

The Ammonia Report

An aerial photograph of a large cargo ship, likely a container ship, navigating through turbulent, white-capped waves. The ship is viewed from a high angle, showing its deck, superstructure, and the hull. The water is a deep greenish-grey, and the white foam of the waves is prominent. The ship's name 'MACHEN' is visible on the hull. The overall scene conveys a sense of maritime challenge and resilience.

If ammonia is the answer,
what are the questions?

A strategy for
maritime companies
to meet IMO mandates

Carbon
Neutral
Consulting

The Ammonia Report

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EXECUTIVE SUMMARY

The maritime sector is facing a complex transition to fuels and propulsion systems that will comply with current and future IMO strictures.

For the individual company, the transition will almost certainly upset the competitive dynamics within its industry. The company will need an effective strategy conceived specifically for maintaining and enhancing its competitive position. We developed *The Ammonia Report* as a tool that can facilitate strategic planning of this nature.

The report considers ammonia as a bunker fuel, but does not cast it as an inevitable sector mainstay. Since ammonia does have the potential to dominate the propulsion-fuel transition, we advise maritime players to determine whether and how it should shape their approach.

The report considers ammonia, but does not cast it as inevitable

The Ammonia Report addresses five questions:

1. What are the specific business strategy **challenges** created for maritime players by the looming energy transition?
2. How do bunker fuel options, including ammonia, compare on critical **dimensions** of evaluation?
3. Are there major **obstacles** that could prevent ammonia from becoming a mainstay bunker fuel?
4. What would a **strategy** look like that is based on the unique position ammonia occupies in the field of sustainable fuel options?
5. What **actions** should the company take based on relevant strategic considerations?

Our advice boils down to this: understand ammonia's salient aspects as a bunker fuel; formulate a strategy that takes account of ammonia's potential impact; move to strategy-driven action as soon as possible; and carry out the action plan in collaboration with like-minded allies.

Why This Report

If you're in the maritime sector, chances are you have been hearing about ammonia. Many parties, including class societies, think tanks, and media companies, have pointed to ammonia's promise as a bunker fuel that can comply with current and future IMO emissions regulations. Some are already at work on ammonia-based solutions. But this rush to embrace ammonia brings with it a mosquito cloud of questions:

- Ammonia is not even an energy commodity today. Why is it being considered as a bunker fuel?
- How does ammonia line up against other sustainable carbon-based fuels? Is there something that might give it an edge?
- What will be the economics of ammonia as a bunker fuel? How will they compare with those of other sustainable fuels?
- Who supports the ammonia fuel idea?
- Does ammonia have any significant drawbacks? Will it pose safety issues?
- Will there be major challenges in the roll-out process?
- When will the elements of an ammonia solution be available? Will it even be possible to implement ammonia as a bunker fuel before 2030?
- Is there something special about ammonia that will change the overall fuel transition process?

We wrote *The Ammonia Report* to help companies in the maritime sector—not just to gain answers to the key questions, but to use understanding of the ammonia concept to minimize the risks their businesses will face in the energy transition and to use the energy transition to enhance their competitive position.

The report employs a business strategy methodology. As such, it compiles and analyzes information relevant to the big-picture challenge faced by the maritime companies, contextualizes ammonia within this information set, presents a strategy built on insights gained from the contextualization, and lays out a series of practical actions that can put the strategy into effect.

Who This Report is For

This report is for companies who will need to make changes in their businesses in response to the IMO's sulphur limit and GHG regulations—in other words, a large proportion of companies in the maritime sector, including those in the shipbuilding, carrier, financing, fuel production, and bunker fuel supply industries. Many of these companies are on the front lines of change implementation. Many others need to react to the changes made by the front line companies. All will benefit from the clarifying perspectives contained in this report.

If you're in the maritime sector, chances are you have been hearing about ammonia.

CONTENTS

| | | | |
|---|-----------|--|-----------|
| Executive Summary..... | 3 | Bunkering Infrastructure | 35 |
| Why This Report | 4 | Propulsion Systems: Internal Combustion Engines. | 39 |
| Who This Report is For | 4 | Propulsion Systems: Fuel Cells | 42 |
| The Challenge | 6 | Other Considerations | 44 |
| The Strategy | 7 | Prescription for a Winning Strategy | 47 |
| The Action Plan | 9 | Reduced Risk of Asset Stranding. | 48 |
| In Closing | 10 | Immediate and Practical Action | 50 |
| IMO Mandates | 13 | Relative Cost Position | 50 |
| Tsunami of Risk | 13 | Dominant Strategy | 52 |
| Strategic Launch Pad. | 19 | Action Plan | 53 |
| Framing the Alternative Fuel Challenge..... | 21 | Phase 1: Individual Action | 55 |
| Fossil Fuels | 22 | Phase 2: Leadership Coalition. | 58 |
| Low-Carbon Fuels | 25 | Phase 3: Public-Private Cooperation | 59 |
| Cost Leadership within the Low-Carbon Fuels Group | 30 | Phase 4: Industry Consolidation | 60 |
| The Technical Path for Ammonia Bunker Fuel Implementation..... | 31 | Acronyms | 61 |
| Fuel Production | 31 | Photo Credits..... | 63 |