STATEMENT OF DR. KATHLEEN HOGAN

DEPUTY ASSISTANT SECRETARY FOR
ENERGY EFFICIENCY

OFFICE OF ENERGY EFFICIENCY & RENEWABLE ENERGY
U.S. DEPARTMENT OF ENERGY

BEFORE THE
SUBCOMMITTEE ON ENERGY AND POWER
AND
SUBCOMMITTEE ON OVERSIGHT AND INVESTIGATIONS
COMMITTEE ON ENERGY AND COMMERCE
U. S. HOUSE OF REPRESENTATIVES

JULY 12, 2012

Chairman Whitfield, Ranking Member Rush, and Members of the Subcommittee, thank you for the opportunity to discuss the Department's efforts to improve the energy efficiency of the Federal government and the industrial sector, and to comment on the legislation being considered by the Committee today.

As Deputy Assistant Secretary for Energy Efficiency in the Office of Energy Efficiency and Renewable Energy (EERE), I am responsible for overseeing DOE's portfolio of energy efficiency research, development, demonstration and deployment activities, including DOE's efforts to improve the energy efficiency of buildings, vehicles, and industry.

President Obama's all-of-the-above energy strategy is designed to reduce our dependence on oil, save businesses and consumers money, make us more energy secure, protect the environment, and position the United States as the global leader in clean energy.

In pursuit of these goals, DOE supports the research and development of new and advanced energy technologies and pursues programs to accelerate market adoption of energy efficient products and services. DOE also assists the Federal government in moving towards a clean energy future. Today, I will address EERE's efforts in the following areas:

1) The Federal government's progress in meeting its energy and sustainability goals;
2) The Federal government's efforts in advanced vehicles;
3) The Department's manufacturing efficiency and competitiveness focus; and,
4) The Department's support of combined heat and power (CHP) technology.

We appreciate Congress' support for improving the development and implementation of energy efficiency measures within the Federal government. The Department has concerns with the Smart Energy Act as drafted, and many of the purposes sought in the bill can already be achieved using existing Federal authorities and tools, including Federal Data Center Consolidation, advanced metering and power management. In addition, the Administration supports the current use of ESPCs and UESCs combined with appropriated funding but at this time does not support the expansion of or full reliance on these contracting tools to meet our energy goals. We look forward to continuing our work with Congress and this committee on these important issues. I will now describe some of the activities underway and DOE's role in supporting them.

1. The Federal government's progress in meeting its energy and sustainability goals

The Federal government has the opportunity to significantly reduce its energy bills as well as to provide leadership in achieving greater energy efficiency and meeting other sustainability goals. The Federal government owns or leases more than 3 billion square feet of building space, which

represents 4 percent of the commercial square footage in the United States.[1] In addition, the Federal government owns or leases nearly 660,000 fleet vehicles.[2] In total, the annual energy bill to the Federal government in FY2010 was approximately $20 billion for buildings, vehicles and equipment.

The size and impact of the government's investment in buildings and vehicles—and the corresponding use of energy and other resources— prompted a number of energy management and other sustainability goals established through statutes and Executive Orders, including the Energy Independence and Security Act of 2007 (EISA) and Executive Order 13514, Federal Leadership in Environmental, Energy, and Economic Performance.

DOE's Federal Energy Management Program (FEMP) was established to provide services, tools, and expertise to Federal agencies, in part, to help them achieve the statutory and Executive Order goals. FEMP offers technical assistance and guidance to agencies on energy efficiency, renewable energy and other energy management projects. FEMP also helps agencies use both appropriated funds and money leveraged through performance contracts such as energy savings performance contracts (ESPCs) and utility energy services contracts (UESCs) to implement and fund energy efficiency, renewable energy and water efficiency projects. ESPCs and UESCs require no net additional appropriated funds to implement, beyond the first year costs, and are paid for through guaranteed energy savings.[3]

FEMP also collects information from the agencies on their progress toward the energy savings and investment goals, facilitates the Office of Management and Budget's (OMB) development of annual agency scorecards, and reports annually on the Federal government's progress.

The preliminary data from FY2010 indicate that the Federal government as a whole is making steady progress in achieving its buildings-related energy, water and sustainability goals. For example:

- The Federal government achieved a 14.6 percent reduction in energy use per square foot as compared to FY2003, just shy of the 15 percent interim target. The Federal government is required to reduce energy intensity by 30 percent by FY2015, under Section 431 of the Energy Independence and Security Act of 2007.

[1] Calculated using data from *AEO 2012 Early Release Overview,* Energy Information Administration. January 2012.
[2] Fiscal Year 2010 Federal Fleet Report, General Services Administration. Available at: http://www.gsa.gov/portal/content/102943
[3] In a UESC, a utility arranges funding to cover the capital costs of the project, which are repaid over the contract term from cost savings generated by the energy efficiency measures. With this arrangement, agencies can implement energy improvements with no initial capital investment. The net cost to the Federal agency is minimal, and the agency saves time and resources by using the one-stop shopping provided by the utility.

- Renewable energy sources provided 5.2 percent of the Federal government's electricity use, ahead of the target of 5 percent. In FY2013 and beyond, the goal under Section 203 of the Energy Policy Act of 2005 (EPACT 2005) is for the government to derive at least 7.5 percent of its electricity from renewable sources to the extent economically feasible and technically practicable.
- The Federal government reduced its potable water intensity use by 10.4 percent as compared to FY2007. The target reduction by FY2010 was a 6 percent reduction, with a long-term goal of a 26 percent reduction by FY2020 under Executive Order 13514.
- And, the Federal government's emission of scope 1 and 2 greenhouse gases (GHG)—that is, all direct GHG emissions and indirect GHG emissions from the consumption of purchased electricity, heat or steam, the majority of which arise from building energy use—were reduced by 6.4 percent in FY2010 relative to FY2008. The government's aggregated long-term target is a 28 percent reduction.

The use of ESPCs helps in achieving and making progress on these goals. Since 2006, FEMP assisted Federal agencies in saving more than $5 billion in energy costs over the average life of efficiency measures implemented through ESPCs. As part of the Administration's Better Buildings Initiative, the Administration matched the private sector commitments of $2 billion in energy efficiency improvements by pledging to pursue by December 2013 $2 billion in energy efficiency performance-based contracts, including ESPCs and UESCs.[4] FEMP is actively assisting Federal agencies to enable them to meet this commitment.

While DOE and the Administration support the use of performance based contracts, including ESPCs and UESCs, to achieve improvements in energy efficiency, we recognize that performance based contracts are but one of many approaches to energy management. We believe that the Federal agencies and individual Federal facilities should have the greatest possible flexibility in pursuing energy efficiency and renewable energy goals.

We are specifically concerned that Sec. 101 of the Smart Energy Act limits this flexibility by giving preference to private financing over Federally appropriated funds in implementing energy projects. The Federal government can often achieve greater long-term cost savings if projects are fully funded through appropriated funds, rather than through private financing and performance-based contracts alone. Also, the expansion of ESPC and UESC authority from buildings to vehicles and fueling infrastructure is potentially problematic, in part because of the shorter lifetimes and more varied use of vehicles compared to buildings. While we appreciate

[4] Presidential Memorandum -- Implementation of Energy Savings Projects and Performance-Based Contracting for energy savings. December 2, 2011. Available at: http://www.whitehouse.gov/the-press-office/2011/12/02/presidential-memorandum-implementation-energy-savings-projects-and-perfo

the support of the Congress on these efforts, we would question whether this legislation is necessary to address these goals.

2. The Federal government's efforts in advanced vehicles

As part of its all-of-the-above energy strategy, and in its efforts to reduce oil imports by one-third, the Obama Administration invested in developing a portfolio of vehicle technologies that run on a variety of fuels. In regard to electric vehicles (EVs), the Administration has a goal to see 1 million EVs deployed in the marketplace by 2015. EVs make sense for a number of reasons, including:

- Electricity is cheaper than gasoline for powering a vehicle (<$1/gallon equivalent gasoline price).
- Electric vehicles allow for convenient fuel up at home at night, or potentially at work.
- Electric vehicles can potentially offer the same or better driving performance compared to today's gasoline powered vehicles.
- Electric vehicles will reduce America's dependence on oil, helping to protect consumers from price spikes and to keep the money Americans spend on fuel here in the United States.

Currently, the Federal government has about 60 EVs in its vehicle fleet, with an additional 3,600 low-speed EVs, and 86 EV charging stations. The Administration's Electric Vehicle Pilot Program, administered by the General Services Administration, is deploying another 116 EVs and the associated charging infrastructure across the nation.

Further, the Department is committed to additional breakthroughs in EV technology through "EV Everywhere." EV Everywhere is a DOE "Clean Energy Grand Challenge" with the overall goal of enabling U.S. companies to be the first in the world to produce electric vehicles that are as affordable and convenient for the average American family as today's gasoline-powered vehicles within the next 10 years. As part of the EV Everywhere challenge, DOE is working with industry, universities, our national laboratories and government partners to set aggressive goals and rapidly develop the next generation of vehicle, component, and charging technologies that will enable sufficient EV cost, range and infrastructure to assure widespread EV deployment without subsidies. Broad EV deployment will dramatically decrease American dependence on oil, provide stable and lower transportation prices for American families with the convenience of plugging in at home, and reduce the environmental impact of the transportation sector. Winning the EV Everywhere Challenge will also help put the U.S. in the lead to manufacture and export the next generation of advanced EVs and EV components, creating high paying manufacturing jobs and helping to stimulate the American economy.

Due to the importance of EV technology to America's clean energy future as well as potential cost savings to the taxpayer, the Administration is supportive of accelerating the adoption of EVs into the Federal fleet, as well as the associated charging infrastructure. My office is available to work with the Committee in addressing the technical issues involved in further electrification of the Federal fleet.

3. The Department's manufacturing efficiency and competitiveness focus

A strong domestic manufacturing base is critical to preserving and creating American jobs, spurring economic growth, and improving our economic security. DOE plays a key role in continuing to strengthen the nation's manufacturing sector through our Advanced Manufacturing Office (AMO). AMO supports advanced manufacturing and materials research and development as well as deployment activities through a diverse portfolio of partnerships focused on the research, development, and demonstration of high impact, nationally important and timely energy efficient technologies.

DOE's advanced manufacturing investments are well coordinated within DOE and across the Federal government. As a key part of the Advanced Manufacturing Partnership, AMO coordinates with the National Institute of Standards and Technology (through the Department of Commerce), the National Science Foundation, Defense Department, and other government agencies as a part of a whole-of-government approach to advanced manufacturing. DOE is one of the collaborating agencies supporting the President's proposed National Network for Manufacturing Innovation which will establish up to 15 regional hubs of manufacturing excellence to make our manufacturers more competitive and encourage investment in the United States. A pilot effort focused on additive manufacturing will be established in 2012 with joint funding from DOE and its partner agencies.

AMO also works with other Program Offices within EERE to identify important pre-competitive technology domains for investment and opportunities for co-funding and joint solicitation within DOE. For instance, AMO's recent Innovative Manufacturing Initiative (IMI) Funding Opportunity Announcement (FOA)—which received over 1,400 Letters of Intent from industry—was coordinated with other EERE offices such as the Building Technologies Program (BTP). As a result of this collaboration, one IMI proposal – for efficient manufacturing of gallium nitride semiconductor materials – has been selected for co-funding by both BTP and AMO, pending contract negotiation. AMO is strategically positioned to address a number of cross-cutting challenges that are common to many clean energy technologies supported by the Department. For example, ongoing investments in low cost carbon fiber composites can greatly increase efficiency in vehicles, commercial aircraft, and wind generators. In addition, advanced materials like wide band gap semiconductors could enable highly efficient lighting, power electronics for photovoltaic systems, and electric motors that do not use critical materials.

In addition to supporting these novel technologies, AMO also partners with today's industry to help save energy and increase profitability. For instance, industrial firms in the Better Buildings, Better Plants Program agree to serve as energy leaders in their industry to reduce the energy intensity of their manufacturing operations by 25 percent over ten years. The program has grown to include 110 companies representing over 1,400 plants across more than 20 industries. In 2010, participants reported approximately 15 trillion British Thermal Units (TBTUs) of energy savings and about $80 million in annual cost savings, or $800 million over the lifetime of the investments. DOE's goal is to grow the Better Buildings, Better Plants Program to cover an increasing percentage of the U.S. manufacturing energy footprint over time.

4. The Department's support of combined heat and power (CHP) technology

Combined heat and power (CHP) is an efficient approach to generating electric power and useful thermal energy from a single fuel source, and remains a key priority for DOE. Instead of purchasing electricity from the distribution grid and burning fuel in an on-site furnace or boiler to produce thermal energy, an industrial or commercial facility can use CHP to provide both energy services in one energy-efficient step. CHP is commercially available and directly addresses a number of national priorities, including improving the competitiveness of U.S. manufacturing, increasing energy efficiency, reducing emissions, enhancing our energy infrastructure, improving energy security and growing our economy.

Recognizing the benefits of CHP and its current underutilization as an energy resource in the United States, the DOE is focusing its efforts to increase the use of cost-effective CHP. One way in which we aim to do so is through our Regional Clean Energy Application Centers, which promote and assist in transforming the market for CHP, waste heat to power, and district energy technologies and concepts throughout the United States. They focus on market assessments, education and outreach, and technical assistance.

Summary

In summary, we are making progress improving the efficiency of the nation's buildings, vehicles and manufacturers, but there continues to be large opportunities in the Federal sector and across the country that can help build jobs, save energy, and protect our environment. The nation is on the right track toward achieving the President's goals of reducing oil imports by one-third, deploying EVs into the marketplace, and improving America's manufacturing competitiveness. We appreciate the opportunity to testify. I will be happy to address your questions.