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EMERGING RISKS IN MARINE DECARBONISATION

Time to set sail

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White paper

Atrium Underwriters

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EXECUTIVE SUMMARY

Maritime regulator ramps up decarbonisation rules

Marine decarbonisation presents a major challenge for insurers and their shipping clients. Within a few decades, shipping could contribute between 10% and 13% of global emissions[1]. And the UN's International Maritime Organisation (IMO) is leading the fight to curtail that increase – targeting at least a 40% cut in carbon intensity from ships by 2030[2].

From the beginning of January 2023, the IMO brought in new rules meaning both old and new ships above 5,000 gross tons[3] must complete a report for their Energy Efficiency Existing Ship Index (EEXI).

The biggest hurdle will likely come from the Carbon Intensity Indicator – collecting data from shipping companies, the IMO uses this new measure to give each vessel a rating between 'A-E'.

Ships with ratings 'D' and 'E' will face an action plan to lower their rating, which will be recorded on a statement of compliance. These actions raise the prospect of ships becoming non-compliant with IMO decarbonisation targets.

Shipowners with lower ratings could face more detailed inspections from, for example, Port State Control and Coast Guard Authorities.

The industry is considering several eco-friendly measures, ranging from slowing down transit speeds, moving over to greener shipping fuels, and designing and building more energy efficient vessels.

Insurers consider their role, enhanced technology and reputational risks

From a marine insurer's perspective, there is a risk of reputational damage. Environmental, Social, and Governance (ESG) is here to stay, and insurers ignoring the decarbonisation agenda risk negative media coverage, disruption and interference from environmental groups.

While insurers may look to mitigate their risk exposure, they face a lack of clarity on multiple issues. Non-compliance could be an indicator of a poor risk generally, but it might not be. Is a vessel unseaworthy from an insurance point of view if it's not compliant?

New "eco" technology on board vessels might improve risk, but they might also increase risk in terms of frequency of claims and enhanced costs of repairs. It's clear there are lots of unanswered or untested questions

Marine insurers might consider how compliance and the practical measures adopted by shipowners might affect assessment of the risk as a whole. For example, if an owner consistently performs to a high regulatory standard, they probably present a better risk than those that don't. Which might influence whether an insurer choses to take the risk or not.

Insurers face a compliance and commercial balancing act

Insurers could insert warranties into contracts to protect themselves from non-compliance risk, but this might not stand up against the Insurance Act 2015. Another action could be to adjust premiums.

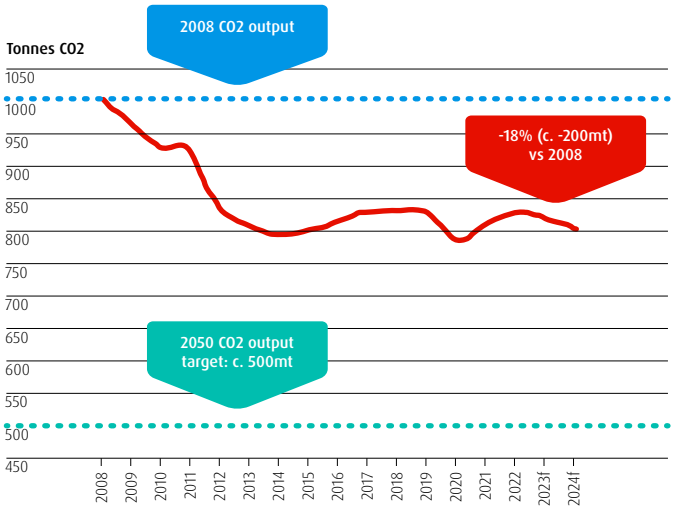
All these measures, however, could risk potential customers looking to other markets who take a laxer approach to ESG. At the very least, it's recommended insurers start capturing the data necessary to make informed decisions. And make it a mandatory requirement for clients to provide it.

They've then got the information they need to decide on the right action – whether to adjust premiums, amend terms and conditions, or insert warranties.

Finally, insurers should consider working in partnership with their shipping clients to reduce carbon emissions. This could be as a consultant on areas such as vessel design, clean energy transition and embedding green efficiencies into the business.

Insurers will need to adapt to changing technology, the evolving regulatory environment and risks associated with their clients' compliance and performance needs. And consider the impact those changes have on conventional insurance and legal frameworks.

Global shipping emissions still some way off 2050 targets. Could new IMO rules turn the tide?



Source: Clarksons Research

Pressure mounts on the maritime industry

The scientific community began to unite for action on climate change in the 1980s, putting the spotlight on high carbon-emission industries in energy, agriculture, and overland transportation. The Kyoto Protocol, signed in 1997, was a landmark moment. Countries across the world signed an agreement to prevent pollutants interfering with the climate.

The maritime industry had been traditionally overlooked, but regulations have escalated in the last ten years with recognition of its emission impact. With an annual consumption of more than 265 million tons of fuel, the shipping industry contributes approximately 3% of global greenhouse gas emissions.

In 2013, the Energy Efficiency Design Index was introduced to regulate newly designed ships on their energy efficiency.

Shipowners and operators must today show vessels are energy efficient, have caps on sulphur content in fuels and certificates demonstrating compliance with emission regulations.

Regulator sets new decarbonisation rules and targets

In a quest to raise the bar higher, the International Maritime Organization (IMO), the agency of the United Nations responsible for regulating shipping, is targeting an average 40% cut in carbon intensity of international shipping by 2030.

On 1 January 2023, the IMO brought into force two significant regulations aimed at reaching that target. The new rules mean both old and new ships above 5,000 gross tons must complete a report for their Energy Efficiency Existing Ship Index (EEXI).

And to show they're in line with carbon requirements, shipowners and operators must start collecting data for the reporting of their annual operational Carbon Intensity Indicator and associated rating.

Ships rated 'A-C' are compliant and in line with carbon requirements. A ship rated 'D' for three consecutive years, or 'E' for one year, will have to submit a corrective action plan to show they can achieve a minimum 'C' grade.

The stakes for non-compliance are on the rise

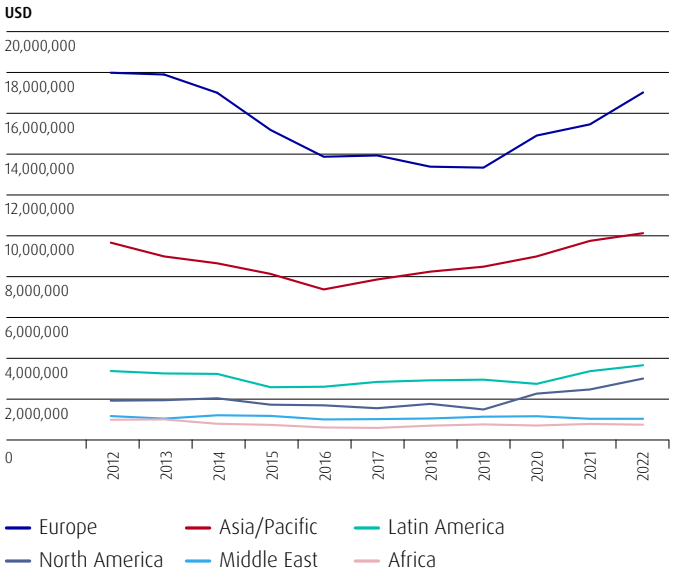
Non-compliance with IMO conventions could lead to prosecutions from the flag states responsible for enforcement. This annual reporting requirement is a watershed moment – a wake-up call, perhaps, for those in the maritime sector .

And the insurance industry also faces several risks – failure to act could have damaging consequences commercially and reputationally.

But it requires a delicate balance. Marine insurance is highly competitive, and customers have a wide choice of placement markets. Taking too hard a stance could lead to a loss of revenue in a growing market – a market responsible for $35.8bn in global insurance premium in 2022, and up 8.3% from 2021[4].

The good news for both sectors is that there are ways to move forward.

Marine premium by region 2012–2022



Soure: IUMI[5]

> *Non-compliance with IMO conventions could lead to prosecutions from the flag states responsible for enforcement.*

DECARBONISATION CHALLENGE FOR THE MARINE INDUSTRY

Will flag states enforce new rules?

Shipowners that don't comply with minimum standards of decarbonisation face commercial risks, and furthermore, potentially negative consequences for their insurance. Enforcement for non-compliance is the responsibility of the flag states. To date, many countries, including the UK, have not yet clarified enforcement procedures.

However, the future prospect of a strict and clear enforcement regime is very real. This year, the UK government said it would carry out a wide-ranging review of its policies to modernise the country's maritime sector, setting up a cross-departmental body to oversee progress[6].

Shipowners shouldn't view weak enforcement as an excuse to avoid decarbonisation. Andrew MacKenzie, marine claims adjuster and research lead, who carried out a range of interviews across the London and Lloyd's market featured in this whitepaper, had this to say about the impact of non-compliance.

> "The main realistic and most tangible consequence of being found non-compliant is a charterer deciding that a prospective ship is too great a risk to enter a charterparty agreement. They may even decide that with a C grade.
>
> We don't know what enforcement looks like, but the risk to the charterer is that if a ship is... detained, then they won't be able to trade."

Non-compliance could affect their insurance

Currently, the risk of a shipowner having their claim rejected, or an active policy terminated due to non-compliance, is unlikely. Instead, shipowners whose vessels are outright non-compliant might find their choice of insurance markets narrowed. At worst, they might struggle to obtain cover.

For those shipowners that have vessels rated 'D' or 'E' on carbon intensity, their insurance could be more expensive and restrictive – potentially facing bigger premiums, higher deductibles, risk audits and tighter policy wordings. They may also be commercially less attractive to finance companies and charterers.

To meet the new regulations, and therefore obtain optimal insurance terms, shipowners will have to consider compliance in a wider commercial context, where perception of risk by their counterparties is paramount.

There are various solutions for meeting EEXI and CII requirements. For example, permanently derated main engines with non-overridable power limits, or clean technologies, such as batteries and waste-heat recovery systems.

However, these solutions might not have a big enough impact on energy efficiency to achieve the required EEXI and CII rating over time, meaning power limitation would likely be needed anyway.

Ship manufacturers could also make vessels with hull, trim and propeller designs that reduce resistance.

And it's been suggested that market-based measures and derivative products, such as contracts for difference, can provide financial and legal certainties to incentivise shipowners to embrace low carbon technologies and practices.

Net-zero transition doesn't come cheap

All of these measures, cost time and money – and there's a concern how much impact these methods could have on just-in-time delivery and the drain on resources at both operational and management levels.

At the very least, the decarbonisation challenge presents an opportunity for insurers and shipowners to work together more closely. The shipowner has the direct obligation to comply, and the insurer has a moral duty to facilitate that obligation with the best possible insurance solutions.

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AN EMERGING RISK FOR MARINE INSURERS

Underwriting profit under threat

From an underwriting profitability standpoint, there was a widespread acceptance among underwriters interviewed for this research that compliant vessels with higher ratings will produce better loss ratios.

Those that are non-compliant, or of lower ratings, might be more likely to negatively impact underwriting performance.

As an underwriter explained:

> "If you've got an insured that is a 'D/E' rated, maybe that gives you a glimpse as to how they run their organisation. In terms of risk selection, that becomes more of an issue for underwriters."

There was also a consensus across the market that there was a 'moral duty' on the maritime industry to provide a strategy to deal with non-compliance, alongside the need for individuals and corporate entities to play their part in working towards a sustainable future.

Reputations are at stake

Reputational risk is at play too. ESG is high on the agenda for insurance companies – both at board level and as part of the underwriting process.

Ignoring marine decarbonisation could lead to negative coverage in the media; creating an unfavourable perception of the company in the eyes of its workforce, commercial counterparties and potentially attracting the disruptive attention of protesters and activists.

Regulatory and commercial pressure is accelerating the shipping industry's response to decarbonisation, with significant change happening in ship design technology and propulsion. But this momentum needs to continue and accelerate further for the sector to meet new IMO targets.

Against these objectives, shipowners are contending with the impact of high newbuild prices, depleted slot availability at yards, uncertainty over fuel choices and macroeconomic concerns negatively affecting investor sentiment.

Every underwriter interviewed when discussing the potential for moral hazard that could arise from frequent and/or blatant disregard for regulatory concerns, stressed the need for mitigating exposure. And this should be the sentiment that drives prudent questioning during placement negotiations. After all, the easiest way to avoid tricky legal and coverage questions is not to insure the vessels in the first place.

One marine underwriter interviewed stated that:

> "Assume you have a shipowner who has deliberately and repeatedly refused to comply with regulatory requirements regarding emissions and potentially exposed itself to fines. One that has a completely careless attitude to the regulations and their legal requirements.
>
> Could an H&M underwriter claim that it was material for them to disclose this cavalier disregard on account of moral hazard? Absolutely, because what it reveals is that legal requirements are not something that [the Assured] prioritises, and it is indicative effectively, of a lack of proper maintenance."

It's therefore just a question of how hard or soft the approach is to underwriting and claims.

ESG is high on the agenda for insurance companies – both at board level and as part of the underwriting process.

Rejecting claims is not so easy

Marine insurers could attempt to reject claims on the grounds of non-compliance. But non-compliance, in and of itself, won't necessarily provide a claims defence unless express terms in the policy require it, and those terms comply with the Insurance Act of 2015.

Most hull and marine policies are underwritten on a time basis in Lloyd's and the London Market. Under Section 39(5) of the Marine Insurance Act 1906:

In a time policy there is no implied warranty that the ship shall be seaworthy at any stage of the adventure, but where, with the privity of the assured, the ship is sent to sea in an unseaworthy state, the insurer is not liable for any loss attributable to unseaworthiness.

To have a defence of unseaworthiness, insurers must therefore establish:

1. The vessel's legal sea unworthiness.
2. A direct line between the sea unworthiness and the insurance loss.
3. The insured's knowledge of the ship's unseaworthy condition.

Although it's possible the courts will declare a ship unseaworthy on non-compliance, the bigger problems are in overcoming the second and third elements. Proving a link between non-compliance on decarbonisation and an insured loss will be difficult.

As one partner solicitor commented:

> "This is the problem. There's no tangible, physical damage to the vessel. There is damage to the atmosphere of course, but you can't pinpoint it. You certainly can't attribute it to unseaworthiness.
>
> Hardest of all will be proving that the insured had knowledge of the unseaworthy condition."

Lead author Andrew Mackenzie, whose research provides the foundations for this whitepaper, added his conclusion:

> "The apparent remoteness of any causal link between non-compliance and any foreseeable physical loss continues to limit the applicability of any existing underwriting defences."

Proving a link between non-compliance on decarbonisation and an insured loss will be difficult.

The hard approach: amended and additional policy terms

With all this in mind, marine insurers might choose to take pre-emptive actions instead. One hardline approach would be to explicitly rule out coverage for non-compliant vessels.

The challenge for marine insurers is that they might decide to only accept compliant vessels, but then later discover that the ship has been downgraded during the policy tenure to an unsatisfactory low-carbon intensity rating.

To shield themselves from this risk, marine insurers could devise warranted language. After consulting with experts, our researchers produced the following prospective language underwriters could use:

> "It is warranted that the subject vessel insured is compliant with the Carbon Intensity Indicator (CII) and maintains a rating of 'C' or above for the currency of the policy. Where the vessel is downgraded as non-compliant with CII rating of 'D/E' during the currency of the policy, 15 days' notice of cancellation of this insurance policy will come into effect from the date of the downgrade."

Additionally, it is advised that underwriters impose warranty language to make sure the insured carries out a vessel survey within a reasonable time after policy inception.

The problem for insurers is that under sections 10 and 11 of the Insurance Act 2015, they might find it hard-pressed (unless there is agreement for an opt out of these provisions) to justify the imposition of terms and conditions which do little to reduce the risk of loss.

The link between physical damage and non-compliance on decarbonisation is likely to be tenuous. So imposing restrictions on cover may well deter potential clients, who will instead look to markets taking a softer ESG stance.

As a partner solicitor said during interview, if additional terms are "commercial, and could be kicked back for not making much difference (in the risk) anyway, underwriters would surely be happier with premium coming in."

So, perhaps a premium differential is the best option for insurers to take.

The softer approach: underwriting guidelines and premium adjustments

Adjusting the premium to reflect the risk of non-compliance is widely regarded as a logical step for marine insurers. However, they'd need to capture the data themselves, as there's currently no central registry or mandatory disclosure requirements on ship owners.

Once they've got the data in hand, marine insurers would face a delicate balance adjusting the premium, considering decarbonisation is unlikely to present any physical risk.

Commercially, any adjustments too high could lead to a loss of business in the highly competitive marine insurance market, but that is a question of appetite and strategy. If this option is too restrictive, another path for marine insurers is a collective approach and signing up to initiatives like The Poseidon Principles of Marine Insurance – a global framework for assessing and disclosing insurers' hull and machinery climate alignment.

Its mandate is to measure and report on emission data, report climate scores and, finally, benchmark scores against the IMO strategy on greenhouse gasses. Signatories commit to being transparent on the carbon intensity of their portfolios, but there are no pricing controls or penalties on insureds.

These collective initiatives do, however, face opposition – any group where insurers get together and start discussing minimum standards potentially faces accusations of being anti-competitive.

The Net Zero Insurance Alliance, a UN-led convened climate alliance for insurers, has had members leave amid opposition from US politicians claiming violation of anti-trust laws.

Considering these challenges, some insurers may look to shift their value proposition to clients.

Working closer with clients on decarbonisation

Insurers could be more involved with their clients' decarbonisation strategy – understanding the technological and financial risks more accutely to aid risk assessment, consult on vessel design, clean energy transition and improved efficiencies, And call on both their internal resources and external partnerships to offer expert support.

OUR RECOMMENDATIONS FOR AN UNCERTAIN MARKETPLACE

Decarbonisation in the marine industry is a complex situation, and there are still several looming uncertainties to settle.

However, the conclusion of this research suggests the following courses of action for insurers to consider:

1 **Inserting warranties**

Introducing warranties can make sure vessels are compliant with the IMO's new carbon intensity index, while providing underwriters the option to carry out surveys when non-compliance is suspected. In doing so, insurers must be mindful of the need for compliance with the Insurance Act of 2015 (if English law applies to the contract).

2 **Making underwriting and premium adjustments**

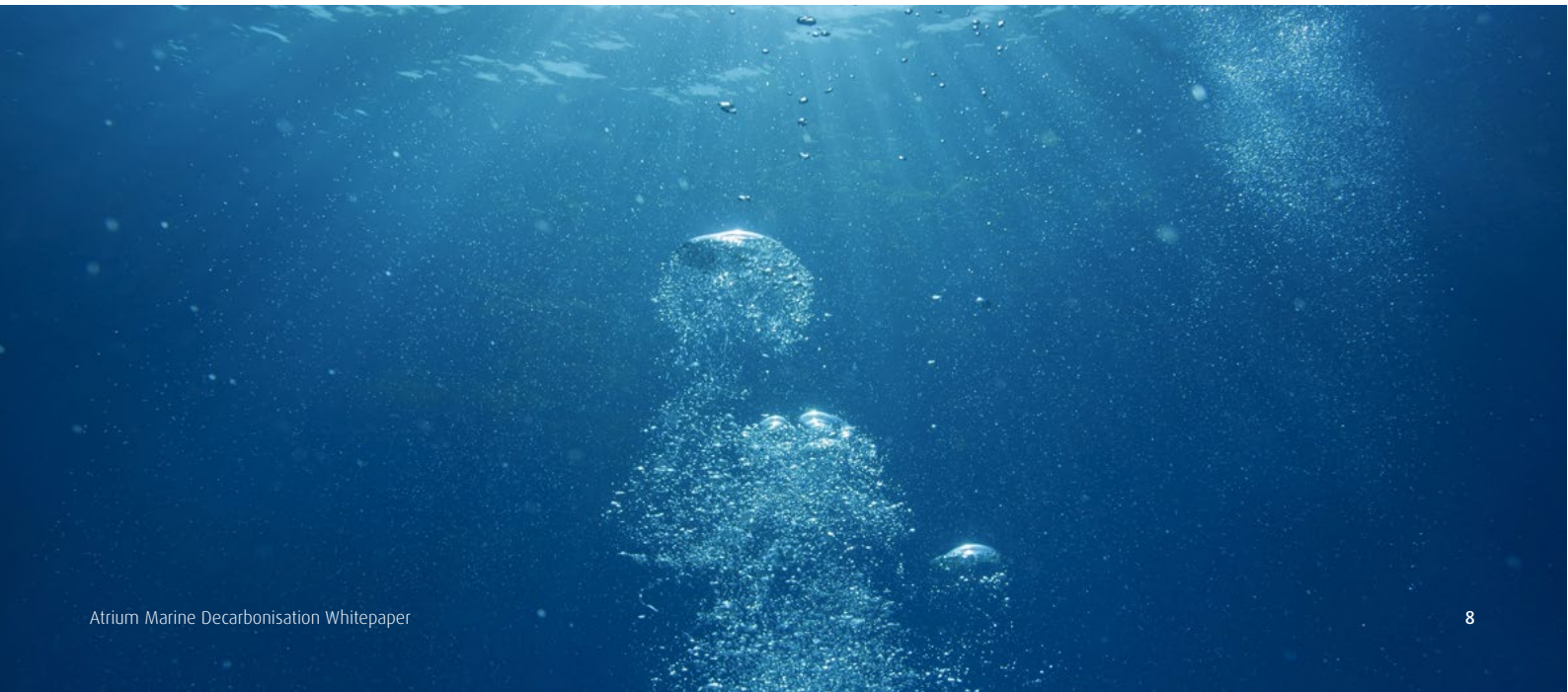
Insurers should also think about adjusting their existing underwriting guidelines and risk-adjusted premium models. The goal here should be to capture compliance data and then potentially use it in conjunction with other risk criteria to adjust premium rates and deductible levels.

This will help underwriters decide on their level of risk appetite in relation to the risk of non-compliance, whether physical or moral hazard related.

3 **Strengthening client partnerships**

Insurers should consider working closer with clients and helping them find innovative ways to remain compliant and transition to a greener future.

One year on from the 2023 landmark introduction of mandatory carbon ratings for vessels, the era of marine decarbonisation is truly upon us. Insurers must stay ahead of developments – the time to act is now.



BACKGROUND AND CREDITS

This whitepaper is drawn from the research of Andrew Mackenzie – a marine claims adjuster at Atrium Underwriters.

As part of his Master of Science in Insurance and Risk Management at Bayes Business School, City University, Andrew completed the following dissertation: 'Can non-compliance with marine convention decarbonisation initiatives impact vessel sea worthiness, legality and marine insurance considerations?'

This extensive piece of work aimed to explore the latest marine decarbonisation initiatives – an area with little to no research.

He carried out a total of 36 interviews between July and September 2023. They included several leading underwriters and brokers within Lloyd's and the London market, as well as some of their clients. He also spoke to some of our partners at top London shipping and insurance law firms, some barristers and two King's Counsel.

This whitepaper is a summary of those conversations and Andrew's own extensive research and deep market knowledge.

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