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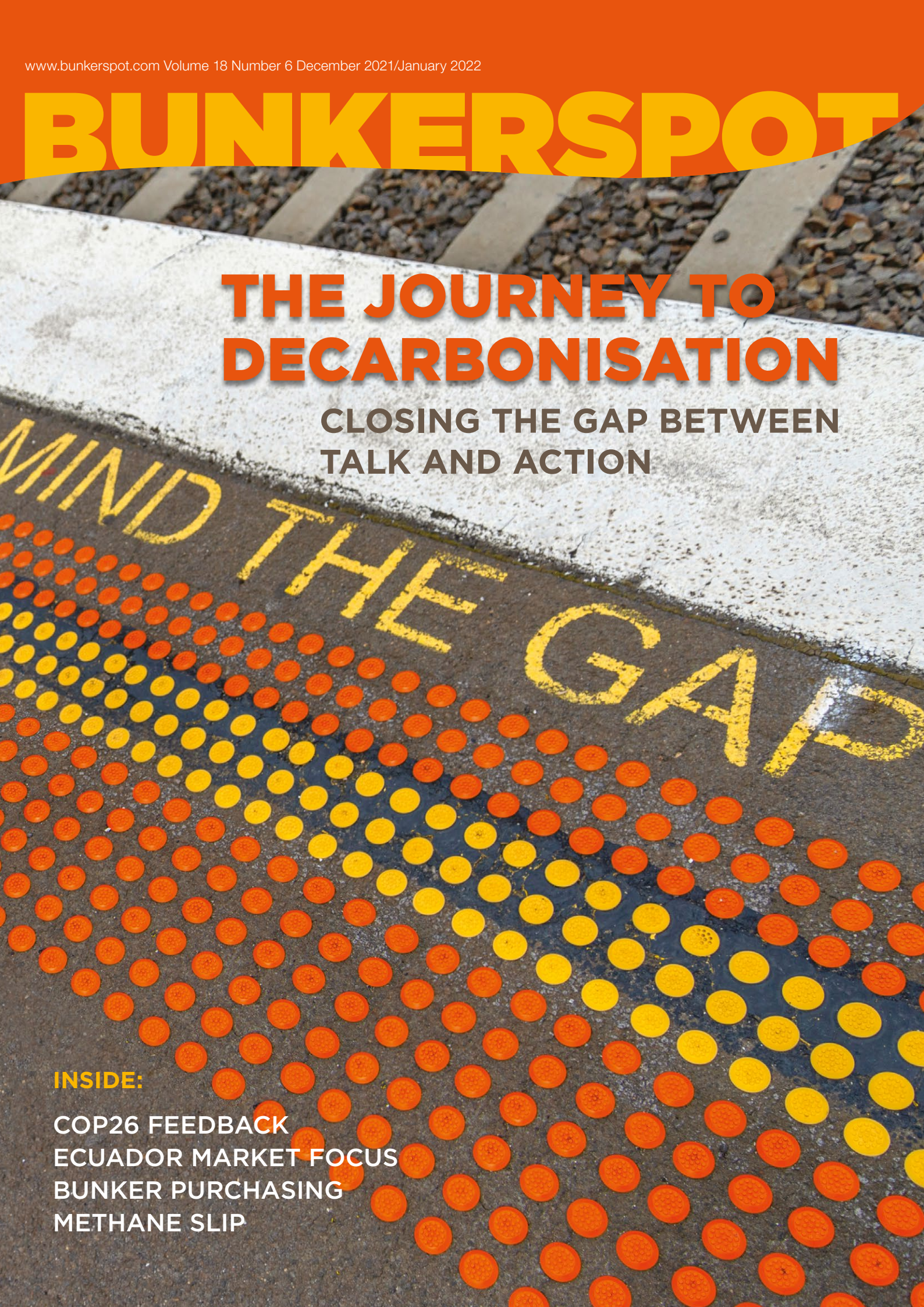

THE JOURNEY TO DECARBONISATION

CLOSING THE GAP BETWEEN TALK AND ACTION

INSIDE:

COP26 FEEDBACK
ECUADOR MARKET FOCUS
BUNKER PURCHASING
METHANE SLIP

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Global route map

The map for the maritime sector's transition to a lower carbon future must be inclusive of the entire fleet and various technologies, writes **Dr Thomas Koniordos**, CEO of Yara Marine Technologies

Discussions on climate change are taking centre stage around the globe, not just on a regular basis but also at high-level events such as COP26 in November 2021. These discussions impact all industries including maritime, which continues to focus on ways to sustainably achieve stated commitments to carbon emissions reduction.

International shipping ties the world together, carrying over 80% of the global trade today, and this trade volume is expected to triple by 2050. To remain one of the cleanest modes of transport and keep the world connected – sustainably – the shipping industry is in urgent need of taking actions to reduce its footprint.

Our industry has been following the International Maritime Organization's (IMO) initial greenhouse gas (GHG) strategy aiming to facilitate a reduction of CO_2 emissions from international shipping by at least 40% by 2030 – a deadline that is a mere eight years away. The scheduled revision is just around the corner in 2023, which will give the industry more clarity.

Many shipping stakeholders are already making moves towards compliance with the 2030 target via means of green technologies and alternative fuels. However, the issue at hand is far more complex and will require a great deal of further coordination across the entire industry, including between marine engineers and scientists, financing and investment organisations, shipyards, fuel providers, regulatory bodies, and more.

The issue at the heart of the decarbonisation puzzle is obvious to those in the industry: no clear path forward. As Joep Gorgels, Global Head of Transportation & Logistics for ABN AMRO, pointed out during *London International Shipping Week 2021*, ensuring financing is difficult without an indication of a sure solution. The wide variety of alternative fuels and green technologies currently being tested make it difficult for financiers to locate viable investment opportunities as the risk involved in investing in fuels or technologies with a short expiration date is considerably higher. As a consequence, investing in ships themselves is increasingly complicated, and the risk – whether financial or reputational – is hard to estimate.

FUELLING THOUGHT

The situation is further complicated by the fact that many operators have already made significant investments in technologies and fuels to comply with the 2020 global sulphur cap, which limited the sulphur content of ships' fuel oil to 0.50% (down from 3.50%). The last decade has seen an increase in vessels using LNG as a fuel and, as DNV noted in 2019, it is likely that the number of LNG-ready ships will rapidly increase over the next decade with the scheduled delivery of newbuilds. This makes it highly likely that LNG will continue to function as a prominent fuel in the shipping market for at least the next decade – if not longer.

While there are those who view LNG as a transition fuel that will tide the industry over until low carbon alternatives gain traction, we must remember that vessel lifecycles can last up to 30 years. Between the financial constraints resulting from the COVID-19 pandemic and the large amounts of capital investment in the transition to LNG, stakeholders are unlikely to be eager to facilitate immediate investment in alternative fuels and emerging green technologies.

These circumstances create a structural paradox: the assurance of fewer green alternatives close to availability on a larger scale makes transition solutions like LNG as a fuel and carbon-capture technologies more likely to be seen as long-term solutions – thereby slowing the pace of change.

Shipowners and operators are understandably worried about the return on their investment and the lifespan of the technology or fuel they have chosen to invest in. Although big players have the power to shape the adoption of specific greener alternatives by the market, the rest of the sector (consisting of smaller ship owners and operators) is likely to find the shift to greener operations logistically challenging and financially unsustainable.

We must also factor in the impact of regional investment in specific fuels and technologies as this may result in geographical limitations on distribution and use – further fragmenting routing. It is also worth remembering that the maritime industry is competing with other global sectors for low-carbon emission resources – which will drive up prices for alternative fuels and technologies. Therefore, allocation and prioritisation may not be within the control of the maritime stakeholders.

'Shipowners and operators are understandably worried about the return on their investment and the lifespan of the technology or fuel they have chosen to invest in'

THE WIDER PICTURE

Bunkering availability and coordination in ports will be a major factor determining the success of alternative fuels in the future. Ports may back specific fuels (based on regional demand or government support) and thus have limited access to other fuels. This will make them unsuitable as bunkering hubs for vessels that use other fuels – or require vessels to use hybrid propulsion. This fragmentation will reshape shipping routes and holds the potential to undo some of the gains on offer from a global shift to greener technologies or zero-carbon fuels.

Upgrading the existing fleet is both expensive and time-consuming – and in fact, it may not always be technically feasible. Companies whose fleets have extremely short or limited periods in port or those whose commitments cannot allow significant portions of their fleet to be out of commission for the period required to upgrade them may not be able to make these changes without significant financial erosion to their bottom line. Those with deeper pockets will need to secure project management expertise to manage the dry docking and retrofitting of vessels.

Shipyards will need to prepare for bottlenecks as there will almost certainly be a rush to secure slots when regulation begins to enforce this switch over. Although entrepreneurs may choose to launch greenfield and brownfield yards to absorb this demand for retrofitting, there is still the issue of skilled labour to contend with. Given that this retrofitting must take place alongside the continued commissioning of newbuilds, this will almost certainly add an additional burden for some yards.

'Shipping – as a whole – is being tasked with transitioning to a low carbon future and the eyes of the world are upon us'

THE PATH FORWARD

Given the complicated landscape ahead of us, it is likely that maritime operations in the future will continue to experience accelerated change and require agility from stakeholders. We can already see this in the impending January 2023 deadline for IMO regulations governing the Energy Efficiency Existing Ship Index (EEXI) and Carbon Intensity Indicator (CII), which require ship operators to demonstrate consistent improvement in their fleet – and commit to the methods of achieving this in what amounts to a year's time.

While smaller shipowners may have traditionally been able to hold off in their decision-making until a single fuel or technology was crowned the industry standard, this is no longer the case. Shipping – as a whole – is being tasked with transitioning to a low carbon future and the eyes of the world are upon us. These larger logistical concerns are no longer ones that can be addressed further down the road. They must be addressed immediately if we are to meet our obligations to decarbonise the supply chain and leave our planet healthier for future generations.

The answer lies in embracing flexibility and making sure that our decarbonisation journey is genuinely sustainable. We must find solutions that cater to the existing fleet while also being suitable for newbuilds – after all, expecting the industry to replace the entire existing fleet cannot be considered green, no matter how advanced the newer vessels are. Furthermore, catering only for new vessels ignores the realities of infrastructure in developing countries, which must be included in the global transition.

Ideally, the supply chain will continue to cater to a wider variety of vessels using different alternative fuels and technologies – and innovate to remain inclusive. Hydrogen, ammonia, LNG, wind power, solar charging, and batteries all have their roles to play, as do shipowners, ports, regulators, and equipment suppliers. Our map for the future of maritime must direct everyone towards our shared destination of a lower carbon tomorrow.

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