FACT SHEET

THE U.S. NATIONAL BLUEPRINT FOR

TRANSPORTATION DECARBONIZATION

A Joint Strategy to Transform Transportation

The transportation sector is the largest source of greenhouse gas emissions in the United States, responsible for one-third of all emissions. To address the growing climate crisis, and to meet the goal of net-zero GHG emissions economy-wide by 2050, it is **critical to decarbonize transportation by eliminating nearly all GHG emissions from the sector**.[1] A decarbonized transportation system can mobilize a sustainable economy that benefits everyone.

The **U.S. National Blueprint for Transportation Decarbonization** is a first-of-its-kind strategy for federal leadership and partnerships to decarbonize the entire U.S. transportation sector. Decarbonizing the transportation sector will require multiple strategies and resources to deliver safe, effective, affordable, and sustainable solutions to existing and emerging challenges.

COORDINATION IS NEEDED

Implementing a holistic decarbonization strategy will require coordinated actions from federal, state, local, regional, and Tribal governments; non-profit and philanthropic organizations; and private industries. In September 2022, the Departments of Energy, Transportation, Housing and Urban Development, and the Environmental Protection Agency, signed a memorandum of understanding to formalize our commitment to the highest level of collaboration and coordination.

As an essential part of the MOU, the four agencies created the Blueprint will serve as a **guide for future policymaking and research, development, demonstration, and deployment in the public and private sectors** to transform how people and goods move throughout the United States, all built upon five guiding principles:

- **Implement Bold Actions to Achieve Measurable Results**
- **Embrace Creative Solutions Across the Transportation System**
- **Ensure Safety, Equity, and Access**
- **Increase Collaboration**
- **Establish U.S. Leadership**

CALL TO ACTION

Detailed Action Plans will be developed with stakeholders to achieve the following milestones:

- **Before 2030–Turning the Tide on Transportation GHGs: Research and Investments to Support Deployment**
- **2030-2040–Accelerating Change: Scaling Up Deployment of Clean Solutions**
- **2040-2050–Completing the Transition: A Sustainable and Equitable Future**

SCAN QR CODE
to access the Blueprint

TRANSPORTATION DECARBONIZATION STRATEGIES

IMMEDIATE ACTIONS & LONG-TERM PLANNING

Implementing immediate strategies that achieve meaningful emissions reductions this decade is essential.

This Blueprint provides a comprehensive, system-level perspective of the entire transportation system across all passenger and freight travel modes and fuels, and lays out three key strategies to achieve decarbonization:

Increase convenience by supporting community design and l land-use planning at the local and regional levels that ensure that job centers, shopping, schools, entertainment, and essential services are strategically located near where people live to reduce commute burdens, improve walkability and bikeability, and improve quality of life.

Improve efficiency by expanding affordable, accessible, efficient, and reliable options like public transportation and rail, and improving the efficiency of all vehicles.

Transition to clean options by deploying zero-emission vehicles and fuels for cars, commercial trucks, transit, boats, airplanes, and more.

While the first two strategies will contribute to reducing GHG emissions and produce significant co-benefits, **transitioning to clean options is expected to drive the majority of emissions reductions**. A successful transition will require various vehicle and fuel solutions and must consider full life-cycle emissions. This Blueprint focuses on each major transportation mode and identifies specific decarbonization opportunities and challenges, highlighting the role of various clean technologies for various applications.

Technology solutions for travel modes to reach a net-zero economy in 2050

1 icon represents limited long-term opportunity 2 icons represents large long-term opportunity 3 icons represents greatest long-term opportunity	BATTERY/ELECTRIC	HYDROGEN	SUSTAINABLE LIQUID FUELS
Light Duty Vehicles (49%)*	3	—	TBD
Medium, Short-Haul Heavy Trucks & Buses (~14%)	2	1	1
Long-Haul Heavy Trucks (~7%)	1	3	2
Off-road (10%)	2	1	1
Rail (2%)	2	2	2
Maritime (3%)	1	2†	3
Aviation (11%)	1	1	3
Pipelines (4%)	2	TBD	TBD
Additional Opportunities	• Stationary battery use • Grid support (managed EV charging)	• Heavy industries • Grid support • Feedstock for chemicals and fuels	• Decarbonize plastics/chemicals • Bio-products
RD&D Priorities	• National battery strategy • Charging infrastructure • Grid integration • Battery recycling	• Electrolyzer costs • Fuel cell durability and cost • Clean hydrogen infrastructure	• Multiple cost-effective drop-in sustainable fuels • Reduce ethanol carbon intensity • Bioenergy scale-up

* All emissions shares are for 2019

† Includes hydrogen for ammonia and methanol