



Partnership Plan

May 2012



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Foreword

This document describes the vision, mission, scope, and governing policies of the U.S. DRIVE Partnership (“Partnership”). Other key Partnership documents and information are available online at www.vehicles.energy.gov/about/partnerships/index.html or www.uscar.org.



Definition

U.S. DRIVE stands for Driving Research and Innovation for Vehicle efficiency and Energy sustainability. It is a non-binding, non-legal, voluntary government-industry partnership focused on advanced automotive and related energy infrastructure technology research and development (R&D).¹ Members are referred to as “partners” and include the U.S. Department of Energy and companies in the automobile, energy, and electric utility industries. Specifically, the Partnership facilitates pre-competitive technical information exchange among experts who interact as equal partners to discuss R&D needs, develop joint goals and technology roadmaps, and evaluate R&D progress.

The Partnership itself does not conduct or fund R&D; each partner makes its own decisions regarding the funding and management of its projects. By bringing together technical experts in a common area of expertise and by providing a framework for frequent and regular interaction, the Partnership –

- Accelerates technical progress; peers in the technical community discuss pre-competitive, technology-specific R&D needs and challenges, identify possible solutions, and evaluate progress toward jointly-developed technical goals.
- Focuses on technology that creates national benefits while avoiding duplication of efforts to ensure that publicly-funded research delivers high-value results and overcomes high-risk barriers to technology commercialization.

Partners

- Automobile industry: U.S. Council for Automotive Research LLC (USCAR, the cooperative research organization for Chrysler Group, Ford Motor Company, and General Motors Company); Tesla Motors
- Electric utility industry: DTE Energy Company, Southern California Edison Company, and the Electric Power Research Institute
- Federal government: U.S. Department of Energy
- Fuels industry: BP America, Chevron Corporation, Phillips 66 Company, ExxonMobil Corporation, Shell Oil Products US

U.S. DRIVE Vision

American consumers have a broad range of affordable personal transportation choices that reduce petroleum consumption and significantly reduce harmful emissions from the transportation sector.

¹ U.S. DRIVE is a non-legal entity. “Partnership” and “partners” are used in an informal sense to denote participants working together toward the stated goals of the group.



U.S. DRIVE Mission

Accelerate the development of pre-competitive and innovative technologies to enable a full range of efficient and clean advanced light-duty vehicles, as well as related energy infrastructure.

Scope

The following elements comprise the Partnership's scope:

Technical Scope

The Partnership examines a portfolio of pathways and precompetitive technologies that fall into four broad categories:

- Vehicles: Advanced combustion and emission control, electric drive and power electronics, electrochemical energy storage, fuel cells, lightweight materials, and vehicle systems and analysis
- Fuels: Hydrogen production, hydrogen delivery, fuel pathway integration, or other sustainable mobility fuel as agreed to by the Partnership
- Joint Vehicles/Fuels: Hydrogen codes and standards, hydrogen storage
- Joint Vehicles/Electric utility: Electric grid interaction

Pre-Competitive R&D

The Partnership focuses exclusively on pre-competitive R&D. No government- or company-confidential information is introduced in the Partnership process. The Partnership does, however, coordinate with other related programs for information exchange, as appropriate. One example of such coordination is between the Partnership's Grid Interaction Technical Team and the Department of Energy's Clean Cities Program on issues of mutual interest related to electric vehicle market introduction barriers.

Light-Duty Vehicles

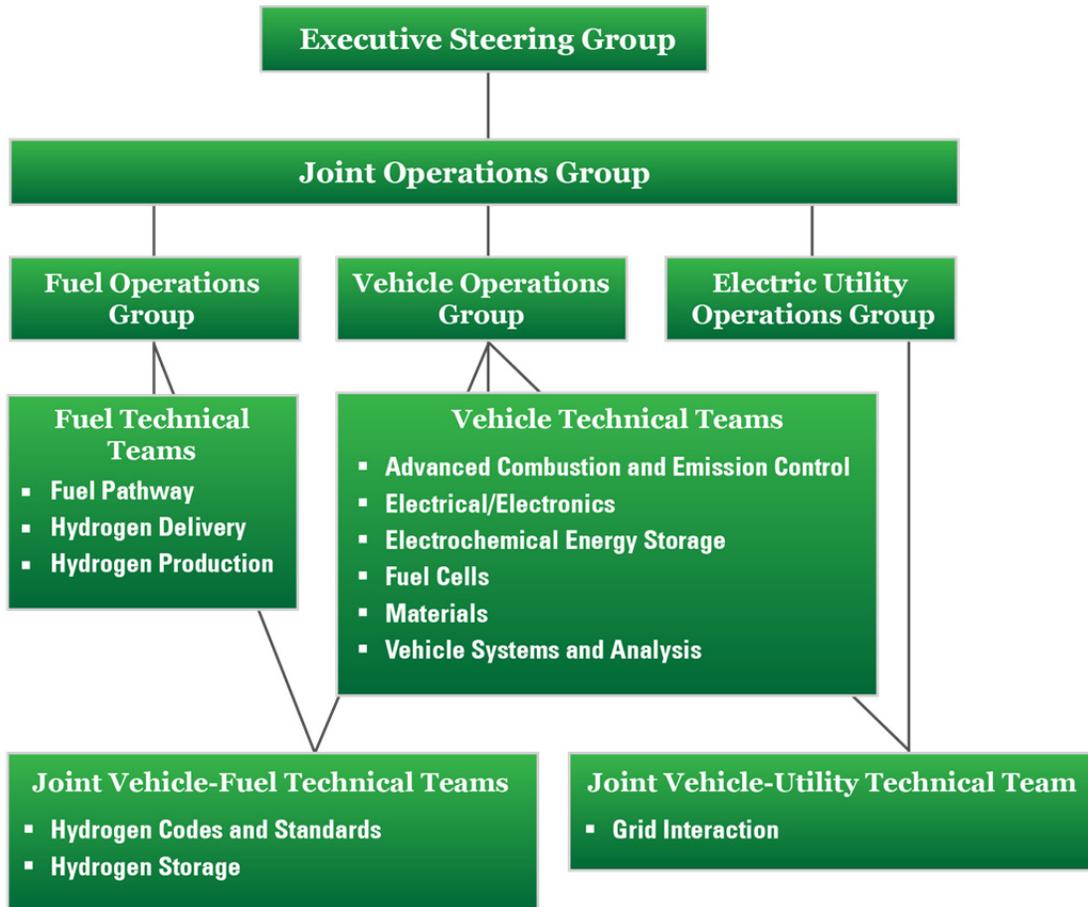
The Partnership focuses exclusively on technologies for cars and light trucks. When appropriate and on a case-by-case basis, the Partnership will coordinate and exchange information with the 21st Century Truck Partnership, which focuses on medium- and heavy-duty vehicles.



Governance

Organization

Figure1. U.S. Drive Organizational Structure (February 2011)



Note: As part of regular operation, the Partnership will continue to assess its tech team structure and create or retire teams as its needs evolve.

Executive Steering Group

The Executive Steering Group (ESG) oversees the Partnership, with responsibility for high-level technical and management priorities as well as Partnership policy decisions. Each partner organization has a representative in the ESG – for industry partners, a vice presidential-level executive, and for DOE, the Assistant Secretary for Energy Efficiency and Renewable Energy. ESG members participate as peers with no designation of officers. The ESG meets annually on the 3rd Tuesday of October. (Should an unavoidable schedule conflict arise, ESG members are permitted to send a delegate with decision-making authority.) ESG meetings provide for an exchange of objectives, concerns, and issues in order to achieve a mutual understanding among partners.



Operations Groups

Operations Groups support the ESG and manage Partnership function, enable regular and strong coordination across all of the partner organizations, and exchange information on areas of mutual interest at a management level, as appropriate. They are responsible for managing the effective technical team operation, solving problems that may arise, endorsing teams' technology roadmaps, and providing guidance to the technical teams on Partnership deliverables and other matters as necessary. Participants are director-level representatives of partner companies; DOE participation includes Vehicle Technologies and Fuel Cell Technologies program managers as well as DOE's U.S. DRIVE Partnership director. Each of the three industry-related Operations Groups – Fuel, Electric Utility, and Vehicle – meets regularly on a schedule determined to suit its needs. A Joint Operations Group (JOG) meets quarterly (or more frequently, as needed), bringing together the Fuel, Electric Utility, and Vehicle Operations Group participants for an exchange of information and views on issues of mutual interest, discussion of issues related to Partnership management, and decision-making on guidance and other communication to the technical teams.

Technical Teams

Technical teams ("tech teams") are the core of the Partnership, bringing together partners' top scientists and engineers in each of twelve key focus areas.

1. Advanced Combustion and Emission Control
2. Electrical/Electronics (electric drive)
3. Electrochemical Energy Storage
4. Fuel Cells
5. Materials
6. Vehicle Systems and Analysis
7. Grid Interaction
8. Fuel Pathway Integration
9. Hydrogen Production
10. Hydrogen Delivery
11. Hydrogen Storage
12. Hydrogen Codes and Standards



Tech teams identify technology gaps, develop R&D targets, develop roadmaps to achieve technical targets and goals, and evaluate technical status and R&D progress. Each team has a unique set of objectives, technical issues, position on the research-development-deployment continuum, and relation to industry and government needs. These differences necessitate flexibility in how teams are structured and operate, but several common factors provide consistency across the Partnership

- All teams meet on a regular basis, typically monthly. The ability to quickly, easily, and routinely convene experts in different fields on issues of mutual interest is a benefit of the Partnership framework. Teams hold joint meetings as needed on cross-cutting topics.
- All teams have a DOE co-chair and at least one industry co-chair – joint tech teams, with participation from more than one industry group, have more than one industry co-chair (e.g., vehicle co-chair and fuel co-chair, or vehicle co-chair and electric utility co-chair).
- All teams have at least one associate member from a non-partner organization.
- Each team develops and maintains a roadmap specific to its focus area; all roadmaps are publicly available.
- The Partnership's Technical Team Guide defines team roles and responsibilities, boundaries and expectations, the general scope of team activities, and common operational policies.

Associate Members

The Partnership also includes associate members representing non-partner organizations, who participate at the technical team level for a designated period of time. Each tech team has at least one associate member. Tech teams will continue to operate as they have previously during the time it takes to identify associate members. Associate membership provides additional experts with diverse perspectives, including technical knowledge uniquely relevant to a specific technical area. The Partnership's technical teams identify and select associate members in a consensus-based process among U.S. DRIVE partners (see below).



Operating Principles

1. U.S. DRIVE partners operate as equals in the Partnership.
2. U.S. DRIVE partners make a strong commitment to participating in the Partnership at all levels; this includes providing top technical expertise with the capacity to substantively contribute to technical team operation, as well as engaging at the management- and senior-management levels to facilitate Partnership success.
3. U.S. DRIVE partners and associate technical team members must comply with all applicable laws and regulations, including U.S. anti-trust and competition laws; further, partners conduct activities in a way that avoids any appearance of anti-competitive behavior, even though no violation of law has occurred.
4. Each U.S. DRIVE partner makes its own decisions regarding its own funding of projects and programs, according to its own internal policies, requirements, and/or guidelines; similarly, each U.S. DRIVE partner directs and manages its own projects and programs according to its own internal policies, procedures, and requirements.
5. No proprietary or government- or company-confidential information is introduced in the Partnership process.
6. U.S. DRIVE is a voluntary, non-binding, and non-legal Partnership. Partners may choose to discontinue their participation at any time; should an organization choose to leave, however, it cannot resume U.S. DRIVE participation without consensus of the current partners.
7. U.S. DRIVE partners and associate technical team members abide by and conduct activities in accordance with the Intellectual Property and Proprietary Information provisions in the U.S. DRIVE Policies and Procedures Manual.



Decision-Making and Work Product Approval

1. U.S. DRIVE partners use a consensus process to make decisions about technical direction and Partnership targets, membership (new partners and tech team associate members), and other key matters that affect the Partnership. Partners have the option to abstain from participating in the consensus process for any given decision; by choosing to abstain, they agree to follow the decision made by the non-abstaining partners.
2. The Partnership's Executive Steering Group (ESG) approves the Partnership Plan and any substantive changes to the Plan. The ESG also approves Partnership goals and Partnership targets, as well as any changes to those goals and targets. Decisions are made using the consensus process described in section 6.c.1 above.
3. Tech teams develop their technology roadmaps and make decisions using the consensus process described above. Roadmaps are public documents. A new or revised roadmap must be reviewed and/or approved before publishing in a process appropriate to the degree of revision. All changes require review by at least the tech team. Substantive changes are previewed by the relevant operations group prior to publication, and if the roadmap change concerns a Partnership target, the Executive Steering Group must approve the change prior to publication.

For More Information

For more information about U.S. DRIVE, and to access Partnership documents including technology roadmaps, please see the U.S. Department of Energy web site, www.vehicles.energy.gov/about/partnerships/index.html or USCAR web site, www.uscar.org.