STATEMENT OF

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Chairman Bingaman, Ranking Member Murkowski and Members of the Committee, thank you for the opportunity to discuss the Department of Energy's (DOE's) energy efficiency and Advanced Vehicles Technology Programs. The Administration is still reviewing the Reducing Federal Energy Dollars Act of 2011 (S. 963), the Energy Savings and Industrial Competitiveness Act of 2011 (S. 1000), and the Alternative Fuel Vehicles Competitiveness and Energy Security Act of 2011 (S. 1001). While the Administration does not take a position at this time, my statement will provide you with information on work DOE is already doing to create jobs, build a new clean energy economy, and help save consumers and businesses money through improved energy efficiency.

At EERE, we work to remove the barriers to the rapid conversion of innovative research into commercial products, manufacturing, and jobs. And we work with other federal, state, and local governments to speed the adoption of these American innovations. The new businesses in clean energy production, installation, and operation are playing a key role driving economic growth and job creation.

The market for clean energy technology is growing quickly and many countries have mounted aggressive national efforts to capture market share. China, for example, has moved quickly to dominate the development of next generation clean energy products through low-cost production and investments in research infrastructure. As the President said, "this is our generation's Sputnik moment." To show his clear commitment to our future, he has asked for a significant increase in funding for energy efficiency and renewable energy in the FY12 budget proposal, even in a budget which moves overall domestic discretionary spending to the lowest levels in a generation.

To win the future, we have to be a nation that makes, creates, and innovates. Across the country, we are seeing strong evidence that the out-build and out-innovate pillars the Administration has put forward are paying off. In October of last year, for example, manufacturing posted its first twelve-month gain in more than ten years, and has added close to 250,000 jobs since the December 2009 low. The Administration continues to be optimistic about the prospects for manufacturing in the recovery.

Manufacturing remains one of the most globally competitive economic sectors we have. It also is one of the most visible economic sectors we have, with middle-class Americans clearly understanding the impact that strengthened manufacturing has on their lives and their communities.

The challenges we face mean that we need to move with unprecedented speed and scale. Success is measured by private innovation and investment but can begin with well-crafted federal programs that will help achieve a number of important goals:

- A vigorous and profitable residential and commercial building retrofit industry, cost-effectively saving 30-50 percent of the energy used in existing buildings;
- Solar energy, offshore wind energy, and geothermal plants fully competitive with conventional sources of electricity;
- Fuels that can be drop-in replacements for gasoline, diesel fuel, or jet fuel priced competitively with products produced from petroleum;

- Large fleets of electric and hybrid cars supported by a network of charging stations to support them; and
- Trucks with over 50% improvement in fuel economy.

Small federal investments have led to major breakthroughs like the invention of the internet and Global Positioning Systems or "GPS" found in most cellular devices today. Similarly, EERE investments past, present, and future are critical to achieving these goals. As one example, in 2009, the U.S. had only two, relatively small, factories manufacturing advanced vehicle batteries, and produced less than two percent of the world's hybrid vehicle batteries.[1] But over the next few years, thanks to investments from the American Recovery and Reinvestment Act of 2009 (Recovery Act) in battery and electric drive component manufacturing, and electric drive demonstration and infrastructure, the U.S. will be able to produce enough batteries and components to support 500,000 plug-in and electric vehicles per year. High volume manufacturing, coupled with battery technology advances, design optimization, and material cost reductions, could lead to a drop in battery costs of 50 percent by 2013 compared to 2009, which will lower the cost of electric vehicles, making them accessible to more consumers.

These kinds of breakthroughs are especially important in the transportation sector, which alone accounts for approximately two-thirds of the United States' oil consumption and contributes to one-third of the Nation's greenhouse gas (GHG) emissions.[2] After housing, transportation is the second biggest monthly expense for most American families.[3] As the President said in his recent energy speech, "In an economy that relies so heavily on oil, rising prices at the pump affect everybody." Emphasizing that "there are no quick fixes," the President outlined a portfolio of actions which, taken together, could cut U.S. oil imports by a third by 2025.

The draft legislation being addressed today focuses on three areas:

- Clean energy in the Federal sector
- Energy efficiency in the industrial sector and building codes
- Alternative fuel vehicles

General comments are provided on each of these three areas, but the Department has no comments on the specific content of the legislation, as these bills are currently under review by the Administration.

[1] http://www.whitehouse.gov/sites/default/files/blueprint_secure_energy_future.pdf
[2] http://www1.eere.energy.gov/vehiclesandfuels/pdfs/vehicles_fs.pdf
[3] http://www.bls.gov/news.release/cesan.nr0.htm

CLEAN ENERGY IN THE FEDERAL SECTOR

Constructing and operating Federal facilities in a sustainable manner has numerous well-documented benefits, including:

- Saving taxpayer dollars through optimized life-cycle cost-effective actions;
- Enhancing employee productivity through the provision of safe, healthy and environmentally appealing workplaces;
- Reducing environmental impacts through decreased energy, water, and materials use; and
- Moving the overall market conditions toward higher performance, through the Federal demand for sustainable facilities.

These benefits are sizable, in part, due to the size of the Federal Government. The Federal Government is estimated to use about 1.6 percent of the Nation's total energy, **occupy nearly 500,000 buildings,** operate more than 600,000 vehicles, and purchase more than $500 billion per year in goods and services.

The Federal government is making substantial progress toward its sustainability goals mandated in EPAct 2005, EISA 2007, and Executive Order 13514, signed by President Obama in October, 2009. For example, in FY 2010, the Federal Government reported a 15 percent decrease in site-delivered Btu per square foot compared with baseline year 2003. This meets the EISA statutory reduction goal for FY 2010.

FY 2010 was also the highest level year to date for the use of Energy Savings Performance Contracting with these contacts totaling more than $560 million in investment in Federal facilities. This type of performance-based contracting is extremely important to meeting the Federal sustainability goals due to the pressures on Federal appropriations and increasing goals for reduced energy intensity, energy savings goals that increase to 30% by 2015.

In FY 2010, Federal agencies also reported purchasing or producing renewable electric energy representing 5.2 percent of the Federal Government's electricity use, achieving the EPAct 2005 goal of five percent. This more than doubled renewable energy use as a percentage of total facility electricity use since 2003. The five percent goal remains in place until FY 2013, when it will increase to 7.5 percent under current statute. Not counted in this metric is the significant amount of non-electric renewable energy produced and purchased by the Government that displaces the need for additional electric generation. This includes thermal energy, such as solar hot water and space heating, geothermal energy, steam from biomass, and landfill methane.

DOE is also making progress to improve the transparency of Federal building energy efficiency, as required under EISA 2007, Section 432. DOE expects to have a web-based system that provides information on the energy efficiency of metered buildings and on the cost-effective improvement opportunities that exist in Federal facilities publicly available by Fall 2011.

ENERGY EFFICIENCY IN THE INDUSTRIAL SECTOR AND BUILDING CODES

The Energy Savings and Industrial Competitiveness Act (S.1000) outlines new provisions for building codes, appliance standards, and industrial energy efficiency among other areas.

Energy-conserving appliance standards are one of the significant steps the Administration has taken to save energy in homes and businesses nationwide, and pave the way toward a clean energy future for our country.[4] Since January 2009, the Department of Energy has finalized new efficiency standards for more than twenty household and commercial products, which are projected to cumulatively save consumers between $250 billion and $300 billion over the next 20 years.[5] These standards can provide an immediate and economically responsible way to increase the nation's energy security while protecting the environment. Improvements in energy efficiency can be made today to yield significant near-term and long-term economic and environmental benefits for the nation.[6]

In 2007, Congress recognized the importance of negotiated consensus standards, amending the Energy Policy and Conservation Act (EPCA) to allow for an expedited rulemaking process in the event a representative group of stakeholders could reach agreement. Several DOE rules currently under development and review overlap with the proposed consensus standards. Although the agency cannot presuppose the level of the final standards, it is seriously considering these consensus recommendations. The agency's preliminary analyses accompanying the proposed rules for these standards suggest that the potential net benefits from these recommended levels could yield tens of billions of dollars in fuel savings and lower greenhouse gas emissions.

U.S. industry accounts for about one-third of U.S. energy use while contributing to about 12% of U.S. Gross Domestic Product[7]. Improving industrial energy efficiency will result in saving money and enhancing U.S. competitiveness in the world's manufacturing sector. By partnering with the private sector, DOE has already managed to save more than 9.3 quadrillion Btu of energy and reduced carbon emissions by over 206 million metric tons.

Supply chain energy efforts can make an important contribution to overall industrial efficiency and the competitive position of domestic suppliers. Analysis suggests that a large part of the carbon footprint for many consumer products can be attributed to the supply chain – from raw materials, transport, and packaging to the energy consumed in manufacturing processes – on the order of 40 to 60 percent. DOE and the Environmental Protection Agency (EPA) both have existing initiatives that address supply chain efficiency, such as *Save Energy Now*® at DOE and ENERGY STAR. For example, through its national *Save Energy Now*® initiative, DOE encourages manufacturing companies to engage their supply chains in energy and carbon

[4] http://www.whitehouse.gov/issues/energy-and-environment
[5] http://www.energy.gov/news/9582.htm
[6] See, for example: McKinsey and Company (2007). Reducing U.S. Greenhouse Gas Emissions: How Much at What Cost? (http://www.epa.gov/cleanenergy/documents/suca/cost-effectiveness.pdf) and Lazard Associates. Feb. 2009. Levelized Cost of Energy Analysis Version 3.0.
[7] http://www1.eere.energy.gov/industry/about/pdfs/itp_program_fact_sheet.pdf

management, while at EPA, ENERGY STAR has engaged whole industries to support their customers and supply chains in building effective energy management programs. Specifically, DOE and EPA develop processes and resources to assist companies in promoting energy management to their industrial suppliers and customers. *Save Energy Now*® LEADER Companies make a voluntary commitment to reduce their energy intensity by 25 percent in 10 years. Many of these companies are interested in improving the efficiency of their supply chains as well. ENERGY STAR boasts a growing group of corporations that have used ENERGY STAR to influence key suppliers to effectively manage energy.

DOE is also working with Superior Energy Performance (SEP), a voluntary certification program helping to provide industrial facilities with a roadmap for achieving continual improvement in energy efficiency while maintaining competitiveness. A central element of SEP is implementation of the International Organization for Standardization (ISO) 50001 energy management standard, with additional requirements to achieve and document energy intensity improvements. DOE is working through SEP to bring ISO 50001 to the U.S. Upon its publication this American National Standards Institute-accredited program is anticipated to provide companies with a framework for fostering energy efficiency at the plant level and a consistent methodology for measuring and validating energy efficiency and intensity improvements. This new framework has the opportunity to be an important tool to integrate into supply chain efforts.

ALTERNATIVE FUEL VEHICLES

Few technologies hold greater promise for reducing our dependence on oil than alternative fuel vehicles. The Administration has set a goal to have the United States become the first country with a million electric vehicles on the road. Meeting this goal will help the United States become a leader in the clean energy economy, while capitalizing on the ingenuity of American industry. Manufacturing products needed for the clean energy economy will generate long term economic strength in the U.S., creating jobs across the country while reducing air pollution and greenhouse gas emissions. The Administration supports the goal of utilizing alternative fuel technologies to break our dependence on oil and to move toward a clean energy future. The DOE looks forward to working with Congress to achieve these objectives.

DOE's Vehicle Technologies Program is helping the Nation lead the way in alternative fuel vehicle innovation. DOE has helped reduce the cost of PHEV Lithium Ion batteries to $650 per kilowatt-hour, a 35% reduction from the 2008 baseline of $1,000 per kilowatt-hour. This is making oil alternatives competitive in general while specifically increasing U.S. competitiveness in the global market.

CONCLUSION

In conclusion, the Department of Energy thanks the Subcommittee for the opportunity to comment on these proposed initiatives. We look forward to working with Congress to develop strong, effective clean energy policy to ensure U.S. leadership on these global issues and in the clean energy economy. I am happy to answer any questions Committee Members may have.