

THE U.S. NATIONAL BLUEPRINT FOR
TRANSPORTATION DECARBONIZATION

MARITIME ACTION PLAN PREVIEW



The transportation sector is the largest source of greenhouse gas emissions in the United States, responsible for one-third of all emissions. **Decarbonizing transportation by eliminating nearly all GHG emissions from the sector** is critical to addressing the growing climate crisis, and to meet the goal of net-zero GHG emissions economy-wide by 2050.¹ A decarbonized transportation system can mobilize a sustainable economy that benefits everyone.

The **U.S. National Blueprint for Transportation Decarbonization**, which the U.S. Department of Energy, the U.S. Department of Transportation, the U.S. Department of Housing and Urban Development, and the U.S. Environmental Protection Agency released in January 2023, is a first-of-its-kind federal strategy to decarbonize the entire U.S. transportation sector. Decarbonizing the transportation sector, including the maritime sector, will require multiple actions to deliver safe, effective, affordable, and sustainable solutions to existing and emerging challenges.

A modern **Marine Transportation System is critical to national and economic security**. About 99% of U.S. overseas trade, by weight, enters or leaves the U.S. by ship. This waterborne cargo and associated activity contributes more than \$500 billion to the U.S. GDP and sustains over 10 million U.S. jobs. Global maritime emissions account for about 3% of total GHG emissions each year. Decarbonizing the Marine Transportation System is integral to decarbonizing the transportation sector, as well as the broader economy, and will strengthen the competitiveness of the industry through technology innovations, training a new generation of mariners and shipbuilders, and the adoption of new, clean energy sources.

U.S. MARITIME DECARBONIZATION ACTION PLAN

Reflecting the complexity of the Marine Transportation System and Marine Recreation, DOE, DOT, EPA, and HUD will publish a Maritime Decarbonization Action Plan in 2024 to outline **multiple decarbonization pathways** in fuels, energies, and technologies across vessel types and operational profiles. The Action Plan will address commercial maritime activity as well as recreational boats and transit ferry systems. Energy and technology strategies will be coupled with **economic and policy levers** to promote investment and adoption.



This Action Plan is part of domestic **economy-wide decarbonization actions** to advance U.S. climate goals for 2030, 2040, and 2050 in step with **global maritime climate goals**, including at the International Maritime Organization.

The Blueprint features three strategies to decarbonize the transportation system: transitioning to clean options, increasing convenience, and improving efficiency. The U.S. Maritime Decarbonization Action Plan is part of the "transitioning to clean" strategy and will outline how the federal government seeks to accelerate the clean transition in maritime through the deployment of zero-emission fuels, technologies, energies, and vessels. A successful transition will must consider full life-cycle emissions.

PREVIEW: U.S. MARITIME DECARBONIZATION ACTION PLAN PATHWAYS

DECARBONIZING MARITIME VESSELS AND OPERATIONS

The U.S. Maritime Decarbonization Action Plan will include a range of vessels – such as ocean-going vessels, ferries, tugboats, and recreational boats – and operational profiles and applications – such as inland waterways, fixed routes, and variable use – to promote fit-for-purpose decarbonization approaches. The Action Plan will describe steps to deploy vessel efficiency technologies, improve data resources that support planning, and improve integration among vessels and shoreside facilities.

- Efficiency Technologies
- Integrated Operations
- Advanced Data Tools

ADOPTING SUSTAINABLE, EMERGING MARITIME FUELS AND ENERGIES

The development, production, and use of fuels that are zero or near-zero emission on a lifecycle basis is necessary for long-term maritime decarbonization. But no single energy source will meet the needs of a diverse and resilient maritime sector. As the industry transitions to a multi-fuel future, stronger integration with the broader energy system will help increase availability and decrease cost.

- Ammonia and Methanol
- Biofuels
- Fuel Cells & Batteries

DECARBONIZING MARITIME PORTS, INFRASTRUCTURE, AND SHIPBUILDING

Ports and terminals are vital economic hubs that serve as the nexus for maritime decarbonization. The confluence of people, technology, design, and commerce positions ports to innovate toward decarbonization. The Action Plan will describe landside investments that support the transition of vessels to zero or near-zero carbon energy sources. The Action Plan will also assess the resources needed to design, build, refit, and maintain a new generation of decarbonized ships.

- Community Engagement
- Energy Infrastructure
- Shipyard Capacity

STRENGTHENING THE WORKFORCE

The maritime workforce, whether on land or on water, will power the decarbonized transportation system. Decarbonizing the maritime sector is an opportunity to grow and train the workforce. Prioritizing safety, security, education, and training alongside growing and promoting the workforce are integral to advancing decarbonization. The U.S. prioritizes inclusive economic growth with ambitious climate goals.

- Safety and Security
- Just Transition
- Capabilities

DEEPENING PARTNERSHIPS AND STRATEGIC PLANNING

The Action Plan will identify opportunities for collaborations to develop innovative solutions, grow markets, and create the policies, standards, and regulations that promote stability. The urgency to advance decarbonization technologies highlights the need for collaborations designed to rapidly bring solutions to market. The U.S. supports new collaborations that are inclusive, transformational, and actionable.

- Strategic Collaboration
- Accelerate Innovation
- Effective Policy

Positioning the U.S. Maritime Transportation System to support a net-zero economy in 2050

