EERE Reorganization includes new Office of Transportation

- EERE Technology Offices

Sustainable TRANSPORTATION

Hydrogen and Fuel Cells

• Efficiency Improvement
• Fuel Diversification
• Domestic & Renewable Sources
• Reduced GHG

Vehicles

Bioenergy

National Energy Goals & Climate Action Plan
Reduce net oil imports by 50% by 2020, compared to 2008
Reduce GHG emissions >80% below 2005 levels by 2050
Meeting Objectives

• Evaluate DOE-funded projects for their contributions to the Program mission and goals.
  – Reviews are based upon a number of factors, such as:
    • Technical accomplishments and progress
    • Relevance to overall objectives of the Program
    • Approach to performing the R&D
    • Collaborations with other institutions
    • Proposed future research

• Communicate the status of the technologies, the latest progress, and future plans

• Provide valuable networking opportunity to foster collaboration & continued progress

• Demonstrate accountability to Congress and taxpayers
Nearly 1,700 attendees

>350 oral presentations
>150 posters
>500 projects
>370 reviewers
A Clean Energy Grand Challenge

- Enabling plug-in vehicles to be as affordable and convenient for the American family as conventional gasoline-powered vehicles by 2022
- Bring together America’s best and brightest scientists, engineers, and businesses to produce EVs at lower cost, with improved vehicle range and increased fast-charging ability

EV Everywhere Goal
Enable the U.S. to be the first in the world to produce plug-in electric vehicles that are as affordable and convenient as today’s gasoline-powered vehicles within the next 10 years

For a copy of the Blueprint, visit electricvehicles.energy.gov

President Obama announced EV Everywhere during a visit to Daimler Trucks in North Carolina, March 2012
**Mission:** To promote the commercial introduction and widespread adoption of FCEVs across America through creation of a public-private partnership to overcome the hurdle of establishing hydrogen infrastructure.

**Current partners include (additional in process):**

[Image showing various logos of partnership members]
Announcement of New Award Selections
New Selections for Hydrogen Production RD&D

Novel approaches to hybrid reforming, bio-derived liquids and solar water splitting

6 selections, $13.3 M in federal funds

**FuelCell Energy Inc.**
($900k), Danbury, CT
- Novel reformer-electrolyzer-purifier (REP) system

**Pacific Northwest National Laboratory**
($2.2M), Richland, WA
- Scalable, compact piston-type reactor for H₂ production from bio-derived liquids.

**National Renewable Energy Laboratory**
($3M), Golden, CO
- High-efficiency tandem absorbers based on novel semiconductor materials
- Economical solar hydrogen production from water.
New Selections for Hydrogen Production RD&D

Novel approaches to hybrid reforming, bio-derived liquids and solar water splitting

6 selections, $13.3 M in federal funds

University of Hawaii ($3M), Honolulu, HI
- Photoelectrodes based on novel wide-bandgap thin-films for direct solar water splitting.

Sandia National Laboratories ($2.2M), Livermore, CA
- Innovative high-efficiency solar thermochemical reactor for H₂ production.

University of Colorado, Boulder ($2M), Boulder, CO
- Novel flowing particle bed solar-thermal reactor to split water with concentrated sunlight.

RED: \( MO_x \rightarrow MO_{x-\delta} + \delta/2O_2 \)

OX: \( MO_{x-\delta} + \delta H_2O \rightarrow \delta H_2 + MO_x \)
New Selections for Hydrogen Delivery RD&D

Innovative technologies for forecourt compression, storage and dispensing

4 selections, $7.3 M in federal funds

Southwest Research Institute ($1.8M), San Antonio, TX
- Linear motor reciprocating compressor for forecourt H₂ compression

Oak Ridge National Laboratory ($2.0M), Oak Ridge, TN
- Low cost steel concrete composite vessel for high pressure forecourt H₂ storage.

Wiretough Cylinders LLC ($2.0M), of Bristol, VA
- Low cost 875 bar H₂ storage vessel using a steel wire overwrap.

Nuvera Fuel Cells Inc. ($1.5M), Billerica, MA
- Integrated, intelligent 700 bar H₂ dispenser for fuel cell electric vehicle fueling
1:00  **Reuben Sarkar**, *Deputy Assistant Secretary, Sustainable Transportation*
Welcome

1:15  **Alan Taub**, *Professor, Material Science & Engineering Univ. of Michigan*
Keynote Address

1:45  **Sunita Satyapal**, *Director, Fuel Cell Technologies Office*
Overview of DOE Hydrogen and Fuel Cells Program

2:05  **Patrick Davis**, *Director, DOE Vehicle Technologies Office*
Overview of DOE Vehicle Technologies Office

2:25  **Harriet Kung**, *Director of Basic Energy Sciences, DOE Office of Science*
Overview of DOE Office of Science, Basic Energy Sciences Activities