HTAC Meeting

Dr. David Danielson

Assistant Secretary

Energy Efficiency & Renewable Energy

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U.S. DEPARTMENT OF ENERGY | Energy Efficiency & Renewable Energy

EERE's National Mission

To create American leadership in the global transition to a clean energy economy

1.) **High-Impact Research, Development, and Demonstration to *Make Clean Energy* as *Affordable and Convenient* as Traditional Forms of Energy**

2.) **Breaking Down Barriers to Market Entry**

Need for High Impact Investments

1 in→1,000 out

$1.8 billion

EERE FY12 Funding

$6 trillion

Global Energy Market

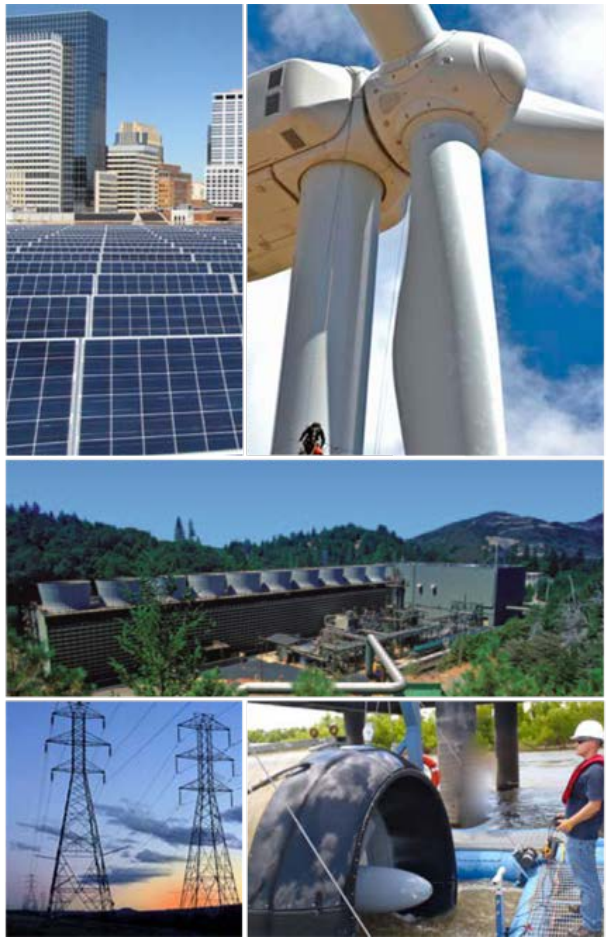
The 5 EERE Core Questions

- **Is this a high impact problem?**
- **Will the EERE funding make a large difference relative to what the private sector (or other funding entities) is already doing?**
- **Have we made sure to focus on the broad problem we are trying to solve and be open to new ideas, new approaches, and new performers?**
- **How will this EERE funding result in enduring economic benefit to the Unites States?**
- **Why is what we are doing a proper high impact role of government versus something best left to the private sector to address on its own?**

Sustainable
TRANSPORTATION

Renewable
ELECTRICITY GENERATION

Energy Saving
HOMES, BUILDINGS, & MANUFACTURING



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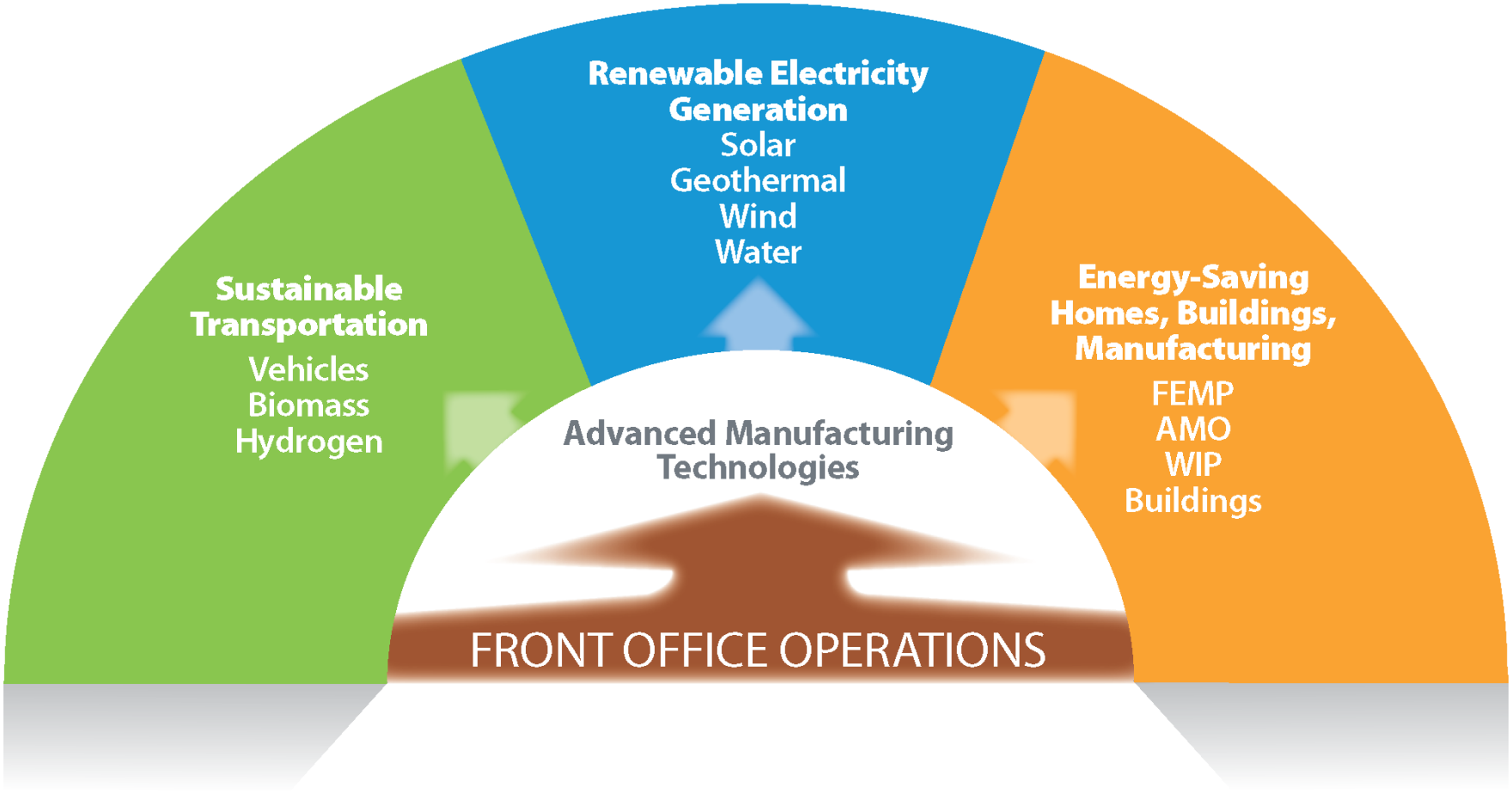
EEE Programs & Activities



EERE Priorities: Transportation & Grid Integration

DOE Quadrennial Technology Review:

"As a result of this Review, we find that ***DOE is underinvested in the transportation sector*** relative to the stationary sector (energy efficiency, grid, and electric power). Yet, reliance on oil is the greatest immediate threat to U.S. economic and national security, and also contributes to the long-term threat of climate change."

"Within our transportation activities, we conclude that DOE should gradually increase its effort on vehicle efficiency and electrification relative to alternative fuels."

"As a result of this Review, we find that ***DOE is underinvested in activities supporting modernization of the grid***…"

EERE Priorities: Manufacturing Competitiveness

"I don't want the new breakthrough technologies, the new manufacturing to take place in China and India. I want all those new jobs made … right here in the United States of America."

- President Barack Obama, May 8, 2011, Indianapolis, IN

Fuel Cells: Energy Department's Role

Supported R&D that has reduced the cost of automotive fuel cells by more than 83% since 2002 and 35% since 2008.

Dramatic Progress in Fuel Cells & Hydrogen

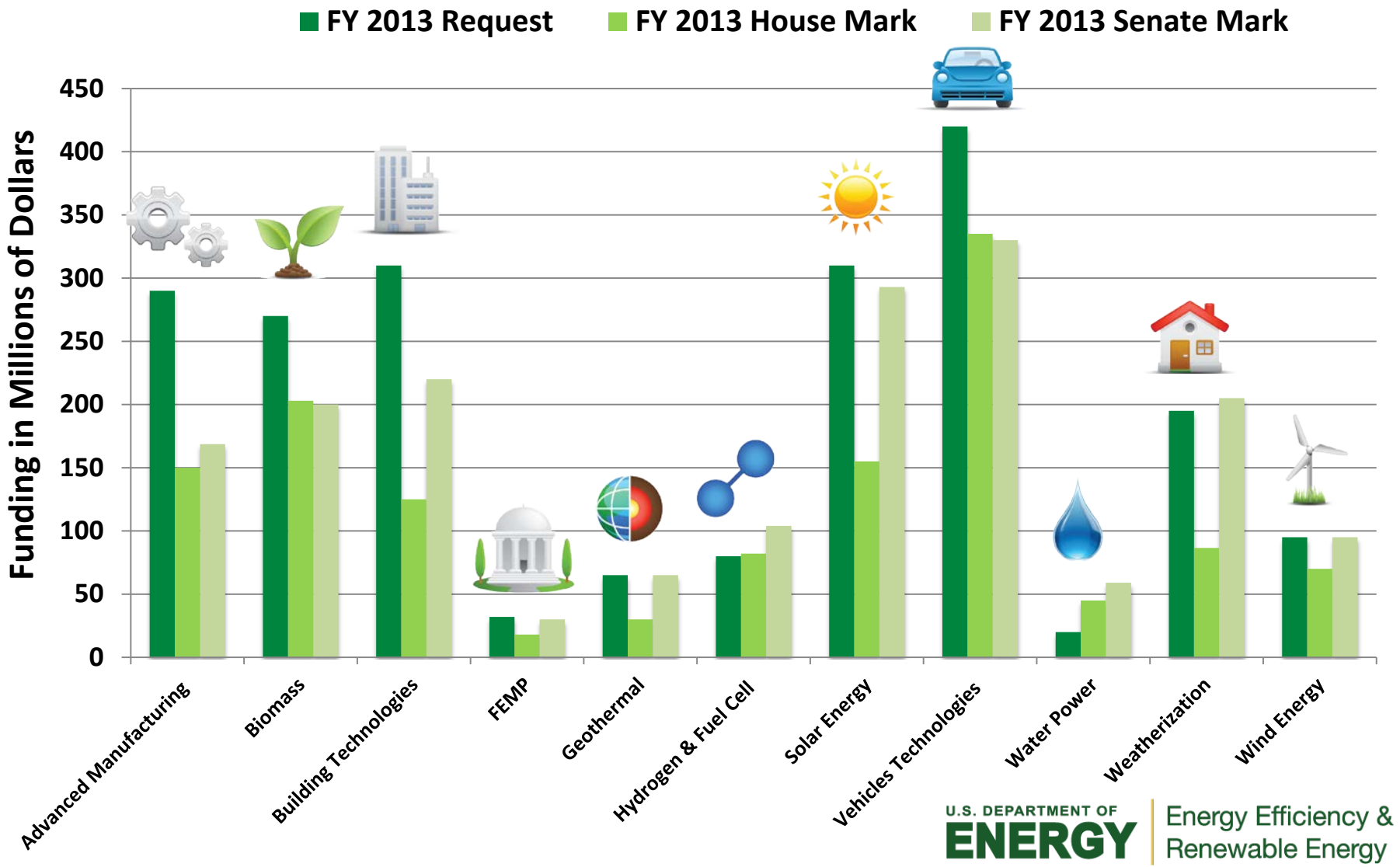
- 80%+ reduction in fuel cells costs from 2002 to 2011 ($49/kW)
  - 35% reduction since 2008
- 5x reduction in platinum loading since 2005
- World's First Trigeneration Hydrogen Station
- 60% reduction in electrolyzer stack cost since 2007

EERE View: Fuel Cells & Hydrogen

- Transportation sector is a major priority
- EERE is organizing around sectors – new DAS-Transportation
- Manufacturing competitiveness is a major priority
- Grid integration is a major priority
- DOE “Fuel Cell Tech Team” being stood up
- Fuel Cells present an URGENT U.S. competitiveness opportunity
- OEMs serious about launching FCEVs over next 5 years
- Shale gas presents game changing opportunity for cheap H2
- Need for private-sector led strong public-private partnership on hydrogen fueling infrastructure
- Low cost, renewable H2 and H2 storage long-term game changers
- Strategic early markets can help enable longer term successes
- Need for committed, stable funding for Fuel Cells & Hydrogen

EERE FY12 Budget: $1.8 Billion

FY2013 Budget Status



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Thank you.

Now, time for open discussion.

david.danielson@ee.doe.gov