

**Testimony of Jennifer Schafer-Soderman, Executive Director
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Before the House Science Subcommittees on Oversight and Energy
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Chairman Broun, Chairwoman Lummis and members of the subcommittee, thank you for inviting me to testify today regarding private sector mechanisms and financing available to advance energy efficiency across the Federal government.

I am Jennifer Schafer, Executive Director of the Federal Performance Contracting Coalition, which is a national industry coalition comprised of Energy Service Companies advocating for increased federal use of Energy Savings Performance Contracts (ESPCs). Our coalition focuses exclusively on Federal use of ESPCs and has spent time over the last thirteen years removing congressional and administrative barriers to usage, extending necessary authorities, educating about ESPCs and otherwise encouraging their usage as a means for saving the government money on both energy and infrastructure. This year, we have worked closely with Congressmen Cory Gardner and Peter Welch to increase Congressional Membership of the bipartisan Energy Savings Performance Caucus.

The Federal Performance Contracting Coalition's members have delivered over 90 percent of Federal Energy Savings Performance Contracts. This coalition is comprised of companies such as Ameresco, Chevron Energy Solutions, Constellation Energy, Honeywell, Johnson Controls, Lockheed Martin, NextEra Energy Solutions, NORESKO, Schneider Electric, Siemens Government Technologies, and Trane/Ingersoll Rand.

I am here today to discuss the FPCC experiences in working with the Federal government and to suggest ways that the process may be improved.

Energy Savings Performance Contracting (ESPC)

As the nation's single largest energy consumer, the Federal government spends more than \$7 billion annually on its energy costs. Energy efficiency improvements can reduce this expenditure as well as help agencies acquire necessary infrastructure and equipment. In 2007, the Energy Independence and Security Act required Federal agencies to perform energy audits of their facilities. Today, with only half of the buildings audited approximately \$9 billion worth of energy conservation measures with a ten year payback or less have been identified. There is clearly a vast opportunity for energy efficiency across the Federal government at a time of reduced discretionary funding.

Energy Savings Performance Contracts can fill this funding gap. For over 20 years, performance-based contracts for energy savings have provided critical upgrades to Federal buildings, including the House and Senate Office Buildings and the U.S. Capitol.

Under an ESPC, private sector Energy Service Companies finance and install new energy efficient equipment at no upfront cost to the Federal government. Federal agencies repay this investment over time with funds saved on utility costs. The private sector contractors measure, verify and guarantee these energy savings. Private sector financiers provide the capital, which today is available at historically low interest rates. By law, and on a negotiated basis, the government never pays more than it would have paid for utilities if it had not

entered into the ESPC. *In fact, a June 2013 Oak Ridge National Laboratory study found that under an ESPC federal agencies are saving an average of almost twice as much energy as is guaranteed by the contractor.* In addition to generating energy and dollar savings, years of deferred maintenance at Federal facilities are successfully addressed by ESPC retrofits at no additional cost to taxpayers. For these reasons, ESPCs have proven to be a highly successful means to implement comprehensive energy efficiency projects.

ESPCs are used in Federal, state and municipal buildings as well as in schools, hospitals and universities. Over 30 states have authorized state ESPC programs and the Energy Service Company market is estimated to exceed \$5 billion annually. In the past twenty years, the US ESCOs delivered about \$45B in projects paid from savings, \$50B in energy and maintenance savings – guaranteed and verified, 400,000 person-years of direct employment, \$30 billion of infrastructure improvements in public facilities and 450 million tons of CO₂ savings at no additional cost.

FPC Experience with the Federal ESPC Contract

To capture these benefits more readily, the Federal government has Indefinite Delivery/Indefinite Quantity ESPC contracts that allow for their agencies to more simply develop ESPC projects. For the Federal government, both the Department of Energy and the Army Corps of Engineers have such master contracts both of which have evolved over the last two decades. According to DOE's Federal Energy Management Program there have been 570 performance contract projects worth \$3.9 billion awarded to 25 federal agencies and organizations. These projects reduced annual energy consumption by 32.8 trillion Btu, and resulted in energy savings valued at \$13.1 billion, of which approximately \$10.1 billion went to finance project investments, leaving a net savings of \$3 billion to the federal government.

In 2009, the Department of Energy prequalified 16 Energy Service Companies for Super ESPC IDIQ contracts of \$5 billion each. The FPC represents 11 of these contractors and those ESCOs have been responsible for approximately 90% of the ESPCs within the Federal government. The "Super" contract, which was significantly updated over the previous contract, represents a total potential of \$80 billion in private sector financing available to the Federal government to implement ESPC projects. Today, almost \$78 billion remains available to Federal agencies. Even with the current focus on and increased pace of ESPCs, the current contract holder have the capacity to do more.

An Oak Ridge National Laboratory study looked at what might happen if each contractor really did invest \$5 B in the Federal space. The Study indicated that the result would be net energy savings (beyond paying back the contractor) of \$20 B. In addition, this would result in the Federal government acquiring \$30 billion of new energy equipment at no up-front cost.

Most Federal ESPC contracts range from 15 to 18 years and, by law, cannot exceed 25 years. This allows for the bundling of multiple energy conservation measures; that is, the ability to pull a comprehensive package of energy saving measures together that maximizes energy and cost savings opportunities for the customer. Individual energy conservation measures (ECMs) which can make up a bundled ESPC project may include lighting, building controls, HVAC, boiler or chiller plant improvements, building envelope modifications, water conservation, refrigeration, renewable energy systems, load shifting and others. The ESCO ensures that savings accrue and is reimbursed for their investment over this period.

Challenges and Opportunities

Despite the associated benefits of utilizing ESPC, including how they provide much needed facility improvements without the need for upfront capital, the mechanism has been underutilized by the Federal government.

The barriers to increased usage are difficult to quantify but revolve mostly around the fact that performance contracting is different from traditional procurement processes. To address this we need better education of contracting and legal personnel within agencies, in addition to strong government advocacy at the Congressional and Administration levels. Education is generally accomplished through the Federal Energy Management Program at DOE, a small program which leverages the billions of dollars in savings that are being delivered through private sector performance contracting with the federal sector. There is a need to make performance contracting “business as usual” within the Federal government.

In December 2011, the President released a Presidential Directive directing Federal agencies to enter into \$2 billion worth of performance-based contracting for energy savings over a two year period. The FPCC is encouraged by this Directive and we have seen the many Notices of Opportunity (NOOs) for new projects being issued by Federal agencies and subsequent selections of ESCOs to move forward.

More than \$550 million has been contracted to date and the FPCC anticipates an additional \$1 billion to be contracted by the conclusion of this year. Should this goal be met fully it would be quite a success, particularly in comparison to the approximately \$400 million per year that is generally contracted for ESPC by the Federal government. We believe the momentum established by this Directive should be continued with aggressive ESPC targets for next year, just as the federal agency targets for increasing overall energy efficiency have been extended each time they have been achieved during the past two decades.

Some agencies are more vested in ESPCs than others. Some personnel, both in the Federal government, Congress and elsewhere believe that agencies should not be financing energy-related infrastructure improvements but rather should fund them directly. During this time of fiscal constraint, however, that is impossible and the low interest rates and guarantee of savings make ESPCs an attractive alternative.

The Federal Performance Contracting Coalition recommends the following ESPC Contract Improvements:

- Standardize portions of the contract that will encourage faster and better contracting while retaining the flexibility to address individual facility needs. Standardize an expedited contracting procedure to reduce cycle time. Include in the contract a suggested process timeline along the lines of the one developed by the Federal Energy Management Program that calls for a 12 month cycle time to award.
- Expedite Selection process: All ESCOs under the Super Contracts are very well vetted and qualified to do work for the Federal government; therefore we encourage ESCO selections based on qualifications. In an ESPC, the overall project is not known until it is developed through the Investment Grade Audit and thus, price will be unavailable until final contract is negotiated between the selected ESCO and site personnel.

The FPCC recommends the following ESPC Process Improvements:

- Oversight is necessary: Continue the current level of White House oversight aimed at persuading agencies to move swiftly on project. This type of hands-on leadership has been successful in past endeavors and we suggest it be formalized. We strongly recommend a streamlined government review process for ESPCs, since delays generally occur during agency reviews. In addition, we suggest that for simple projects or follow on task orders, agencies could combine the Preliminary Assessment and the Investment Grade Audit, thereby expediting projects.

Drive more consistency among agencies: Despite the priority these contacts have been given by the President, some agencies are taking almost 12 months just to select a contractor to work with. We recommend all agencies use the one step selection process. We believe that policies where only a two-step selection process is utilized should be changed. In addition, the Administration should put in place a process by which legal and contracting personnel at all the federal agencies can vet their various interpretations of what is allowable under an ESPC. These legal and contracting interpretations seem to change with personnel and has a generally negative impact on projects moving forward. The FPCC recommends the following to ensure ESPC Persistence of Energy Savings:

- FEMP should continue their life of contract oversight established two years ago: At a time when the government has fewer dollars and energy management personnel, this oversight provides the confidence in the savings that are being accrued and that the government is getting a good deal. We suggest that DOE look at establishing evaluation criteria, including M&V criteria, that encourage comprehensive deep retrofits through a systems wide, lifecycle cost based analysis. This would encourage systems integration for optimal overall efficiency.

FPCC recommends the following congressional improvements to ESPCs:

- Policy levers such as codifying new energy efficiency goals for the federal government, setting goals for ESPCs moving forward and clarifying authority would all be beneficial but would trigger a “score” by the Congressional Budget Office. However, the last three Administrations have considered ESPCs to be score neutral and Congress and the CBO should follow their lead. We are grateful that Republicans and Democrats alike continue to question CBO about the score.

In summary, ESPCs are a private sector financing mechanism that allows government to increase their energy efficiency, decrease their energy costs without upfront appropriations and the savings are guaranteed by the contractor. These contracts have delivered more than \$7 billion in energy related savings to the Federal government alone and significant additional opportunities abound.

Chairman Broun, Chairwoman Lummis and members of this subcommittee, thank you for the opportunity to appear before you today. I stand ready to answer any questions you might have.

Example ESPC Projects at Facilities over which House Science Committee has Oversight

NASA:

Glenn Research Center, Cleveland, Ohio

In 1999, Glenn Research Center awarded to Ameresco Solutions (then awarded to Duke Solutions of which Ameresco, Inc. later acquired) a \$1.9M ESPC to provide Energy Conservation Measures (ECMs) for energy savings measures including lighting systems upgrades and lighting controls. These improvements were designed to reduce energy use by over 1,362,000 kWh/year and reduced peak demand by over 440 kW each month. Overall, these improvements supported the NASA site in meeting federal energy reduction goals. Annual savings for the contract term ranged between \$220k for the first year savings to \$268k in the final performance year. The contract payments concluded in calendar year 2009.

Goddard Space Flight Center, Greenbelt, Maryland

In 2010, Goddard Space Flight center awarded to Ameresco Solutions a \$6.8 million ESPC to prove the installation of four Energy Conservation Measures (ECMs) which included high-efficiency lighting retrofits; measures to improve building envelope through window, frame and door improvements; improvements to water efficiency through the installation of a waterside economizer; and to provide retro-commissioning of HVAC and associated controls systems. Retro-Commissioning is the commissioning of existing building systems to meet current building operating criteria. A waterside economizer utilizes the cooling towers to create chilled water in place of mechanical chillers whenever outside air conditions permit. Together the four ECMs reduced future O&M demands, reduce energy intensity and improved equipment performance. Construction and implementation of the ESPC was completed in 2012 and Ameresco provided the post-installation report to Goddard in June 2012. Less than a year into the first Measurement & Verification (M&V) reporting cycle by the contractor, Goddard elected to pay the entirety of the contract payments early.

NASA Wallops Flight Facility

Since 2009, Ameresco has been awarded two phases of work under an ESPC providing in excess of \$30M of energy savings to NASA Wallops Flight Facility. As part of this first phase of the facility-wide project, Ameresco replaced approximately 10,000 interior and exterior lighting fixtures with high-efficiency lighting and controls in 85 buildings. Additionally, Ameresco decentralized the 1940s vintage central steam plant with the installation of a propane vaporizer plant with three 60,000-gallon storage tanks, over five miles of new underground propane gas piping, and 63 propane-fired condensing boilers. Finally, Ameresco upgraded and expanded the existing energy management control system in 14 buildings to include equipment and ventilation air scheduling and interconnected the newly installed propane gas meters to the EMCS. In May 2012, NASA Wallops modified their existing ESPC with Ameresco to include an additional phase of work. Ameresco is currently installing over 500 tons of geothermal heat pumps at facilities at the Visitor's Center and the Wallops Island Launch Range. Implementation of these measures will provide a valuable renewable energy resource and will reduce extensive maintenance requirements for the existing equipment due to the corrosive coastal environment.

Ames Research Center, Moffett Federal Airfield, California

In August 2000 Johnson Controls, Inc. was awarded a \$5.1 million energy contract for the installation of energy efficient lighting systems and enhancements to its building management control system. The upgrades are providing Ames guaranteed savings of \$5.2 million in energy costs. Ames awarded a second energy contract to Johnson Controls in March 2002 for \$4.7 million to install efficient lighting in more buildings which is providing Ames with an additional \$4.7 million in guaranteed savings. On top of the energy savings, reduced repair and replacements of control System components NASA will avoid costly unplanned equipment expenses and will reduce trouble calls which will free up staff to perform other tasks.

Federal Aviation Administration:

Northern California Terminal Radar Approach Control, Mather, California

On May 24, 2012, NORESKO, LLC was awarded an ESPC that will leverage almost \$1.9 million in private sector investments for energy efficiency and water conservation measures at the Northern California facility. This project includes a power purchase agreement (PPA) that will help to finance an onsite, one-megawatt photovoltaic (PV) solar energy system, bringing the total contract value to \$9 million. The project also includes lighting upgrades, water conservation upgrades, and an energy management control system. The combination of renewable energy and energy efficiency measures will save the facility 7.7 billion Btu per year or enough energy to power more than 80 homes. In dollar terms, the energy efficiency measures will save the FAA at least \$334,000 on energy and water costs in the first year and \$9 million over the life of the 20-year contract.

Department of Energy:

Oak Ridge National Laboratory, Oak Ridge, Tennessee

Johnson Controls will help the U.S. Department of Energy save more than \$264 million and reduce fossil fuel use by 72 percent at Oak Ridge National Laboratory under a \$94 million ESPC investment which includes the installation of a new biomass steam plant and seven additional energy conservation measures. The steam plant, dedicated in July 2012, uses wood chips collected within 50 miles of Oak Ridge, TN, to supply 60,000 pounds of steam every hour for the campus. In addition to the steam plant, seven other energy conservation measures were implemented, including a mechanical equipment upgrade, steam system upgrades, digital metering, lighting upgrade, building management system improvements, domestic water conservation and a plant air system upgrade.