

# Roundtable: How shipping views low-sulphur fuels

Roundtable sponsored by **ExxonMobil**

MEPC's decision will affect the shipping industry at many levels, with wide implications

Richard Clayton, chief correspondent

Some maritime discussions are best encapsulated in a simple either/or question, but more often complications arise that require the issues to be teased out constructively.

The International Maritime Organization's (IMO's) Marine Environment Protection Committee (MEPC) was to decide on 23 October when a global cap on sulphur fuels used by ships in emission control areas (ECAs) will take effect and whether to tighten the sulphur level in fuels used globally.

The either/or question was whether the new levels should begin in 2020 or 2025. IHS Markit invited senior industry players to a

roundtable, held during the SMM event in Hamburg, to set out the issues as they see them.

The takeaways are, firstly, that there is no simple solution that will allow shipowners to meet every fuel

requirement set before them and, secondly, that the preferred launch date for everyone except the shipowners themselves was 2020. It was generally acknowledged that the changes proposed will be significant and will produce a period of pain for the shipping and oil-supply industries.

We are entering a multifuel world, said **Iain White**, and although there is a great deal of talk about liquefied natural gas (LNG) as a solution, there's no "magic bullet".

## Key points

- There is no simple solution that will allow shipowners to meet every fuel requirement set before them
- The launch date preferred for everyone except the shipowners themselves was 2020



**'We want to have a dialogue with the authorities to make sure they are enforcing the regulation'**

**Anna Larsson**  
Chair, Trident Alliance, and sustainability head, WWL



**'We have to understand shipowners' thinking as to what investment decisions will be taken and when'**

**Iain White**  
Global marketing manager  
ExxonMobil Marine

While there's little concern about availability of fuels in the current market, "the next move will be completely different," **Peter Hall** said. However, he emphasised that availability is not as critical as the quality of fuels available when the new regulation kicks in, and the monitoring of what is being burned.

Two studies of fuel availability have been completed by CE Delft and EnSys. The results of the CE Delft study state that there will be enough low-sulphur fuel capacity in 2020 to meet the global 0.5% sulphur limit. There are several potential alternatives on the market to heavy fuel oil, but none will be available globally in the necessary volume, said **Chris Dyson**.

However, Captain **Henk Eijkenaar** did not see availability issues as a major concern, adding, "The oil industry will always adapt" because companies will want to sell their product.

The shortage of a single, reliable alternative offering consistent quality opens the door for scrubber technology, with either open- or closed-loop systems washing exhaust gases. So far scrubbers have not enjoyed the take-up their promoters had hoped because, explained **Melanie Davidson**, depressed energy prices had brought the cost of light fuel oil to the level heavy fuel oil was at just 2-3 years ago. "Unless companies are stuck in an ECA zone, they are reluctant to make pretty intensive capital investments," she said.

Cruise ships are the most widespread installers of scrubbers because they burn a lot of fuel close to sensitive areas, and emissions are clearly visible to both passengers and coastal communities. Several companies have invested heavily in scrubber technology, noted Davidson, who added, "If MEPC pushes the decision to 2025, much of that investment will be lost, and innovation will go to waste."

Before the changes brought in on 1 January 2015, **Michael Green's** team tested 80% residual fuel to 20% distillate fuel, but that quickly became 60% residual/40% distillate. For them, he said, "2020 or 2025 is irrelevant;

we are concerned about the quality of the final product."

It had been suggested to him that the industry might return to a similar product to the 1% sulphur used for ECA compliance, which would have inherent problems with stability.

The critical issue is how the fuel is handled and treated on board, Green advised. "If a fuel is deemed to be unstable, messing about with it is more likely to make it unstable and cause you problems," he pointed out. "However, if you handle an unstable fuel properly, you are less likely to encounter such problems."

His company has received products from parts of the world that have "a very different chemical fingerprint" from what was seen previously. Handling and treating those products was expected to be difficult.

"They are breaking down in our lab while we're testing them," Green said. "That's why we are very concerned about quality."

Engine manufacturers are less concerned than shipowners by the change's timing, or even about the level of sulphur in fuels. "We will accept MEPC's decision and build the engines accordingly," said **Konrad Räss**. "A level of 0.5% sulphur is not a complication."

"Indeed, lower levels of sulphur would mean less demanding lubricant selection and lower risk of cold corrosion." **Kjeld Aabo** agreed, but he stressed that manufacturers need to hear about likely changes far ahead to prepare well.

Marine product suppliers such as ExxonMobil also need to stay ahead about potential changes to engine design and the likely effect that such changes could have on lubricant rules. "We don't want to get to a situation where the lubricant you have to offer to the customers doesn't work in the engine," said **Steve Walker**.

He understands why shipowners favour a deferral to 2025 but senses that it is not going to happen. "We have to understand shipowners' thinking as to what investment decisions will be taken and when. It's critical to deepen that dialogue to get an early understanding."

**Pawel Szyrak** said it had been hard for shipowners operating in both ECA zones and in deepsea areas to choose the best technology to enable them to meet all requirements. Furthermore, they must consider the different regulations among sectors.

"Owners believe there has to be a single regulation covering all areas," he said. "Our ships trade in the Baltic ECA but they often spend a month in Asia or elsewhere. There needs to be unified regulation that would help in the choice of technology."

The issue of monitoring was picked up by **Alvin Forster**, who suggested that compliance "might be nice and fair in Europe" but less so in some other countries. An insurer looks for consistency, he stressed.

"Whether it's 2020 or 2025 is not important. What matters are the claims if substandard fuels lead to engine damage and charterparty disputes, or to an engine breakdown or a general average claim," he added. Insurers could be greatly exposed.

Regulation, monitoring for compliance, and following up on infringements were the issues highlighted by **Anna Larsson**, who chairs the Trident Alliance. The alliance started up "because we saw a lot of regulation but no follow-up", she said.

There had been no discussion about how to make sure the rules were followed. "We want to have a dialogue with the authorities to make sure they are enforcing the regulation in the right way," she explained.

Fuel compliance will be a significant cost for shipping companies, Larsson pointed out. "It's very different from something you install once, such as NO<sub>x</sub> requirements or ballast water treatment systems – you'd expect that to be followed. With sulphur it's an operational ongoing cost that can be avoided without too much effort," she said, so it is vital to pursue the enforcement agenda.

All the speakers agreed about a need for clear regulation and understanding of what has to happen and what will occur if the rules are not followed.

"We already face legal hurdles because it's not



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**Michael Green**  
Global technical manager, Intertek



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certain who will enforce the global cap," Larsson observed. "If you have no clear legal framework, you also don't have a proper sanctions framework, either, so there's no incentive to think it's better to follow the regulation than not to follow it."

It is hard enough to check what is happening in ECA zones; checking deepsea emissions is another matter.

Eijkenaar was a strong advocate for bringing in lower-sulphur fuels soon because, he said, seafarers' health is at risk. "Whichever way the wind blows, we get it; 2020 is not early enough." That's why crews favour an early change.

"The engines don't have a problem with low sulphur; there's less maintenance because there will be fewer problems within the engine; lubricants better support low sulphur fuel," the captain pointed out. But he was not keen on scrubbers or other cleaning agents, which add equipment aboard, place more pressure on the crew, and exacerbate health issues.

However, he strongly supported the need to back regulations with enforcement, saying, "That's the biggest problem. As long as we fail to impose strict regulations, and no-one checks, then no-one will chase.

No-one will invest money when they are uncertain whether their investment will be accepted."

Seafarer health is vital, agreed Larsson. "We know much more now about health – not only sulphur but also particulates. Health in the port community is also very important because there's the biggest concentration of people; unfortunately seafarers' health is often forgotten," she added.

Dyson agreed to the point on added complexity. "We talk about ships that can handle three different types of fuel, but seafarers like simple and robust systems. Once you start increasing the complexity of these systems, you're creating problems."

Shipping is studying more issues tied to compatibility and stability; physical problems with scrubbers and open-loop systems; and problems of enforcement by different port states. If anything is seen in the water, the nearest vessel can potentially be fined, and it is up to the owner to prove innocence, he warned.

"Shipowners will wait until the last minute when it comes to capex," Dyson said, "so you've then got a problem of fitting systems on board within a compressed timescale."

On lubricants, White pointed out that the sulphur

regulation wasn't the only issue in the mix. "The industry was caught out a few years ago by paying a lot of attention to the reduction of sulphur: the trend was very much to reduce it, so we imagined we needed to formulate lubricants to match this trend.

"However, the Tier II NO<sub>x</sub> rules started to make the change, then the [Energy Efficiency Design Index] regulations; engine builders responded with new designs, then cold corrosion occurred. Nobody expected that, and it has pushed lubricant development the other way. We were watching one regulation very closely but not watching the other two. You need to consider the implications of all these regulations."

Shipowners see a need for a level playing field tied to clear rules and robust enforcement, but they still face decisions on whether fuels cleaned by scrubbers, blended fuels, LNG, or methanol are the right choice for their trading pattern, ship type, age of vessel, space requirements, and capability of crew.

"A few years ago we had a discussion about LNG and I was sceptical," recalled Szytkaruk. "However, we are slowly changing our perspective. We are talking about the flexibility of dual-fuel engines, especially LNG for ferries in the Baltic and Mediterranean, and for bunker



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barges. But we have no clear answer where we are going, no clear solution as yet. Perhaps bio-fuel is the answer.”

The next five years will produce changes to regulations, but how far will they go? Forster foresaw an increase in fuel compatibility problems, and probably more disputes when changeover happens, adding, “A phased approach seems sensible, but would that give some owners an unfair advantage?”

Dyson was concerned that financially stressed operators might be tempted to buy “the cheapest retrofit solutions that tick the box but might not do what’s fully required”.

Eijkenaar wanted fuel issues sorted before the product arrives aboard the ship. Otherwise, he asked, “How can a ship master know every regulation from every country in the world?”

Larsson noted, “We’ll also have regulations on CO<sub>2</sub> in five years’ time, which will increase complexity.”

Davidson predicted that MEPC will pick a 2020 start-up, but “a decision taken in 2017 and 2018 would be too late for the industry”.

Räss and Aabo shared their intention to keep close to customers “because they burn the fuel”, noted Räss. “They know how the equipment behaves.”

Walker believed this change could encourage investment. Still, he warned that there is hangover from the boom years, “with ships that are now out of date from a fuel economy perspective. If you have to make investment decisions for these ships in 2018 or 2019, I’d send them for scrapping. That would help the industry.”

Green was pessimistic. “There will probably be long discussion about the global cap, but I think 2020 will



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happen albeit with a phased approach.”

Hall expected a period of pain for the bunker sector, with uncertainty as to how blends come together, but he also thought trade would revive and there would be new investment in technology.

Szynkaruk reiterated the need for proper regulations, monitoring, and control to protect against unfair competition. “From a technology perspective, we have to train the seafarers in how to use it. We are bringing our captains thousands of new regulations,” he warned.

“They are spending most of their time on paperwork, which isn’t good. They should be focusing on navigation.”

White said ExxonMobil is weighing its options “to make compliant fuels for the 0.5% requirement, assuming it comes in 2020”. Prices for distillates will rise as demand from land use grows, he noted.

Fuel types will increase: heavy distillates, heavy residual fuels, and blends, all at 0.5%. “There will be a repeat of the problems of the transition to 1.0%,” he predicted.

Ultimately, refiners will invest for either the desulphurisation of product to enable compliance or simply the destruction of heavy fuel molecules. White expects supply disruption over the next five years and, he warned, “not everyone will get whatever they need.”

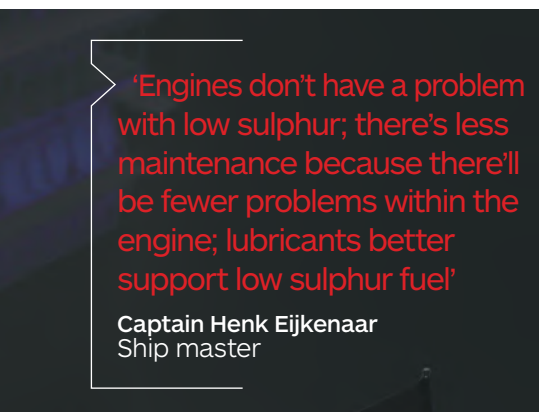
✉ [richard.clayton@ihsmarkit.com](mailto:richard.clayton@ihsmarkit.com)

0.5%

Sulphur limit to be imposed on ship fuel

### ► Who’s around the table

- **Iain White**, global marketing manager, ExxonMobil Marine
- **Chris Dyson**, partner, Brookes Bell
- **Peter Hall**, CEO, IBIA
- **Anna Larsson**, Trident Alliance chair and sustainability head, Wallenius Wilhelmsen Logistics
- **Michael Green**, global technical manager, Intertek
- **Alvin Forster**, loss prevention executive, North P&I Club
- **Kjeld Aabo**, director, customer support, MAN Diesel & Turbo
- **Konrad Räss**, GM, combustion R&D, Winterthur Gas & Diesel
- **Melanie Davidson**, sales manager North America/Europe, DuPont Marine Scrubber
- **Steve Walker**, global marine equipment manager, ExxonMobil Marine
- **Paweł Szynkaruk**, general director, PZM Polsteam
- **Captain Henk Eijkenaar**, ship master
- **Richard Clayton**, chief correspondent, IHS Markit Maritime & Trade



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