Statement of
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Before the

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Chairman Wyden, Ranking Member Murkowski, and Members of the Committee, thank you for the opportunity to appear before you today to discuss the President's Fiscal Year 2014 Budget request for the Department of Energy.

The United States is on the path to a cleaner and more secure energy future. Since President Obama took office, responsible oil and gas production has increased each year, while oil imports have fallen to a 20 year low; renewable electricity generation from wind, solar, and geothermal sources has doubled; and the carbon emissions that threaten our planet have fallen to the lowest level in the U.S. in nearly two decades. In short, the President's approach is working. It is a winning strategy for the economy, energy security, and the environment.

But even with this progress, there is more work to do. High gas prices impact American families and businesses every day, and remind us that we are still too reliant on oil, which comes at a cost to American families and businesses. While there is no silver bullet to address rising gas prices in the short term, President Obama remains committed to a sustained, all-of-the-above energy strategy and common-sense proposals that will further reduce our dependence on oil, better protect consumers from spikes in gas prices, and reduce pollution.

The Energy Department plays a vital leadership role in continuing the significant progress America has made in producing more American energy, creating the clean energy jobs of the future, and making energy more efficient across the economy.

In total, the President's 2014 Budget provides $28.4 billion in discretionary funds for DOE to support its mission. The FY 2014 Request supports the President's goal to increase American competitiveness and reduce our reliance on oil by making strategic investments in critical research and technology sectors for clean energy and to make significant national security advances to leave future generations with a country that is safer, healthier, and more prosperous. Further, the President proposes investments so the United States will lead the world in development, demonstration, and deployment of clean energy technologies, to reduce our dependence on oil and to mitigate the impact of climate change. The Request also includes

increased funding to modernize the Nation's nuclear deterrents and continue securing vulnerable materials around the world. In light of the current discretionary spending caps, these increases in funding are a testament to the importance of clean energy and innovation to the country's economic future and the importance of nuclear security to the Nation's safety.

Investing in clean energy, innovation, jobs of the future

As part of the Administration's all-of-the-above energy strategy, the President's budget request invests in programs that support research and deployment of the energy technologies of the future. These investments will help us double American energy productivity by 2030, save consumers and businesses money by saving energy, and support groundbreaking research and innovation to leverage every domestic source of energy, from natural gas and nuclear to solar and wind.

The budget request invests approximately $4.7 billion in applied energy programs. This is a 42 percent increase over FY12 enacted levels and demonstrates the President's commitment to making America a magnet for clean energy jobs, ensuring our nation's energy security, and combating climate change.

The Request includes $2.8 billion in funding for programs designed to help meet the President's goals of investing in the next generation of renewable energy technologies, advanced vehicles and fuels, and energy efficiency measures that reduce energy use in Federal agencies and the industrial and building sectors.

The budget continues to support the Department's successful SunShot initiative, which aims to make solar energy cost-competitive with conventional sources of electrical energy, without subsidy, by the end of the decade. It also supports several other cross-cutting initiatives including the following:

- **EV Everywhere Grand Challenge —** advances the goal of making the U.S. the first country in the world to invent and produce plug-in electric vehicles that are as affordable and convenient as gasoline powered vehicles by 2022.
- **Clean Energy Manufacturing Initiative** – focuses on dramatically improving U.S. competitiveness in the manufacturing of clean energy products and strengthening U.S. competitiveness across multiple manufacturing industries through increased energy productivity.
- **Grid Integration Initiative —** develops the technologies, tools, and approaches to overcome grid integration barriers for renewable energy, electric vehicles, and energy-efficient building technologies while maintaining grid reliability.

In addition to the Grid Integration Initiative, the budget request includes $169 million to facilitate grid modernization and increase the reliability and security of the grid. In FY14, we are

undertaking efforts to produce real-time analysis of the transmission system and energy supply disruptions, improve response times during emergencies, and promote effective cyber-security capabilities in the energy sector.

Investing in energy efficiency and renewable energy generation are fundamental steps necessary for creating a clean energy economy. The Administration continues to call on Congress to pass HomeStar or similar mandatory funding legislation aimed at creating jobs and spurring economic growth by encouraging Americans to invest in energy-saving home improvements.

Currently, nuclear energy supplies approximately 20 percent of the Nation's electricity and over 60 percent of clean, non-carbon producing electricity. Over 100 nuclear power plants are offering reliable and affordable baseload electricity in the United States, and they are doing so without air pollution and greenhouse gas emissions. The budget request invests $735 million in the nuclear energy program to help develop the next-generation of nuclear power technologies, including small modular reactors and improved light water reactor systems, and continue R&D efforts in areas such as improved fuel forms. The Budget also provides $60 million to support the Administration's Strategy for the Management and Disposal of Used Nuclear Fuel and High Level Radioactive Waste, which provides a framework for moving toward a sustainable program to deploy an integrated system capable of transporting, storing and disposing of used nuclear fuel and high-level radioactive waste.

As we move to a sustainable energy future, America's fossil energy resources will continue to play an important role in our energy mix. President Obama is committed to developing our oil and gas resources in a safe and sustainable manner. Today, America produces more natural gas than ever before – and nearly everyone's energy bill is lower because of it. The Administration's Budget Request includes $638 million to advance technologies related to the reliable, efficient, affordable, and environmentally-sound use of fossil fuels, and provide strategic and economic security against disruptions in U.S. oil supplies. Key R&D efforts include developing cost-effective carbon capture and storage and advanced power systems. The Budget also invests $2 billion over the next ten years from Federal oil and gas development revenue in a new Energy Security Trust that would provide a reliable stream of mandatory funding for R&D on cost-effective transportation alternatives that reduce our dependence on oil.

As industry, Congress, and the American people make critical energy decisions that require an in-depth understanding of domestic and international energy markets, it's important that we adequately fund the Energy Information Administration, the nation's premier source of independent statistical information about energy production and use. That is why the budget request includes $117 million for EIA.

Investing in Science and Innovation to Keep America Competitive

Competing in the new energy economy will require us to harness the expertise of our scientists, engineers, and entrepreneurs. As the President said, the "the world is shifting to an innovation

economy, and nobody does innovation better than America. In today's innovation economy, we need a world-class commitment to science and research." The President is committed to making investments in research and development (R&D) that will grow our economy and enable America to remain competitive. This focus on science and innovation will help create the industries and jobs of the future and address the challenges and opportunities of the 21st Century.

The Administration recognizes the Government's role in fostering scientific and technological breakthroughs, and has committed significant resources to ensure America leads the world in the innovations of the future. This includes $5.2 billion for the Office of Science to support basic research that could lead to new discoveries and help solve our energy challenges. These funds support progress in materials science, basic energy science, advanced computing and more. They also provide America's researchers and industries with state-of-the-art tools to ensure they stay at the cutting edge of science.

The budget request continues to support Energy Frontier Research Centers. The Energy Frontier Research Centers are working to solve specific scientific problems to help unleash new clean energy technology development. So far, the EFRCs have generated some 3,400 peer-reviewed papers 60 invention disclosures, and 200 patents, and the Centers report numerous instances of technology transfer. In their three-plus years of existence, the EFRCs have achieved scientific breakthroughs in multiple areas, from solar power and batteries to new catalysts for refining petroleum and powering fuel cells. In FY 2014, we are going to hold an open re-competition to select new EFRCs and consider renewal applications for existing EFRCs.

The budget request also supports the five existing Energy Innovation Hubs and proposes a new Hub in electricity systems. Through the Hubs, we are bringing together our nation's top scientists and engineers to achieve game-changing energy goals. The Hubs continue to make progress. For example, the Modeling and Simulation for Nuclear Reactors Hub has released the first versions of software that, support simulating a virtual model of an operating physical reactor. The Fuels from Sunlight Hub has filed multiple invention disclosures and published scientific papers. And the Energy Efficient Buildings Hub is developing advanced building modeling tools and has built one of the country's first 3-D building design labs.

Additionally, the budget request includes $379 million for the Advanced Research Projects Agency for Energy, known as ARPA-E, to support high-impact energy-related research projects with the potential to transform the energy sector. ARPA-E has invested in roughly 285 high-risk, high-reward research projects that, if successful, could create the foundation for entirely new industries. 17 of these projects, which received an initial investment from ARPA-E of approximately $70 million in total, have attracted over $450 million in private sector follow-on funding. These companies and research teams have produced a battery that doubled the energy density of any previous design, successfully engineered microbes that use carbon dioxide and hydrogen to make fuel for cars, and developed a 1 megawatt silicon carbide transistor the size of a fingernail.

In FY14, ARPA-E will continue to work on all aspects of transportation, including alternative and bio-derived fuels, batteries, components for transportation electrification, and advanced vehicle designs and materials. Additionally, ARPA-E will continue to work on all aspects of stationary power systems, including building efficiency, stationary energy storage systems, grid modernization, and stationary energy generation.

Taken together, our research initiatives will help power America's great innovation machine to accelerate energy breakthroughs and create jobs.

Nuclear Safety and Security

In addition to strengthening our economy, the budget request also strengthens our security by providing $11.7 billion for the Department's National Nuclear Security Administration. NNSA plays a vital role in achieving President Obama's nuclear security objectives.

As the United States begins the nuclear arms reduction required by the New START treaty, the science, technology and engineering capabilities within the nuclear security enterprise will become even more important to sustaining the U.S. nuclear deterrent. The budget request includes $7.9 billion for Weapons Activities, a nine percent increase over the FY 2012 enacted levels. This increase provides a strong basis for transitioning to a smaller yet still safe, secure and effective nuclear stockpile. It also strengthens the science, technology and engineering base of our enterprise.

The budget request also includes $1.2 billion for the Naval Reactors program to ensure the safe and reliable operation of reactors in nuclear-powered submarines and aircraft carriers and to fulfill the Navy's requirements for new nuclear propulsion plants that meet current and future national defense requirements.

Additionally, the budget request supports NNSA's critical work to prevent nuclear terrorism – one of the most immediate and extreme threats to global security. That is why President Obama has elevated this challenge to the top of our national security goals. It includes $2.1 billion to implement key nuclear security, nonproliferation and arms control activities. It supports efforts to detect, secure, and dispose of dangerous nuclear and radiological material around the world. And it will help the Department to fulfill its role in completing the President's four-year plan to secure all vulnerable nuclear materials worldwide.

Finally, the President's FY2014 Budget Request of $5.622 billion provides the resources to clean up the Cold War legacy and maintain momentum in the world's largest environmental remediation effort, led by the Office of Environmental Management (EM). EM continues to develop and apply innovative environmental cleanup strategies and construct and operate one-of-a-kind, highly-complex facilities to safely complete clean-up in a manner that demonstrates continued value to the American taxpayers.

Investing for Security and Prosperity

The President's Fiscal Year 2014 Budget Request for the Energy Department protects Americans from nuclear hazards, advances basic science and cutting-edge research to strengthen America's future competitiveness, and helps make America a magnet for jobs again by investing in high-tech manufacturing and innovation, clean energy, and infrastructure. The Budget does all of these things as part of a comprehensive plan that reduces the deficit and puts the Nation on a sound fiscal course.

As President Obama has said, "Today, no area holds more promise than our investments in American energy. After years of talking about it, we're finally poised to control our own energy future." The investments included in the Administration's Energy Department budget request are vital to ensuring America's energy security and securing America's place as the world leader in the clean energy economy.

Thank you, and now I am pleased to answer your questions.