

# Decarbonisation



## Simplifying emissions compliance



***As the maritime industry finds itself at a critical juncture between the challenges of stringent emission regulations and rising costs, Ben Richardson, CEO at SulNOx, highlights the importance of gaining ground with easy wins on vessel efficiency and emissions reductions.***

**W**ith a push for cleaner and more sustainable maritime operations at the forefront of the IMO's agenda for the coming decades, stakeholders in shipping may often find themselves caught between the dual imperatives of environmental responsibility and economic viability. Any solution will need to strike a delicate balance between these two factors if it is to be a long-term sustainable solution for the industry.

At this time, our global fleet is almost entirely powered by fossil fuels and facing a set of increasingly punitive sanctions for failing to curb greenhouse gas (GHG) emissions in the near term. But without clear leaders on new fuels and clean technologies, ship owners and operators are grappling with the

economic implications of substantial capital investments, operational disruptions, and comprehensive training programs for onboard personnel. These factors make the journey towards compliance an intricate and costly one, with tremendous potential for missteps.

But there are simpler ways to meet these requirements with fewer risks involved — allowing ship operators to take an immediate step towards greener operations and reduced emissions.

### ***Speeding the process***

A better fuel burn is the most direct route to a reduction in emissions and also brings cost advantages. We have taken this approach with our all-natural, fully biodegradable fuel conditioner,

SulNOxEco, which can be added to a wide range of existing marine fuels, including marine diesel and gas oil (MDO/MGO), very low and heavy sulphur fuel oil (VLSFO/HSFO), and increasingly importantly, biofuels. The conditioner provides additional oxygen and improved combustion, resulting in a cleaner burn that produces more energy and significantly less particulate matter for the same amount of power generation. The conditioners not only improve combustion efficiency but also fuel lubricity, and clean away deposits on injectors and pistons — improving engine health and reducing maintenance costs.

Stakeholders across the board immediately reap benefits as they can extend the viable operating life of

bunkering infrastructure and onboard machinery without sacrificing the commitment to decarbonisation. Our drop-in conditioners come without the need to rip out old machinery, piping and tanks to accommodate drastic changes in energy density, handling requirements or novel chemical hazards. Furthermore, the mixture of vessel fuel and SulNOxEco will remain stable in the fuel tank for months on end, ensuring a simpler, cost-effective and streamlined path to adoption and emission compliance that is readily available in the market today.

For operators who have found themselves faced with the prospect of widespread retraining of seafarers and extensive reconfiguration of vessel layouts and engine rooms to accommodate some future fuels, the appeal of a drop-in fuel conditioner is clear — especially for those with vessels already on the water. For some, a lack of familiarity with a product or technology can form an additional barrier to uptake, hindering the progress towards decarbonisation. However, with SulNOx, ease of adoption is key, as vessels and their crew can continue to run as contracted, ensuring no disruption to the global supply chain while advancing our shared goals for a greener industry en route to net zero.

### Time and money

Payback periods can be frustrating for vessel owners and technology providers alike, particularly when large capital investments are involved. While technologies that improve vessel efficiency save owners/operators money by reducing their bunker costs - often yielding enough fuel savings to pay for the investment in the long term, this is a delicate balance. What seems like a sure-fire investment that a company could take to any bank or financier becomes less appealing as those

payback periods lengthen, capital sums involved increase, and various market and operational risks bleed into the equation. Owners and suppliers can be left with a great solution on the wrong side of a tall financial hurdle.

For low capex solutions, that hurdle is diminished. Our own fuel conditioners cut the burden on the shipowner and the risk involved in adopting our fuel conditioners by lowering the investment amount and removing any long-term repayment obligation.

For any carbon-cutting technology, laboratory data and trial data are critical in making an investment decision. We are proud to show a 6.4% reduction in VLSFO consumption in a recent three-month trial on a Marfin two-stroke ultramax bulk carrier, as well as an over 5% reduction in a five-month marine diesel trial conducted in partnership with a Hamburg-based shipping company (independently verified by a Northern German university). Marfin has additionally committed to expanding its trial up to six vessels - a vote of confidence shows the value of an easy to adopt, no-capex approach, and how one ship can act as the pioneer for a whole fleet.

That said, the only data that really matters to a shipowner is that of their own vessels. Our cost-reducing product, with proven results, significantly lowers the risk of finding out for yourself.

### Getting the timing right

Even a shipowner with finances in place can be frustrated in their quest to start cutting expenses and saving the environment by deploying efficiency technologies. Weather routing, hull design, hull coatings, ducts, optimised propellers, wind power, electronically controlled engine loads - the list of fuel saving technologies in the maritime sector goes on, each shaving valuable

percentage points from a ship's fuel consumption and comes with their own considerations.

From a technology deployment perspective, the disruption to ship operations and the delay before efficiencies are felt vary greatly between solutions. A shipowner making a decision to invest in greater fuel efficiency may wait mere weeks for technicians to install sensors and computer hardware, months for fabrication of large assemblies, or years if significant retrofit work is to be scheduled at dry dock. The demand for greater efficiency is immediate, but the operational reality may not align.

Tight regulatory deadlines do not leave much room for delay, be it in the initial adoption of a solution, or any continued support and consumables required. Conscious of that urgency, SulNOx's biodegradable fuel conditioners are ready to drop in at delivery and our manufacturer Nouryon (formerly AkzoNobel) stands ready to increase output to meet increasing demand as trials turn to full fleet deployments, ensuring owners are not left waiting for the next barrel.

### Sustainable growth

As we hunt for efficiency improvements in every corner of ship operations, it is of paramount importance that the solutions adopted are compatible with one another. Investment decisions and reducing ships' emissions are all more straightforward when technologies provide a cumulative improvement rather than forcing a choice between one approach and another.

By focusing on the efficiency of power generation, SulNOx's fuel conditioners are compatible with a wide range of products focused on power usage — making shipping's journey to decarbonisation not just simpler, but also possible today. ●