



Transforming
ENERGY Through
SUSTAINABLE
MOBILITY

Expanding Low-Carbon Transportation R&D Solutions

The National Renewable Energy Laboratory (NREL) is the nation's premier laboratory for delivering cutting-edge, inclusive transportation decarbonization R&D solutions for a clean energy economy. From our work in basic sciences to systems engineering, analysis, and deployment, we focus on solving market-relevant problems using research, innovation, and strategic partnerships to create deployable solutions for all.

New, innovative, and integrated mobility strategies have the potential to slash transportation sector greenhouse gas emissions, enhance energy security, increase high-quality domestic jobs, and enable clean energy access for all Americans.

NREL blazes new trails by taking novel, whole-system, human-centric approaches that combine vehicle components, fueling and charging, innovative systems of connectivity and automation, energy storage, data and analysis, and technical expertise. This enables us to develop solutions that overcome decarbonization barriers and accelerate the deployment of sustainable mobility and transportation technologies.



NREL's expertise has established the laboratory as a national leader in a wide range of cutting-edge transportation and mobility research areas and initiatives, including:

- Battery Materials, Safety, Characterization, Modeling, and Thermal Management
- Commercial Vehicle Technology Development and Evaluation
- Energy Storage Engineering and Validation
- Equity and Environmental Justice
- Fuel Cell and Hydrogen Technology Engineering and Analysis
- Fuel Chemistry and Combustion Science
- Mobility Behavior Science
- Non-Road Vehicle Electrification
- Renewable and Sustainable Lightweight Materials
- Smart Mobility Systems
- Supply Chain Analysis
- Sustainable Transportation Integration
- Thermal Management and Reliability of Power Electronics and Machines
- Transportation Data Analysis
- Vehicle-to-Grid Integration

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To explore what we're working on today, or to join us in powering what's next, visit

National Renewable Energy Laboratory
15013 Denver West Parkway, Golden, CO 80401
303-275-3000 · www.nrel.gov

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