NRMA ROAD TRAVEL REWARDS

MANLY FAST FERRY

The NRMA Manly Fast Ferry Experience

Operational Efficiency and Innovation on the Water

Contents

Marine Emissions: The Pressure to Change

3%

The maritime sector alone contributes nearly 3% of global greenhouse gas emissions.

Unlike land transportation, the marine sector is harder to regulate due to international waters and a fragmented approach.

On the rise

Maritime emissions are projected to rise and with increasing regulation and talks of carbon pricing, its time for transition.

Regulation

Maritime emissions are harder to regulate due to international waters and fragmented oversight and responsibility.

Epicentre

Asia-pacific is the epicentre of maritime activity, hosting 9 of the world's busiest ports.

Efficiency

Improving resilience, and unlocking co-benefits like safety and reliability shows how even small operators can lead with scalable agility.

Who Are We?

Manly Fast Ferry (MFF) provides both commuter and tourism services in and around the famous Sydney Harbour.

Our six-vessel fleet is made up of modern, high-speed catamarans, including 24-metre and 33-metre Incat-built vessels.

As a contracted fast ferry service, they are designed to deliver sub-20 minute trips between Manly and Circular Quay. Transporting over 3.4 million passengers a year.

The Forces Driving Change

Rising Fuel Costs

- Marine diesel prices remain volatile, impacting margins
- Fuel is often the single largest operation expense
- Efficiency gains directly translate to cost savings and emissions reductions

Emissions Regulations

- Increasing emissions reduction pressure, internally and externally
- Preparation for future carbon pricing mechanisms

Stakeholder Expectations

- Tourism and public transport operators face reputational risks if sustainability is not prioritised.
- Stakeholder trust is increasingly tied to environmental transparency.

Port-related inefficiencies

- Idling at berths, congestion, and slow turn around times contribute to unnecessary emissions.
- Lack of shore power or coordinated scheduling leads to fuel waste and delays.
- Ports are often under-optimised, presenting opportunities for digital and infrastructure investment.

Why Innovation Was Needed

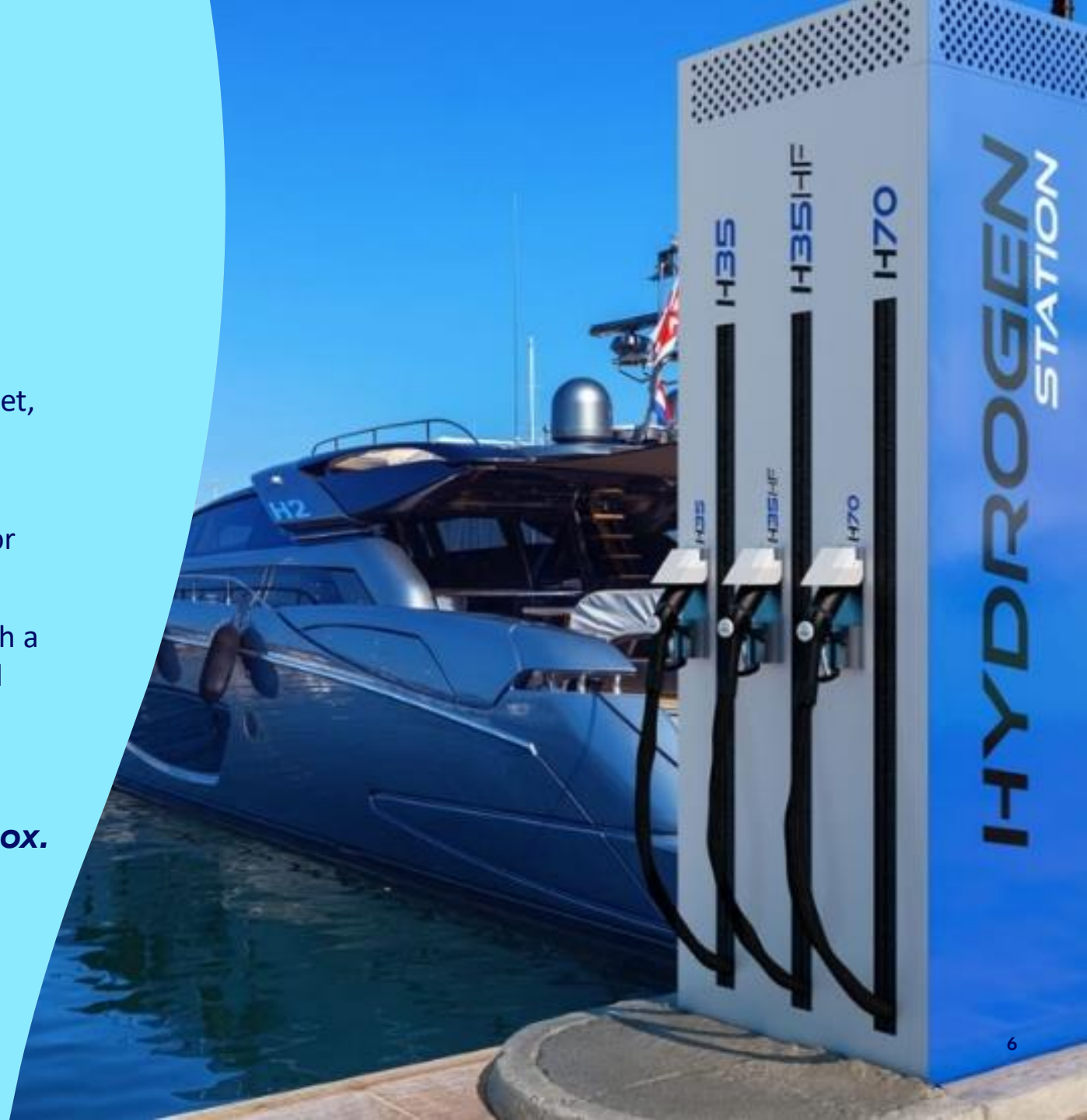
Hydrogen hope, harboured realities

With a focus on hydrogen as a green-fuel source across the fleet, we were swiftly challenged when it came to implementation.

Current regulatory standards make it difficult for emerging technologies and alternate fuels to be implemented at scale for commercial entities.

The low production volumes also proved to be challenging with a small distribution network. Ultimately leading to premium and variable prices when it came to hydrogen as our fuel source.

These challenges called for us to think out of the box.



Operational Efficiency

HullBot: Autonomous Hull Cleaning

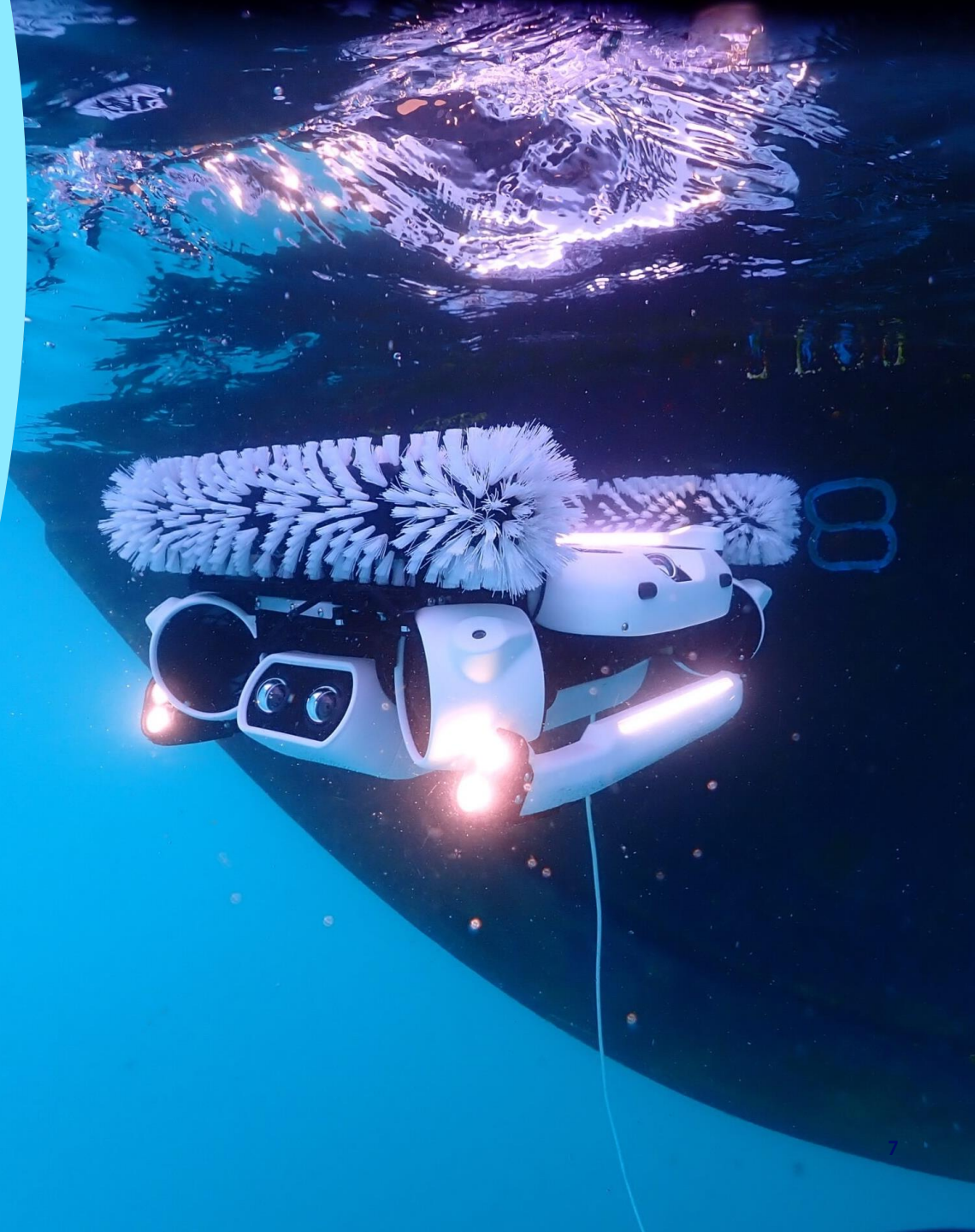
- HullBot uses autonomous underwater robots to clean hulls without dry-docking, reducing both downtime and labour costs.
- We've shown that regular hull cleaning can improve fuel efficiency, our results are showing that by up to 10%.

Weight Reduction

- We're aiming to reduce our water and fuel on-board by 25% and 50% respectively.
- This simple change is expected to lead to reduced fuel burn by up to 3%.

Optimised Trips

- Working with an external provider that has delivered smart, active technology that improves routing and speed every second.
- This technology reduces engine load and provides optimal speeds for masters based on external conditions.



Technological Upgrades

Propellors

- Currently in a trial period for stainless steel propellors that reduces noise in the water column.
- Early results are showing an 8% fuel reduction.

Biodiesel

- Access and affordability of biodiesel in Australia is in its infancy.

Engine Upgrades

- We are looking into advancements of engines and new technology when and where we need to.

Shore Power

- We’re already utilising shore power at berth for our onboard systems including, fridges, lighting and pumps.
- Reduces load on the diesel generator while at berth.

In its first in-water trial, we found a 6% engine load reduction, and an 8% fuel reduction.

Collaboration & Systems Thinking

Partnerships & Trials

- By working with start-ups and trialing new innovations, we are accelerating uptake and validating solutions.
- Shared expertise reduces risks across the industry and can speed up the deployment of these initiatives.

MERC Participation

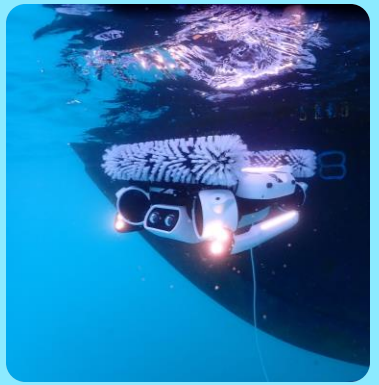
- Participating in the Marine Emissions Reduction Coalition (MERC), has accelerated our knowledge and influence across the maritime sector.

NRMA Integration

- Our efforts are supporting the NRMA's wider decarbonization roadmap.









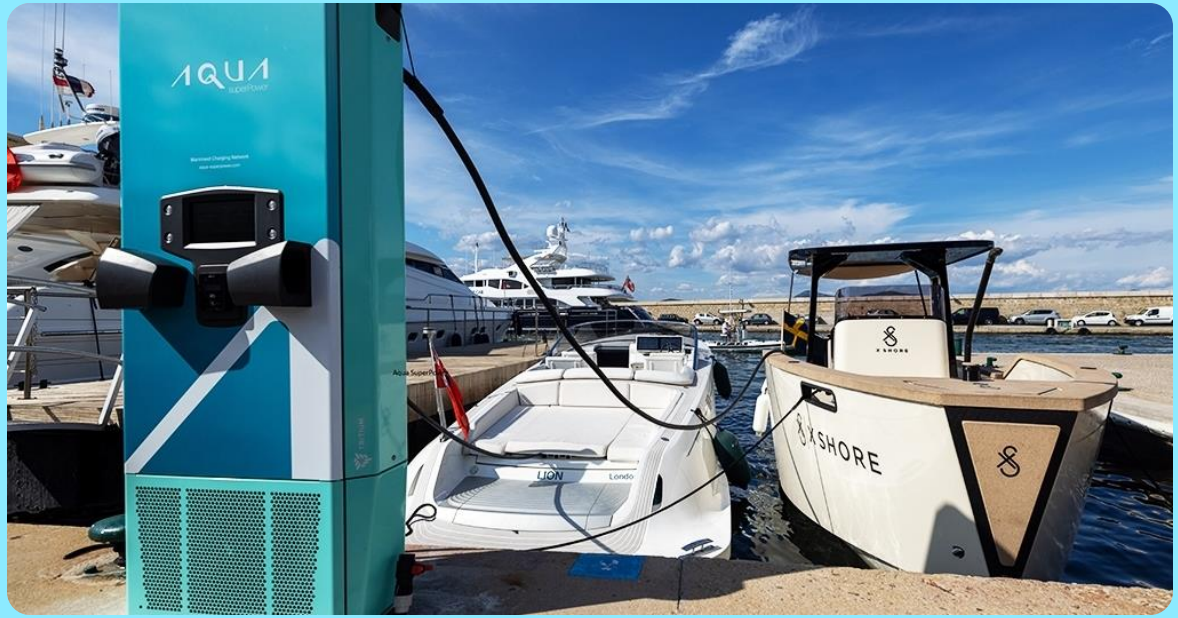
What Green Finance Should Look For

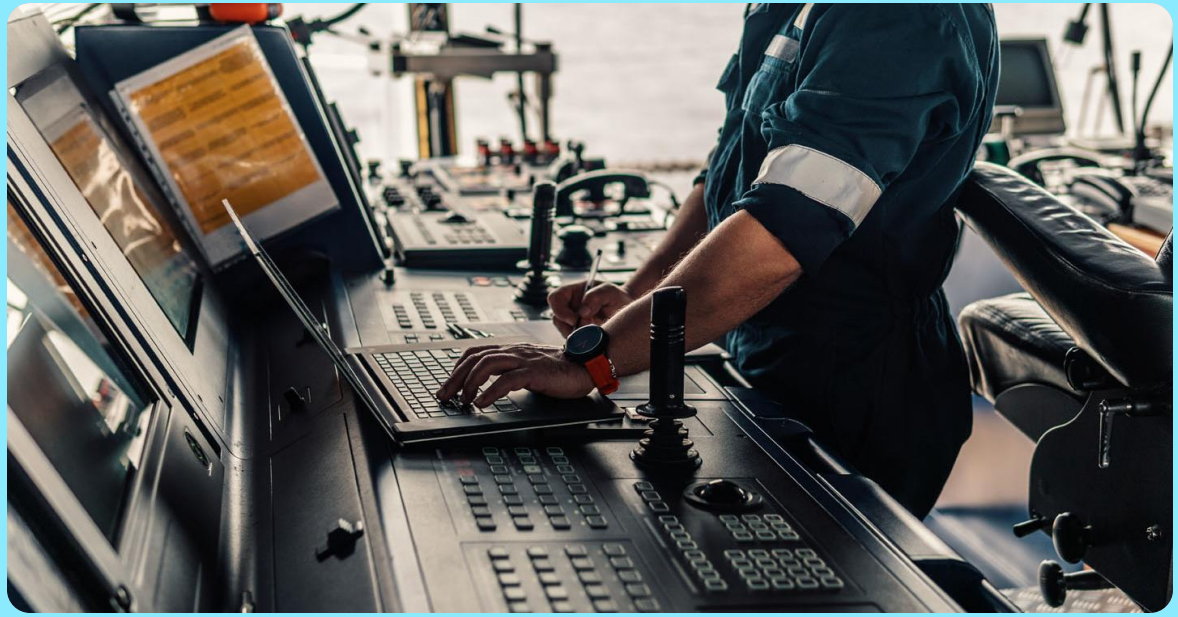
Scalable technologies

- Electrification & hybrid systems are growing, with proven pathways for reducing emissions in passenger and cargo vessels.
- AI-Drive routing & digital optimisation can provide immediate fuel and emissions savings through smarter operations.
- Autonomous maintenance solutions and innovations like robotic hull cleaning to improve efficiency and reduce downtime.

Port-to-vessel integration

- Ports should invest in capable infrastructure that can provide shore power and charging stations.
- Look into solutions that connect vessels to ports to improve berthing and docking requirements.





Where are we headed?

Our efficiency initiatives have delivered strong results, but efficiency alone won't get us to our ultimate goal: **net zero by 2050.**

In this hard-to-abate sector, collaboration and innovation are critical. We're not alone, the industry is scaling solutions, and we must prove their viability.

What's next?

- Electrification pathways for selected vessels
- Hydrogen trials as technology and regulations mature
- Digital twin modelling to optimise performance
- Co-investment opportunities in clean fuels and smart port integration

Together, we can accelerate emissions reduction and build a cleaner future for maritime transport.

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Thank you

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