

**U.S. HOUSE OF REPRESENTATIVES  
COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY**

**HEARING CHARTER**

*Department of Energy Oversight: Office of Energy Efficiency and Renewable Energy*

Tuesday, March 24, 2015  
2:00 p.m. – 4:00 p.m.  
2318 Rayburn House Office Building

**PURPOSE**

The Subcommittee on Energy will hold a hearing titled *Department of Energy Oversight: Office of Energy Efficiency and Renewable Energy* on Tuesday, March 24, 2015, at 2:00 p.m. in Room 2318 of the Rayburn House Office Building. The purpose of the hearing is to conduct oversight of the Department of Energy’s \$2.72 billion request for FY 2016 for the Office of Energy Efficiency and Renewable Energy (EERE) technology research, development, demonstration, and commercialization activities.

**WITNESS LIST**

- **The Honorable David Danielson**, *Assistant Secretary, Energy Efficiency and Renewable Energy, U.S. Department of Energy*
- **Mr. Nick Loris**, *Herbert and Joyce Morgan Fellow, Heritage Foundation*
- **Ms. Ruth McCormick**, *Director of Federal and State Affairs, Business Council for Sustainable Energy (BCSE)*
- **Dr. Veronique de Rugy**, *Senior Research Fellow, Mercatus Center, George Mason University*

**BACKGROUND**

The Office of Energy Efficiency and Renewable Energy (EERE) supports applied research, development, demonstration, and commercialization activities in transportation, renewable power, and energy efficiency, and is designated as the lead federal clean energy technology organization.<sup>1</sup> EERE’s primary goals include reducing U.S. reliance on fossil fuels, reducing the cost of energy, reducing energy emissions, and promoting American manufacturing of clean energy technologies.<sup>2</sup> The FY 2016 budget request for EERE is \$2.72 billion, an increase of \$809 million or 42.3 percent over FY 2015 enacted levels. With this budget request, significant increases are requested in advanced manufacturing, building technologies, vehicle technologies, and wind and solar power.

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<sup>1</sup> Department of Energy *FY 2016 Congressional Budget Request: Volume 3*, p. 9, February 2, 2015, Available at [http://www.energy.gov/sites/prod/files/2015/02/f19/FY2016BudgetVolume3\\_7.pdf](http://www.energy.gov/sites/prod/files/2015/02/f19/FY2016BudgetVolume3_7.pdf)

<sup>2</sup> Ibid.

Office of Energy Efficiency and Renewable Energy Programs (dollars in millions)				
Program	FY 2014 Enacted (\$M)	FY 2015 Enacted (\$M)	FY 2016 Request (\$M)	FY 2016 vs FY 2015 (% Change)
<b>Energy Efficiency and Renewable Energy (EERE)</b>	<b>1,913.6</b>	<b>1,937.0</b>	<b>2,723.0</b>	<b>42.3%</b>
Hydrogen & Fuel Cell Technology	92.9	97.0	103.0	6.2%
Bioenergy Technology	232.2	225.0	246.0	9.3%
Vehicle Technologies	289.7	280.0	444.0	58.6%
Solar Energy	257.1	233.0	336.7	44.5%
Wind Energy	88.2	107.0	145.5	36.0%
Geothermal Technologies	45.8	55.0	96.0	74.5%
Water Power	58.6	61.0	67.0	9.8%
Building Technologies	178.0	172.0	264.0	53.5%
Advanced Manufacturing	180.5	200.0	404.0	102.0%
Weatherization and Intergovernmental Programs	230.9	243.0	318.5	31.1%
Federal Energy Management Program	28.2	27.0	43.1	59.6%
Facilities & Infrastructure	46.0	56.0	62.0	10.7%
Program Direction	162.0	160.0	165.3	3.3%
Strategic Programs	23.5	21.0	27.9	32.7%

EERE is organized into three primary program areas: sustainable transportation (\$793 million, an increase of 31.7 percent), renewable power (\$645.2 million, an increase of 41.5 percent), and energy efficiency in buildings and manufacturing (\$1.03 billion, an increase of 60.4 percent).<sup>3</sup> EERE programs are also major contributors for five out of six cross-cutting initiatives in the budget proposal, including Energy-Water Nexus, Grid Modernization, Subsurface Technology and Engineering, Supercritical CO<sub>2</sub>, and Cybersecurity.

Specific EERE sub-programs under Science Committee jurisdiction include:<sup>4</sup>

- **Hydrogen and Fuel Cell Technologies.** EERE requests \$103 million (a 6.2 percent increase) in FY 2016 to support efforts to reduce the cost and increase the durability of fuel cell systems. Fuel Cell R&D will focus on stack component R&D, stack and component operation and performance, systems and system integration, balance of plant components, testing and technical analysis. Hydrogen Fuel R&D will focus on materials and process development to enable hydrogen production from diverse renewable resources.

<sup>3</sup> Department of Energy *FY 2016 Congressional Budget Request: Budget in Brief*, p. 29-31, February 2, 2015, Available at <http://www.energy.gov/sites/prod/files/2015/02/f19/FY2016BudgetinBrief.pdf>

<sup>4</sup> Department of Energy *FY 2016 Congressional Budget Request: Volume 3*, February 2, 2015, Available at [http://www.energy.gov/sites/prod/files/2015/02/f19/FY2016BudgetVolume3\\_7.pdf](http://www.energy.gov/sites/prod/files/2015/02/f19/FY2016BudgetVolume3_7.pdf)

- **Bioenergy Technologies.** EERE requests \$246 million (9.3 percent increase) in FY 2016, focusing on the development of innovative processes to convert cellulosic and algal-based feedstocks to bio-based gasoline, jet, and diesel fuels at a cost of \$3 per gallon gasoline equivalent. The program also includes a proposal for commercial-scale bio-refinery demonstrations to produce military specification fuels in collaboration with the Department of Agriculture and the U.S. Department of the Navy.
- **Vehicle Technologies.** EERE requests \$444 million (a 58.6 percent increase) in FY 2016, with programs focused on reducing the cost, minimizing emissions, and improving the energy-related performance of a mix of medium- and long-term vehicle technologies including advanced batteries, electric drive technologies, lightweight and propulsion materials, advanced combustion engines, advanced fuels and lubricants, and other enabling transportation technologies. Program projects include continued support of the EV Everywhere Grand Challenge (\$253 million),<sup>5</sup> new awards for a “SuperTruck II” initiative (\$40 million), the Clean Energy Manufacturing Initiative (\$30 million).
- **Solar Energy.** EERE requests \$336.7 million (a 44.5 percent increase) in FY 2016 to support the SunShot Initiative goal to make solar power cost competitive with electricity from fossil fuels without subsidies by 2020. This includes solar photovoltaic R&D, development and demonstration of innovative solar energy manufacturing technologies, and activities designed to reduce non-hardware “soft costs” of solar power by 50%. The request also supports development of advanced thermal storage for concentrated solar power.
- **Wind Energy.** EERE requests \$145.5 million (a 36 percent increase) in FY 2016 to support efforts to achieve full market cost competition for wind energy. The request funds three advanced offshore wind demonstration projects planned for operation by 2017, the Atmosphere to Electrons initiative designed to optimize entire wind farm performance and lower the cost of wind energy, and funding for designs, materials and manufacturing processes for longer turbine blades under the DOE Clean Energy Manufacturing Initiative.
- **Geothermal Technologies.** EERE requests \$96 million (a 74.5 percent increase) in FY 2016, including continuing to support the Frontier Observatory for Research in Geothermal Energy (FORGE) dedicated test site and providing primary funding for the Department’s Subsurface Technology and Engineering RD&D crosscut to reduce the cost and risk of geothermal development. The budget request would also fund “play fairway” analyses, a subsurface mapping technique currently used in oil and gas development, which would provide information on the probability of finding new geothermal resources on a regional scale.
- **Water Power.** EERE requests \$67 million (a 9.8 percent increase) in FY 2016 to support research, development, demonstration, and deployment (RDD&D) in Hydropower and Marine and Hydrokinetic (MHK) energy. Hydropower focus areas include enabling increased hydropower opportunities at non-powered dams, water conveyance systems, and

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<sup>5</sup> For more information on the EV Everywhere Grand Challenge:  
[http://www1.eere.energy.gov/vehiclesandfuels/electric\\_vehicles/index.html](http://www1.eere.energy.gov/vehiclesandfuels/electric_vehicles/index.html)

new stream reach development, and the development of new low cost modular systems to minimize civil works and environmental impact and maximize design for manufacturing. Marine and hydrokinetic activities include front end engineering and design for a grid-connected open-water test facility.

- **Advanced Manufacturing.** EERE requests \$404million (a 102 percent increase) in FY 2016, with funding to support the deployment of two additional Clean Energy Manufacturing Innovation Institutes, support of four existing institutes. Funding is also included for high-impact R&D focused on advanced manufacturing and materials, working to achieve significant gains in energy productivity, environmental performance, and product yield for U.S. manufacturers.
- **Building Technologies.** EERE requests \$264 million (a 53.5 percent increase) in FY 2016, providing funding to accelerate the development of lighting, heating and cooling, and other energy efficiency solutions for buildings, with the goal of reducing national energy use by 50 percent, with 20 percent reduction in energy use by 2020. The request also supports the equipment and appliance standards programs, and a new advanced building envelope and refrigerant materials manufacturing R&D effort designed to promote energy efficiency solutions for home owners and builders.

**Important questions and key issues to be discussed at the hearing include:**

- What are the Administration’s goals for clean energy technology investment as outlined in the President’s FY 2016 budget proposal for EERE, and how do these goals reflect the long-term energy needs of the American economy?
- What is the impact of DOE’s energy efficiency and renewable energy technology programs on the energy marketplace?
- What areas of fundamental research and development within EERE are expected to lead to technology breakthroughs in renewable energy and energy efficiency?
- What key management, structure, and policy changes has DOE proposed for EERE in the FY 2016 budget request?