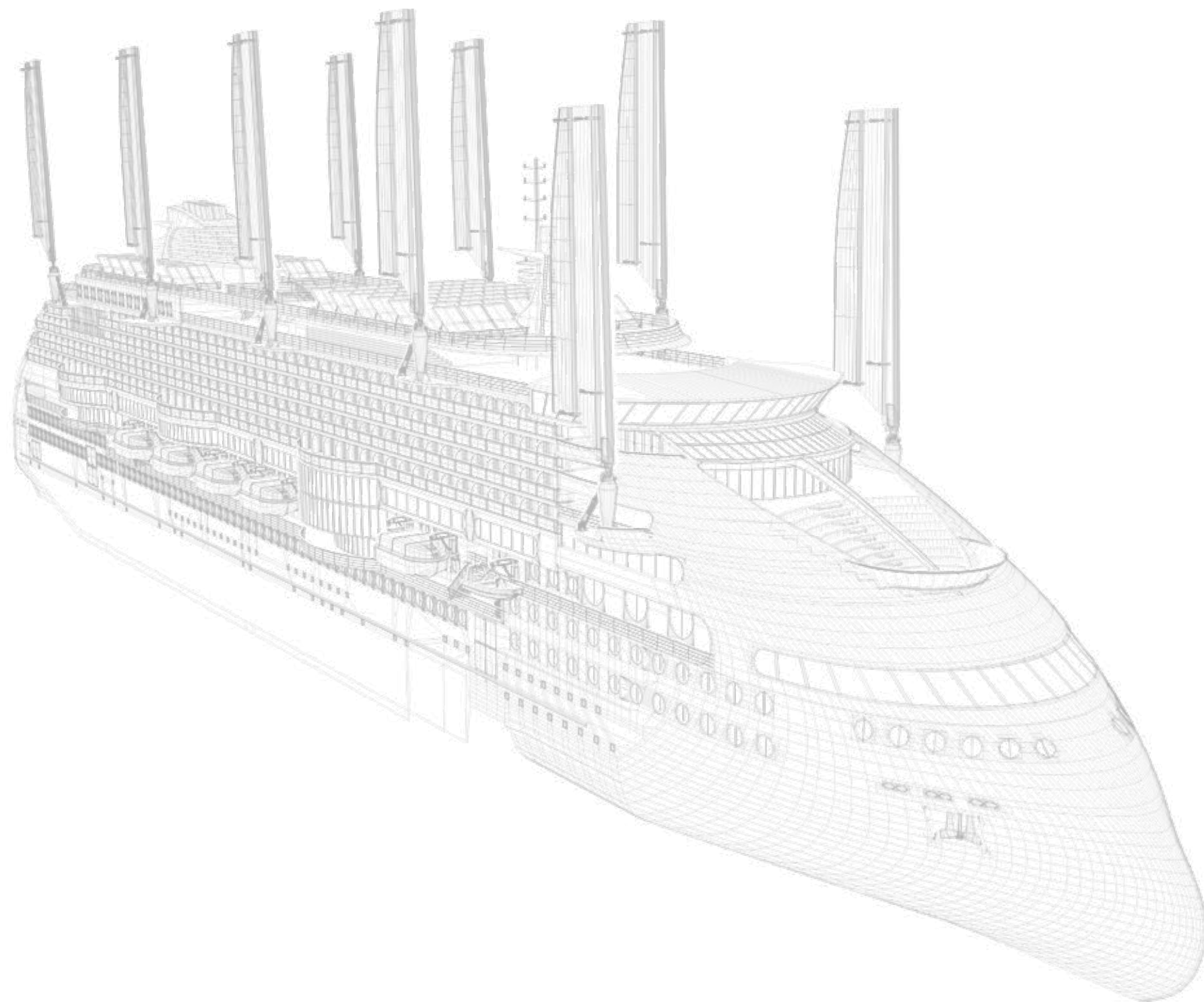


PEACE BOAT Ecoship

The world's greenest cruise ship
sailing in 2020





Building the world's greenest cruise ship

Peace Boat's Ecoship is the planet's most environmentally sustainable cruise ship. The Ecoship will be the platform for Peace Boat's round-the-world educational voyages carrying 6,000 people per year; host exhibitions on green technology in up to 100 ports per year; and serve as a floating sustainability laboratory contributing to research on the ocean, the climate and green technology. The ship also will create awareness of and encourage active engagement with the challenges embodied in the Sustainable Development Goals (SDGs).

Building the planet's most environmentally sustainable ocean-going cruise ship implied a radically different approach, with particular emphasis on the choice of technologies. The design of the ship was finalized in 2016, after a 3-year process involving an international team of experts from fields as diverse as naval architecture, renewable energy, and biophilic and biomimetic design. 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 that it visits.

Building on Peace Boat's 35-years legacy as a social enterprise and NGO, Ecoship will amplify our 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. Our diverse programmes and actions support the SDGs for a more sustainable and resilient world with no one left behind.

SUSTAINABLE DEVELOPMENT GOALS 17 GOALS TO TRANSFORM OUR WORLD





Architectural design by





Sailing for change since 1983

-  35 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 60 around-the-world cruises
-  More than 30 regional voyages
-  More than 70,000 participants
-  Visits to over 100 ports in more than 80 countries
-  Multi-generational onboard community of 1,000 participants per cruise

Global Voyage 99

September 01 - December 17, 2018



Global Voyage 100

December 26, 2018 - April 01, 2019



Global Voyage 101

April 20 - August 02, 2019



We are Peace Boat

Peace Boat is an international NGO based in Japan that promotes peace, human rights, equal and sustainable development, respect for the environment, and sustainable tourism.

More than 95 cruises over 35 years have raised awareness of global issues, fostered positive social change and transformed our passengers' perspectives of the world. We've hosted over 70,000 passengers and traveled to more than 100 ports in over 80 countries.

Our voyages feature hands-on experiences both onboard the ship and ashore at our ports of call. Each activity is designed to enrich passengers' lives, promote sustainability, and build long-lasting friendships across borders. Each cruise brings together more than 1,000 adventurers of diverse ages and nationalities, who become a tight-knit community as they travel the world together.

Peace Boat was awarded Special Consultative Status with the UN Economic and Social Council in 2002.

Supporting ICAN and the UN Sustainable Development Goals

Peace Boat is honoured to serve as the Japanese anchor of ICAN (the International Campaign to Abolish Nuclear Weapons), 2017 Nobel Peace Prize winners. We are also committed to promoting the UN Sustainable Development Goals (SDGs) through many of our activities and proudly bear the SDG symbol on our ship, the Ocean Dream. We believe that these goals are the key to a better future for our world, and they guide us in everything we do.

The seventeen goals invite world leaders to join forces to protect the planet, end poverty, and ensure prosperity for every person by 2030. UN Member States unanimously adopted the 2030 Agenda for Sustainable Development and its Goals in 2015.



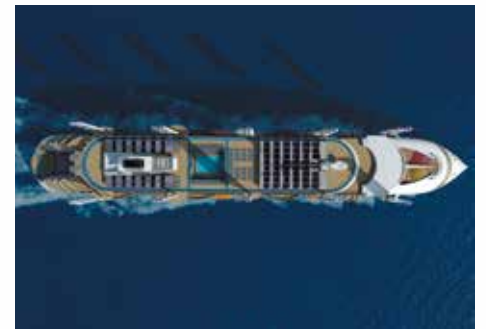
Design and technology

The cruise industry is booming, but cruise ships are not sustainable. The Ecoship Project aims to challenge the status-quo and has set itself a radical set of targets to demonstrate what is possible, and necessary for the industry to exist in a sustainable world.

In order to meet these goals, we took a whole-system integrated design approach to the project; a concept derived from the belief that elements of a system work best when they are specifically designed to complement, rather than to compensate for each other.

In 2014, we gathered world experts on naval architecture, marine engineering, renewable energy, energy efficiency, maritime law, biomimicry, and biophilia, for an Ecoship design charrette in Hamburg, Germany. The innovative outcomes formed the basis of our Ecoship specifications. The innovative design of the Ecoship was created by Oliver Design, a Spanish company specializing in naval design and architecture.

After launch, Ecoship will continue its collaborative research with other institutions, through an onboard laboratory focusing on climate and ocean research.



A ship ready for the future

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



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.



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.



40% cut in CO2 emissions

Ecoship will deliver an estimated 40% CO2 reduction compared to a cruise ship with conventional propulsion built before 2000; and an estimated 30% reduction compared to a good current design. This will be achieved through the combination of renewable energy technologies, propulsion efficiency, accommodation efficiency, as well as by route, speed and management measures.



Boundary defying technology

10 retractable photovoltaic sails will contribute up to 10 per cent of the overall propulsion needs depending on routes and wind conditions. 10 retractable wind generators will allow Ecoship will achieve a zero emission in port operation. The top deck, the balcony fenders, and the sails will be covered with 6,000m² of photovoltaic cells producing a total power of 740 KW, enough for all the lighting needs of the vessel. In addition, the ship will include kinetic floors for both energy production and educational purposes



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 potable-quality water will be discharged at sea.

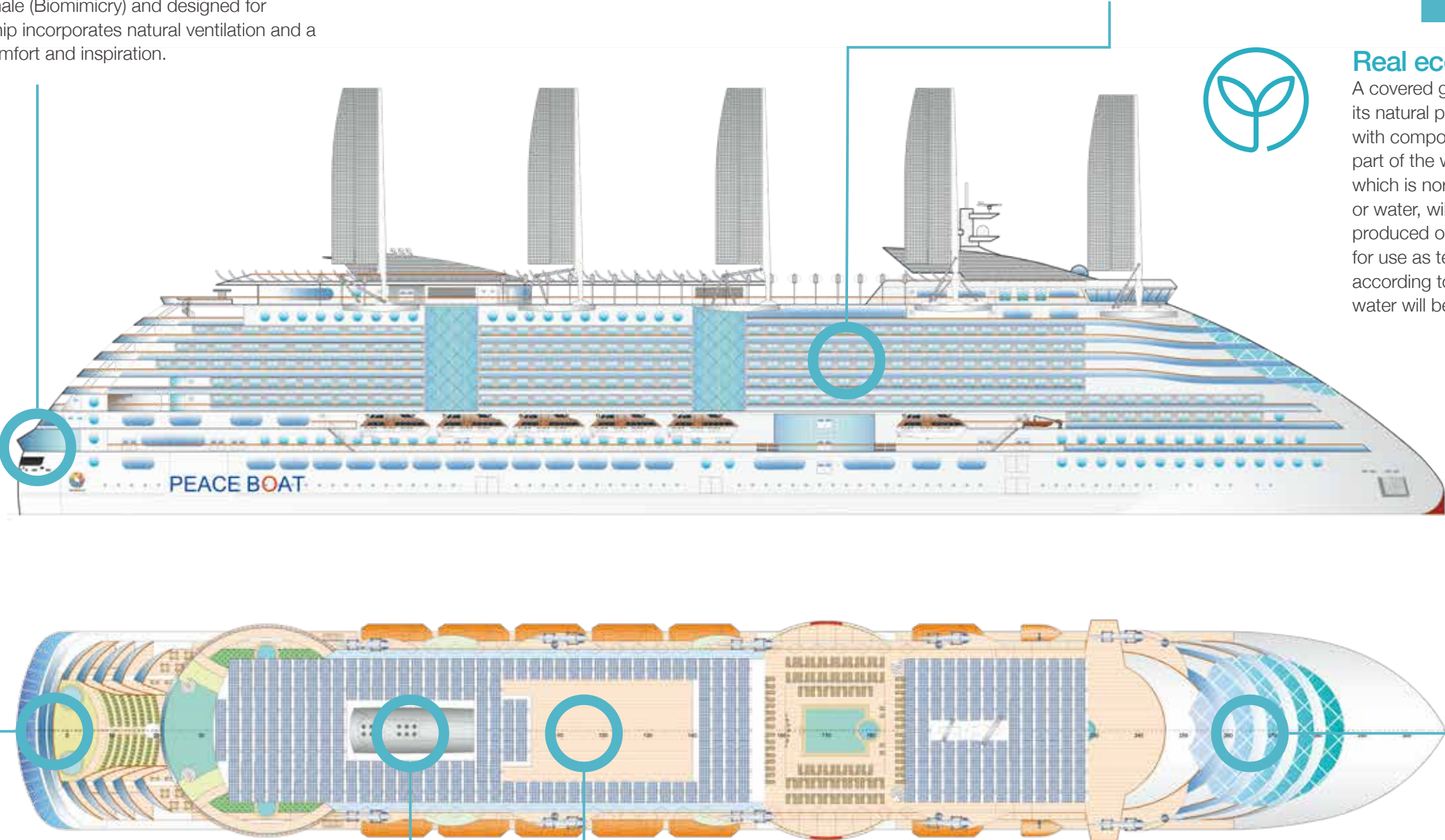


Radical energy efficiency

Ecoship aims to cut propulsion energy by 20% through the use of a diesel-electric POD propulsion system. It will be able to run on several fuels with priority to LNG and bio-gas and will be easily retrofittable to adapt to changing technologies over the vessel's lifespan. The ship will also achieve an estimated 50% cut in electricity load and will incorporate an Integrated heat recovery and reuse system.

Ecoship Specifications

- Gross Tonnage: 60,000
- Length overall: 224 m
- Beam: 31 m
- Draught: 8 m
- Top speed: 21 knots
- Optimised cruising speed: 17 knots
- Passenger capacity: 2000
- Number of cabins: 750





Actions

Ecoship's contribution to sustainability will come not only through its technology and design, but also through its diverse activities. As a flagship for the SDGs and climate action, Ecoship will be a catalyst for inspiration and change worldwide. It will be the medium for a diverse range of educational and advocacy programmes around the world, contributing holistically to the SDGs in three core ways.



Educational voyages for peace and sustainability

Ecoship will be the new platform for Peace Boat's round-the-world educational and advocacy voyages. The ship will take Peace Boat's peace and sustainability education to a new level by providing an intensive three-month exposure to issues, not only through workshops and lectures, but also through engagement with the sustainability systems and technology of the vessel. This will include monitoring consumption through smart meters in cabins, and practical volunteer work in the garden and sustainability laboratory.



Leadership for a 'green cruising' model

Ecoship, with its stunning hull form and spectacular solar panelled sails, will be an inspirational sight as it sails into port: a true flagship for green innovation. This offers incredible potential for stakeholders in ports – governmental, academic, community and commercial – to utilise the ship's visit for advocacy on sustainability. The ship will also be an exhibition hall in ports, allowing innovators, companies and educators to display their green solutions to a worldwide audience, and welcoming people from every corner of the globe to cooperate. The planet's most sustainable cruise ship will serve as a floating sustainability laboratory contributing to research on the ocean, climate and green marine technology.



Venue, vehicle and messenger for advocacy and action

Ecoship will be much more than a mode of transportation. Through harnessing its power as an extraordinary mobile venue, voyages on the Ecoship will create alliances and amplify international, regional and local efforts on key global issues. The ship will be a venue for international meetings on themes such as climate action in cooperation with international institutions, governments and civil society. Ecoship will also be used as a vehicle for specialised training programmes, in partnership with institutions worldwide. Workshop-based training can be carried out onboard, with site visits, community consultations and knowledge-sharing conferences carried out in ports.



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, in 2013, 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 when it sets sail in 2020. 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.

Onboard the future

Yoshioka Tatsuya, Founder and Director, Peace Boat

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. Public outreach – every time Ecoship sails into a port – will contribute to worldwide awareness of the necessity and financial feasibility of improving shipping's carbon footprint.

Ecoship will serve as a floating sustainability laboratory contributing to research on the ocean, climate and green marine technology. What kind of research will it do?

We want the Ecoship to be a true flagship for green innovation. Besides its function as a cruise liner, the ship will also serve as a floating sustainability laboratory contributing to research on the ocean, climate and green marine technology. We are looking forward to developing partnerships that will include many types of stakeholders, some of them already part of the Ecoship Project, but also others that might come at a later stage, such as governmental institutions, international organizations or research centres. Circumnavigating the globe four times a year, the ship will be perfectly placed to collect data

and support research on the ocean and climate. There will also be an exhibition space onboard, and we can use that in ports of call to highlight the green technology used on the ship.

“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.



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 16 years of design and shipbuilding experience in tankers, chemical carriers, ferry boats and cruise ships.

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.

A ship for a new era

Andrés Molina, Ecoship Project Manager

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 which has never been used on a cruise ship doing round-the-world voyages. LNG 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 store enough energy to stay alongside with the engines stopped for 6 hours.

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

The striking shall 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 10 sails, solar power and the wind generators.

Wind power is exploited to the fullest thanks to the sails' slim design. The latest generation of solar panels attached to the ship's sides will complement the sails and increase the effectiveness of solar power energy production. In total, there will be 6,000m2 of solar power generation and 10 retractable wind energy generators. 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 over 30,000 tons.

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 which will contribute to natural air flow. Passengers will really be able to appreciate the beauty of nature and the importance of protecting the planet.



Christiana Figueres is a world authority on global climate change and was the Executive Secretary of the UNFCCC from 2010-2016, presiding over the 2015 Paris Agreement. She is currently Convenor of Mission 2020, 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

The fight against climate change

Christiana Figueres, Convenor of Mission 2020

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 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.

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".



Tomas Kåberger
Renewable Energy Institue
"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."



David Suzuki
Environmental activist
"We live in a carbon-constrained world today where we know that we have to reduce, radically, the carbon emissions that are going into the atmosphere if we're going to avoid the catastrophe of climate change...and Ecoship is obviously a way we have to go."

Building momentum for change

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



Left to right, top to bottom:
DNV GL signing ceremony in Hamburg, Germany.
Press conference at COP22 in Marrakech, Morocco.
Introducing new programmes for climate action at COP23 in Bonn, German.
With then UN Secretary-General Ban Ki-moon in the 66th UN DPI/NGO Conference, in Gyeongju, Republic of Korea.
EcoShip pushing disruptive sustainability at Nor-Shipping Oslo, Norway.
TED Conference in Vancouver, Canada.
With H.E. Peter Thomson, President of the UN General Assembly, during the Ocean Conference in New York, USA

EcoShip in the media

“The world’s greenest cruise ship will have sails”



“Cruise ships to go clean in the future”



“Voyages promoting peace and sustainable development”



“Solar Sails Power This Incredibly Eco-Friendly Cruise Ship”



“The world’s most environmentally friendly cruise ship with 10 solar panel sails”



“Ship’s design pushes green agenda”





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