

EVS26 – Electric Vehicle Symposium



U.S. DEPARTMENT OF
ENERGY

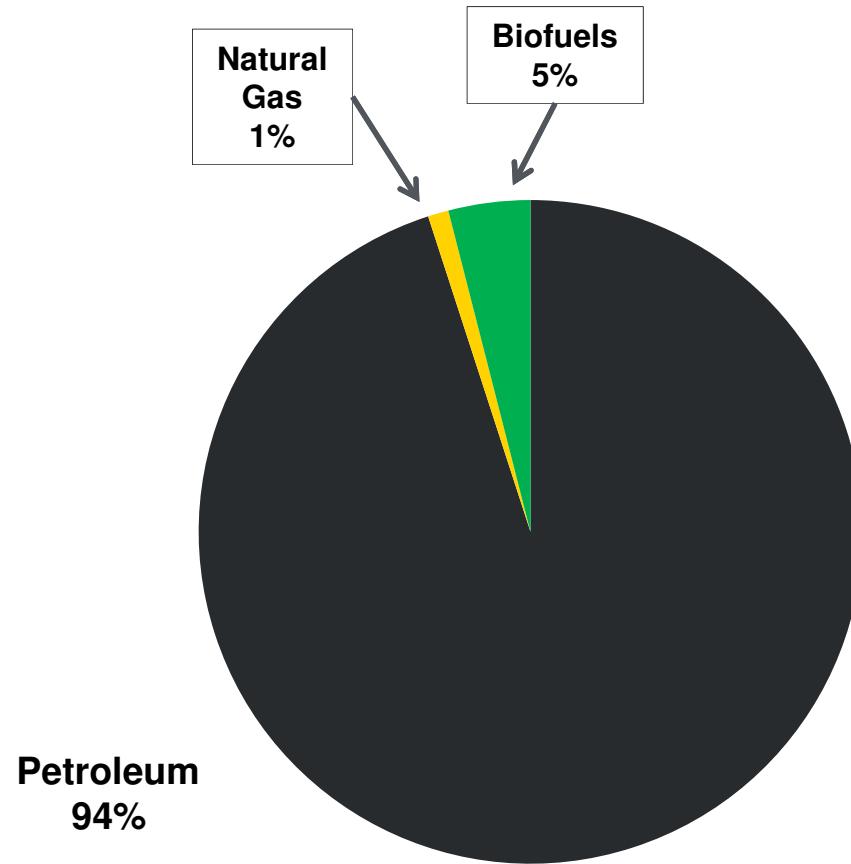


David Sandalow

Assistant Secretary for Policy & International Affairs
U.S. Department of Energy

May 7, 2012

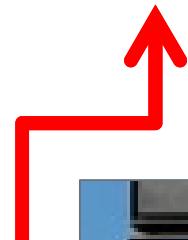
Transportation sector depends on oil



**U.S. Transportation
Fuel Share**

Gasoline prices are high

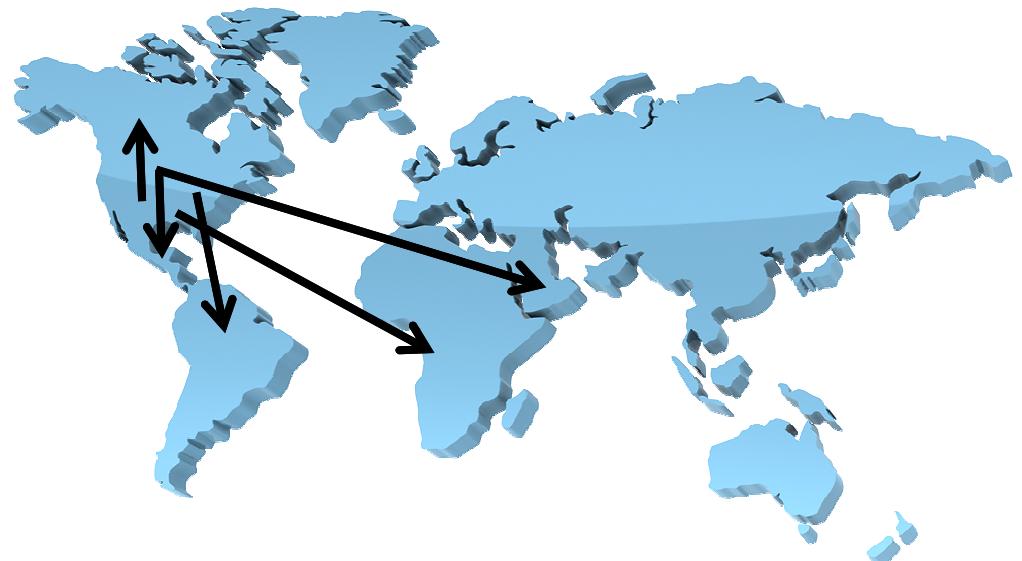
Current Avg. \$3.80



High gasoline prices are a burden on American families.



U.S. oil import bill is almost \$1 billion per day



<http://www.eia.gov/petroleum/data.cfm#imports>

although U.S. oil imports are lowest in almost 15 years

4-Week Avg U.S. Net Imports of Crude Oil and Petroleum Products



Thousands Barrels per Day

15,000

10,000

5,000

0

1992

1994

1996

1998

2000

2002

2004

2006

2008

2010

2012

4-Week Avg U.S. Net Imports of Crude Oil and Petroleum Products

<http://www.eia.gov/petroleum/data.cfm#imports>

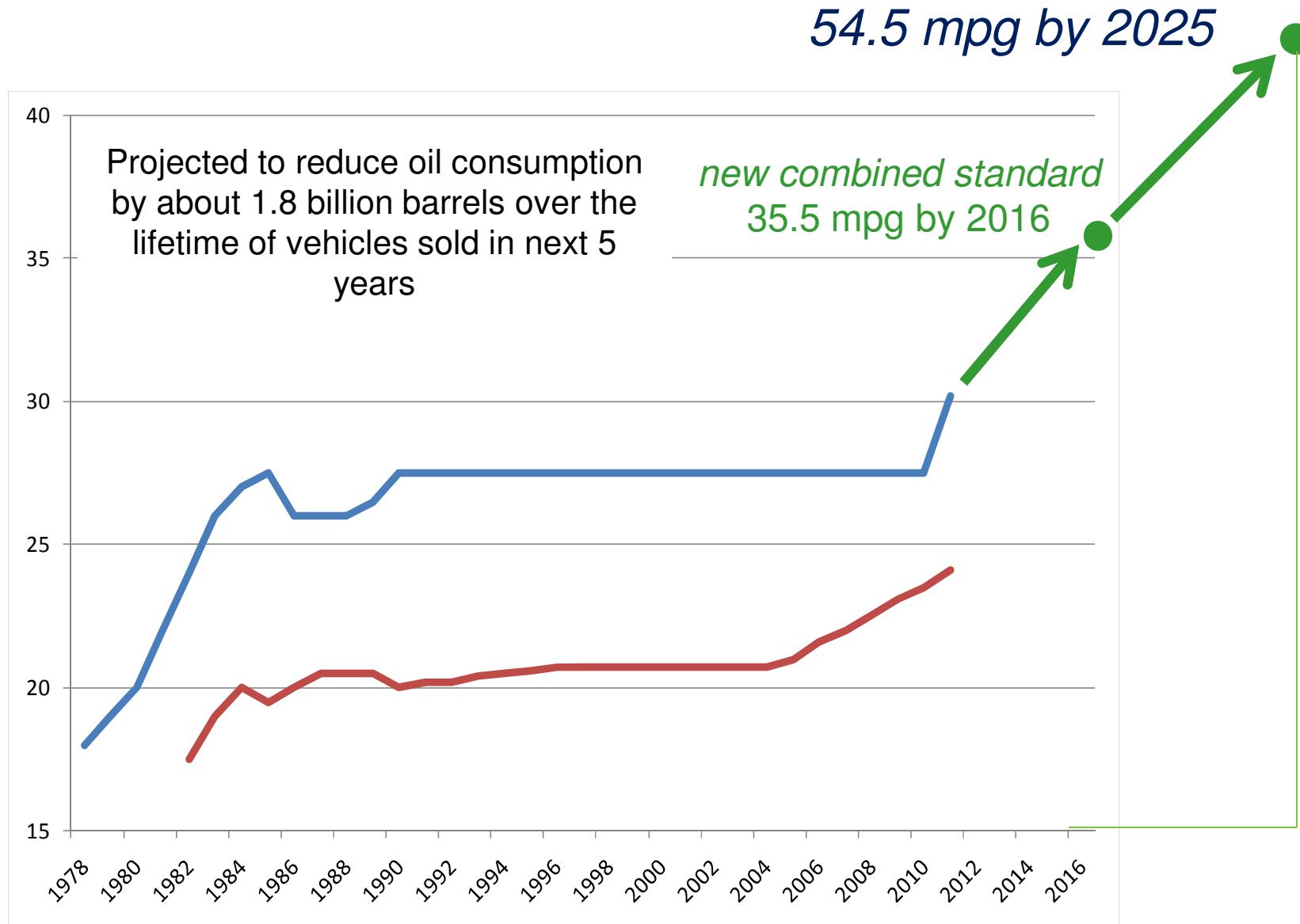
China has a rapidly growing car market



The President's Plan

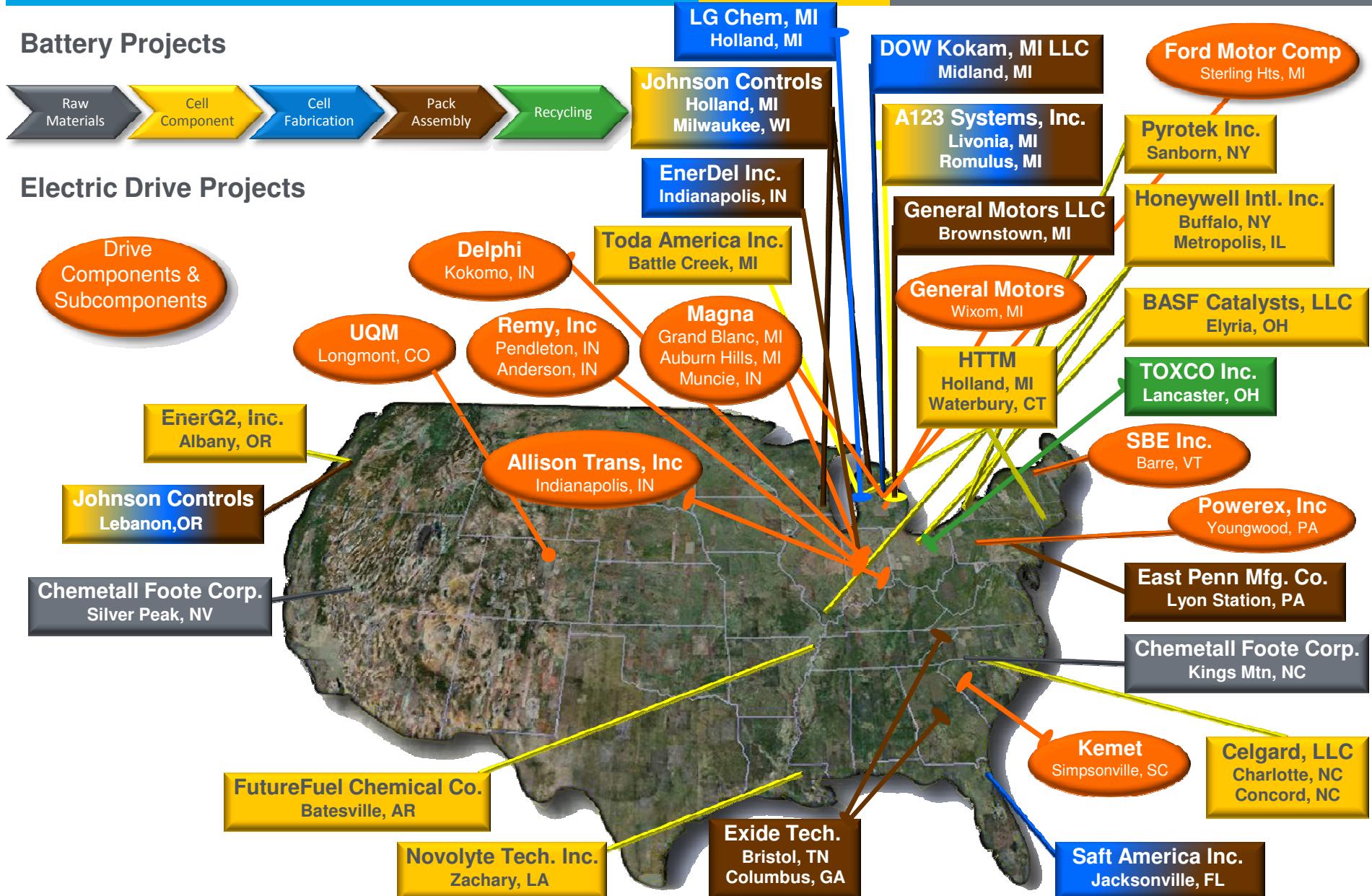


New Fuel Economy Standards



Recovery Act – Battery and Electric Drive Award Distribution

Battery Projects



Recovery Act - EV Demonstration Project

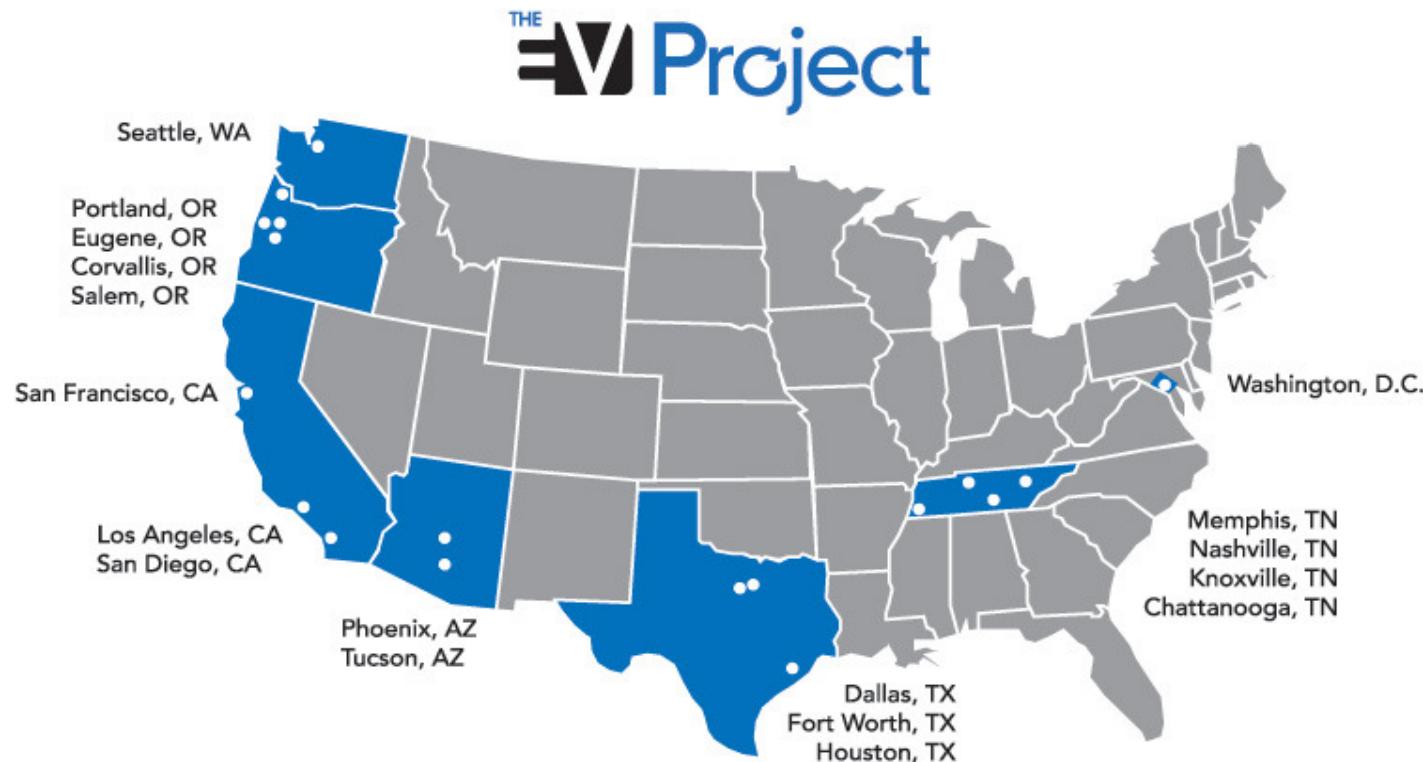
The largest deployment of charge infrastructure in history

By end of April 2012, the EV Project deployed...

4,119 Leafs

522 Volts

6,187 EVSE



Clean Cities Program

Voluntary Government-Industry Partnership Since 1993

Mission: Support local and state governments in deploying alternative fuel vehicles

- Nearly 100 Active Coalitions in 45 States
- 6,500+ Stakeholders
- 600,000+ AFVs using alt fuels
- 6,166 AFV Stations

In 2010, Clean Cities saved
9 million gallons of petroleum
with the use of electric vehicles



President Obama Announces New Initiatives

National Community Deployment Challenge

- **\$1 billion** for 10 to 15 community alternative vehicle programs
- Builds on **\$8.5 million** in community readiness grants announced by DOE in 2011 to accelerate installation of EV infrastructure



President Obama announces Deployment Challenge at Daimler Truck in North Carolina

Advanced vehicle tax credit

- Increase maximum amount from \$7,500 to **\$10,000**
- Allow transfer credit to dealer or financier, allowing consumers to benefit at **point-of-sale**
- Remove cap on the number of vehicles per manufacturer and phase out credit at end of decade

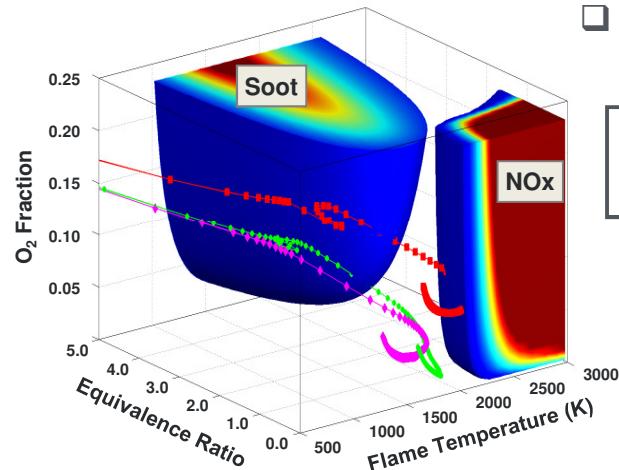
The President's FY13 Budget includes \$650 million to further vehicle and battery technology development at the Energy Department

A Clean Energy Grand Challenge

- Invest in breakthrough R&D for advanced **batteries**, electric **drivetrain** technologies, **lightweight** vehicle structures, and **fast-charging** technology.
- Bring together America's best and brightest scientists, engineers, and businesses to produce electric vehicles at **lower cost**, with an **improved vehicle range** and an **increased fast-charging** ability



DOE's Vehicle Technologies & Biomass Programs



Advanced Combustion Engines, Emission Controls, and Waste Energy Recovery

Technology to increase the fuel economy of cars by up to 40% and heavy trucks up to 20% by 2015

Electric and Hybrid Electric Vehicle Systems

Gasoline Hybrid: +40 % Better MPG

Diesel Hybrid: +50 % Better MPG

Plug-In Hybrid: >2X Better MPG

Electric Vehicles: Battery Energy Storage



Biofuels/Fuel Blends



Displaces Oil:
1 Gallon Ethanol
Replaces 0.7 gal
of Gasoline



Advanced Materials

Lightweighting – 6% to 8% better MPG per 10% Reduction in Weight (Up to 50%)



National Clean Fleets Partnership

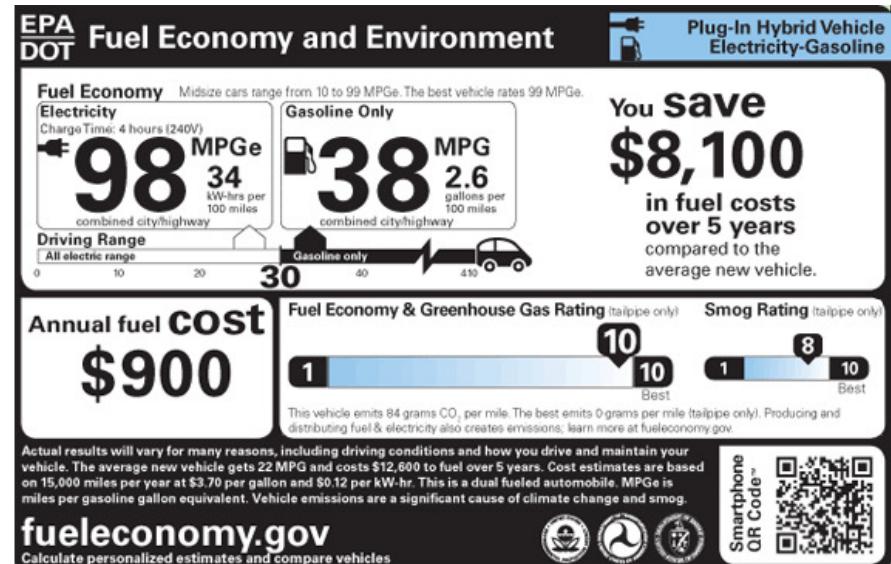
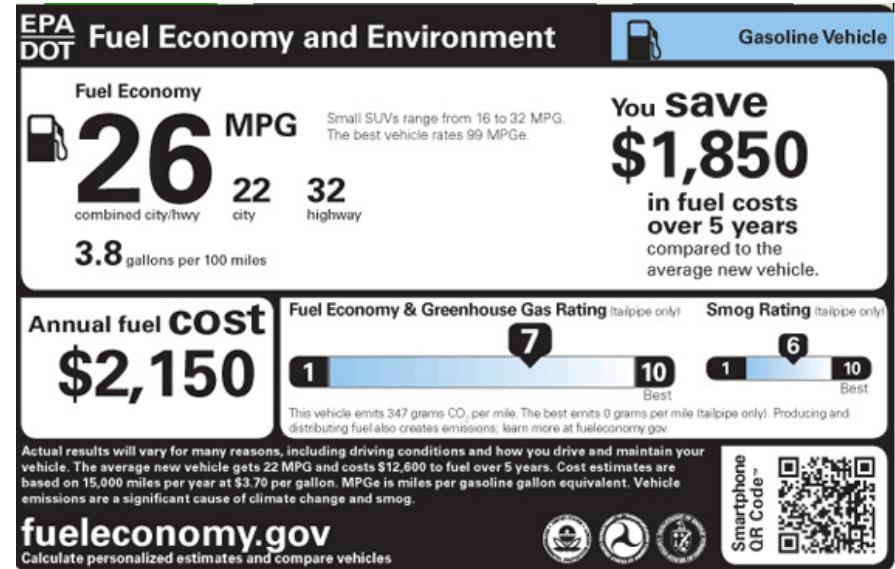
Helps large private fleets significantly reduce petroleum use



- Provides fleets with tools, expertise and technical support
- Demonstrates how petroleum reduction efforts can be practical and make good business sense
- Five founding members have placed **12,000 alternative fuel vehicles** on the road, and partner commitments include purchase of an additional **50,000 vehicles over the next 3 years**.

New EPA Fuel Economy Label

- New labels for alternative fuel vehicles
 - Includes **average annual fuel cost** and **five-year fuel savings** compared to the average new vehicle



Electric Vehicles Initiative (EVI)



A policy forum for global cooperation on EV deployment

Goal: Put at least **20 million** electric vehicles on the road worldwide by 2020

- **EVI members include 7 of the 10 largest auto markets in the world**
 - **Account for about 63 % of the world's vehicle demand**
 - **83 % of projected EV sales between 2010-2020**



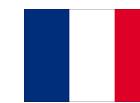
China



Denmark



Finland



France



Germany



India



Japan



Netherlands



Portugal



South Africa



Spain



Sweden



United Kingdom

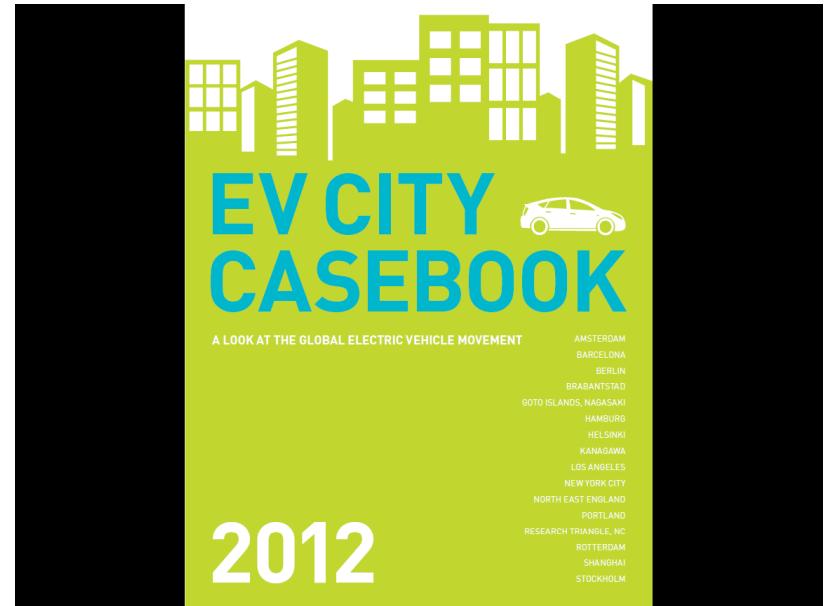


United States

EVI's Focus on Cities

EV City Casebook

- Case studies of EV deployment best practices in **16 cities, across 9 countries and 3 continents**
- *Released at the Third Clean Energy Ministerial in London on April 25*



EVI Pilot Cities Forum during the 2011 Shanghai Auto Show

- EVI Pilot cities shared experiences and lessons learned on EV demonstration and deployment programs in urban areas



Electric Vehicles

A modest proposal on terminology

The Secret Language of EV Experts

HEV – vehicle with an internal combustion engine, electric motor and rechargeable battery (“hybrid electric vehicle”)



PHEV – vehicle with an internal combustion engine, electric motor and rechargeable battery that can connect to the grid (“plug-in hybrid electric vehicle”)

BEV – vehicle with an electric motor and rechargeable battery that can connect to the grid, but no internal combustion engine (“battery electric vehicle”)

A modest proposal: Stop using the term “BEV,” start using “AEV”



“AEV”
“all-electric vehicle”



THANK YOU

