Shipping Decarbonisation
High Level Roadmap to 2030

Ocean transport is essential to international trade, connecting the world economy while maintaining global supply chains and can play a critical role in achieving ambitious climate action. According to the Ocean Panel's report, *The Ocean as a Solution to Climate Change: Five Opportunities for Action*, decarbonising ocean-based transport (domestic and international) has the potential to deliver greenhouse gas emissions reductions of up to 0.47 $GtCO_2e$ annually by 2030 and 1.8 $GtCO_2e$ annually by 2050.

In response to the priority actions identified by the Ocean Panel a group of major international actors, who are working to reducing emissions in the shipping sector, convened to elevate and accelerate action towards decarbonised ocean transport.

We urge all actors to join us in accelerating progress towards rapid decarbonisation.

Key Messages

Urgency

- There is an urgent need to reduce global greenhouse gas emissions.
- Maritime transport is essential for global trade, connectivity across nations and the livelihoods of coastal and island communities.
- The transition is already underway but requires acceleration and commitment by governments and the private sector to meet agreed emission reduction targets.

Ambition

- The maritime transport sector should be decarbonised as soon as possible within this century.
- We support the International Maritime Organization's (IMO) target but recognise the need to go further in order to meet the Paris Agreement goals of limiting global warming to well below 2.0 degrees Celsius above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5 degrees Celsius.
- To reach these targets it is paramount for zero emission vessel technologies and fuels to be a scalable reality as soon as possible. We need to see a significant shift in uptake of such technologies by 2030.
- We need to create incentives for relevant research development across the full value chain, and we need to create concrete incentives for the uptake of new, zero emission fuels.

Zero-emission technology and fuels

- Improvement in energy and operational efficiencies – while critically important – will not be enough. Zero emission vessels (ZEVs) powered by zero emissions fuels (meaning hydrogen and synthetic non-carbon fuels (ammonia), as well as battery power derived from zero-carbon electricity based on solar, wind, hydro or nuclear power) are required.
- Different shipping segments and their geographic operating areas require different and specific solutions.
- Viable zero emission solutions for shorter sailing distances exist, and effort must be made to renew or retrofit domestic fleets. A national action plan for decarbonisation of the domestic fleet is an invaluable tool to this end and should be developed and submitted to the IMO by 2023
- For long distances, including the deep sea, efforts to bring viable zero emissions solutions to scale must be accelerated. Nevertheless, the implementation of existing solutions to reduce emissions and carbon footprint must be encouraged.
- For accelerating research and development to reach our common goals we must share information and data and develop common digital services.

Leave no one behind

- It is paramount that this transition leaves no one behind.
- A decarbonised marine transport sector can and should benefit everyone – offering not only clean but affordable, efficient and accessible transport and shipping solutions.
- The development of solutions must improve global disparity and be globally accessible, regardless of size or wealth.

An integrated land-sea approach

- We must look beyond the shipping sector as a whole and take an integrated approach to the transition, taking into account the energy supply chain and the key role of ports for producing and providing green energies and services. We must work together across industries to share technologies, to develop common RD&D projects, and to define common energy mix pathways and associated supply chains.
- Solutions must be based on shared lifecycle analyses of the whole value chain.
- The transition to decarbonisation should be based on new business models and new services, especially from banks and funds and including insurance and certification to guarantee the positive impacts of solutions.
- The decarbonisation effort must include new opportunities for skills-training and capacity-development as well as ambitious plans for job creation for affected communities and industries.

Our joint vision is to enable the full decarbonisation of marine transport—both domestic and international—by 2050 and support zero emission vessels (ZEVs) to become commercially viable by 2030. The achievement of such a vision will require joint action from governments and industry and aligned shipping and energy strategies.

Commercially viable deep-sea ZEVs and supply chains by 2030.

To ensure that deep-sea ZEVs and their respective infrastructure/supply chains are deployed by 2030, key actions need to be prioritised at the national, regional and international levels.

International

1. Support R&D and large-scale demonstration pilots to accelerate maturing and bring down cost of emerging technologies and fuels, such as renewable hydrogen and ammonia.
2. Work with the IMO to establish efficient short, medium- and long-term measures to meet the IMO emissions reduction targets.
3. Implement specific policy measures that take zero emission technologies and fuels from first movers to large scale uptake and close the competitiveness gap between conventional and zero emission fuels.
4. Provide direct financial incentives and financial de-risking measures on zero-carbon propulsion systems and emerging technologies and fuels.
5. Coordinate build-up of bunkering infrastructure internationally and implement bunkering infrastructure requirements for non-fossil fuels on ports (DNV GL 2019).

Regional

1. Define optimal low-carbon pathways for regional shipping to assess alternatives that could be implemented in single shipping routes.
2. Establish frameworks for cross boundary transfer of developments in low-carbon and zero-carbon propulsion systems and technologies and fuels and develop strong partnerships between industry, government and research academies to build capacity and exchange knowledge/best practices.
3. Define regionally-specific approaches for the transition to ZEVs including sharing technologies, developing joint R&D projects and defining common energy mix pathways + associated supply chains needed.
4. Use regions as living laboratories to test and scale innovation across the supply chain - through regional strategies and coordination mechanisms.
5. Share CO_2 reductions and simulations, energy efficiency technologies and identify first movers and concrete projects ready for finance.

National

1. Establish long-term, national targets and strategies for maritime transport decarbonisation, including implementing specific goals to increase the use of advanced biofuels and other non-fossil fuels in shipping.
2. Include shipping and logistics within national energy transition plans to incentivise the development of low- and zero-carbon energy production capacities, and storage and refuelling infrastructure in ports and harbours.
3. Use domestic fleets to pilot and test zero-emission fuels and technologies, and help to de-risk and reduce costs for larger, deep-sea transportation.
4. Eliminate fossil-fuel subsidies and implement carbon and energy taxes to increase the competitiveness of renewable-fuelled shipping.
5. Develop national action plans for decarbonisation of the domestic fleet and submit these to the IMO according to IMO resolution MEPC.327(75) on National Action Plans.

[Global Maritime Forum, Norwegian Shipowners Association, Pacific Blue Shipping Partnership, French Maritime Cluster and Coalition for Eco-energy Transition of Maritime, United Nations Global Compact, World Economic Forum]