

Vehicle Technologies Program Merit Review

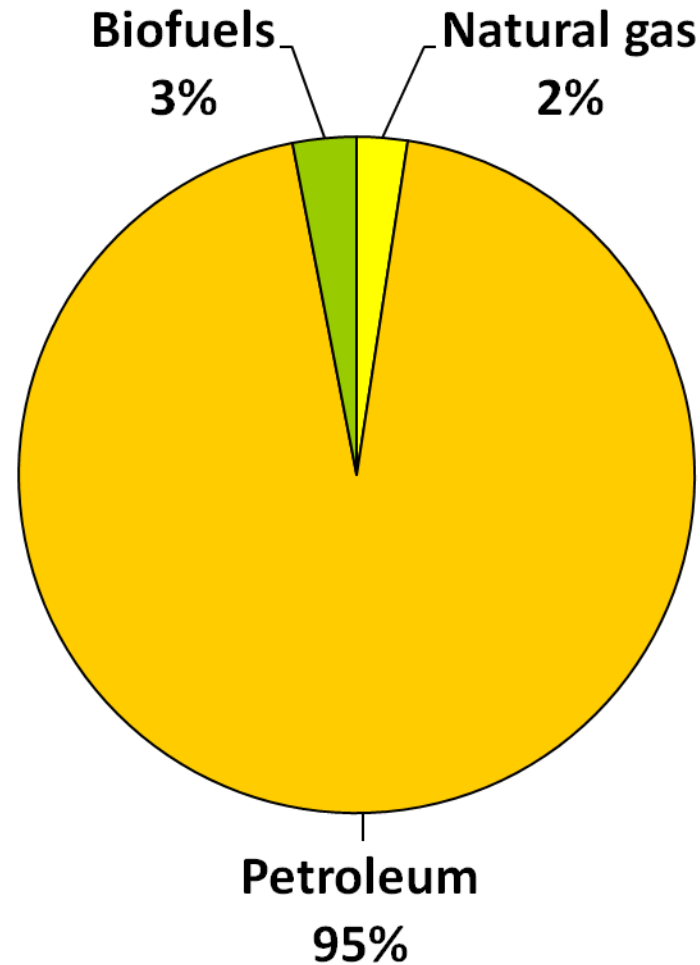
Washington, DC
June 7, 2010



David Sandalow
Assistant Secretary for Policy and International Affairs
U.S. Department of Energy



We are highly dependent on oil



U.S. transportation fuel share (2008)





We're investing in five technologies



Electric vehicles



Advanced biofuels



Advanced ICEs



Natural gas



Hydrogen fuel cells



U.S. Department of Energy

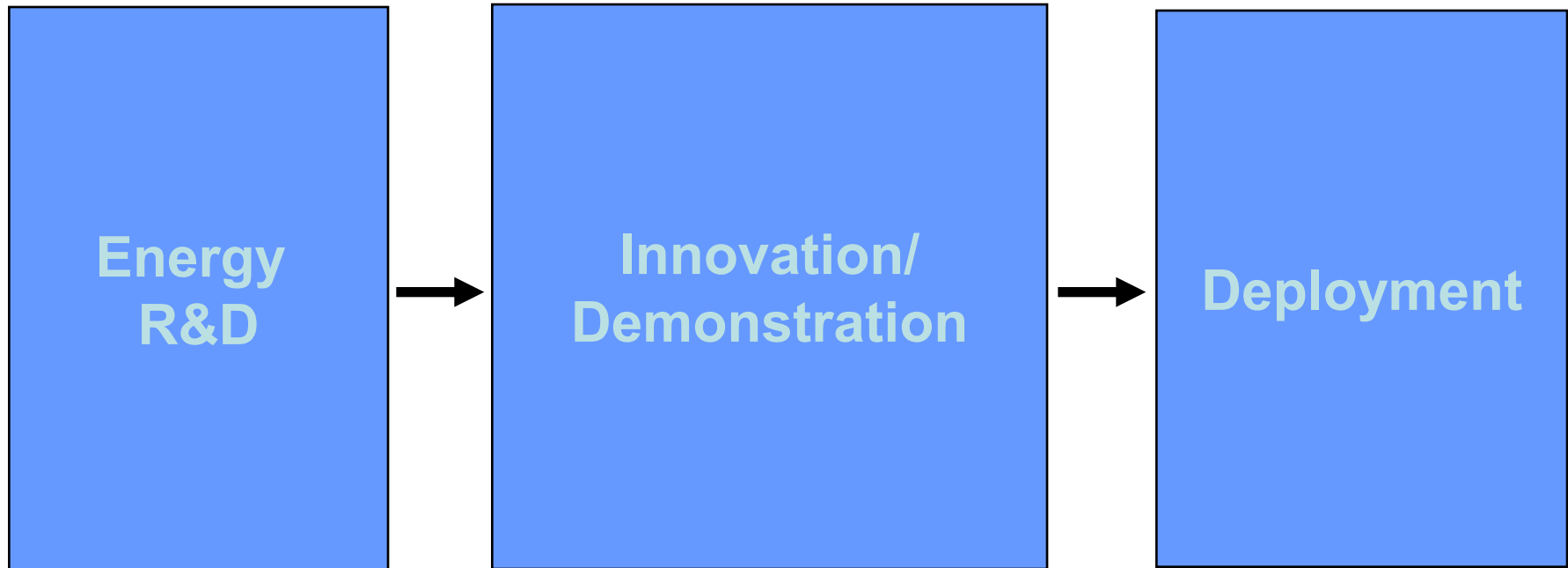


Secretary Steven Chu



We are driving innovation: from the lab to the marketplace

***Using federal funds to leverage
substantial private investment***



**\$6.7 ARPA-E grant for
to Kokomo-based
Delphi Auto for
advanced power
semiconductors**

**Central Indiana
Clean Cities
Coalition \$10m grant
for alternative fuel
vehicles and
infrastructure**

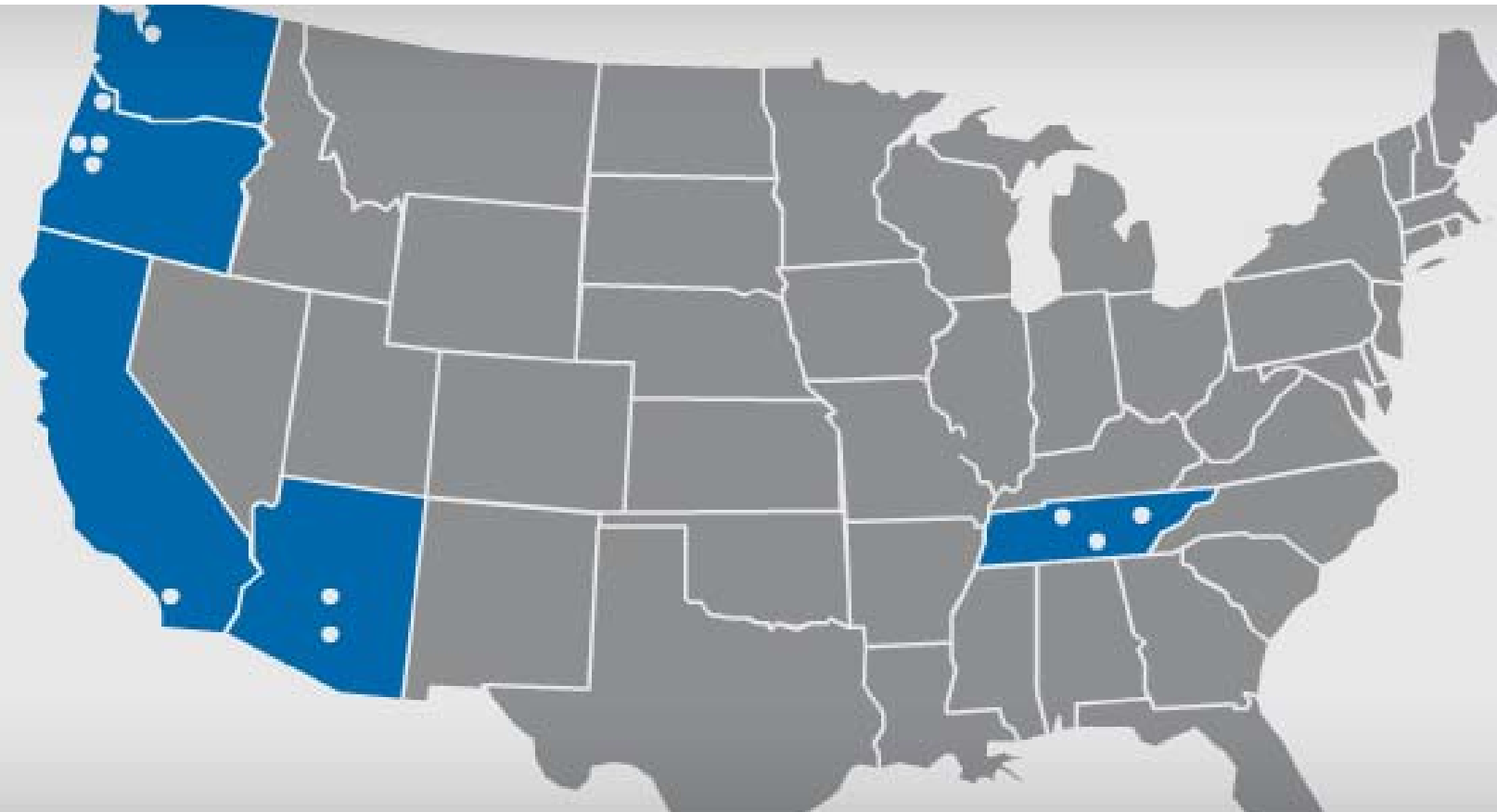
**Recovery Act
\$118.5m grant for
battery production
to EnerDel,
Indianapolis**



We're funding the world's largest EV deployment project

11 cities
11,000 Level 2 chargers

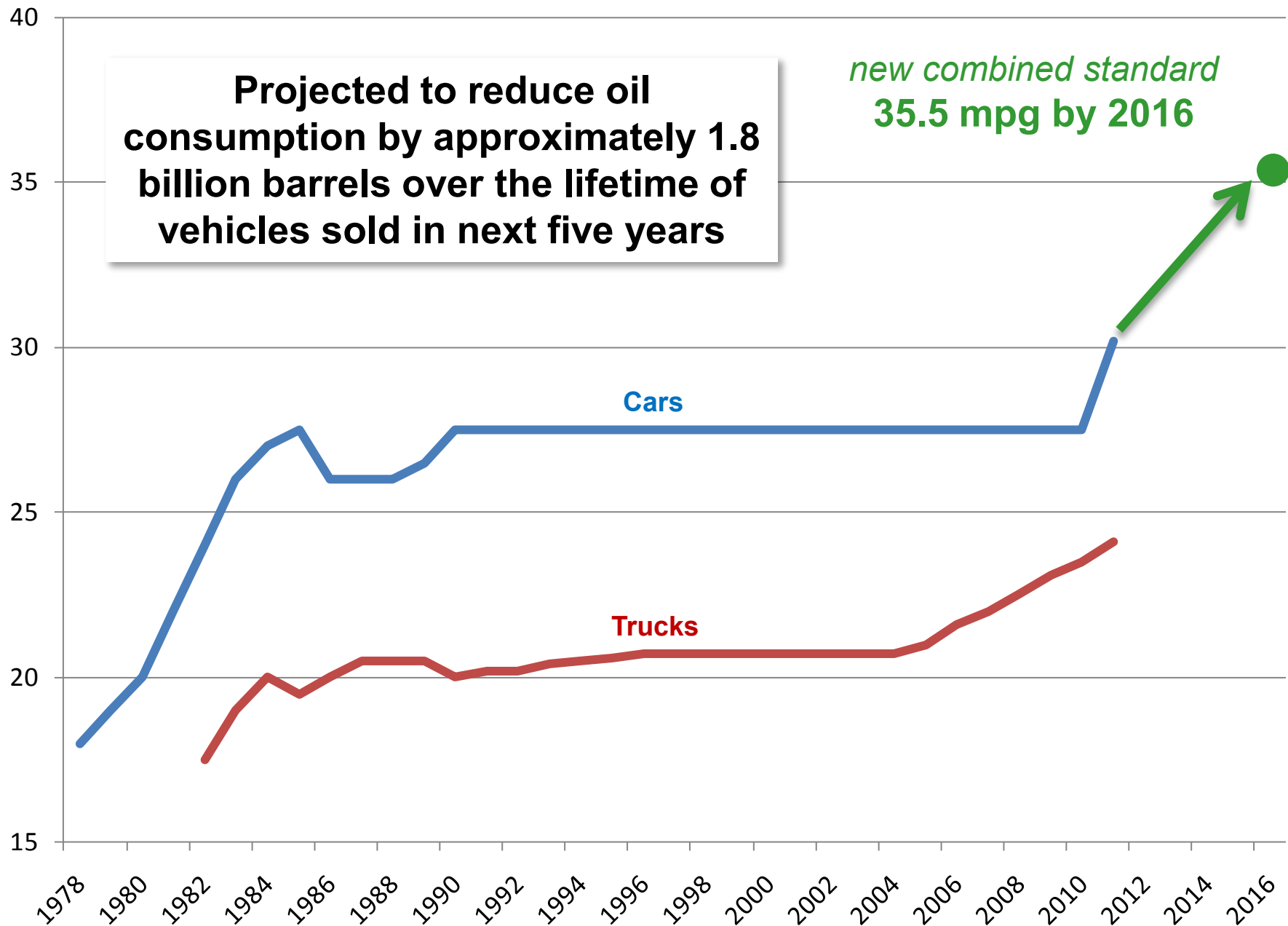
4,700 Nissan LEAFs
260 Level 3 chargers



Phoenix, AZ
Tucson, AZ
San Diego, CA
Portland, OR
Salem, OR
Corvallis, OR
Seattle, WA
Nashville, TN
Knoxville, TN
Chattanooga, TN



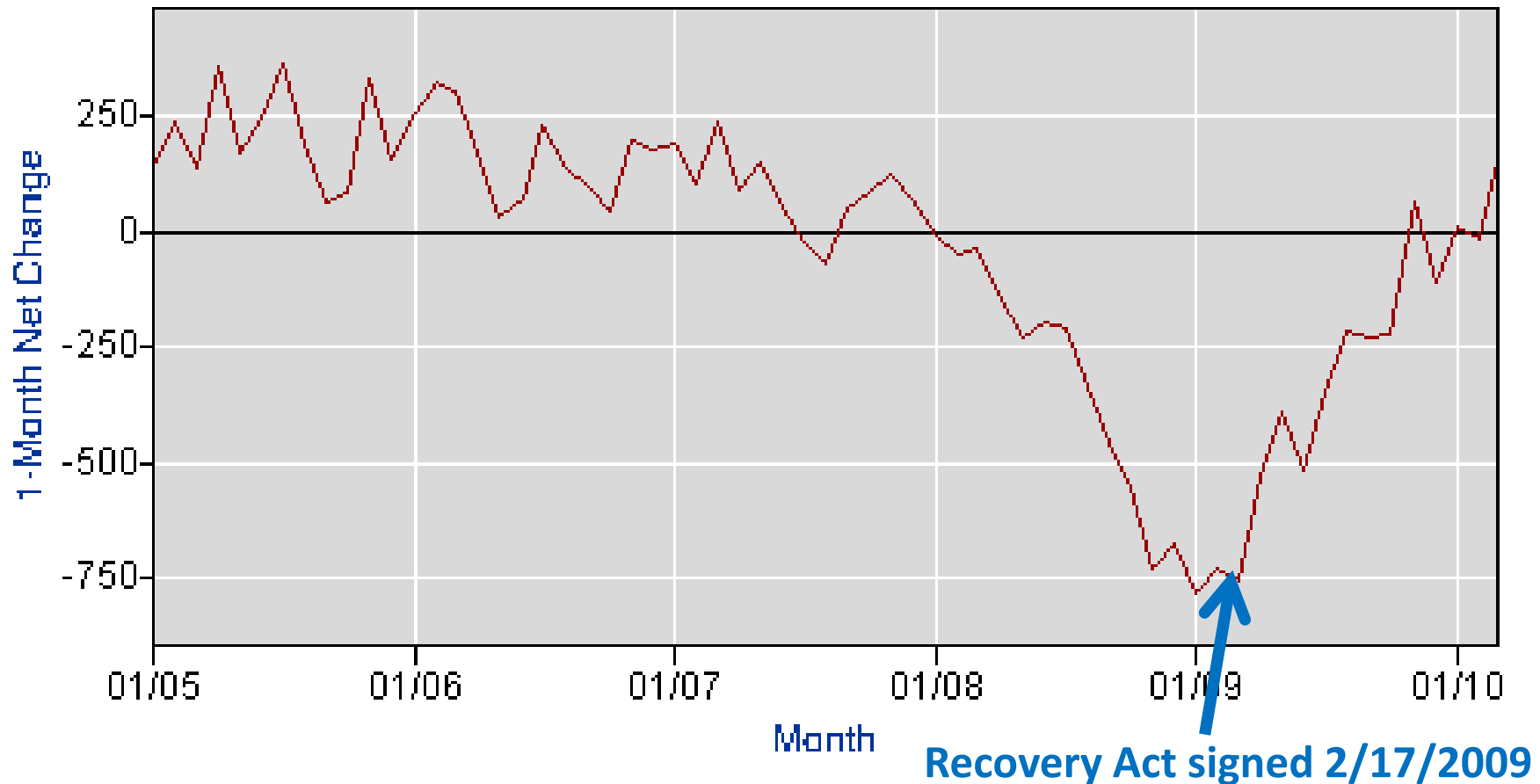
President Obama announced a new U.S. automobile and light truck fuel standard





Pulling the economy back from the brink...

Economists estimate the Recovery Act is responsible for creating or saving 2-2.4 million jobs





The high-speed train from Beijing...



Heping Hotel, Shanghai



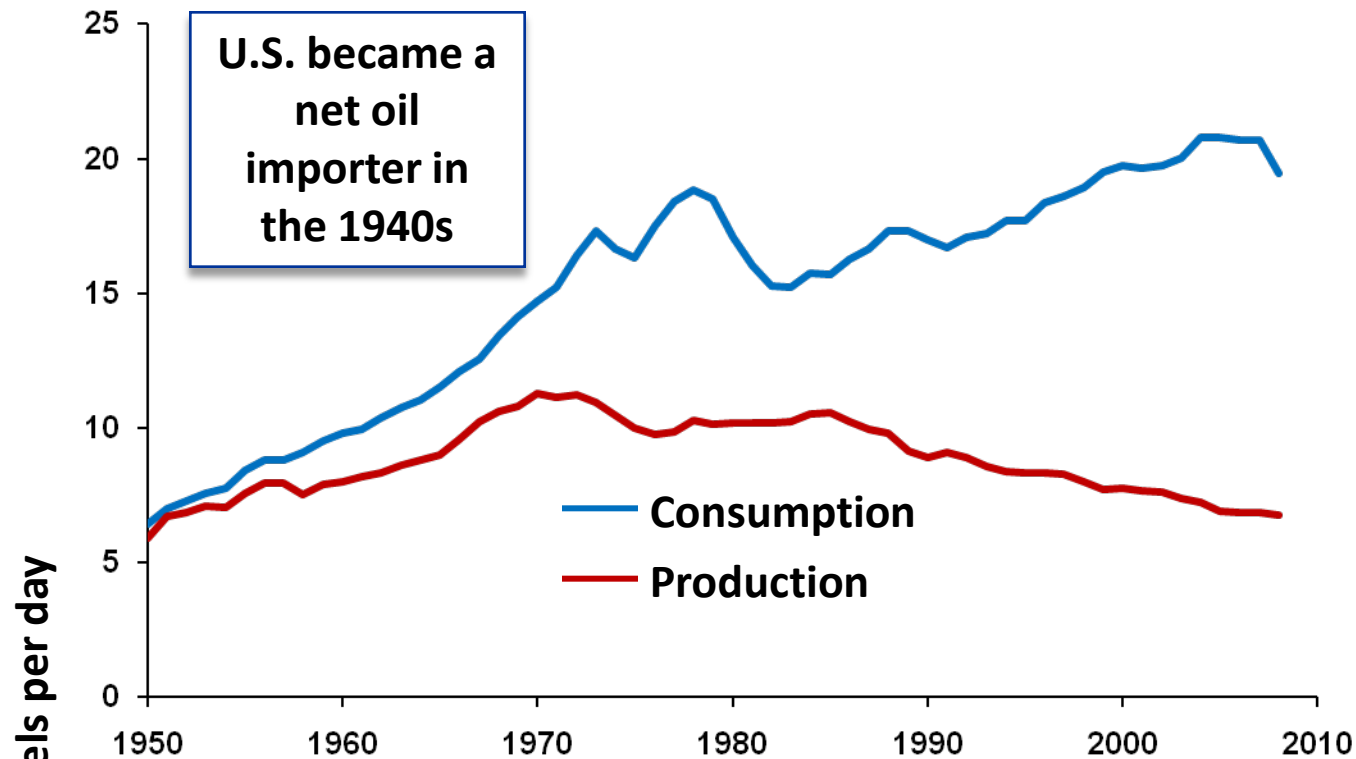




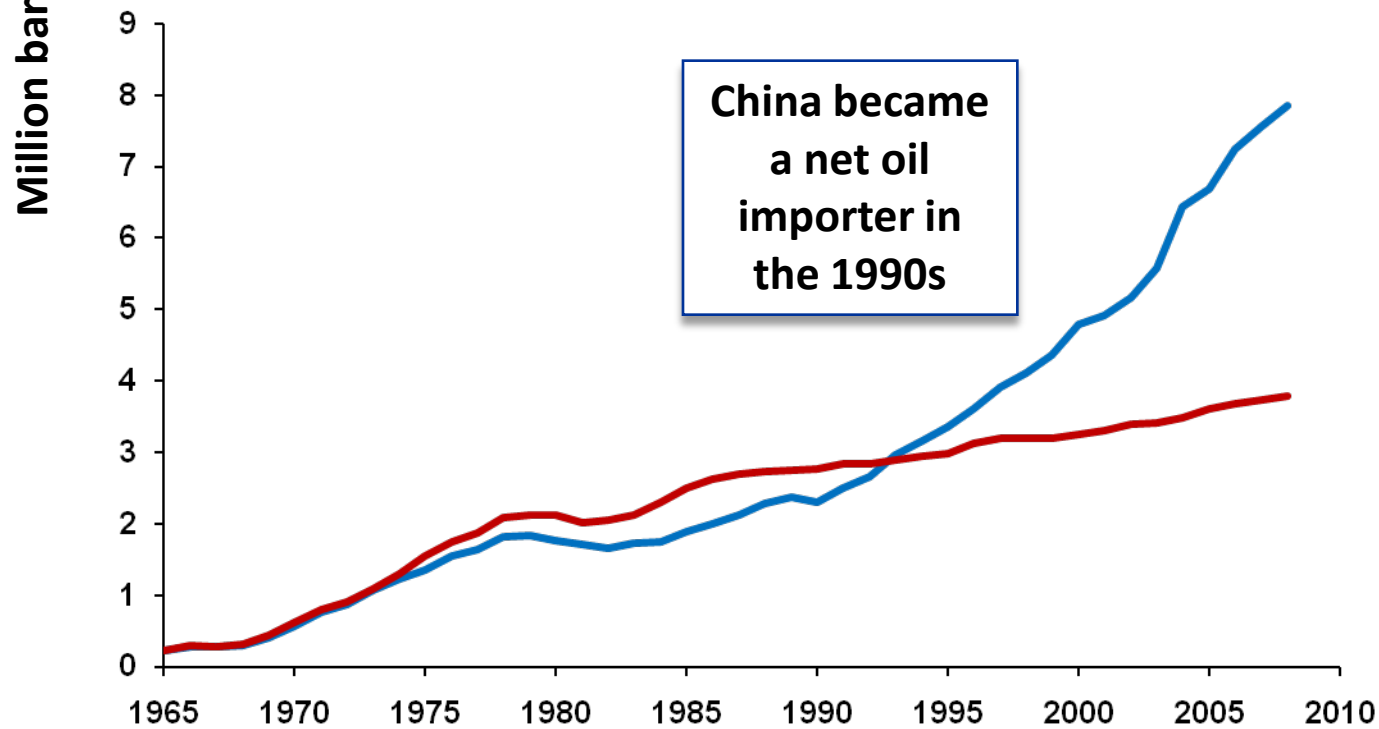
Strategic & Economic Dialogue Joint Statement on Energy Security



“The United States and China share the view that **diversifying the fuel mix** in our vehicle fleets is fundamental to both countries’ **energy security** in the decades ahead. Toward that end, the United States and China are committed to the promotion of **electric vehicles, advanced vehicle** energy-saving technologies, and advanced **alternative fuel technologies.**”

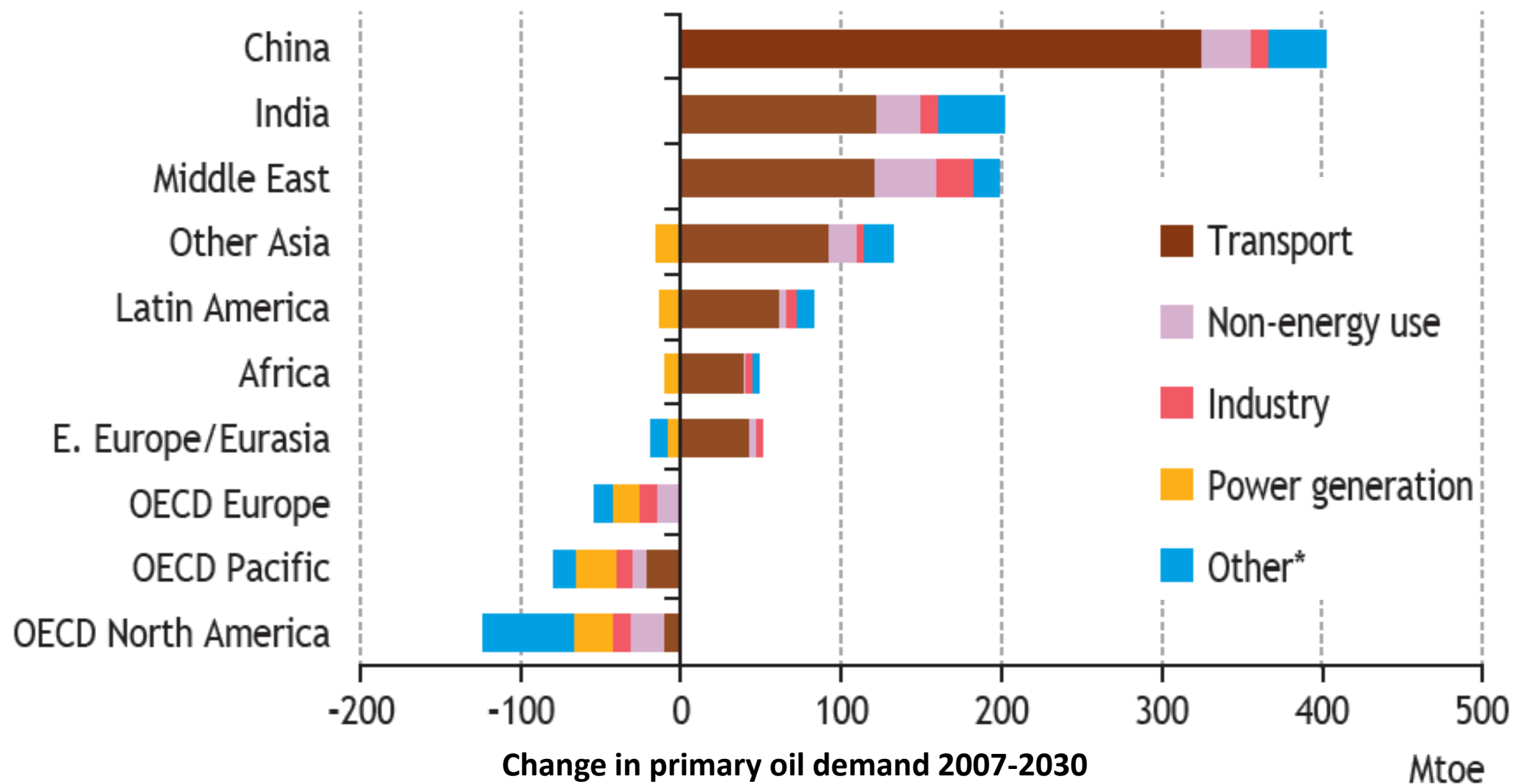


Both countries now import around half of their oil



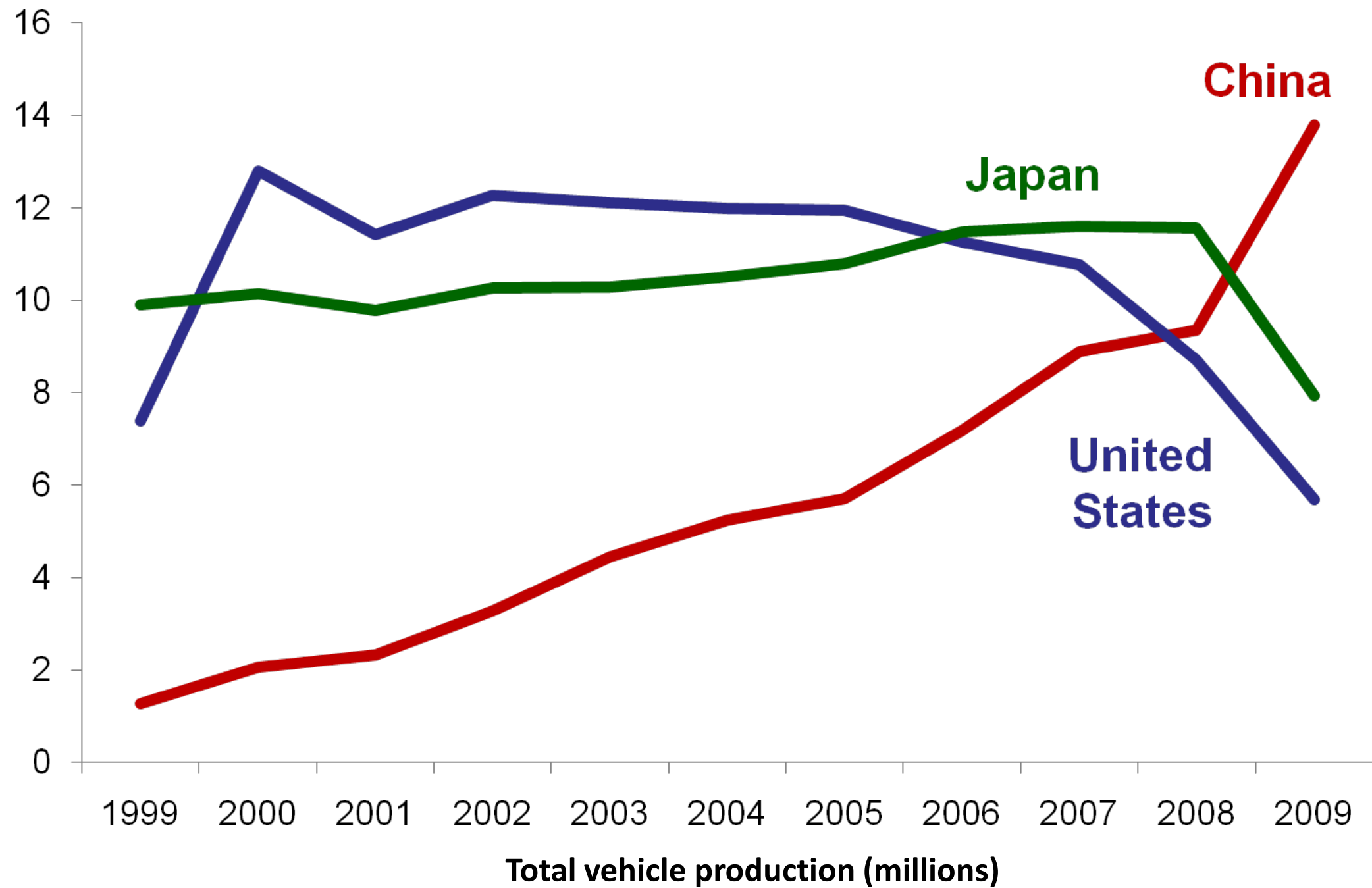
Energy security is an increasing concern

Huge growth in oil demand is projected through 2030, especially in China

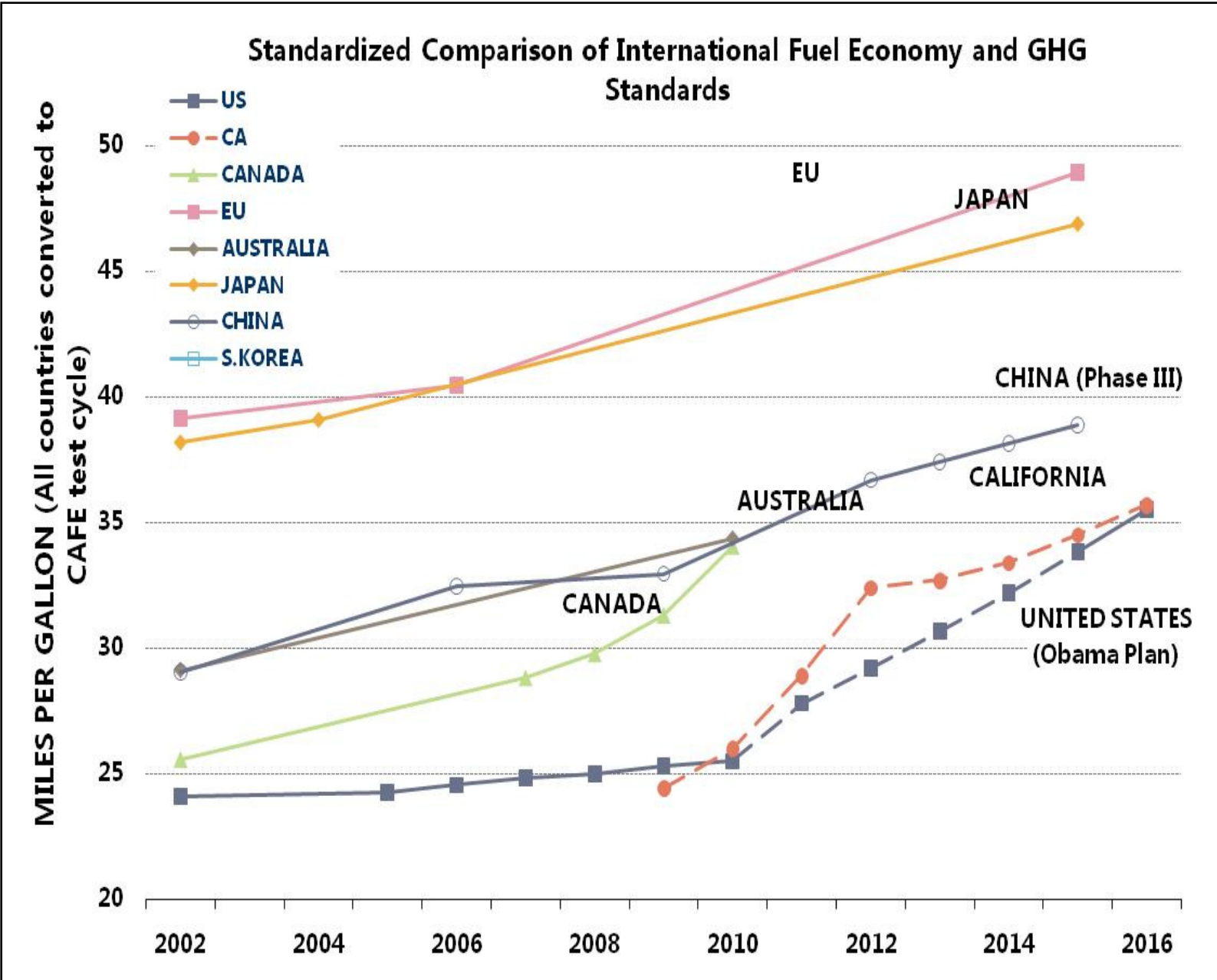




China's auto production is soaring



China has also adopted aggressive fuel economy standards

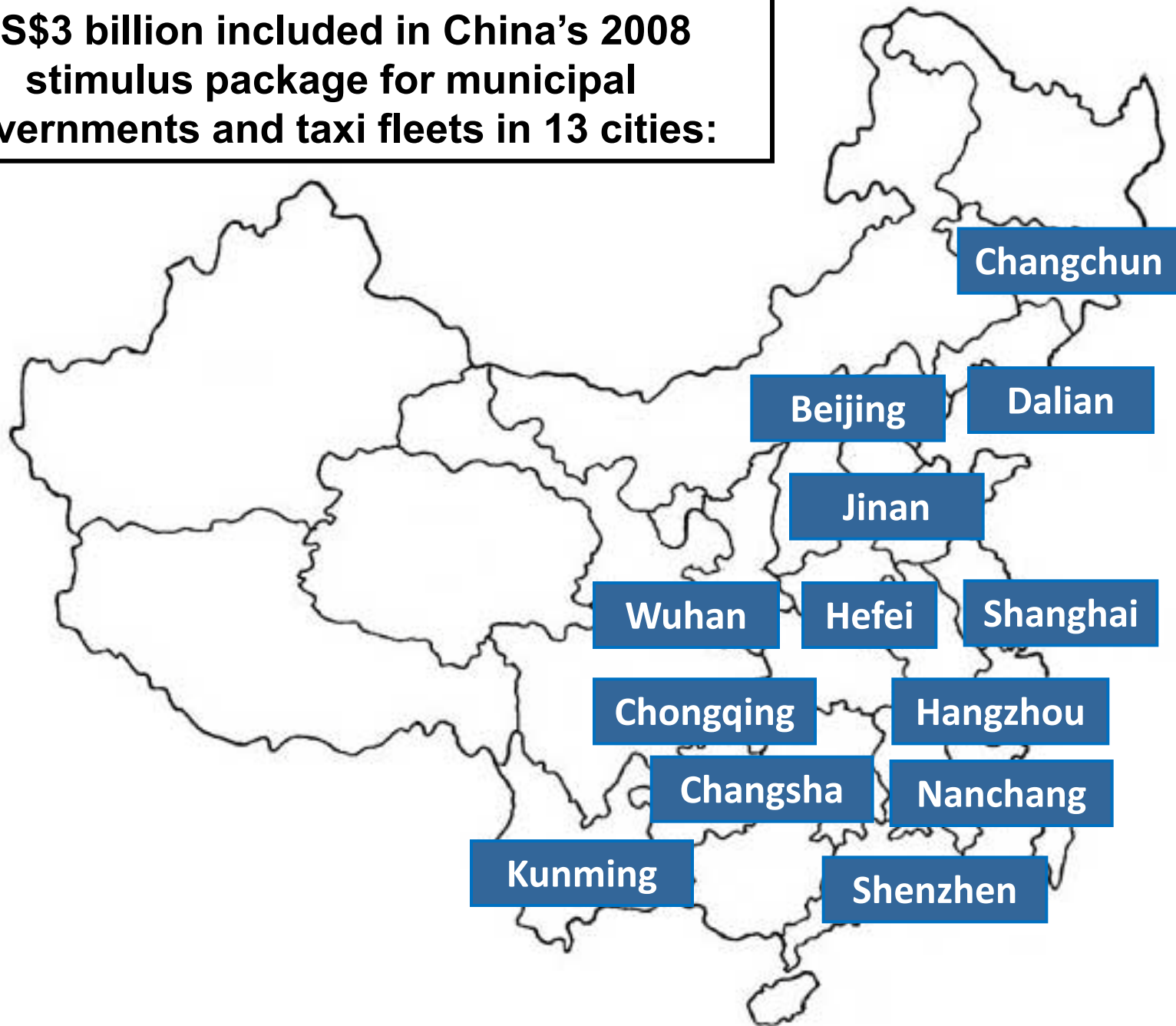


Source: iCET



China also has a large EV deployment program

US\$3 billion included in China's 2008 stimulus package for municipal governments and taxi fleets in 13 cities:





U.S.-China Clean Energy Research Center

- First of its kind joint clean energy research center, bringing together teams of U.S. and Chinese scientists and engineers
- \$150 in public and private funding over five years, split evenly between U.S. and China
- Initial topic areas: building energy efficiency, clean coal including CCS, and **clean vehicles**





Other recent U.S.-China clean energy announcements

• **Electric Vehicles Initiative**

- Energy Efficiency Action Plan
- Renewable Energy Partnership

• Shale Gas Initiative

- 21st Century Coal
- Capacity Building for GHG Data Collection





U.S.-China Electric Vehicles Initiative



Joint technical roadmap

Create a joint multi-year roadmap to identify R&D needs as well as issues related to the manufacture, introduction and use of EVs

Joint standards development

Explore the development of joint product and testing standards for EVs, including common design of EV plugs, common test protocols for batteries, etc.

Joint demonstrations

Link more than a dozen cities with EV demo programs in each country, to best practice policies and data on charging patterns, driving behavior, consumer preferences

Joint R&D

Through the newly established U.S.-China Clean Energy Research (CERC), which has clean vehicles research and development as an initial priority area

Public-private engagement
through the U.S.-China Electric Vehicles and events like this



Upcoming events



DOE/VTP and Argonne National Lab will host an **EV and Battery Technology** workshop August 30-September 1 to assess progress and continue work in the agreed-upon areas of cooperation.

Discussions will include: vehicle and battery standards, battery R&D, and vehicle demonstration and deployment.

Last week, a team of DOE and Argonne technical experts met with Chinese counterparts in Beijing to discuss codes and standards to lay the groundwork for this workshop.

DOE will also host the second **U.S.-China Electric Vehicles Forum** this fall in the United States.

