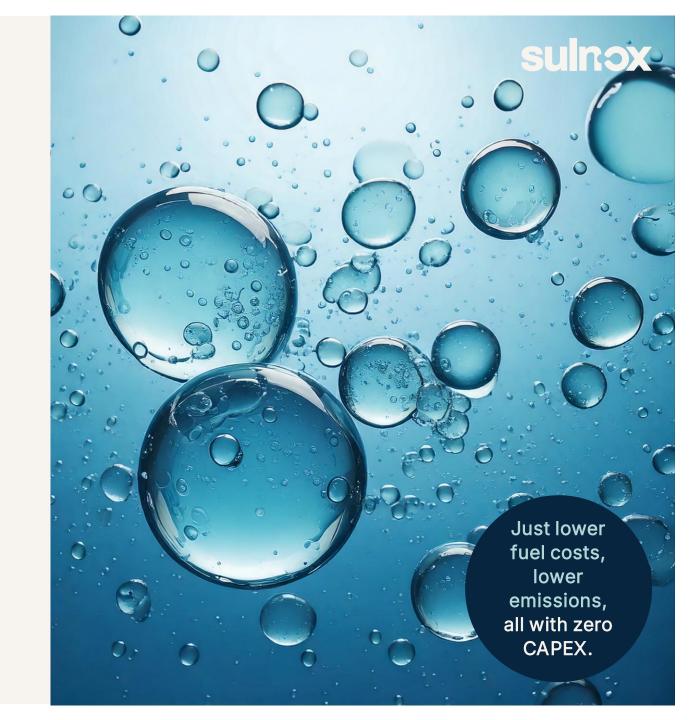
Coastguard vessel, Central America



# Sundxeco

- Works everywhere: Any marine fuel. Any engine. Any vessel.
- Compatible with all marine fuels:
   VLSFO, HFO, MGO, biofuels, and blends
- Works in any engine type: from two-stroke and four-stroke to generators
- Proven across all vessel types: tankers, bulk carriers, container ships, cruise liners, and more

No investment, no retrofits, no drydocking, no waiting for new fuels.



Your fleet savings start here.

For further information, contact: sulnox@fuelfusionconnect.com



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