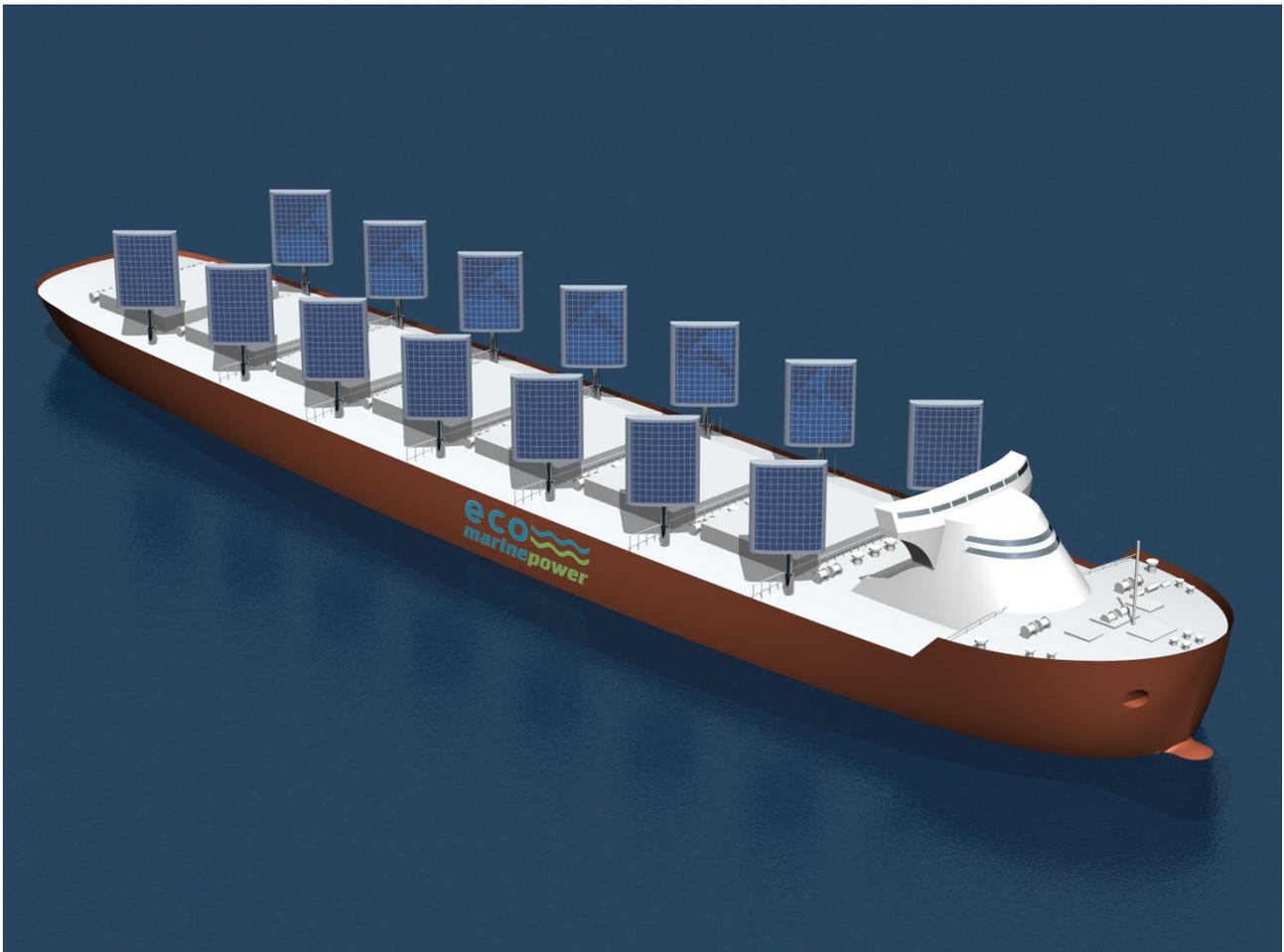


eco *marinepower*

Mission Statement

*To be a world leader in the development of
fuel & emission reduction technologies
that will lead to a more sustainable shipping future.*



The Aquarius Eco Ship – a design concept by Eco Marine Power



About Eco Marine Power

Eco Marine Power (EMP) is an innovative marine renewable energy technology company based in Fukuoka, Japan, that is committed to designing, developing and promoting eco-friendly power & propulsion solutions for ships that will reduce fossil fuel consumption, lower pollution & greenhouse gas emissions plus make good business sense as well.

Our solutions include wind, solar-electric, hybrid marine power and solar-wind power systems. We also develop eco ship & green shipping concepts that use our unique marine renewable energy technologies such as the revolutionary Aquarius MRE System™ - a modern wind & solar power solution for sustainable shipping

Technology and Development

Solar ships, eco ships and green ships that use the power of the wind and the sun will play an important role in the decades ahead as world shipping takes measures to reduce CO₂, NO_x and SO_x emissions plus reduce its dependence on fossil fuels.

Eco Marine Power (EMP) is focused on developing solutions to meet this challenge and is involved in a number of research & design projects to help make shipping more environmentally friendly. Some of our current projects are outlined below.

The Aquarius MRE System (Patent Pending)

The Aquarius MRE System™ is an advanced integrated system of rigid sails, solar panels & energy storage modules that will allow ships to tap into renewable energy by harnessing the power provided by



the wind and sun. The array of rigid sails (which are based on EMP's EnergySail™ technology) will be automatically positioned by a computer system to best suit the prevailing weather conditions and can be lowered and stored when not in use or in bad weather.

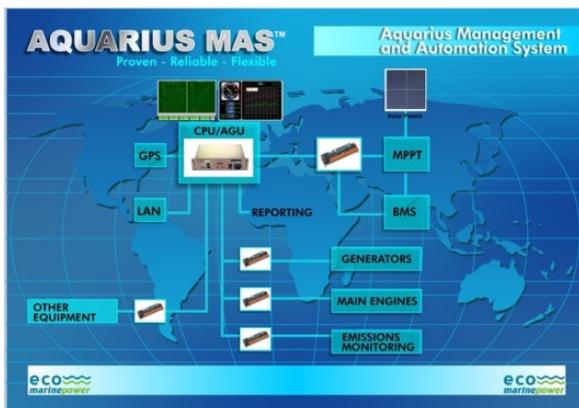
The Aquarius MRE System™ will significantly reduce fuel consumption and noxious gas emissions from ships. In addition ship owners and operators will be able to lower the CO₂ footprint of their fleet and employ the solution on a variety of ships and vessels due to the flexibility and scalability of the system.

The EnergySail™ (patent pending) is a revolutionary renewable energy platform designed by Eco Marine Power that can tap into the limitless power of the wind & sun while the ship is at sea or even when it is at anchor or in port.

The EnergySail™ can be fitted with a range of renewable energy technologies such as solar panels or wind power devices. It is a truly unique renewable energy platform specifically designed for shipping that can be fitted to a wide variety of vessels from large bulk ore carriers and oil tankers to naval and coastguard ships.

Advanced Marine Computer Systems

In co-operation with KEI System Ltd., we are developing computer control and management systems which will perform a variety of tasks ranging from monitoring fuel consumption & emissions to positioning an EnergySail™ array to best use the energy from the wind and sun.



The Aquarius Management & Automation System or Aquarius MAS™ for example is a data logger, engine monitor and alarm handling system plus it can interface with renewable energy systems such as marine solar power arrays.

The Aquarius MAS™ can also monitor fuel consumption and calculate or monitor vessel emissions.

Tonbo Solar-Electric Hybrid Ferry

The 'Tonbo' design project brings together the latest in hybrid marine power technology with the latest solar panel, power management, wind power and energy storage technologies.

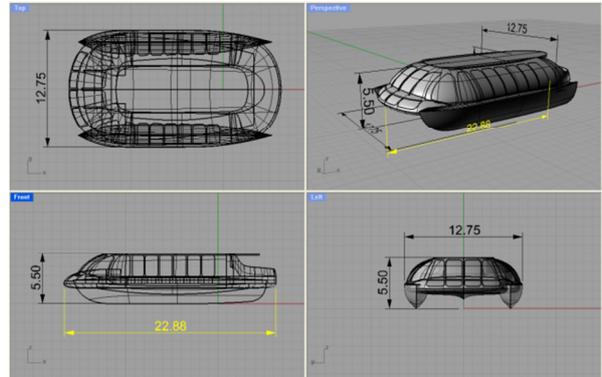
The Tonbo will be suitable for operation on rivers, bays or lakes and be capable of cruising at low speeds purely on solar-electric power alone. The unique solar panel mounting system on the Tonbo is being developed by EMP and incorporates many features of the EnergySail™ design.



Medaka Eco Commuter Ferry

The 'Medaka' is an eco-solar ferry being developed for urban waterways with the aim of producing a cost effective commuter vessel that can operate emission free at low speeds during the day or use a hybrid electric propulsion system when more power is required.

The Medaka will have an array of solar panels mounted on the roof of the vessel and energy storage modules installed in each of the catamaran type hulls.



Aquarius Eco Ship

The Aquarius Eco Ship concept design is the result of a comprehensive study project which focused on optimising the design of a large ocean going ship such as a bulk carrier or oil tanker to harness the power of the wind & sun.

The centre piece of the Aquarius Eco Ship is the Aquarius MRE System™ - an innovative fuel saving and emission reduction technology that incorporates a variety of elements including solar panels, energy storage modules, a computer control system and EMP's EnergySail™.

In addition to the Aquarius MRE System™ a future Aquarius Eco Ship would include other fuel saving measures such as an advanced electrical propulsion system and waste heat recovery technologies. This combination of technologies could lead to fuel savings of 40% or more and also dramatically reduce greenhouse & noxious gas emissions.



Aquarius USV



The Aquarius USV is being developed as a cost-effective unmanned surface vessel (USV) that will incorporate a number of technologies from Eco Marine Power & its strategic partners. These technologies include the EnergySail, marine computer systems & lightweight flexible marine solar panels.

The Aquarius USV will be powered by a solar-electric hybrid marine power (HMP) solution which will also feature a solar panel array designed by EMP. On-board batteries will be re-charged via the solar-panel array or via ship or shore power using rapid battery re-charging technology.

Typical missions for the Aquarius USV could include monitoring harbour pollution, oceanographic surveys, maritime park surveillance, port security, coastal border patrols & marine data collection.

A variation of the Aquarius USV will include a stand-alone version of EMP's unique EnergySail technology in order to extend the vessel's range and allow for additional sensors to be fitted.

Company Details

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