

**PEACE  
BOAT**

# EcoShip

The world's most sustainable cruise ship



**SUSTAINABLE  
DEVELOPMENT GOALS**



# We are Peace Boat

Peace Boat is an international NGO based in Japan which promotes peace, human rights, and sustainability. Established in 1983, it holds Special Consultative Status with the Economic and Social Council (ECOSOC) of the United Nations (UN). Peace Boat is honoured to serve as the Japanese anchor of ICAN (the International Campaign to Abolish Nuclear Weapons), 2017 Nobel Peace Prize winners.

Sailing around the world for the Sustainable Development Goals (SDGs) and in partnership with the UN SDG Action Campaign, Peace Boat voyages, run on a social business model, blend sustainable tourism and lifelong learning with educational programmes, cooperative projects, and advocacy.

Since its first voyage in 1983, Peace Boat has chartered a number of passenger ships and our around-the-world cruises from 2023 will be organised on the M/V Pacific World.

## And we are building the world's most sustainable cruise ship

As the cruise industry rebounds to pre-pandemic levels, it's more critical than ever to achieve genuine sustainability. Ecoship has set itself a radical set of targets to demonstrate what is possible and necessary for the industry to contribute to a sustainable world.

With an estimated 30% CO2 reduction, the vessel's radical energy efficiency and maximized use of renewables combine with a programme of activities and actions to deliver a highly visible demonstration of sustainability-in-action in every port it visits.

Carrying 2,000 people per voyage on 4 around-the-world cruises per year, Ecoship will amplify Peace Boat's message and be a catalyst for inspiration and change for our participants, our partners in port and all those around the world who engage with the vessel.

# Sailing for change since 1983



40 years as an NGO and social business



2017 Peace Nobel Prize winner as part of ICAN



NGO in Special Consultative Status with the Economic and Social Council of the United Nations



More than 70 around-the-world cruises



More than 40 regional voyages



More than 80,000 participants



Visits to over 280 ports in more than 100 countries



Multi-generational onboard community of 1,500 participants per cruise

## Spring Voyage

April - August



## Summer Voyage

September - December

## Winter Voyage

December - March



# A ship ready for the future

Ecoship is designed around biophilic principles, based on the solutions nature has evolved.



Venue, vehicle and messenger for advocacy and action



Educational voyages for peace and sustainability

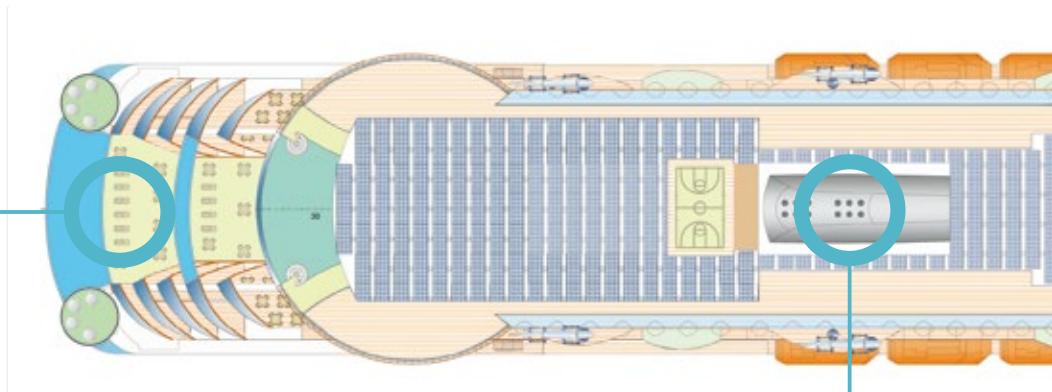
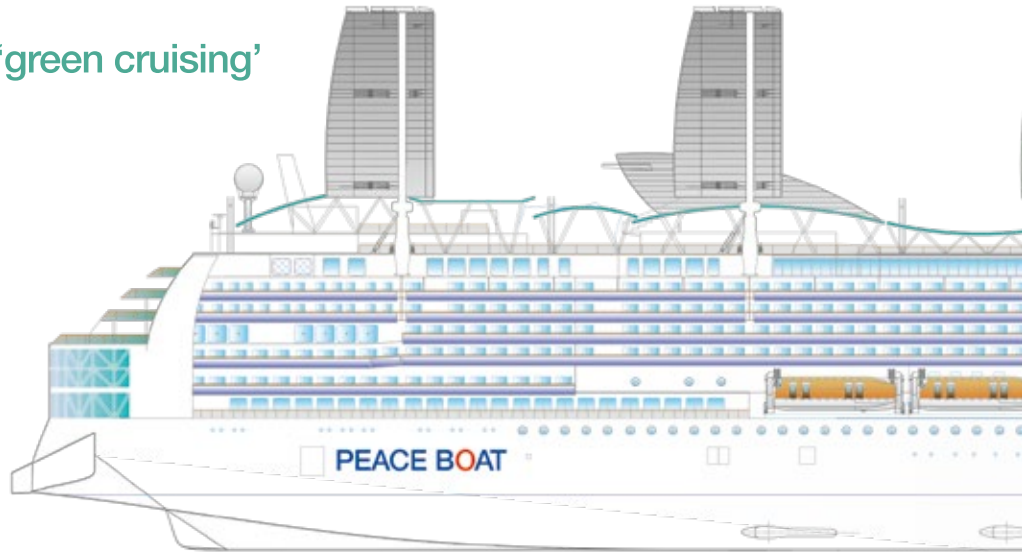


Leadership for a 'green cruising' model



## Educational multipurpose spaces

Ecoship will have different multipurpose event and exhibition spaces. Onboard, conferences and events will be organised to raise awareness on climate change and in ports, Ecoship will be the perfect stage to showcase new green technologies to a worldwide audience.



## 30% cut in CO2 emissions

Ecoship will deliver an estimated 30% CO2 reduction in comparison with a current cruise ship. These results will be achieved through the combination of using LNG as main fuel, the propulsion efficiency, hull forms, accommodation efficiency, wind power and other renewable technologies, as well as by route, speed and management measures.



## Boundary defying technology

8 retractable sails will contribute up to 20% of the overall propulsion needed under optimal wind conditions. Large areas of the ship in direct sunlight will be covered with solar panels. These include passenger balcony railings, the upper top deck as well as the vessel's sails. 6,000 m<sup>2</sup> of solar panels effective at any one time provide about 750 kw capacity for lighting.

## Ecoship Specifications

Length overall: 267.6 m

Breath: 34.8 m

Scantling draught: 7.5 m

Gross Tonnage: 78,900 GT

Speed (cruising): 17.0 knots

Speed (maximum): 20.0 knots

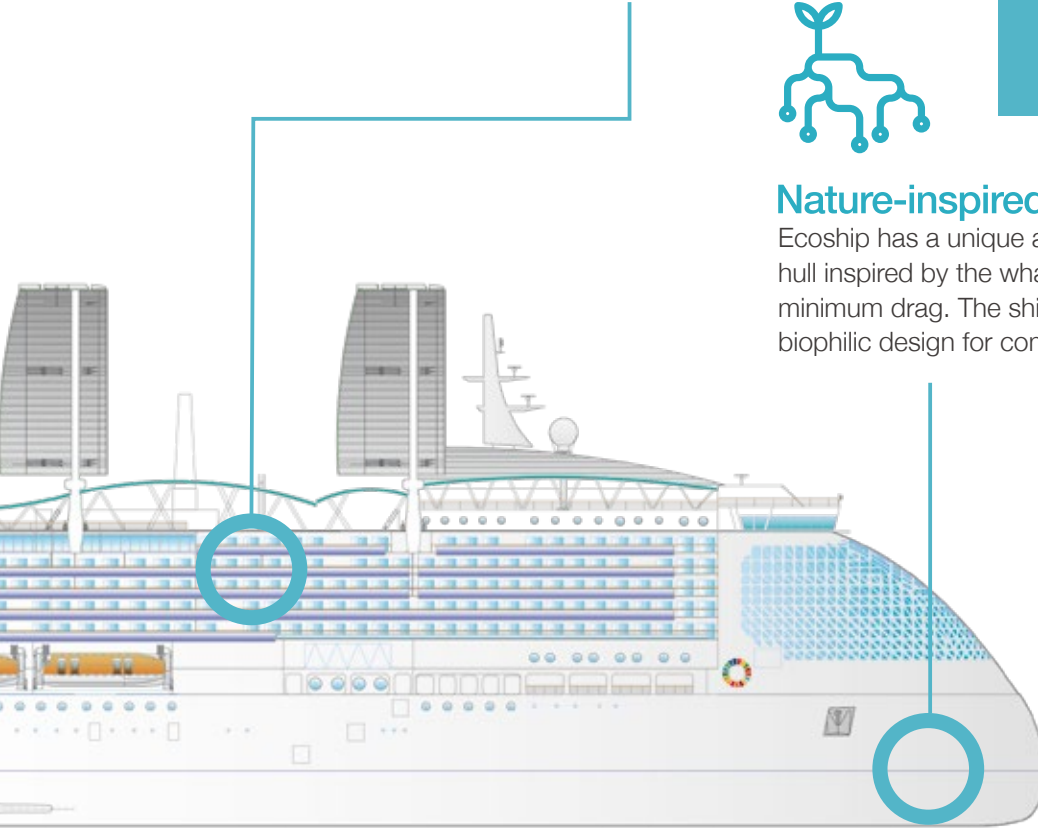
Passenger capacity: 2600 (2000+600)

Number of cabins: 790



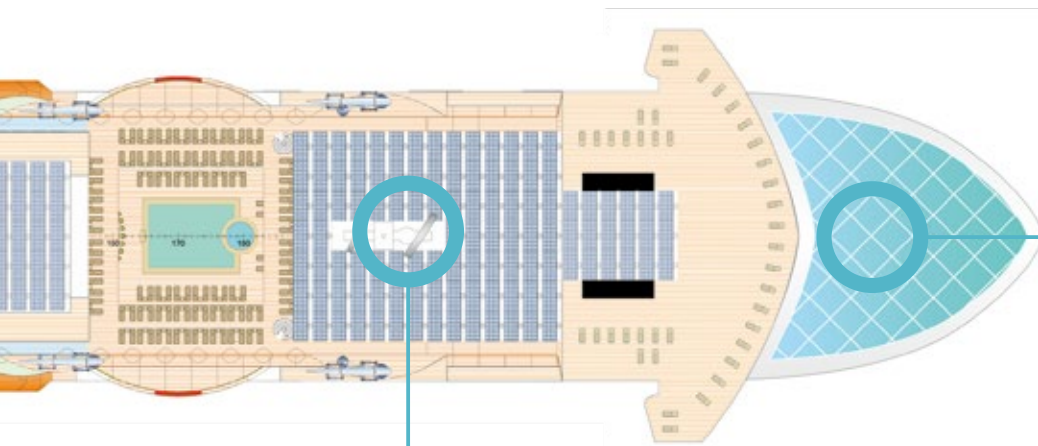
## Nature-inspired technology

Ecoship has a unique aerodynamic design and hydrodynamic hull inspired by the whale (Biomimicry) and designed for minimum drag. The ship incorporates natural ventilation and a biophilic design for comfort and inspiration.



## Real ecosystems onboard

A covered garden will be built over five decks. With its natural plants and vegetable walls, it will be fed with compost produced onboard and waste water as part of the waste management system. The energy which is normally lost as heat or cold in the air and/or water, will be stored and re-used. The waste water produced onboard will be treated and re-purposed for use as technical water, garden water or other, according to strict regulations. Only clean water will be discharged at sea.



## Radical energy efficiency

Ecoship aims to cut propulsion energy by 20% through the use of pods, good hull forms, aerodynamic bow, pods and sails. It will be able to run on several fuels with priority to LNG and biogas and will be easily retrofittable to adapt to changing technologies. The ship will also incorporate integrated heat and cold recovery and reuse system.





# Onboard the future

Yoshioka Tatsuya, Founder and Director, Peace Boat

Yoshioka Tatsuya is the Founder and Director of Peace Boat, an organization he founded as a student in 1983. Since then he has devoted his time to developing Peace Boat both as tool for building international understanding and as a strong social and sustainable business. Lately, he has been focused on his biggest project so far: to build the most ecological ship in the world. Yoshioka has addressed United Nations' bodies on issues including a culture of peace, and is a Nobel Peace Prize nominee.

## How did you have the idea to create Ecoship?

I really believe sustainability and the environment are a fundamental part of building peace. Over the years since our foundation, we've grown more and more conscious of that and wanted to improve our own environmental footprint. And so, we decided that we wanted to build our own ship: a ship that would embody our message of sustainability and peace, as well as offer our passengers an amazing cruise experience. The result is Peace Boat's Ecoship, which will be the world's most sustainable cruise ship. It will sail as a flagship for climate action and the Sustainable Development Goals (SDGs).

## What is your goal with this ship?

The cruise industry is booming – particularly in East Asia – and it's so important that this massive increase in passengers and ships is sustainable. Shipping is responsible for 3% of global greenhouse gas emissions. As the

maritime industry is collectively part of the problem, we want to take the lead in creating solutions. We clearly recognize the crisis of the global environment and climate change. Using a conventional ship is very frustrating for us, even though we have tried our best to reduce the emissions. Ecoship, thanks to its whole system design, will be a game-changer in the cruise industry and demonstrate an economically viable transitional model to the decarbonization of the maritime sector.

## What features of Ecoship are you most excited about?

I'm particularly looking forward to seeing the 8 photovoltaic sails be deployed. Not only will they greatly participate to our emission reduction objective, but with their 40-meter height, they will be an inspirational sight every time Ecoship sails into a port. The ship will also be fitted with flow-through systems full of sensors providing data on water such as acidity, oxygen levels, temperature, or salinity. This way we will contribute to ocean research as we sail around the world which is something we've always wanted to do.

The passengers will also play their part in our commitment with the kinetic energy dancefloor for example that will see participants create energy as they dance into the night. The smart meters in the cabins will monitor water and electricity use so that we can empower participants to join their forces to ours in being more environmentally friendly. We also want to reward the positive

behaviours of these passengers that will help us achieve our ambitious sustainability goals.

"We want the Ecoship to be a true flagship for green innovation"

**The cruise industry receives criticism for the negative environmental impact it has. Do you think someday it will be possible to see only environmentally friendly ships at sea?**

Things are changing, but the maritime world needs to improve a lot to be more sustainable. We hope the Ecoship will contribute to the industry's work in this field, and be an inspiring example of what is possible. The success of Ecoship will be evidence that viable maritime transitional solutions to decarbonized economies exist. Hopefully, many more will follow us.



# A ship for a new era

Andrés Molina, Ecoship Project Manager

Andrés Molina is the Project Manager of the Ecoship Project. He has a Naval Architect Ph.D. from the Polytechnic University of Madrid, an MBA in Shipping from Comillas University, Spain, and is a former professor at the Naval Architecture School of Madrid. Molina has 36 years of experience in design, shipbuilding and operation of passenger vessels.

**You have been working in the cruise business for a long time. What makes Ecoship different to other cruise projects?**

I think Ecoship is the most innovative project I have seen so far in the cruise industry. This level of focus on the eco-friendliness is unprecedented. From now on, I expect the Ecoship to be a flagship for green innovation and the leader in sustainable tourism.

**What makes the Ecoship so unique?**

It has many features that I have never seen before in other cruise ships. To begin with, the main fuel is LNG and bio-LNG which allows reductions in CO2 emissions of 25% compared with conventional fossil fuels used in ships. Also, Biodiesel fuel (BDF) is going to be used as a substitute fuel, so there will be no additional SOx emissions and the CO2 footprint will be drastically reduced in comparison with similar ships. In port, thanks to the use of hot tanks, frozen tanks and electric batteries, we will manage to stay alongside with the engines stopped for hours.

**The bow of the ship is very different to a conventional ship. Why?**

The striking shape of the bow was inspired by the famous shinkansen or Japanese bullet train and is one of the most impressive features of the Ecoship. The bow shape is very efficient from an aerodynamic standpoint decreasing the air drag in the vessel. It will also reduce the wave pressure on the hull and improve the ship's movements at sea, making it much more comfortable for both passengers and crew. Historically, ship owners have been very conservative with the shape of the ships. Now we are facing such environmental crises as climate change, it is time to consider what is better for the planet rather than keeping with tradition.

**Another interesting feature of the ship is its 8 sails and solar power.**

Wind power is exploited to the fullest thanks to the sails' slim design. The latest generation of solar panels attached to the ship's sails and the ship's balconies will complement the sails and increase the effectiveness of solar power energy production. In total, there will be 6,000m2 of solar power generation. Our electricity needs for lighting will be generated only with renewable energy. While natural and eco-friendly technologies have been used in small ferries and other ships before, it is the first time they will be used on a ship of this size.

**Which natural features will the Ecoship have?**

The garden and the restaurant will have full glass walls for passengers to feel as close as possible to the ocean and the infinity pool will make the passengers feel like they are swimming in the ocean. At the same time, Ecoship will have the world's first botanical garden on a cruise ship. Passengers will really be able to appreciate the beauty of nature and the importance of protecting the planet.

## Supporters



**Wanjira Mathai**  
The Green Belt Movement

"Peace Boat's Ecoship sailing the oceans and cooperating with communities in port will be a wonderful symbol of the interconnectedness of peace and sustainability."



**Amory B. Lovins**  
Rocky Mountain Institute

"An exciting vision of a ship that fits the needs, and inspires the people, of the planet it travels. Projects with this ambition seem impossible until they are done, but doing them transforms the industry."





# The fight against climate change

Christiana Figueres, Founder of Global Optimism

Christiana Figueres is a world authority on global climate change and was the Executive Secretary of the UNFCCC during COP21, presiding over the 2015 Paris Agreement. She is currently Founder of Global Optimism, Vice-Chair of the Global Covenant of Mayors for Climate and Energy, a ClimateWorks Board Member and a World Bank Climate Leader. Figueres, who travelled onboard Peace Boat in 2017, is one of the greatest supporters of Ecoship.

## What do you think about the Ecoship?

I think the Ecoship is very symbolic and I am delighted to see its progress. I believe it is a visionary project for the advancement of maritime transportation. Such pioneering efforts create the path toward a new reality, one that is urgently needed. It represents the fact that an industry that is deeply rooted, can innovate and move into the 21st century. It represents a very important and powerful container, offloading container, for those conversations to take place and I certainly hope that the Ecoship

will be programmed precisely for those conversations. For the cutting-edge conversations of how are we, as a human race, going to continue on this planet. How are we going to make changes on the planet to be able to welcome those who will come in the future and allow them to live on this planet with dignity and with grace and with a stability that they frankly will not have under current conditions. You will definitely see me onboard the Ecoship.

## How was your experience onboard Peace Boat?

I think that the particular combination of taking people to expose them to unusual situations in different ports, to help understand different realities and to ferment the interchange of them during the journey is a very interesting two-pronged approach to learning. It was a fantastic experience to see the cultural richness that is onboard. I loved to be part of a programme like the Ocean and Climate Youth Ambassadors who were onboard sharing their experiences with each other. As Margaret Mead, a very famous anthropologist, said: never underestimate the power of a small group of people who are absolutely determined to make a difference in the world. Never underestimate their potential to make that change in the world. And that has been a true experience of mine for many, many years.

## What is your message to the people who are working hard despite the struggles to address climate change?

I think the message for everyone working now to address climate change is we have come a long way. We have achieved some important markers, some important milestones and the battle is not yet won. The challenge to address climate change is one that will be with us for a few decades and because of that, we must understand that this is a marathon and not a sprint. That we cannot give up, that every single step along that path of the marathon is important, that no step can be given by individual people, that it's always about collective leadership, and it's always about finding the next possibility to make a positive impact. Every effort is important. Every contribution is important.



**Tomas Kåberger**  
Renewable Energy Institute

"Peace Boat's Ecoship Project –with its perfect combination of improved energy efficiency and renewable sources of energy – is an attempt to break through boundaries and bring in new sustainable technologies in to the shipping industry. It will move the whole industry, setting examples of what can be achieved."



**Sylvia Earle**  
Founder of Mission Blue

"Peace Boat is addressing the biggest problem of all: the lack of awareness of why the ocean matters. If you don't know, you can't care."

# Building momentum for change

With the world eager to find positive and innovative solutions for a sustainable post-carbon future, Peace Boat's EcoSHIP has been making waves at global events.



Left top to bottom:

- DNV GL signing ceremony in Hamburg, Germany.
- Press conference at COP26 in Glasgow, United Kingdom.
- TED Conference in Vancouver, Canada.
- Yoshioka Tatsuya introducing EcoSHIP during Seatrade Cruise Global in Fort Lauderdale.

Right top to bottom:

- With H.E. Peter Thomson, UN Special Envoy for the Ocean, during the Ocean Conference in New York, USA
- With then UN Secretary-General Ban Ki-moon in the 66th UN DPI/NGO Conference, in Gyeongju, Republic of Korea.

# Ecoship in the media



"The world's greenest cruise ship will have sails"



"Voyages promoting peace and sustainable development"



"Solar Sails Power This Incredibly Eco-Friendly Cruise Ship"



"Cruise ships to go clean in the future"

Hamburger Abendblatt

WIRTSCHAFT  
UNTERNEHMEN · MÄRKTE · GELD · SCHIFFFAHRT



Das sauberste Kreuzfahrtschiff der Welt  
Umweltfreundlichkeit ist das große Thema auf der Branchenmesse DUM in Hamburg. Das neueste Konzept soll kein Müllfänger sein...



Top to bottom:

- H.S.H Albert II, Prince of Monaco, and US Special Presidential Envoy for Climate, John Kerry showing their interest in Ecoship during Our Ocean Conference 2018 in Bali.
- Ecoship pushing disruptive sustainability at Nor-Shipping Oslo, Norway.

"Ship's design pushes green agenda"



"The world's most environmentally friendly cruise ship with 10 solar panel sails"





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**PEACE BOAT** Ecoship

Architectural and exterior design  
are developed by

