

U.S.-Japan Clean Energy Cooperation



Dr. Phyllis Yoshida
Deputy Assistant Secretary
Asia, Europe and the Americas

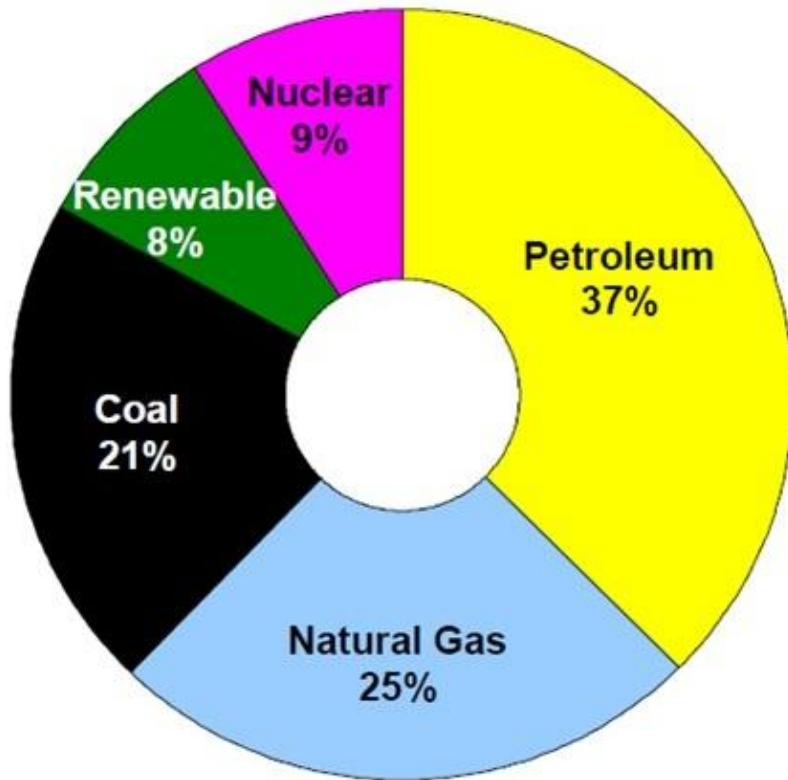
U.S. Department of Energy
October 7, 2011

Blueprint for a Secure Energy Future

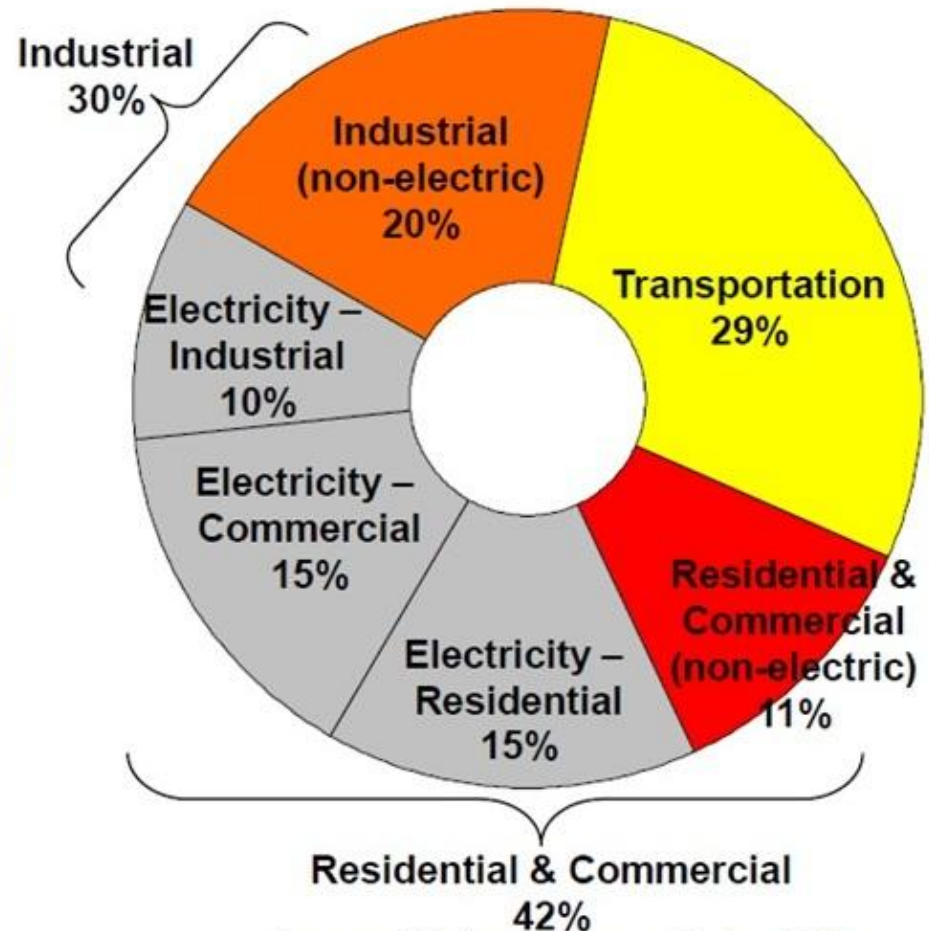
- On March 30, 2011, the White House unveiled a “***Blueprint for a Secure Energy Future***”:
 - Increase domestic energy production – by increasing fuel efficiency and increasing our production of natural gas and biofuels.
 - Reduce demand for oil – by implementing the national fuel efficiency standard established in April 2010 for cars and trucks that will save 1.8 billion barrels of oil.
 - Increase production of clean energy – by producing 80 percent of electricity from clean energy sources including renewables like wind and solar, nuclear energy, efficient natural gas, and clean coal.

U.S. Energy Supply is 84% Fossil Fuels (94.6 Quadrillion Btu in 2009)

Energy supply



Energy demand



Source: EIA Annual Energy Review 2009



American Recovery and Reinvestment Act

More than **\$80 billion** in clean energy investments.



PLUG-IN TAX CREDIT
\$2 billion

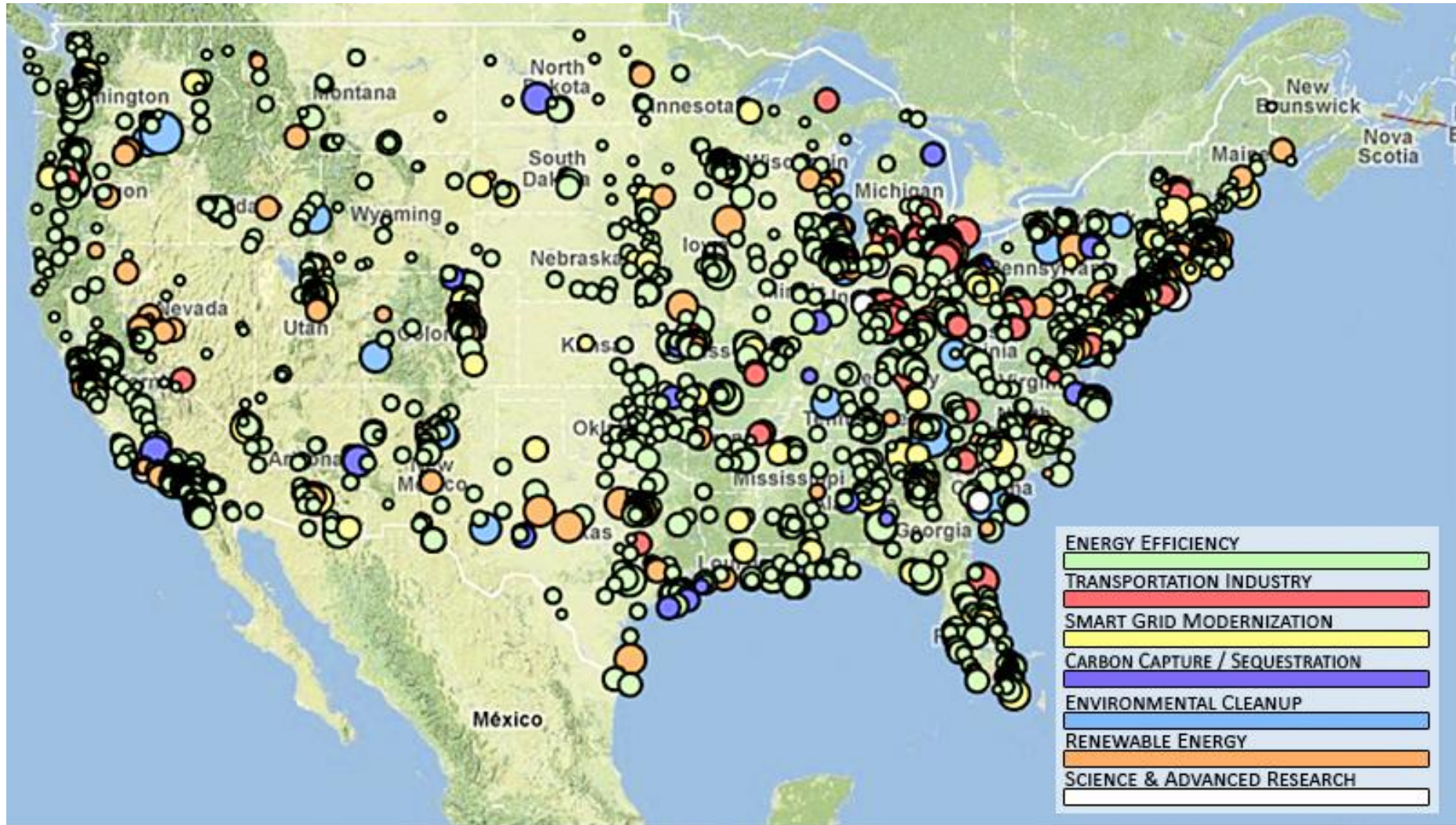


HIGH-SPEED RAIL
\$8 billion



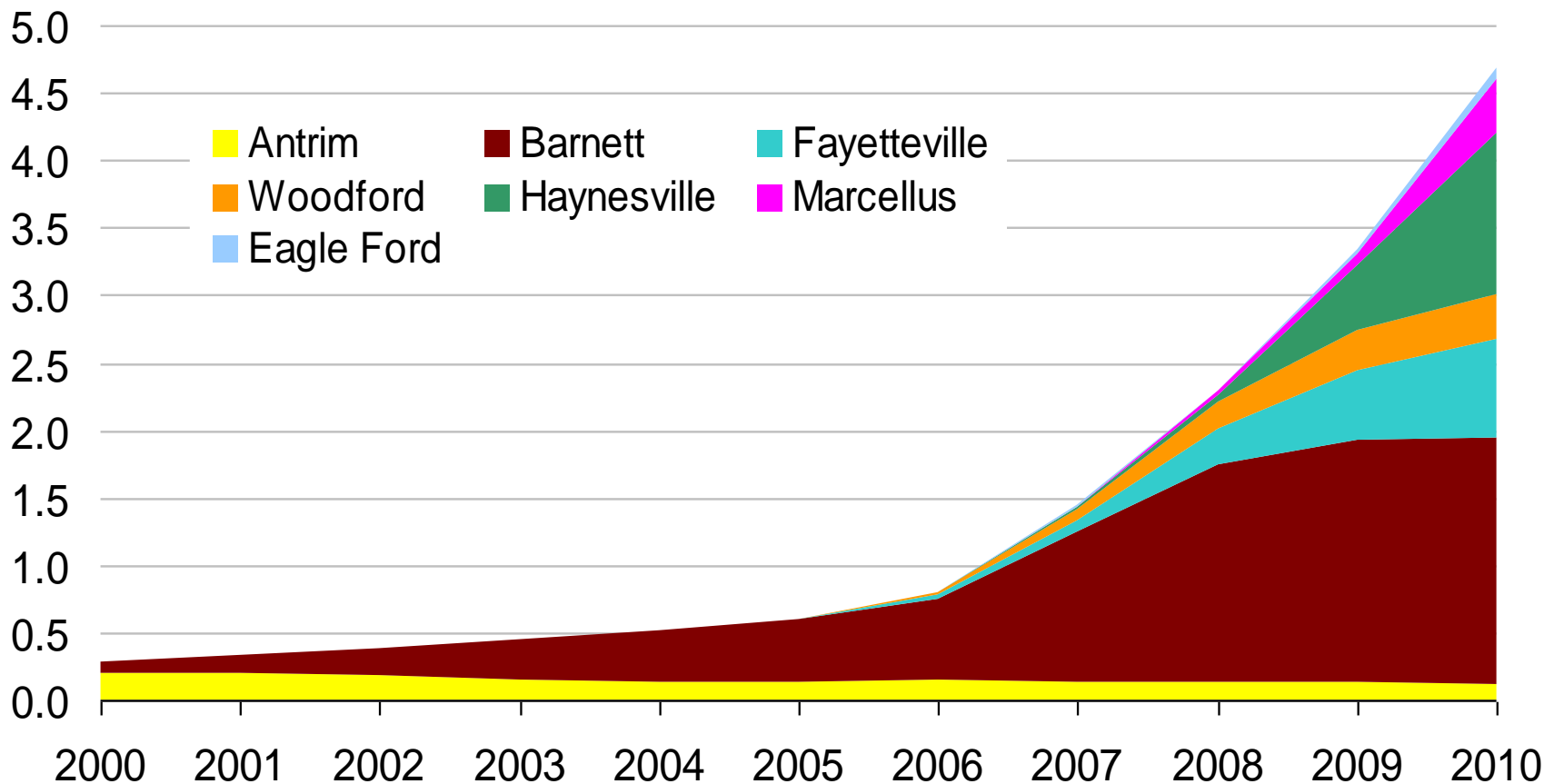
**CARBON CAPTURE
AND STORAGE**
\$3.4 billion

5,000 Clean Energy Projects around the Country, and Growing...



U.S. Shale Gas Production Has Increased 14-fold in 10 Years

annual shale gas production
trillion cubic feet

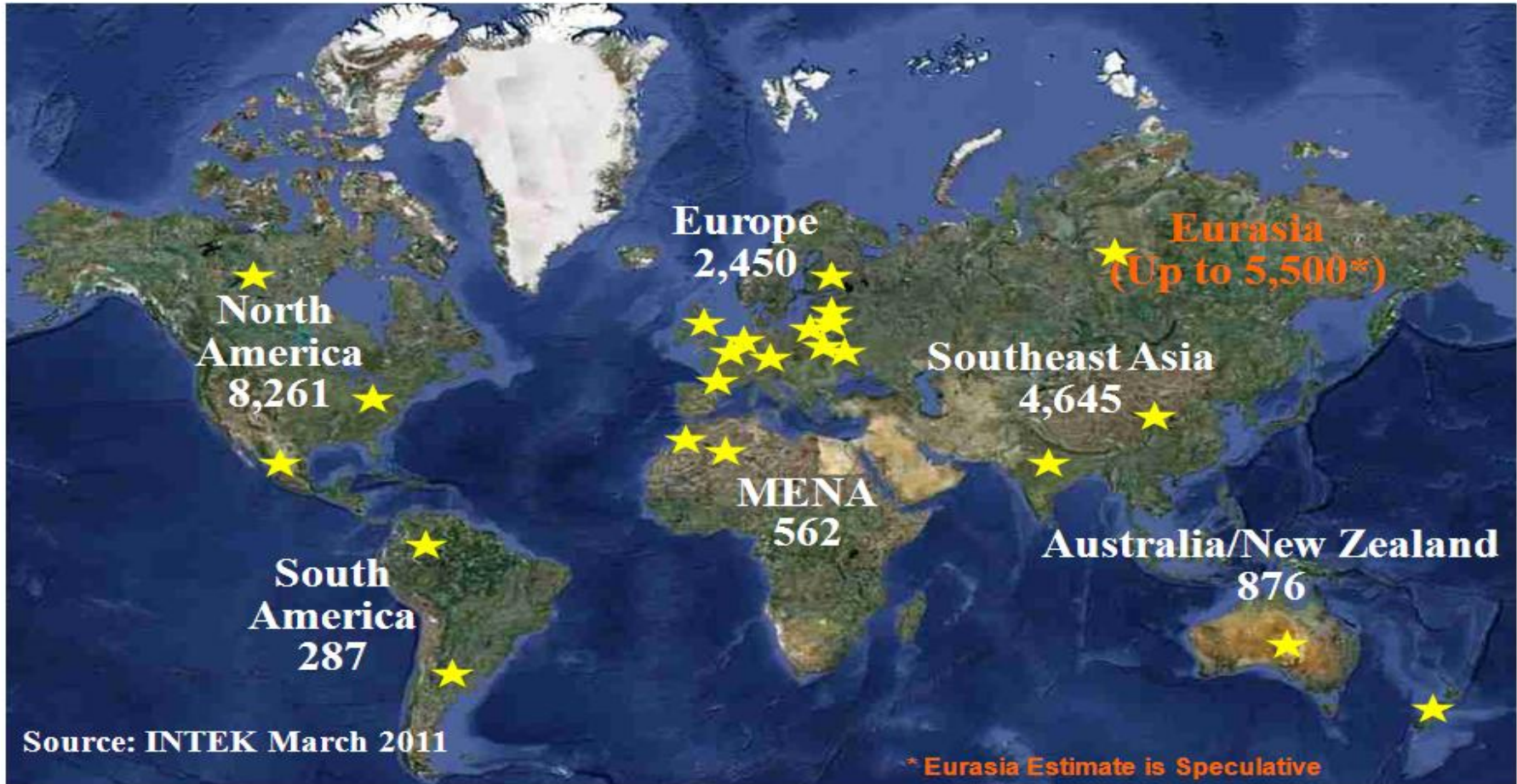


Source: EIA, Lippman Consulting (2010 estimated)

Global Energy Challenges

- Global energy consumption will increase by roughly 50 percent by 2030, with 70 percent of that growth coming from the world's emerging economies – 30 percent from China alone, 15 percent from India.
- The amount of investment needed to meet this growing demand is estimated by the IEA to be over \$22 trillion between now and 2030.
- There are currently 1.6 billion people without electricity.
- Electricity demand will increase by 100 percent over the next 25 years.
- Over 70 percent of the current anthropogenic greenhouse gas emissions are energy related.

Known Shale Gas Resources in Place: 17,080 Tcf

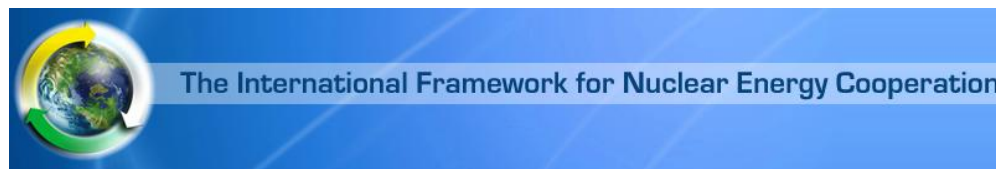


- Updated world-wide estimates of the technically recoverable shale gas increase the estimate of technically recoverable natural gas (conventional + shale) by about 40 percent.
- More important, unlike conventional gas, shale gas is largely located within demand centers.

Why Partner Internationally

1. Leverages **limited resources** and brings together the world's **best intellectual skills** to solve difficult problems, and develop interoperable technology standards.
2. Fosters **public-private collaboration** that addresses technical, financial and institutional barriers.
3. Coordinates research, development and deployment programs that advance the transition to a global low-carbon economy.
4. Creating a **common understanding** of technical capabilities and barriers, and developing common technical standards.
5. Monitors foreign technology and policy developments.
6. Shows commitment to address globally important challenges.

International Collaboration



International
Energy Agency

- Energy security
- Environmental protection
- Economic growth
- Engagement worldwide

Some Common Challenges for the United States and Japan

The United States and Japan are:

- **the two of the largest economies and two of the world's largest consumers of energy**
- **heavily reliant on foreign sources of oil**
- **facing common challenges of diversifying sources of energy**
- **substantial users of nuclear energy**
- **strengthening scientific discovery, as a means to inspire economic competitiveness and quality of life through innovation**
- **expanding 21st Century infrastructure**

And Some Similar Strengths

- **World-class research universities, institutes & national laboratories**
- **Pioneering businesses, entrepreneurs, and technology-based private partners**
- **Well-developed financial & legal infrastructure**
- **Strong commitment to S&T innovation**

Both countries gain from accelerated deployment of clean technologies.



Thank you

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For more information: www.energy.gov