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PUBLIC-PRIVATE PARTNERSHIPS FOR FEDERAL EMERGENCY MANAGEMENT

HEARING

BEFORE THE

SUBCOMMITTEE ON ENERGY

OF THE

COMMITTEE ON ENERGY AND COMMERCE
HOUSE OF REPRESENTATIVES

ONE HUNDRED FIFTEENTH CONGRESS

SECOND SESSION

DECEMBER 12, 2018

Serial No. 115–176

Printed for the use of the Committee on Energy and Commerce
energycommerce.house.gov

U.S. GOVERNMENT PUBLISHING OFFICE
36–864 PDF WASHINGTON : 2019

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PUBLIC-PRIVATE PARTNERSHIPS FOR FEDERAL EMERGENCY MANAGEMENT

WEDNESDAY, DECEMBER 12, 2018

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON ENERGY,
COMMITTEE ON ENERGY AND COMMERCE,
Washington, DC.

The subcommittee met, pursuant to call, at 10:19 a.m., in room 2322, Rayburn House Office Building, Hon. Fred Upton (chairman of the subcommittee) presiding.

Members present: Representatives Upton, Olson, Shimkus, Latta, McKinley, Kinzinger, Johnson, Long, Bucshon, Flores, Mullin, Hudson, Walberg, Duncan, Rush, McNerney, Peters, Green, Doyle, Welch, Loebsack, Kennedy, and Butterfield.

Also present: Representative Guthrie.

Staff present: Wyatt Ellertson, Professional Staff Member, Energy/Environment; Margaret Tucker Fogarty, Staff Assistant; Mary Martin, Chief Counsel, Energy/Environment; Sarah Matthews, Press Secretary; Brandon Mooney, Deputy Chief Counsel, Energy; Mark Ratner, Policy Coordinator; Annelise Rickert, Counsel, Energy; Evan Viau, Legislative Clerk, Communications and Technology; Rick Kessler, Minority Senior Advisor and Staff Director, Energy and Environment; John Marshall, Minority Policy Coordinator; Alexander Ratner, Minority Policy Analyst; Tuley Wright, Minority Policy Advisor, Energy and Environment; and Teresa Williams, AAAS Fellow.

Mr. UPTON. Good morning, everybody. The Subcommittee on Energy will now come to order, and the Chair would recognize himself for 5 minutes for an opening statement.

OPENING STATEMENT OF HON. FRED UPTON, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MICHIGAN

Today's hearing, entitled "Public-Private Partnerships for Federal Energy Management," will examine a number of recent examples, challenges, and opportunities for improving energy efficiency in Federal facilities.

We are primarily focused on two examples of public-private partnerships that are managed by the DOE: energy savings performance contracts, ESPCs, and utility energy service contracts, UESCs.

I would like to begin by welcoming our four witnesses. We are going to have one panel of senior reps from the Department of Energy, the Department of Army, the GSA, and the Department of Veterans Affairs. Each of our witnesses will share relevant exam-

ples and lessons learned implementing ESPCs and UESCs at their respective agencies.

The Department of Energy, through the Federal Energy Management Program, is the lead agency responsible for implementing rules and policies for ESPCs and UESCs. DOE collects a wide range of data and information on ESPC and UESC use across the Government that is going to help us weigh the cost and benefits of these performance contracts. DOE's data is also useful to identify trends and measure outcomes related to energy and water use.

I am looking forward to the testimony from GSA, Veterans, and the Army. Each of these agencies has well-defined programs for ESPCs and UESCs. And if you were to list the agencies that award the most contracts, these agencies would be all in the top 10.

However, they each face unique challenges and opportunities, depending on the facilities they are retrofitting and their specific needs.

It has been over a decade since Congress amended the statute governing ESPCs and UESCs, and I think that most folks would agree that it is time to consider improvements in these programs. In recent years agencies have used ESPCs and UESCs to gather the low-hanging fruit of energy-efficiency upgrades, focusing especially on lighting, insulation, and HVAC.

In the years ahead, we are going to be looking for ESPCs and UESCs to continue delivering energy savings. Concepts such as deep energy retrofitting are being proposed as a facilitywide approach to energy conservation that includes new energy management systems, smart sensors, innovative technologies, and onsite power generation.

We have also seen more of a focus on energy resilience with agencies utilizing ESPCs and UESCs to harden their grid and install backup power generation. For example, with the help of performance contracts, Fort Knox recently became the first military installation with the capability to unplug entirely from the grid utilizing demand management, onsite natural gas, geothermal, and renewable energy resources. Good work.

In order to stay on the cutting edge, Congress may need to consider changes to the statute to enable agencies to capture the cost savings offered through the most innovative energy conservation tools. And given the time that has passed since its original drafting, we ought to start by looking at the definition of a Federal building and the definition of energy savings.

We ought to also consider how energy-efficiency upgrades affect the lifecycle costs of operations and maintenance at the facility and ways to harmonize the program with other successful programs and goals.

These issues and several other changes to performance contracting authorities are addressed in legislation that has already been reported by the committee, H.R. 723, the Energy Savings Through Public-Private Partnerships Act of 2017.

I look forward to working with the bill sponsor, Mr. Kinzinger, on his legislation. And as we run out of time in this Congress, as we know the clock is ticking, I hope that we can continue to work on this bipartisan bill early next year.

[The prepared statement of Mr. Upton follows:]

PREPARED STATEMENT OF HON. FRED UPTON

Today's hearing entitled "Public-Private Partnerships for Federal Energy Management" will examine recent examples, challenges, and opportunities for improving energy efficiency in Federal facilities. We are primarily focused on two examples of public-private partnerships that are managed by the Department of Energy: Energy Savings Performance Contracts (ESPCs) and Utility Energy Service Contracts (UESCs).

I would like to begin by welcoming our witnesses. We will have one panel of senior representatives from the Department of Energy, the Department of the Army, the General Services Administration, and the Department of Veterans Affairs. Each of our witnesses will share relevant examples and lessons-learned implementing ESPCs and UESCs at their respective agencies.

The Department of Energy, through the Federal Energy Management Program, is the lead agency responsible for implementing rules and policies for ESPCs and UESCs. DOE collects a wide range of data and information on ESPC and UESC use across the Government that will help us weigh the costs and benefits of these performance contracts. DOE's data is also useful to identify trends and measure outcomes relating to energy and water use.

I am also looking forward to testimony from GSA, Veteran's Affairs, and the Army. Each of these agencies have well-defined programs for ESPCs and UESCs, and if you were to list the agencies that award the most contracts, these agencies would all be in the top ten. However, they each face unique challenges and opportunities, depending on the facilities they are retrofitting and their specific needs.

It has been over a decade since Congress amended the statute governing ESPCs and UESCs, and I think many people would agree that it's time to consider improvements to these programs. In recent years, agencies have used ESPCs and UESCs to gather the "low hanging fruit" of energy efficiency upgrades, focusing especially on lighting, insulation, and HVAC.

In the years ahead, we will be looking to ESPCs and UESCs to continue delivering energy savings. Concepts such as "deep energy retrofitting" are being proposed as a facilitywide approach to energy conservation that includes new energy management systems, smart sensors, innovative technologies, and on-site power generation. We've also seen more of a focus on "energy resilience" with agencies utilizing ESPCs and UESCs to harden their grid and install backup power generation. For example, with the help of performance contracts, Fort Knox recently became the first military installation with the capability to un-plug entirely from the grid, utilizing demand management, on-site natural gas, geothermal, and renewable energy resources.

In order to stay on the cutting edge, Congress may need to consider changes to the statute to enable agencies to capture the cost savings offered through the most innovative energy conservation tools. Given the time that's passed since its original drafting, we should start by looking at the definition of a "Federal building" and the definition of "energy savings." We should also consider how energy efficiency upgrades affect the life-cycle cost of operations and maintenance at the facility, and ways to harmonize the program with other successful Federal programs and goals.

These issues, and several other changes to performance contracting authorities, are addressed in legislation that has already been reported by the committee, H.R. 723, the Energy Savings Through Public Private Partnerships Act of 2017. I look forward to working with the bill sponsor, Mr. Kinzinger, on his legislation. If we run out of time this Congress, I hope we can get to work on this bipartisan bill early next year.

With that, I'd like to thank the witnesses for appearing before us today, and I look forward to their testimony.

I yield back the balance of my time.

Mr. UPTON. With that, I want to again thank the witnesses for appearing today. And I yield to the ranking member of the subcommittee, my friend, Mr. Rush.

OPENING STATEMENT OF HON. BOBBY L. RUSH, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF ILLINOIS

Mr. RUSH. Thank you, Mr. Chairman, for holding this hearing today examining public-private partnerships for Federal energy management.

Mr. Chairman, like Members on most sides of the aisle, I fully support the objectives of both the energy savings performance contracts, or ESPCs, and the utility energy savings contracts, UESCs.

However, we must also take heed to the warning by both the GAO and the CRS that a lack of consistency in reporting across agencies for projects makes it challenging to document the actual savings achieved solely from ESPCs or UESCs.

Mr. Chairman, ESPCs and UESCs allow the Federal Government, the Nation's largest energy consumer, to leverage public-private partnerships in order to improve energy efficiency and save taxpayer dollars, while also increasing the use of renewable energy in the nearly half a million facilities that the Federal Government maintains and supports.

ESPCs and UESCs consist of contracts between a Federal agency and another third party, either an energy service company or a utility, to finance options that employ private sector resources and capabilities in order to facilitate investment in energy efficiency and renewable energy at Federal facilities.

Through ESPCs, private contractors finance the upfront costs of efficiency updates, which may include modifications such as transformer upgrades, the installation of high-efficiency lighting, rainwater harvesting equipment, or heating, ventilation, and air conditioning improvements.

The contractor assumes the risk of the energy improvements and certifies that the upgrades will generate savings that cover the initial costs, and the agency pays a yearly amount for a fixed period of time.

Under the ESPC program, the Department of Energy has awarded 400 projects, invested $6 billion in energy improvements, and saved an estimated $14 billion in cumulative energy costs since the year 1998.

Mr. Chairman, in regards to UESCs, more than 1,800 projects have been reported with $3.3 billion leveraged through utility partnerships since the year 2000.

ESPCs are headed by the Department of Energy's Federal Energy Management Program, which also provides training, guidance, and technical assistance to help Federal agencies achieve their energy and water conservation objectives.

Based on FEMP's data, ESPCs funded $5.7 billion and UESCs funded $1.5 billion in energy efficiency improvements between the years 2005 and 2017.

Mr. Chairman, the data suggests that there has been an overall trend of declining energy and water use and an increase in renewable energy consumption as a share of the overall energy usage due to these programs.

Mr. Chairman, I look forward to our witnesses today, and I want to thank you. And I yield back the balance of my time.

[The prepared statement of Mr. Rush follows:]

PREPARED STATEMENT OF HON. BOBBY L. RUSH

Thank you, Mr. Chairman, for holding this markup today examining Public Private Partnerships for Federal Energy Management.

Mr. Chairman, like Members on both sides of the aisle, I fully support the objectives of both the Energy Savings Performance Contracts, or ESPCs, and the Utility Energy Service Contracts, or UESCs.

However, we must also take heed to the warning by both the Government Accounting Office and the Congressional Research Service, that a lack of consistency in reporting across agencies for projects makes it challenging to document the actual savings achieved solely from ESPCs or UESCs.

Mr. Chairman, ESPCs and UESCs allow the Federal Government, the Nation's largest energy consumer, to leverage public/private partnerships in order to improve energy efficiency and save taxpayer money, while also increasing the use of renewable energy in the nearly half a million facilities it maintains and supports.

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Under the ESPC program, the Department of Energy (DOE) has awarded 400 projects, invested $6 billion in energy improvements, and saved an estimated $14 billion in cumulative energy costs since 1998.

In regards to UESCs, more than 1,800 projects have been reported with $3.3 billion leveraged through utility partnerships, since 2000.

Mr. Chairman, EPSCs are headed by the Department of Energy's Federal Energy Management Program, or FEMP, which also provides training, guidance, and technical assistance to help Federal agencies achieve their energy and water conservation objectives.

Based on FEMP data, ESPCs funded $5.7 billion, and UESCs funded $1.5 billion in energy efficiency improvements, between FY2005 and FY2017 alone.

Mr. Chairman, the data suggests that there has been an overall trend of declining energy and water use, and an increase in renewable energy consumption as a share of overall energy usage due to these programs.

However, I look forward to further engaging each of our witnesses on the implementation of the ESPCs and UESCs, as well as their recommendations on how best to address the lack of consistency in reporting across agencies for these types of projects in order to get a more accurate sense of the direct savings enjoyed from these programs.

Thank you, Mr. Chairman, and with that I yield back the balance of my time.

Mr. UPTON. The gentleman yields back.

It is my understanding that Chairman Walden is not going to be able to make it for an opening statement. Would anyone want his time on our side?

Seeing none, the Chair would recognize Mr. Welch, who is going to take Mr. Pallone's time, for 5 minutes.

OPENING STATEMENT OF HON. PETER WELCH, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF VERMONT

Mr. WELCH. Thank you very much.

You know, there are two ways that we can deal with the $150 billion backlog in repairs and energy efficiency improvements that need to be made.

One is we can appropriate taxpayer dollars and make that investment. And the other is we can enter into these energy savings performance contracts and utility performance contracts and not have to put upfront taxpayer dollars. There is a good argument to invest taxpayer dollars, but there are not the votes to accomplish that.

On the other hand, if we enter into these contracts with the private sector, where they provide the financing, they do the work, and then they get repaid from the energy savings, then everybody is a winner.

And this energy efficiency is really a big deal. In addition to cutting down on the cost of energy, every single improvement is made by a local laborer. This is real work that goes into the communities that has to create jobs. I have been working with Mr. McKinley on this for some time. So you get taxpayer savings, you get local employment, and, oh, by the way, you reduce carbon emissions.

So it is tremendous that we are working together on this with such bipartisan support, Mr. Chairman, Mr. Ranking Member, and we will be doing that next year as well. So this is a big deal. Mr. Rush cited what the amount of money was that we saved, and we want to keep that up.

There are some questions that are coming up about the audits. GSA, by and large, has been very positive about what is there. But you know what, we should audit and let's keep auditing, because that information can help us make improvements, make it more efficient, and maintain support within Congress for what has been a very solid program. So bring the audits on, we will make the improvements, we will make the adjustments.

It has been great to work with Representatives Kinzinger and Moulton and Blackburn, who are the cochairs with me of the House Performance Contracting Caucus.

This is an area where, instead of arguing about the science of climate change, we can talk about the benefits of saving taxpayer dollars and creating local jobs and employment. And I think there are a huge number of our committee members who want to find a way to make this better, stronger for all involved.

And I want to thank the chairman and the ranking member for this hearing, and I yield back the balance of my time.

Mr. UPTON. The gentleman yields back.

At this point, we are prepared to hear from our witnesses, your statements. Thanks for submitting them in advance. They will be made part of the record in their entirety, and we will ask each of you to summarize those in no more than 5 minutes, at which point we will obviously go to questions for all of you.

Our first witness is Leslie Nicholls, the Strategic Director of the Federal Energy Management Program at the Department of Energy.

Welcome again.

STATEMENTS OF LESLIE NICHOLLS, STRATEGIC DIRECTOR, FEDERAL EMERGENCY MANAGEMENT PROGRAM, DEPARTMENT OF ENERGY; JOHN E. "JACK" SURASH, ACTING DEPUTY ASSISTANT SECRETARY OF THE ARMY FOR ENERGY AND SUSTAINABILITY; KEVIN KAMPSCHROER, CHIEF SUSTAINABILITY OFFICER AND DIRECTOR, OFFICE OF FEDERAL HIGH–PERFORMANCE BUILDINGS, GENERAL SERVICES ADMINISTRATION; AND EDWARD L. BRADLEY III, EXECUTIVE DIRECTOR, OFFICE OF ASSET ENTERPRISE MANAGEMENT, DEPARTMENT OF VETERANS AFFAIRS

STATEMENT OF LESLIE NICHOLLS

Ms. NICHOLLS. Good morning, Chairman Upton and Ranking Member Rush and members of the Energy Subcommittee. Thank you for the opportunity to provide testimony on performance contracting. My name is Leslie Nicholls, and I am the strategic director of the Department of Energy's Federal Energy Management Program, known throughout the Federal Government as FEMP.

In my capacity as Strategic Director, I am responsible for analyzing, evaluating, and making recommendations to EERE leadership on the effectiveness of FEMP programs. Today I will provide a brief summary of FEMP's mission and activities, the impact of performance contracting, and FEMP's perspective regarding current performance contracting opportunities and challenges.

FEMP's mission is to provide strategic energy management tools and resources to enable Federal agency mission assurance. In a nutshell, FEMP assists agencies' agility and ability to become resilient, efficient, and secure. FEMP supports Executive Order 13834 by providing guidance, resources focused on optimizing energy and environmental performance, reducing waste, and cutting costs.

FEMP enables Federal agencies to reduce their $16.1 billion energy bill and meet energy and water management goals by providing support and accountability for Federal agencies.

We continue to increase the skills of a multidisciplinary Federal workforce by providing training and best practices. FEMP provides technical assistance and guidance for completing energy savings projects by leveraging private sector financing through the use of performance contracting.

Performance contracting has had a significant impact on the improved energy performance of the Federal Government over the last 20 years. FEMP estimates that Governmentwide, over 600 ESPC projects and over 2,000 UESC projects have been implemented, resulting in energy infrastructure improvements of $12.5 billion, with a value of cumulative energy cost savings over the life of these projects of $27.5 billion.

Since 1998, FEMP has offered its own contracting vehicle, the DOE Indefinite Delivery Indefinite Quantity contract, known as the IDIQ. The current IDIQ has 21 energy service company awardees. Thirty-six agencies have utilized the IDIQ contract in 50 States, Puerto Rico, and the U.S. Virgin Islands, and have invested about $63 billion in Federal energy efficiency and renewable energy improvements from 1998 to 2018.

Fiscal year 2018 has been a record year for the IDIQ awards. Federal agencies using the IDIQ contract provide $809 million of

facility infrastructure investment, which will result in 2 trillion BTU of energy savings annually, which is the equivalent of the energy use of 25,000 average U.S. households.

Going forward, we know there is an opportunity, a potential, for continued use of performance contracting, including improving infrastructure by addressing the estimated $150 billion of deferred maintenance and repairs related to agency facilities and equipment.

Another area is supporting facilitywide resilience, as efficiency underpins resilience. FEMP is developing a systematic prioritized approach to resilience portfolio planning that helps agencies identify mission risk, prioritize projects, and identify financing options.

FEMP is continuing to work with the performance contracting community to identify barriers and gaps associated with the use of performance contracting for facilitywide resilience. Through training and outreach, we are working to address inconsistent interpretations of legislation and guidance, which inhibits accounting for operation and maintenance savings within performance contracts and leveraging appropriations and incentives with project financing.

We are also encouraging agencies to consider all ECMs in performance contracting, including advanced building controls, microgrids, and distributed energy resources. Bundling some less cost-effective ECMs with more cost-effective ECMs is a key to this approach.

To summarize, we believe performance contract tools, when applied wisely, will continue to be a useful tool in the future to assist agencies in their efforts to become resilient, efficient, and secure.

FEMP will continue to identify ways to improve its program tools and guidance for performance contracting, and as part of this process, FEMP will continue to analyze the data received from performance contracting reporting, life-of-contract support, and quality assurance functions.

I appreciate the opportunity to address you this morning. I would be happy to answer any questions that you may have. Thank you.

[The prepared statement of Ms. Nicholls follows:]

Testimony of Strategic Director Leslie Nicholls

U.S. Department of Energy

Before the

Committee on Energy and Commerce

Subcommittee on Energy

U.S. House of Representatives

"Public Private Partnerships for Federal Energy Management"

December 12, 2018

Good morning, Chairman Upton, Ranking Member Rush, and members of the Energy Subcommittee. Thank you for the opportunity to provide testimony on performance contracting. My name is Leslie Nicholls. I am the Strategic Director of the Department of Energy's (DOE) Federal Energy Management Program (FEMP). In my capacity as Strategic Director, I am responsible for analyzing, evaluating, and making recommendations to Office of Energy Efficiency and Renewable Energy (EERE) leadership on the effectiveness of FEMP's programs and management operations. I conduct research and analysis for nationally-visible strategic collaboration activities across the Federal government on priority FEMP areas. Today, I will discuss an overview of performance contracting and DOE FEMP's role, a summary of performance contracting at the Federal level, DOE experiences, and finally FEMP's role in providing guidance and technical assistance to reduce risks for Federal agencies as they undertake performance contracting.

Overview of Performance Contracting and DOE FEMP's Role

Performance contracting is a general term that addresses a guaranteed, fixed-price, performance-based procurement tool for energy efficient investments. These contracts include a requirement "that appropriate performance quality levels are achieved, and that payment is made only for services that meet these levels."[1] Energy performance contracts allow Federal agencies to procure energy efficiency improvements with little or no up-front capital costs and use the energy savings to repay the contractor for services rendered. In the case of Energy Saving Performance Contracts (ESPCs) and Utility Energy Services Contracts (UESCs), FEMP is required to issue guidance for agencies to carry out these acquisitions. Energy Service Companies (ESCOs) implement ESPCs; they guarantee the energy savings and are required to

[1] https://georgewbush-whitehouse.archives.gov/omb/procurement/pbsa/guide_pbsc.html#appx4

develop and adhere to a measurement and verification (M&V) plan that defines how cost and energy savings will be calculated and verified throughout the life of the contract. A UESC is a partnership between a Federal agency and its serving utility to implement energy efficiency, water efficiency or distributed energy measures that improve infrastructure, and can help accomplish energy mandates, contribute to resilience, and optimize facilities. FEMP also issues UESC guidance on performance assurance.

Under most circumstances, federal contracts must be paid in the year the obligation is incurred, rather than financed over time. Financing, as with buying a home or car, adds additional cost to acquire the asset. The findings from FEMPs ESPC program from FY2013 to FY2018 show that financing comprises approximately 30 percent of the total project costs. During a performance contract, the project can be structured as essentially budget neutral under current law. The cost savings from the installed energy efficiency upgrade(s) goes to pay for the equipment, financing, and operations and maintenance services over the life of the contract. If the projects are more energy efficient than the contractor guarantees, then the government immediately obtains additional benefits from these incremental energy savings. Also, if the equipment purchases last longer than the term of the contract, the government also realizes all of the subsequent savings from the energy efficiency upgrade(s). Federal ownership of the equipment typically occurs after implementation and Federal acceptance of the project. In some cases Federal ownership occurs at the end of the contract.

DOE's engagement with performance contracting is twofold: as an agency utilizing performance contracts as a method of project financing, similar to the other agencies here today, and secondly via DOE FEMP's role and authority to provide technical assistance, program oversight and guidance to facilitate consistent implementation of performance contracting government-wide.

For the government to lower operating costs by operating buildings and facilities more efficiently, DOE and other agencies use a mix of investments that include appropriated funds, including, but not limited to General Plant Projects (GPP), Institutional General Plant Projects (GPP) and energy performance contracts. Performance contracting is one tool that implements savings through energy efficiency projects using private sector capital and public-private partnerships.

DOE FEMP's role is to provide agencies training and technical assistance as they work with ESCOs and utilities in planning, executing and evaluating projects to ensure good stewardship of taxpayer funds.

Most recently, Executive Order 13834 directs Federal agencies to manage their buildings, vehicles, and overall operations to optimize energy and environmental performance, reduce waste, and cut costs. It encourages Federal agencies to use performance contracts, which include ESPCs and UESCs, to achieve energy, water, building modernization, and infrastructure

objectives. FEMP plays a critical role in advising and assisting agencies in meeting this Executive Order goal.

Summary of Energy Performance Contracting to Date

FEMP estimates that government-wide, [since the programs began in the 1990s,] over 600 ESPC projects and over 2000 UESC projects have been implemented with energy infrastructure improvements of $12.5[2] billion and with expected value of cumulative energy savings over the life of these projects of $27.5[3] billion.

Since 1992, these UESC projects resulted in federal infrastructure and equipment investment over $3.7[4] billion. Sixty-six utilities have active UESC Programs; 23 agencies have awarded UESCs in 43 states. DOE FEMP has offered a multiple award government-wide contracting vehicle, the DOE Indefinite Delivery Indefinite Quantity (IDIQ) ESPC contract since 1998, allowing all Federal agencies to award task orders of approximately 400 projects to multiple vendors/ESCOs. About $6[5] billion has been invested in federal energy efficiency and renewable energy improvements using the DOE ESPC IDIQ from 1998 through 2018.

Over the performance period of these projects, these improvements are estimated by DOE to result in about 550 trillion Btu in life cycle energy savings and will be paid from the more than $13.7 billion of cumulative energy savings created by the projects. Twenty-one ESCOs are current awardees under the IDIQ contract (24 ESCOs support DOE ENABLE program, including several small business ESCOs). Since 1998, 36 Federal agencies have utilized the DOE IDIQ contract in all 50 states, Puerto Rico, and U.S. Virgin Islands. In fiscal year 2018, ESPCs awarded by Federal agencies using the DOE FEMP master IDIQ contract will provide $809[6] million of facility infrastructure investment (record year for DOE IDIQ contract) which will result in:

- 2 trillion Btu of ongoing energy savings annually
- Equivalent to the annual energy use of 25,000 average US households.

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[2] Investment represents dollars at the time of award and is cumulative from the 1990's until FY2018. The total represents performance contracts for DOE IDIQ, Army MATOC, ENABLE, ESPC site specific, and UESC.
[3] Savings are based on the DOE ESPC IDIQ and ENABLE contractual guarantees and estimates for UESC, the Army ESPC MATOC, and site specific contracts. These are the savings expected over the life of the contract. Measurement and verification is performed for ESPCs to verify if the contractually defined saving guarantee was achieved. Performance assurance is performed for UESC projects.
[4] Investment represents dollars at the time of award and is cumulative from 1992 until FY2018
[5] Investment represents dollars at the time of award and is cumulative from the 1998 until FY2018. https://www.energy.gov/eere/femp/downloads/doe-idiq-energy-savings-performance-contract-awarded-projects
[6] https://www.energy.gov/eere/femp/downloads/doe-idiq-energy-savings-performance-contract-awarded-projects

In addition to the FEMP IDIQ, there are several other options for federal agencies to award performance contracts. The U.S. Army Corps of Engineers also awards ESPC multiple award task order contracts (MATOCs), which are also available and primarily used by defense agencies. FEMP also initiated the ESPC ENABLE program, which standardizes and streamlines the procurement process for ESPCs designed for small projects to be awarded in six months or less. ESPC ENABLE uses a set of pre-established procurement and technical tools to administer projects through the General Services Administration (GSA) Federal Supply Schedule 84, SIN 246-56. Federal agencies also have the ability to enter into ESPCs or UESCs independently.

DOE Experiences in Energy Performance Contracting

The following are a couple of example projects to illustrate our experience in performance contracting to address energy efficiency, renewable energy generation, and resilience.

DOE implemented a comprehensive ESPC project at the DOE Savannah River Site involving the installation of a new biomass combined heat and power (CHP) plant that replaced aging infrastructure from the 1950s. DOE structured the ESPC contract at Savannah River to require that the ESCO also operate and maintain (O&M) the biomass CHP plant, including procuring the fuel. Having the ESCO retain full O&M responsibility mitigates the agency's risk for failure of the plant to perform or to predict potentially volatile operating costs.

As with any energy-related project within a facility, performance issues can arise. The next example provides insight on actions taken when guaranteed savings are not realized.

Specifically, DOE's National Renewable Energy Laboratory (NREL) installed a biomass boiler project in 2009. Through annual M&V, the efficiency of the boiler was found to be below the design requirements and thus the annual guaranteed savings was not being achieved. The shortfall in savings to the guarantee was withheld from the payment to the ESCO, and the ESCO implemented design changes and replaced portions of the equipment at their cost in year 6 of the 24 year project in order to restore the full guaranteed savings. Rigorous M&V approaches improve transparency of project performance and help ensure persistence of savings. Absent the annual M&V and ESCO guarantee, persistence of savings from the original design intent of the NREL project was not likely to have occurred.

FEMP's Continuous Improvement in Reducing Risks with Performance Contracting

Since the 1990's FEMP has provided best practices and subject-matter-expertise in support of agencies' utilization of performance contracts to achieve increased efficiency and Federal energy and water efficiency goals. FEMP also provides a multitude of on-demand, in-person and specialized training offerings to instruct agencies and utilities on best practices for implementing

successful ESPC and UESC projects, as well as comprehensive technical support to guide agencies through the implementation process.

An example of FEMP technical support includes:

- Review of energy audit technical scope of work
- Supporting contracting officer in reviews of price reasonableness
- Review and advice on measurement and verification plan
- Verification that FEMP process and procedures are followed including but not limited to the use of guidance on utility escalation rates
- Assistance and advice on best practices
- Negotiation support

Agency ESPCs have been reviewed on several occasions by different auditing groups (GAO and agencies IG). Both Congress and the Executive Branch including FEMP have taken this input into consideration to revise and improve the program. For example, improvements to M&V guidance has helped to ensure that agencies are achieving the guaranteed energy savings. Often, audits included recommendations for improved agency oversight of the programs, such as in the area addressing energy conservation measures (ECMs) or buildings where operational or mission changes have impacted performance. For its part, FEMP has used ongoing audit input to enhance its M&V guidance, project support, and life of contract monitoring and engagement with agencies on potential contract issues of concern.

As with any energy related project, within a facility, performance issues can arise. ESPC's requirement for a savings guarantee, assignment of risks and annual M&V, has provided DOE projects with safeguards against savings erosion over the life of the equipment. While there are complexities relating to things like financing, estimation of future energy prices (i.e., if future energy prices like natural gas or renewable energy trend down, then actual dollar savings may fall short of the savings projected in the contract), and estimation of maintenance savings, but they can be managed and FEMP provides specialized training and guidance to assist. In this regard, it is critical for FEMP to guide Federal agencies in proper contract oversight, to ensure that their teams are well trained in details of performance contracts, and if the agency is responsible for O&M, that they perform. It is also critical that other FEMP guidance, such as measurement witnessing, M&V, O&M savings validation, and other topics are closely followed.

Executive Order 13834, *Efficient Federal Operations*, has tasked Federal agencies that have issued government-wide guidance on sustainability, including DOE, with reviewing and revising guidance as necessary to meet the intent of the order. Accordingly, DOE has created a timeline for the systematic review of its guidance, including for performance contracting.

Going forward, we know there are potential opportunities for the use of ESPCs in several traditionally under-addressed areas. One of those is resilience, which is the implementation of systems that allow a facility, like a DOE lab, to continue operations in the face of problems, like

a grid outage. ESPC may be an effective tool to do things like installing backup generation, and microgrids. FEMP can help agencies facing challenges associated with using performance contracting to increase resiliency. This includes the determination of potential avoided energy related costs for consideration as savings for ESPC and UESC resilience projects.

Other opportunities include the use of performance contracting for the existing energy related backlog of deferred maintenance. According to the U.S. Treasury's Bureau of Fiscal Service, the U.S. government presently has over $150 billion of deferred maintenance and repairs related to government facilities and equipment.[7] ESPCs and UESCs provide a procurement mechanism for addressing the repair and replacement of energy related aging Federal building infrastructure. Clearly, not all deferred maintenance is energy or water related, but some portion of the problem may be addressed through these contracting tools. Additionally, FEMP's EISA 432 Compliance Tracking System (CTS) contains approximately $8.5[8] billion of agency self-identified energy and water related investment opportunities which potentially could be implemented with performance contracts. In FY17, the Federal government funded $354 million of energy related facility improvements through direct obligations, whereas more than $1.1 billion of facility improvements were accomplished through ESPCs and UESCs.[9] As noted above, FEMP is reviewing related guidance to help agencies reduce risk associated with performance contracting focused on deferred maintenance.

To summarize, performance contracts, when applied wisely, are one tool in the government's toolbox to address ongoing infrastructure needs and efficiency improvements. Performance contracting has had a large impact on the improved energy performance of the Federal government over the past 20 years and can continue to be useful in the future, not only for continued progress in energy efficiency, but to help address backlogs of deferred maintenance and issues of resilience and security, as well. FEMP continues to improve its program tools and guidance for performance contracting. For instance, we will continue to refine M&V practices, collect more consistent data and improve guidance for energy cost projections. As we investigate the use of performance contracting to improve facility resilience and reduce deferred maintenance, we will ensure that taxpayers are getting the best value for these services.

I appreciate the opportunity to address you this morning, and would be happy to answer any questions you may have.

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[7] https://www.fiscal.treasury.gov/fsreports/rpt/finrep/finrep17/supp_info/fr_supplement_info_other_claims.pdf

[8] https://ctsedwweb.ee.doe.gov/CTSDataAnalysis/Reports/PublicAgencyReport_ComprehensiveEvaluationFindings.aspx

[9] http://ctsedwweb.ee.doe.gov/Annual/Report/InvestmentInEnergyEfficiencyAndRenewableEnergy.aspx

Mr. UPTON. Thank you.

The next witness is Jack Surash, Acting Deputy Assistant Secretary for Energy and Sustainability at the Department of the Army.

Welcome, sir.

STATEMENT OF JOHN E. "JACK" SURASH

Mr. SURASH. Good morning, sir. Chairman Upton, Ranking Member Rush, distinguished members of the committee, thank you very much for the opportunity to testify about Army energy resilience and our utilization of energy savings performance contracts and utility energy service contracts.

The Army appreciates your interest in this area and the authorities which support Army readiness, modernization, and reform. Secure uninterrupted access to energy is essential to sustaining our critical Army missions and how our installations support operational warfighters and enable Army readiness.

The Army's 156 installations, located around the world, must be ready, secure, and capable of deploying and sustaining forces.

As potential vulnerabilities emerge in the Nation's utility distribution infrastructure, ensuring reliable sources of energy for our installations has become increasingly challenging. To meet these challenges, the Army is pivoting energy planning and assessment approaches to increase the focus on resilience.

The Army leverages private sector expertise through energy savings performance contracts, or ESPCs, and utility energy service contracts, or UESCs. These projects enhance resilience, improve efficiency, and help address maintenance backlogs and repair or replace aging and failing equipment.

The Army has the largest ESPC program in the Federal Government. Contract costs are paid from commodity and operations cost savings and are, therefore, budget neutral.

We have awarded over $2.2 billion of ESPCs since 1996 and over $674 million of UESCs since 1992. ESPCs and UESCs are an important tool at Army installations as we work to achieve energy resilience across our installations.

Thank you very much for the opportunity to present this testimony and for your continued support of our soldiers, civilians, and families.

[The prepared statement of Mr. Surash follows:]

RECORD VERSION

MR. J.E. "JACK" SURASH, P.E.
ACTING DEPUTY ASSISTANT SECRETARY OF THE ARMY
FOR ENERGY AND SUSTAINABILITY

BEFORE THE

HOUSE ENERGY AND COMMERCE COMMITTEE
SUBCOMMITTEE ON ENERGY
UNITED STATES HOUSE OF REPRESENTATIVES

SECOND SESSION, 115TH CONGRESS

ON PUBLIC/PRIVATE PARTNERSHIPS FOR FEDERAL ENERGY MANAGEMENT

DECEMBER 12, 2018

NOT FOR PUBLICATION UNTIL RELEASED BY
THE HOUSE ENERGY AND COMMERCE COMMITTEE

U.S. Army Energy Resilience, Energy Savings Performance Contracts, and Utility Energy Service Contracts

Army Strategy and Pivot to Resilience

Chairman Upton, Ranking Member Rush, and distinguished members of the committee, thank you for the opportunity to testify about Army energy resilience and our utilization of Energy Savings Performance Contracts (ESPCs) and Utility Energy Service Contracts (UESCs). I want to begin by thanking the committee for its interest in this area and look forward to answering questions about how we use these authorities to support Army readiness, modernization and reform across our installations. Your leadership and guidance in this area are instrumental in continuing the successes we have experienced over the years. I would like to begin by discussing how secure, consistent access to energy and water is essential to sustaining critical Army missions, and how our installations support operational warfighters and enable Army readiness.

The Army's number one priority is Readiness. This aligns with the Secretary of Defense and the Secretary of the Army's efforts to ensure, build, and sustain warfighting capabilities. As outlined in the National Defense Strategy, Army modernization efforts support our priority to attain readiness to meet both current and future threats. Army installations are readiness and power projection platforms where our Soldiers live, train and work. Attaining desired readiness levels requires both a system-wide assessment of current conditions and a modernization effort that seeks to mitigate risk, while setting conditions to meet both current and future threats. The Army's 156 installations must be ready, secure, and capable of deploying and sustaining forces in contested environments, anytime and anywhere the Army may be called upon to fight and win our great Nation's wars.

Our installations rely, with few exceptions, on commercial energy and water sources to accomplish critical missions. The Army is the largest consumer of energy in the Federal Government. In FY18, we spent more than $1.08 billion on energy to support our installations. The Army recognizes that reliable supplies of installation and operational energy, as well as water, will be challenged across multiple domains, by

multiple actors simultaneously. As potential vulnerabilities emerge in the interdependent electric power grids, natural gas pipelines, and water resources, ensuring reliable sources of energy and water for our installations and the missions they support has become increasingly dynamic and challenging. To meet this challenge, the Army is pivoting its energy planning and assessment approaches to increase the focus on resilience, complementing our historical focus on cost avoidance, conservation, and efficiency.

Energy resilience is a critical component to building and enabling Army readiness and support to our Soldiers and joint service partners across the installations portfolio. The Army's definition of "energy resilience" is the ability to avoid, prepare for, minimize, adapt to, and recover from anticipated and unanticipated energy disruptions in order to ensure energy availability and reliability sufficient to provide for mission assurance and readiness, including task critical assets and other mission essential operations related to readiness, and to execute or rapidly reestablish mission essential requirements. Assured access to energy and water underpins readiness-related functions that occur on Army installations and are increasingly vulnerable to severe weather or hostile action, as highlighted by the recent hacker intrusions on our national electrical grid. Recognizing these emerging challenges, the Army is moving aggressively to implement a policy directing installations to be capable of providing necessary energy and water for critical missions for a minimum of 14 days.

As we pivot to energy resilience, we must first assess current installation capabilities and vulnerabilities. We assess energy resilience against four attributes: (1) Critical Mission Sustainment; (2) Assured Access; (3) Infrastructure Condition; and, (4) System Operations. This helps the Army to evaluate and identify gaps in energy and water resilience and prioritize mission-critical projects. We are working to complete installation energy plans over the next three years to provide direction forward. In addition, we will continue to build on past projects and established capabilities to ensure that energy-related investments first and foremost contribute to energy resilience.

Modernizing our energy and water infrastructure is one component of our plan to increase resilience. New and more reliable technology with improved service life and

control systems contribute to energy and water resilience. By investing in energy infrastructure—such as redundant feeders for power, and backup power systems for critical facilities—and modernizing utility systems with current technology control systems, sensors and monitoring equipment, we are enhancing our installations' overall resilience and supporting the Army of tomorrow. Efficiency remains a critical component of the Army's installation strategy as it avoids costs and, by reducing energy demands, makes installation energy resilience easier to achieve.

Energy Savings Performance Contracts and Utility Energy Service Contracts

We are accomplishing energy projects through direct appropriations and taking advantage of third-party financing and private investments to shift the upfront investment costs to the commercial sector and accelerate the rate at which energy and water resilience are obtained. The Army leverages private sector expertise through Energy Savings Performance Contracts (ESPCs) and Utility Energy Service Contracts (UESCs) to enhance resilience, improve efficiency, and contribute to resilience. ESPCs and UESCs allow companies and utilities to provide the initial capital investment to design, implement, and maintain energy and water conservation measures, the cost of which is paid over the course of the contract. These projects address maintenance backlogs and repair or replace aged and failing equipment using private sector capital repaid from savings realized over the contract term. While these projects have been historically targeted at reducing consumption and increasing reliability of systems, the Army is leveraging these projects to improve installation resilience. Working with the Department of Energy, effective repairs, coupled with the latest advances, will ensure the resilience of the bulk electrical systems to our critical facilities.

The Army has the largest ESPC program in the Federal Government and second largest UESC program. The Army awarded over $2.2 billion of third party investment in ESPC since 1996 and over $674 million in UESC investment since 1992. Contract costs are paid from commodity and operations cost savings, and therefore are budget-neutral. FY17 was the second-largest in the history of the program with a total

investment in ESPCs and UESCs of $289 million. In FY18, the Army awarded $113 million.

One recent example of an Army ESPC is located at Tobyhanna Army Depot in Pennsylvania. Awarded in 2016, the $29.5 million ESPC with Honeywell Inc. saves the Army $3.7 million annually through the elimination of outdated and inefficient steam heating systems. These were replaced with gas-fired heating, chiller plant optimization and consolidation, energy management control systems, building envelope improvements, water-conserving plumbing fixtures, and modernization of blast booth process and equipment. A recent example of an UESC is located at the Anniston Army Depot in Alabama. Awarded in 2016, this $21.7 million UESC with Alabama Power includes boiler upgrades, chiller and compressed air plant optimization and steam system upgrades to enable more efficient and reliable operation, and saves $2.17 million annually. These facility improvements not only produce energy savings, but also help lower the cost per unit of production. Both of these examples demonstrate budget neutral projects that required no upfront funding, improved equipment efficiency and reliability, and contribute to increased energy resilience.

In addition to ESPCs and UESCs, we are improving energy resilience through a number of different approaches including direct appropriations, third-party financing, utilities privatization, and by leveraging privately-funded infrastructure. Energy resilience sometimes requires onsite energy production. To this end, we are refocusing our "Office of Energy Initiatives" (OEI) that was previously engaged almost exclusively on the development of renewable energy projects, to an "Office of Energy Resilience", focused on building energy resilience irrespective of technologies employed. In Hawaii, the Army OEI worked with the Hawaiian Electric Company to develop a 50 megawatt multi-fuel/biofuel generation plant capable of providing Schofield Barracks, Field Station Kunia, and Wheeler Army Airfield with secure energy during emergencies. The project is located above the tsunami strike zone and has "black start" capability to enhance grid resilience that benefits both the Army and the local community. This project increases the diversity of energy sources and the reliability of power supply, and also serves as a model for collaborative partnerships with utility service providers. Additionally, at Fort

Sill, Oklahoma, the Army is working with the Public Service Corporation of Oklahoma to build on site natural gas and solar power plants able to meet 100 percent of the installation's energy needs.

Conclusion

Army Readiness begins on installations. We need ready and resilient installations to ensure our Soldiers are properly trained and can be deployed anywhere in the world in order to fight and win our nation's wars. Collaboration with industry and government is essential to accomplishing energy and water resilience. We continue to seek appropriate opportunities to work with industry to enhance energy resilience and security to enable mission readiness, while modernizing and reforming the Army.

As we work to improve energy resilience, ESPCs and UESCs will remain an important tool at Army installations. Thank you for the opportunity to present this testimony and for your continued support of our Soldiers, Civilians and Families.

Mr. UPTON. Thank you.

Our third witness is Kevin Kampschroer, Chief Sustainability Officer and Director of the Office of Federal High-Performance Buildings at GSA.

Welcome.

STATEMENT OF KEVIN KAMPSCHROER

Mr. KAMPSCHROER. Thank you.

Good morning, Chairman Upton, Ranking Member Rush, and members of the subcommittee. My name is Kevin Kampschroer, and I am the U.S. General Services Administration's Director for the Office of Federal High-Performance Buildings, as well as GSA's Chief Sustainability Officer.

I appreciate being invited here today to testify on GSA's policy and experience in using public-private partnerships to achieve energy savings for our Federal buildings. I will also discuss our National Deep Energy Retrofit Program and share with you several lessons learned.

GSA's mission is to deliver value and savings in real estate, acquisition, technology, and other mission support services across the Government. GSA manages over 371 million square feet of space, housing 1.1 million Federal employees from 65 different Federal agencies.

Executive Order 13834 reinforces the Trump administration's commitment to meeting energy and environmental statutory requirements in a manner that increases efficiency, optimizes performance, and eliminates unnecessary use of resources.

Reducing Federal buildings' energy consumption and increasing their efficiency saves the Government money and makes our buildings more resilient in the long-term.

GSA has been using these types of partnerships since 1989. GSA has invested over $1 billion in both ESPCs and UESCs, resulting in an annual energy savings of 4 trillion BTUs in GSA facilities and $2.3 billion in guaranteed savings.

A key benefit of the ESPC is the guaranteed performance and savings with no upfront capital costs. ESPCs have been proven to work. In fact, the Oak Ridge National Laboratory showed that the actual savings to the Federal Government were 1.96 times the guaranteed savings.

Given that the repair and alteration funding is often in short supply and Federal agencies have repair backlogs estimated Governmentwide to be over $150 billion, the ESPC is an important tool for maintaining a deteriorating infrastructure.

In addition, a power purchase agreement can be used to purchase electricity from specific generation sources. For civilian agencies, these agreements are limited by statute to a term of 10 years. GSA has executed power purchase agreements for ourselves and for other agencies, such as an aggregated set of solar systems in Washington, DC, with a total capacity of 2.7 megawatts and cost savings of $281,000 annually.

An integral part to achieving these efficiencies for GSA is the Deep Energy Retrofit Program. A deep energy retrofit is a whole building analysis and construction process that uses integrated design to achieve larger energy savings than conventional retrofits.

GSA has awarded 32 contracts in this way, at 73 locations, totaling $570 million in investment, with $33 million in annual savings. These contracts have provided overall energy savings of 34 percent on average, which is nearly double the historic average for the Government.

For smaller projects, GSA partnered with the Department of Energy, the Federal Energy Management Program, to create the ESPC ENABLE program, which uses an existing GSA schedule contract and couples it with preplanned, streamlined ways to accomplish simple improvements. This program has been used by 12 agencies in addition to GSA for projects saving $83 million, with an investment of $55 million.

I would like to share with the subcommittee three lessons we have learned among the many.

We have found it important to aggregate short- and long-term measures to maximize synergy and build long-term value. For example, an investment in window replacement does not typically pay back in under 25 years. However, when you couple the window replacement with chiller and heating plan improvements, the windows may reduce the overall load in the building, reducing the size of the chiller and saving money in a way not possible without the window replacement.

Secondly, centralizing ESPC contracting reduces the time for project execution and increases savings. During our first round of the Deep Energy Retrofit Program, we reduced the time to award from 2 years to 1 year, significantly reducing contract overhead costs, and then applying those savings to building improvements.

Lastly, not every project is suitable for an ESPC, and it is important to carefully select buildings using well-developed analytical tools and criteria.

Thank you for the opportunity to testify today. Public-private partnerships are valuable tools agencies can leverage to increase building efficiencies and save money while not relying on annual appropriations. GSA has seen significant cost savings, and we are continuously pushing for greater savings in our future contracts.

I am pleased to be here today, and I am happy to answer any questions you may have.

[The prepared statement of Mr. Kampschroer follows:]

Statement of Kevin Kampschroer, Chief Sustainability Officer and Director, Office of Federal High-Performing Buildings of the U.S. General Services Administration

Before the U.S. House of Representatives
Committee on Energy and Commerce
Subcommittee on Energy

December 12, 2018

Introduction

Good morning Chairman Upton, Ranking Member Rush and Members of this Subcommittee. My name is Kevin Kampschroer, and I am the U.S. General Services Administration's Director for the Office of Federal High-Performance Green Buildings as well as GSA's Chief Sustainability Officer. I appreciate being invited here today to testify on the Federal Government's policy and experience regarding public-private partnerships in achieving energy savings for our Federal buildings.

The Office of Federal High-Performance Buildings, of which I am the director, was created by Congress through the Energy Independence & Security Act (EISA 2007), develops best practices, guidance and tools for government-wide use. We advance Federal green building innovations in planning, design, and operations to reduce costs, and enhance human health and performance. The Office partners with the rest of GSA and other agencies and organizations to pilot, promote and implement the most promising high-performance sustainable building practices, including Energy Savings Performance Contracts (ESPCs), thereby reducing duplication through information-sharing and cooperation, and resulting in a government that delivers more value at a lower cost.

GSA's mission is to deliver value and savings in real estate, acquisition, technology, and other mission-support services across government. In support of that mission, GSA's Public Buildings Service manages over 371 million square feet of space, housing tenants from 65 Federal agencies, encompassing workspaces for 1.1 million Federal employees. I will discuss the use of ESPCs and utility energy service contracts and the savings we have achieved. I will also discuss the GSA's National Deep Energy Retrofit Program and share with you the lessons we have learned.

Executive Order 13834, issued on May 17, 2018, reinforces the Trump Administration's commitment to meeting energy and environment statutory requirements in a manner that increases efficiency, optimizes performance, and eliminates unnecessary use of resources while also protecting the environment. To implement the Executive Order, agencies must prioritize actions that reduce waste, cut costs, enhance the resilience of Federal infrastructure and operations, and enable more effective accomplishment of their missions.

GSA has a long history working with private industry to develop and implement ESPCs for our Federal buildings and we have seen the benefits ESPCs can achieve.

Reducing energy consumption while also pushing Federal buildings to be as energy efficient as possible not only saves the government money, it also makes our buildings more resilient in the long-term. GSA has completed 3 rounds of deep energy retrofits, and is in the midst of the fourth, assembling buildings across the country and issuing the Notice of Opportunity in the coming months.

Energy-based Public Private Partnerships

There are three main types of contracts that can foster energy and water savings and efficiency: energy savings performance contracts, utility energy service contracts, and power purchase agreements.

ESPC is the most frequently used contract that improves building efficiency with guaranteed performance and savings. With an ESPC, there is no requirement for upfront capital cost to the government. Importantly, ESPCs have been proven to work. For example, an in-depth study by the Oak Ridge National Laboratory showed that the actual savings to the Federal Government were 1.96 times the guaranteed savings under an ESPC.

Many Federal agencies have repair backlogs[1] --estimated government-wide to be over $150 billion, with GSA's backlog alone currently standing at $1.455 billion-- the ESPC is an important tool that can be leveraged to assist in maintaining deteriorating infrastructure when partnered appropriately with available appropriations.

The utility energy service contract (UESC) is similar to the ESPC, with one difference: the contract is between a federal agency and its serving utility rather than between a federal agency and an energy services company. GSA has awarded $15.5 million in UESCs and has had similar positive results as it has with ESPCs. In total, GSA UESCs have resulted in a 38 percent average energy use reduction and saving $459,000 in annual energy costs. GSA has also provided its contracting services to other agencies for the installation of energy projects, both on military bases and civilian facilities.

The power purchase agreement (PPA) can be used to purchase electricity from specific generation sources. For civilian agencies, these agreements are limited to a term of 10 years by statute[2]. GSA uses PPAs where the price paid is equal to or less than the market price for electricity. GSA has executed PPAs for itself, such as an aggregated set of solar systems in Washington D.C., with a total capacity of 2.7 megawatts (MW), a total estimated annual energy

[1]The Financial Report of the United States Government of Fiscal Year 2017 estimated that government-wide deferred maintenance and repair was approximately $151.6 billion.
[2] Note, however, that Federal agencies may purchase electricity from certain onsite energy sources for a term exceeding ten years using the ESPC Energy Sales Agreement project structure developed by the U.S. Department of Energy: FEMP ESPC Energy Sales Agreement
https://www.energy.gov/eere/femp/energy-savings-performance-contract-energy-sales-agreements

delivery of 3.5 million kilowatt-hours per year, and cost savings of $281,000 annually. GSA has also supported other agencies, including by procuring power from three 30 MW solar fields for three military bases in Georgia, and 18 MW for Ft. Huachuca in Arizona. Such agreements can be a key component to facility resiliency.

GSA has been using these types of public private partnership contracts since 1989 and has invested $1.03 billion in both ESPCs and UESCs. This investment has resulted in an annual energy savings of 4 trillion BTUs in GSA facilities and $2.3 billion in guaranteed contract savings. These public private partnerships help GSA upgrade Federal buildings with whole system solutions, reduce long term operating costs, reduce vulnerabilities to energy price volatility, meet energy reduction mandates, and create manufacturing, construction and engineering jobs.

Deep energy retrofits

A deep energy retrofit is a whole-building analysis and construction process that uses integrated design to achieve much larger energy savings than conventional energy retrofits, often generating the largest opportunity for returns on investment. Deep energy retrofits consistently save between 30 and 60 percent of energy costs compared to a standard retrofit, which typically will produce between 10 and 20 percent savings.

GSA developed this process with the Department of Energy and the Department of the Army to improve the ESPC results from the historic average savings of 18 percent. We did this in collaboration with all of the companies that had been providing ESPC services to the government.

GSA's deep energy retrofit program has now awarded 32 contracts totaling a $570 million investment in 73 locations. These contracts have provided an overall energy savings of 34 percent, generating $33 million in annual savings. One contract, which covers the New Carrollton Federal Building and the Silver Spring Metro Center 1 in Maryland, has achieved over 60 percent energy savings, and continues to perform after four years of measurement and validation.

For smaller projects, GSA teamed with the Department of Energy to create the ESPC ENABLE program, which uses an existing GSA Schedule Contract and couples it with pre-planned, streamlined ways to accomplish simple improvements. This program has been used by 12 agencies in addition to GSA, for projects saving $83 million with an investment of $55 million. There are 24 certified contractors on the ENABLE list, including 9 small businesses and 3 disabled veteran-owned businesses.

Additional Lessons Learned

ESPCs have proven to be a successful way for the Federal Government to partner with the private sector to secure significant savings to the taxpayer, by improving Federal infrastructure

and reducing energy use. The lessons learned below provide a sampling of the ways in which the Federal Government has been able to improve the program over time.

Centralize ESPC contracting, and reduce time to award

Centralizing ESPC contracting in dedicated units reduces the timeline for project execution and increases savings. In GSA's case, during its first round of deep retrofit program, GSA reduced the time to award from 2 years to 1 year, significantly reducing contract overhead costs and increasing the net return to the government. By adhering to stricter timelines, and by being more responsive, contractors were able to provide better terms and better pricing for project development. This saved considerable overhead on both the Government's and the contractors' parts, and thus provided more money for accomplishing building improvements. Centralized contracting helps those offices less familiar with the ESPC process and enables consistency across GSA. It improved the initial building selection process, resulting in better outcomes. It improved the sharing of specific solutions that had proved successful, and it simplified record-keeping and reporting.

Aggregate work within 25 year limit

GSA also found it important to encourage project teams to aggregate short- and long-term measures to maximize synergy and build long-term value. This is perhaps the most important lesson learned. The ability to evaluate all the individual measures together leads to greater savings, because of the interaction of building systems. An investment in window replacement, for example, does not typically pay back in under 25 years. However, when window replacement is combined with chiller and heating plant improvements, the windows may reduce the load and thus reduce the size of the chiller, saving money in a way not possible without window replacement. There are dozens of connections like this one, where an improvement in one system leads to lowering costs in another. The removal of artificial project limits, such as maximum payback thresholds, allowed for more opportunities for innovation.

Emphasize deep retrofits

Clear and consistent project direction from the government yields the greatest savings, and deep energy retrofits do not happen without strong government leadership,

Select the right buildings

Not every project is suitable for an ESPC, and it is important to first consider buildings that have not undergone recent energy retrofit projects. GSA also found it beneficial to coordinate current or upcoming building renovations when identifying projects. Existing law allows agencies to use appropriated funds with ESPC funds provided by the third party contractor. GSA has used this combination to achieve related work to reduce its deferred maintenance backlog. The cost of energy also has a significant influence on how much work can be done since the work is paid for in energy savings: the lower the energy costs, the lower the savings amount can be.

Closing

Thank you for the opportunity to testify today. Public private partnerships, especially ESPCs, are valuable tools agencies can leverage to increase building efficiencies and save money while not

relying on annual appropriations. GSA has seen significant cost savings and we are continuously sharing our lessons learned with other agencies and ESPC contractors to push for greater savings. I am pleased to be here today, and I am happy to answer any questions you may have.

Mr. UPTON. Thank you.

Our last witness is Ed Bradley, Executive Director of the Office of Asset Enterprise Management at Veterans Affairs.

Thanks for your service.

STATEMENT OF EDWARD L. BRADLEY III

Mr. BRADLEY. Yes. Thank you, Chairman Upton and Ranking Member Rush, and members of the committee, for the opportunity to appear today to discuss the Department of Veterans Affairs—VA—Energy Management Program and allowing us to highlight the success VA has had upgrading our facilities through energy savings performance contracts, or ESPCs, and utility energy service contracts, or UESCs.

VA operates the Nation's largest integrated healthcare system, as well as administering benefits and services to veterans and operating 135 national cemeteries. The average age of a VA-owned building is approaching 60 years, and since VA owns 86 percent of the 180 million square foot real property portfolio, ensuring VA infrastructure continues to support VA's mission is a constant challenge.

As identified through VA's Strategic Capital Investment Planning process, better known as SCIP, VA has more than $50 billion in capital needs over the next 10 years to modernize and maintain its infrastructure.

Along with the appropriated projects, VA has been using ESPCs and UESCs to address its infrastructure needs. Since its first award in 2011, VA's centralized program has awarded over $630 million of ESPCs and UESCs.

These projects are supporting infrastructure upgrades at 60 VA facilities using private sector financing to implement energy and water conservation measures. Once installed, these improvements are expected to generate over $40 million annually of avoided energy and water cost, which translates into more than $1 billion of avoided costs over the life of this portfolio of contracts through 2040.

By leveraging the benefit of private sector financing, VA facilities are able to efficiently address critical system repairs, infrastructure improvements, and deferred maintenance. These projects are also allowing VA to enhance the resiliency and reliability of our facilities, enabling better care for veterans.

In addition to the awarded portfolio, VA is actively developing another $550 million of potential upgrades for 35 other VA facilities, and an additional 15 facilities are being looked at in initiating projects to support their needs, and as well as others in the future will be looked at.

VA's centralized energy performance program has had many successes since its launch, and several VA projects have received national recognition for innovation and value. For example, VA's UESC in Northport, New York, addressed a critical infrastructure repair when the facility's rooftop cooling towers failed. VA coordinated with the Department of Defense Innovative Readiness Training program for helicopter services to support replacing the cooling towers as part of the UESC. A video of that cooling tower replacement has been predominantly featured on DOE's website.

VA's program continues to evolve. In June 2017, VA issued the Federal Government's first ESPC vehicle to solicit as a set-aside for eligible veteran-owned small businesses. VA is actively developing several of these set-aside ESPCs and is in the process of establishing its own IDIQ contract to allow veteran-owned small businesses to more efficiently compete for these projects.

Energy performance contracts have proven to be a very effective tool for VA, and we hope to continue to expand and improve upon their uses in support of our mission of care for veterans.

Mr. Chairman and members of the committee, this concludes my statement. Thank you for the opportunity to testify before this committee today, and I will be happy to respond to any questions you may have.

[The prepared statement of Mr. Bradley follows:]

STATEMENT OF
EDWARD L. BRADLEY, III
EXECUTIVE DIRECTOR OF THE OFFICE OF ASSET ENTERPRISE MANAGEMENT
DEPARTMENT OF VETERANS AFFAIRS
BEFORE THE
HOUSE ENERGY AND COMMERCE COMMITTEE
ENERGY SUBCOMMITTEE
December 12, 2018

Thank you, Chairman Upton, Ranking Member Rush, and Members of the Committee, for the opportunity to appear today to discuss the Department of Veterans Affairs (VA) energy management program and allowing us to highlight the success VA has had upgrading our facilities through energy savings performance contracts (ESPCs) and utility energy service contracts (UESCs). These upgrades address pressing building maintenance, repair and replacement needs nationwide, enhancing the reliability and resilience of VA facilities and enabling better care for our Nation's Veterans.

VA Real Property Portfolio

VA's mission is distinct compared to other Federal agencies, in that we operate the nation's largest integrated health care system, with more than 1,200 health service delivery sites, including hospitals, clinics, community living centers, domiciliaries, residential rehabilitation sites, and other types of facilities. Additionally, VA administers a variety of benefits and services, and operates 135 national cemeteries nationwide.

The Department owns and leases real property in hundreds of communities across the U.S., and overseas. Overall, VA maintains more than 155 million square feet (SF) in 6,232 owned buildings, and more than 36,000 acres of land. Approximately 24.6 million SF of space has been acquired through 1,920 leases for the Department. VA's

portfolio of over 180 million SF is one of the largest in the Federal Government and is unlike many Federal agencies. VA owns the majority of its portfolio – 86 percent of its square footage – which means real estate and energy management play an important role in our overall asset management. Another aspect that separates VA from other Federal agencies is the fact that the average age of a VA owned building is approaching 60 years old. Managing a portfolio of that size and age is complex, takes a significant amount of resources, and requires a great deal of flexibility to both modernize and adjust to changing demographics of the Veteran population. Another aspect of VA's real property portfolio management includes working to ensure VA meets performance targets and reporting requirements related to energy, water and environmental management.

Overview of VA's energy management program

In order to coordinate energy, environmental and sustainable building policies and programs at the Department level, VA integrated these areas in 2006 under the Energy Management Program Service within the Office of Management. This integration has been essential in helping VA optimize and prioritize investments and other activities designed to reduce utility costs, increase fuel diversity, and reduce fuel and water consumption. These activities result in more reliable and resilient facilities and provide cleaner, healthier environments for Veterans, visitors and staff, while also helping VA meet requirements of laws, executive orders and presidential memoranda.

Through its combined energy and water management efforts, and in spite of a growing building footprint and increasing patient load, VA has reduced energy

consumption intensity by 33% since 2003, and has decreased water consumption intensity by 30% since 2007. In FY 2017, VA paid an estimated 40% less in utility bills than they would have otherwise due to the energy and water management efforts VA has undertaken since 2003.

In fiscal year 2017, VA avoided paying approximately $16 million in electricity and natural gas costs through commodities contracts put in place. These commodity contracts are a strategic sourcing initiative to competitively bid utility rates through GSA. Cumulative savings to VA through this successful competitive utilities purchasing program, initiated in fiscal year 2008, have reached $239 million over the life of those contracts.

Overview of VA's energy performance contracting program

VA began awarding energy savings performance contracts, or ESPCs, starting in the late 1990's. Those contracts were either managed by local VA facility contracting or by using the U.S. Army Corps of Engineers for contracting support. In 2002, senior VA leadership decided to pause on initiating new ESPCs until such time as VA established a new approach to managing these complex contracts. With the creation of the VA Energy Management Program in 2006, VA also designated this office to create a centralized program for managing new ESPCs and utility energy service contracts (referred to as UESCs) for VA facilities nationwide. Soon thereafter, VA established a dedicated contracting office that is now called Program Contracting Activity Central, or PCAC, to serve all of VA's ESPC, UESC and related energy project contracting needs.

Since its first award in 2011, VA's centralized program has awarded over $630 million of ESPCs and UESCs. These projects are supporting infrastructure upgrades at 60 VA facilities throughout the country using a combination of private sector financing and appropriations to implement energy and water conservation measures. Once installed, these improvements are expected to generate $40 million of annual avoided energy and water costs, which translates into $1.08 billion of avoided costs over the life of this portfolio of contracts (through 2040). By leveraging the benefits of private sector financing in these bundled projects, VA facilities are able to efficiently address critical system repairs, infrastructure improvements, site deficiencies, and deferred maintenance. Additionally, these projects are allowing VA to enhance the resiliency and reliability of our facilities, enabling better care for Veterans.

Due in part to VA's successful track record in developing and implementing these projects, VA's energy performance contracting program has seen demand for projects continually increase. In addition to the awarded portfolio, VA is actively developing $550 million of potential upgrades for another 35 VA facilities. Between awarded and developing projects, VA's centralized program is currently supporting over half of all VA medical centers and anticipates continued expansion as new opportunities are identified. Currently, there are another 15 facilities that have expressed an interest in initiating projects, and additional facilities are evaluating their potential needs.

Success and Benefits

VA's energy performance contracting program has had many successes since the launch of its centralized program and contracting offices in 2006 to support VA ESPCs and UESCs nationwide.

Centralization of the program and contracting offices has allowed VA to standardize processes, provide consistent contract protection and oversight for VA facilities, and continually evaluate and adopt lessons learned and best practices. Examples of best practices VA has identified and implemented include:

- establishing key goals for the project at the onset, and revisiting these goals through the development process to ensure alignment;
- leveraging financing with appropriations to maximize VA's benefits and savings, as provided for in ESPC authority;
- requiring key VA stakeholders to execute a Customer Service Agreement before projects begin;
- requiring project facilitator support for all VA ESPCs and UESCs for the duration of the contract term; and
- seeking stronger performance assurances or guarantees on UESCs, where feasible.

In June 2016, the Supreme Court ruled on *Kingdomware vs The United States* and declared that VA would need to immediately modify its contracting activities across the agency to comply with the court's interpretation of the "Rule of Two". The "Rule of Two" requires that VA restrict competition to small businesses owned and controlled by Veterans whenever two or more of those small businesses are likely to submit offers and an award can be made at a fair and reasonable price that offers best value to the government. As a result of this ruling, VA needed to recreate its ESPC procurement process to ensure alignment with VA's updated contracting policies. New ESPC

solicitations within VA were essentially paused for the better part of a year as VA collaborated to build its new ESPC procurement process that would meet financial, contracting, and legislative requirements. In June 2017, VA issued the Federal government's first ESPC vehicle to be solicited as a set-aside for eligible Veteran-owned small businesses. VA is actively developing several of these set-aside ESPCs, and is in the process of developing its own umbrella (IDIQ) contract for Veteran-owned small businesses to more efficiently compete for these projects.

Over the last few years, several VA projects have received national recognition for innovation and value.

- VA's VISN 11 ESPC was awarded in 2013 and received a 2016 Federal Energy and Water Management Award for the project's innovative efforts to reduce energy use. This project, which includes eight VA facilities across Michigan, Illinois and Indiana, also received special recognition from the Michigan State Congress, a Michigan U.S. Congressperson, and Michigan's Governor.
- VA's centralized contracting office for ESPCs and UESCs received a 2018 Federal Energy and Water Management Award for its procurement accomplishments while also building a new ESPC vehicle for Veteran-owned small businesses during fiscal year 2017.
- VA's VISN 2 UESC in Northport, New York was awarded in 2016 to address a critical infrastructure repair when the facility's cooling towers failed. VA's lead engineer on the project coordinated with the Department of Defense's Innovative Readiness Training program to provide the helicopter that would

be used to replace the cooling towers on the roof as part of the UESC. This partnership with DoD allowed for a cost-effective approach that took advantage of existing DoD expertise and readiness. A video of the helicopter installation of the new cooling towers has been prominently featured on the Department of Energy's website.

VA has also been an active participant in the Federal performance contracting community that is led by the Department of Energy, and contributes to the generation and distribution of lessons learned and best practices with its Federal counterparts. VA appreciates the support it receives from the Department of Energy's Federal Energy Management Program, its Federal Project Executives, and the supporting National Laboratories.

Future of the Energy Performance Contracting Program at VA

VA's Energy Performance Contracting Program is poised to continue its growth phase, while also balancing the demands of a sizable project portfolio. VA is committed to ensuring measurement and verification is being performed as required, implementation is occurring successfully, and projects in development continue to benefit from lessons learned. VA is collecting project level data using a variety of internal and external reporting tools, including the Department of Energy's eProjectBuilder platform, to help improve the program and underlying authorities.

In the coming months, VA is planning to establish an umbrella (IDIQ) contract to more efficiently support ESPCs using VA's set-aside contract for Veteran-owned small businesses. VA hopes to see an expansion of the pool of qualified Veteran-owned small businesses that are eligible to participate in these opportunities.

For UESCs, VA will continue to seek stronger performance assurances or guarantees where possible to enhance benefits for VA facilities. VA will also work with its utility partners on ways to improve the subcontractor selection process.

VA will work to support the pipeline of VA projects as efficiently and effectively as possible, while maintaining the highest standards of performance.

Conclusion

VA remains focused on supporting the needs of our facilities using energy savings performance contracts and utility energy service contracts. Given the average age of our buildings is approaching 60 years, those needs are significant with respect to upgrading aging infrastructure, modernizing building systems, and enhancing the overall resiliency and reliability of our facilities. Energy performance contracts have proven to be very effective tools for VA, and we hope to continue to expand and improve upon their uses in support of our mission of care for Veterans.

Mr. Chairman and Members of the Committee, this concludes my statement. Thank you for the opportunity to testify before the Committee today. I would be happy to respond to any questions you may have.

Mr. UPTON. Thank you all for your testimony. At this point, we will go into questions and answers from all of us here.

Ms. Nicholls, as you know, the performance contracts have been around since the 1990s. We amended it in 2007, and we have got Mr. Kinzinger's bill before us, but it is likely to be pushed off into next year.

What do you think the greatest challenges are? What do we need to do as we look to make further improvements down the road?

Ms. NICHOLLS. In terms of challenges, clear and consistent understanding of legislative interpretations is something that FEMP has been working on to clarify with agencies. There is inconsistency across Federal agencies of the legislative authorities with the use of ESPCs and UESCs and consistent application of FEMP guidance.

Two examples would be the use and the ability to leverage appropriations with project financing for resilient projects, and also to be able to take advantage of incentives with performance contracting.

Mr. UPTON. So as I mentioned privately to you as I walked in the door, I learned just this morning that Assistant Secretary Winberg is actually at Fort Custer today, which is adjacent to my district. It is a National Guard base. It is one of the finalists. President Obama agreed that we needed another missile defense site for North America, for the east side of the country, and this is one of the finalists in that.

I have been to the site a good number of times. One of the things that have really been pretty exciting is that Consumers Energy Company has actually installed a pretty major solar grid there, and that is one of the performance reviews, in terms of the decision-making by the Pentagon, to decide which potential site is going to get this award that was approved under President Obama.

As I said, Secretary Winberg is there today, as I represent that area, and this would be a $3 billion project if it ends up there. But this is one of the real strengths, I think, that Fort Custer has.

I know you don't know much about it, at least I don't think so this morning, but I just would like to work with you as we move forward, as it appears as though it is a major incentive, which is why they are unveiling this today.

And I don't know, Mr. Surash, if you know much about it as well.

But, again, if we could work with you and if you have ideas on how we can make this better, I would certainly appreciate it.

Ms. NICHOLLS. The Federal Energy Management Program would be pleased to work with you on this project, and we look forward to following up with you at a later date.

Mr. SURASH. Sir, I don't have details at my fingertips, but Army will be happy to follow up with you and provide you information that we have available.

Mr. UPTON. Great.

I yield to Mr. Rush for 5 minutes.

Mr. RUSH. I want to, again, thank you, Mr. Chairman.

Ms. Nicholls, is there a centralized list of contractors that DOE maintains? And how does a contractor get on a list—if there is one—how does a contractor get on it?

Also, I understand that there is a set-aside for veteran contractors at the VA. Does DOE or any other agency also maintain a list

of minority contractors? And do we know the percentage of these Federal contracts that were awarded to minorities?

Ms. NICHOLLS. In terms of the maintaining a list of qualified energy service companies, yes, the Federal Energy Management Program maintains the Qualified List of ESCOs. There is a process that is outlined in our resource materials as we vet energy service companies, not only those that are part of the IDIQ, but also those that are part of our ENABLE program. So, yes, we have that list.

In terms of a set-aside for veteran-owned minority companies, there are owners of small business, and the current ENABLE includes two disabled veteran ESCOs. I will have to get back to you on the percentage of minority-owned businesses, ESCOs, that are currently on our qualified list.

Mr. RUSH. Under an ESPC, how does the private contractor finance the upfront costs for energy upgrades? Does the money come from financial institutions, banks, or are the companies themselves responsible for doing the work and also fronting the cost of doing the work?

Ms. NICHOLLS. Typically, an ESCO will work with a financing company to obtain finance for the project. The project goes through rigorous price-reasonableness evaluation as well as viability to obtain that financing from a third party.

Mr. RUSH. And, Mr. Bradley, do you maintain any data on minority veterans and the number of minority veterans that have contracts under this program, under FEMP?

Mr. BRADLEY. What we are doing is identifying the veteran-owned small businesses that have supposedly energy-type capabilities. We are working with DOE to get those businesses qualified and certified.

Even with those small businesses, they sometimes have a lacking in overall financing capabilities. And through SBA and the small business set-asides and so forth, they are able to joint venture with some of the bigger businesses that can handle with financing as well. So the two are working together on joint ventures, bringing in the VOSBs as well.

Mr. RUSH. I just want to make a note, Mr. Chairman, that we are moving into an area where diversity in Government contracting really means something. This is not just some kind of a political comment or slogan. It really means something.

And so I would like to meet with you, Director Nicholls, to really kind of flesh this out more and see what exists and how it can be enhanced. Maybe you are doing a great job, I don't know, but you don't know either, and that is my problem.

Thank you, and I yield back.

Ms. NICHOLLS. I would be happy to follow up with you, sir. As an additional note, FEMP does provide a robust training, both for ESCOs and agencies, including small business and small disadvantaged businesses.

Mr. RUSH. Thank you.

Mr. UPTON. Great.

Mr. Olson, vice chair of the subcommittee, from Texas.

Mr. OLSON. I thank the Chair.

And welcome and happy holidays to our five experts.

As you all may know, I grew up about a mile and a half from the Johnson Space Center, the home of American human space flight. This is in my heart. It is very important to me that the work being done there continues, even when a hurricane hits, like Hurricane Harvey.

Hurricane Harvey hit Texas hard on August 25 of 2017. The Johnson Space Center has a mission that has to keep going throughout a hurricane. The International Space Station has been in orbit now for 20 straight years, with a human being on board every single day of that period. They can't go down when a hurricane hits like Harvey, and they didn't go down.

They shut down the center on the 25th, when the hurricane hit, opened the center on the 4th of September, when it was clear. But guess what stayed open the entire time: Mission Control at JSC, controlling our space station.

Now, Ms. Nicholls, you guys had a big role in that at DOE. It is called the AFFECT grant. Gave one to JSC in 2014. They have leveraged that. Let's see, it was a $1 million AFFECT grant that supported a $47 million investment in new combined heat and power projects.

So please take a victory lap and tell us about the project at JSC, what it accomplished, what it can accomplish. Can it be a model for other NASA centers and also any other Federal Government agencies? It is a great project.

Ms. NICHOLLS. Thank you, sir.

The NASA Johnson Space Center project can certainly be a model for other Federal agencies as a case study and as a way to accomplish a great deal.

Some of these accomplishments include the fact that, as you mentioned, Johnson Space Center, with the help of FEMP technical assistance and through the use of our AFFECT, which is Assisting Federal Facilities with Energy Conservation Technologies program, through the use of our Federal Energy Efficiency Fund authority, was able to provide $47 million of investment. The AFFECT program provided the $1 million investment. So there was a good leverage there.

The project had a new combined heat and power capable of providing the site with 70 percent of its base power consumption, allowing the site to operate off the grid during outages, as you mentioned. It has a 12-megawatt CHP plant. It allowed Johnson Space Center to operate in island mode.

It also helped NASA meet energy intensity reduction goals through 2020. Interagency collaboration was a piece of this as well, to create replicable resilience projects.

Other ECMs include boiler and chiller improvements. It was a $47 million project with a 22-year term, and it, as you mentioned, is located in Houston, Texas.

Mr. OLSON. And just to reiterate for our Members here, she mentioned $1 million of Federal money became $47 million in private investment, 1 to 47 million. And, yep, put your Texas hat on, ma'am, and brag, like Texans brag, that is amazing, amazing, amazing. Thank you.

Final question for all the panelists, just basic big, high-level question, just to understand the range of issues you have to deal

with. It is real simple. What has been the lowest-hanging fruit to deal with that has been achievable, and what is the highest? What is something that you have to do, want to do, but it is going to cost a lot of money or some technology changes?

How about start with the VA there, Mr. Bradley?

Mr. BRADLEY. The lowest-hanging fruit would be lighting, things like that. The highest would be chiller, boiler replacements, HVAC replacements. Using the two together to combine is where you get the cost effectiveness that you can do both.

Mr. OLSON. Thank you.

Mr. Kampschroer.

Mr. KAMPSCHROER. I would say in addition to lighting, control systems are the very good, very fast payback. The most difficult thing we have had to deal with is roof replacement, with increased insulation. Doesn't pay back. But, again, coupling it in a deep energy retrofit, we have been able to do that. And there is nothing like having a nonleaky roof over your head. Keeps your investment dry.

Mr. OLSON. And hurricanes make for leaky, leaky roofs.

Mr. Surash.

Mr. SURASH. Sir, with respect to low-hanging fruit, I would agree, lighting and a range of basic efficiency improvements.

These days, with the Army, with our pivot to focus on resilience we are looking for projects that help us withstand interruptions in electricity and water and services such as that. So we are finding those projects as very challenging to pursue, but we are making progress there.

Mr. OLSON. Thank you.

And, Ms. Nicholls, one more chance to brag.

Ms. NICHOLLS. I agree with my esteemed colleagues that the low-hanging fruit is lighting and basic HVAC upgrades.

I believe that the opportunities for big projects are the fence-to-fence projects that enhance resilience, include microgrids and advanced building technologies, and present the opportunity to leverage your appropriations with performance contracting, because not all resilience measures do pay for themselves in a performance contracting situation.

Mr. OLSON. Thank you very much. Time is over.

Mr. Surash, remember: Go Navy, beat Army.

Mr. SURASH. Thank you, sir.

Mr. UPTON. Next year.

Mr. McNerney.

Mr. MCNERNEY. Well, thank you, Mr. Chairman.

And it is too late for Navy to beat Army this year, I am afraid.

So it sounds like all of you think that these are favorable, the ESPCs and the UESCs. Could each of you verify that with a simple yes or no, you think these are good ideas, and you would like to see this continue, starting with Ms. Nicholls?

Ms. NICHOLLS. Yes.

Mr. SURASH. Yes, sir.

Mr. KAMPSCHROER. Yes, sir.

Mr. BRADLEY. Yes, sir.

Mr. MCNERNEY. Well, good.

How about this question with the same format. ESPCs and UESCs need significant or could use significant improvement by legislation?

Ms. NICHOLLS. Yes, sir.

Mr. SURASH. Yes, sir.

Mr. KAMPSCHROER. Yes, sir.

Mr. BRADLEY. Yes, sir.

Mr. MCNERNEY. Well, thank you.

Ms. Nicholls, are the incentives appropriate to identify and use ESPCs and UESCs as quickly as possible?

Ms. NICHOLLS. I believe that there are good incentives out there. There is always room for improvement.

Mr. MCNERNEY. OK.

Mr. Bradley, where did the VA end up with regards to the 2014 goal of $2 billion in ESPCs that were part of the Climate Action Plan?

Mr. BRADLEY. We achieved that goal. It was successful. It took some time to get there, but we did achieve that goal.

Mr. MCNERNEY. OK. Thank you.

Mr. Surash, are any projects of your agency working on to implement, are they hindered, and is there something Congress can do about it?

Mr. SURASH. Sir, off the top of my head, I can't think of any projects that are hindered. There is certainly some room to bring forward some enhancements to the legislation, as the chairman noted during his opening comments.

Mr. MCNERNEY. OK. Very good.

Again, Ms. Nicholls, I understand that many agencies use the DOE's umbrella, IDIQ, which is the Indefinite Delivery Indefinite Quantity contracting vehicle. What more can be done to modernize our Federal buildings, besides that tool?

Ms. NICHOLLS. Besides the IDIQ?

Mr. MCNERNEY. Right.

Ms. NICHOLLS. There is the use also of UESCs and working with utilities in taking advantage of incentives. There is the use of power purchase agreements, again partnering with your utility to have on-site renewable generation. And there is also really looking at resilience portfolio planning to look at your infrastructure against your risk and prioritize those projects so you are prioritizing those with the highest-level infrastructure needs.

Mr. MCNERNEY. Thank you. That is a good list. I appreciate that.

Are the FEMP's guidelines designed to ensure the UESCs provide energy savings adequate? Are they designed to be adequate?

Ms. NICHOLLS. Yes.

Mr. MCNERNEY. Very good.

Mr. Surash, what benefits have ESPCs and UESCs provided the DOD in its efforts to enhance reliability and resiliency?

Mr. SURASH. We are very happy with what we are seeing, sir.

So first of all, we get the best ideas from the energy industry brought into Army installations, really great ideas and great projects.

And also, as you are aware, the ESPCs and UESCs allow these projects to be completed with no upfront capital. We, of course, pay

back that investment through a saving stream. So that really helps us leverage the amount of work that we are able to perform.

Mr. MCNERNEY. Thank you.

Now something closer to my district.

Mr. Bradley, I have been working with the VA to build a clinic in my district. And you spoke about how the average age of buildings is 60 years old in the agency's portfolio. What is the VA doing about new construction regarding resilience and efficiency?

Mr. BRADLEY. The answer to that is that VA, regarding resiliency, that is a common practice that we incorporate into all of our projects, being the fact that we are essentially first responders in emergency situations with medical care and so forth. So everything we do has resiliency and reliability built into it today.

Mr. MCNERNEY. Do the ESPCs and UESCs have any relevance in new building construction?

Mr. BRADLEY. In new building construction, no. It is more into the renovation of existing structures, things like that, that we have incorporated ESPCs. We have not dwelled into trying to incorporate them into a new facility construction project.

Mr. MCNERNEY. All right. Thank you, Mr. Chairman.

Mr. UPTON. Mr. Latta.

Mr. LATTA. Thank you very much, Mr. Chairman.

And thanks for our panel for joining us this morning.

Mr. Surash, if I could ask a few questions from your testimony. How long do you have to do an analysis before they implement these projects at the installations?

Mr. SURASH. Sir, it depends on the complexity of the energy and water conservation measures. I would say a round number would be maybe 6 to 12 months. But we find end to end that we are typically able to get these projects in place quicker, quite frankly, than if we had direct funding. So we are very pleased with being able to do that.

Mr. LATTA. OK. I am looking at your testimony, on page 5, when you were talking about the Tobyhanna Army Depot in Pennsylvania, with the award there of $29.5 million for the ESPC, and then saved the Army about 3.7 annually.

Again, on a base like that, or a depot like that, what is the average payback time then for you all?

Mr. SURASH. Sir, that really depends on the complexity of the project. For relatively straightforward, simple projects, payback could be in 3, 4, 5 years.

This is a more complex project. I don't have the number. I can follow up and give you the exact number on the payback. This is a more complex project, so I would expect it to be maybe in the higher teens, or maybe up towards 20 years possibly.

Mr. LATTA. And when you are looking at these ESPCs, do you also do that with overseas bases?

Mr. SURASH. Yes, sir, we do, at certain locations where we are able to do them. There is country-to-country agreements and things like that, that we have to pay attention to. But there are some that we do, some third-party ESPC efforts at Army overseas installations.

Mr. LATTA. And if you can answer it, do you find that, when you are doing them overseas, it might be quicker or that you might get a faster payback on some of these?

Mr. SURASH. I think it is similar to what we are finding within the continental United States. The ESPC contracting approach, I think we find it is a fairly rapid thing. You have to negotiate. You could end up eating up a lot of time if negotiations don't speed along. But I think typically end to end we are seeing these done fairly rapidly. We are happy with what we are seeing.

Mr. LATTA. Good.

Mr. Kampschroer, if I could ask for your testimony, could you give me a little more information on, when you talk about the deep energy retrofits? Because you are talking about that you are doing, instead of the retrofit of a whole building analysis construction project, it uses integrated to achieve a much larger energy savings than a conventional energy retrofit and how that works then.

Mr. KAMPSCHROER. Yes, sir. I think an example that is probably the best way to do it, right here in suburban Washington, New Carrollton, we did a retrofit that is a 1.2 million square foot building. The building was built in 1994.

At the time we started the retrofit, the energy consumption was 26 percent above the office average for the United States, and afterwards it is 61 percent below. We achieved 62 percent overall energy savings. It has been in operation for 4 years, and we have measured the savings every year, and they have achieved them.

We replaced the central chilled water plant with a smaller plant, because we improved the insulation of the building and the roofs. We have integrated controls and sensors. We have 11,000 individually addressable LED light fixtures within the building that can respond to different levels of energy use. We have one megawatt of onsite renewable energy. And we also improved it by adding a geothermal field to use the heat recovery of the earth there.

We created 550 local jobs during the course of that construction, and also improved the operation of the IRS data center there as well, reducing their internal costs.

[Additional information submitted by Mr. Kampschroer follows:]

Office of Congressional and Intergovernmental Affairs

December 20, 2018

The Honorable Fred Upton
Chairman
Subcommittee on Energy
Committee on Energy and Commerce
House of Representatives
Washington, D.C. 20515

Dear Mr. Chairman:

Thank you for providing the General Services Administration (GSA) the opportunity to appear before the Energy and Commerce Subcommittee on Energy last week and discuss GSA's use of Energy Savings Performance Contracts.

I write to clarify GSA's response to a question posed by Congressman Latta at the hearing. Specifically, the Congressman asked GSA's witness, "Mr. Kampschroer, if I could ask for your testimony, could you give me a little more information on, when you talk about the deep energy retrofits? Because you are talking about that you are doing, instead of the retrofit of a whole building analysis construction project, it uses integrated to achieve a much larger energy savings than a conventional energy retrofit and how that works then."

At the hearing, Mr. Kampschroer referenced a deep energy retrofit that GSA had completed at a facility in New Carrollton, Maryland. In response to the Congressman's question, he incorrectly stated that, "at the time, we started the retrofit, the energy consumption was 26 percent above the office average for the United States, and afterwards it is 61 percent below." he intended to say, "afterwards it is 51 percent below", "not 61 percent." Therefore, I am requesting that you amend the hearing transcript and record to reflect what Mr. Kampschroer intended to say.

If you have any questions or concerns, please contact me at (202) 501-0563.

Sincerely,

Jeffrey A. Post
Associate Administrator

1800 F Street, NW
Washington, DC 20405-0002

www.gsa.gov

Mr. LATTA. OK. Thank you very much, Mr. Chairman. I am going to yield back the balance of my time.

Mr. UPTON. Mr. Peters.

Mr. PETERS. Thank you, Mr. Chairman.

And thanks to the witnesses for coming today.

I appreciate the advancements that have been made on energy efficiency in Government infrastructure. Before serving on this committee, I spent two terms on the House Armed Services Committee, where we had similar discussions with respect to the military. The military is often ahead of other parts of the Federal Government in testing and using new efficiency technologies.

In San Diego, which is my home, we launched the Great Green Fleet, with ships burning cleaner fuels. We tested and implemented smart grids with solar power investments at Marine Corps Air Station Miramar. We have, just north of me at Pendleton, taken advantage of microgrid technology. And we have implemented new energy savings in local Federal buildings. And I would like to see this progress continue, not just with the military, but with all our Federal agencies.

And it occurred to me—and I will address this to Mr. Surash and Mr. Kampschroer—that I would be curious about how we coordinate across agencies.

So in the military, for instance, Mr. Surash, is there a way for all the military bases in a region to join together for one long-term power agreement with a local utility? Or on a broader scale, if all Federal infrastructure in a region banded together in a power purchase agreement? Do you think that there are ways to do that? Are there barriers to you doing that? First within the military, Mr. Surash, and then, I guess, Mr. Kampschroer, across the Federal Government.

Mr. SURASH. Sir, with respect to purchasing our utilities, we are dealing with, first of all, regulated and deregulated regions. But it appears, from my knowledge, that each service is buying utilities at the base level, although there have been some efforts with the Defense Logistics Agency energy to bundle purchases together.

I believe that Army, Navy, and possibly Air Force for deregulated places that are served by—that have deregulated service, we have that. But for the most part, in places where it is a regulated utility, I believe we are purchasing—each base is purchasing by themselves.

Now, certainly I think this is a great idea and it is something that we should explore, to use our buying power as the Federal Government, not just the Department of Defense but other agencies also.

Mr. PETERS. Mr. Kampschroer.

Mr. KAMPSCHROER. Yes, sir, I think there are no real impediments for us to do that. GSA has the Government's energy purchasing authority for all agencies. We have purchased energy on behalf of virtually every other agency in the Federal Government upon occasion.

As my colleague from the Army has stated, in the case of the deregulated utilities there is much more opportunity for looking at bundling requirements, for sort of structuring the procurement so

that all your eggs are not in one basket, you have different sources. And I think the potential is certainly there.

Mr. PETERS. Maybe, Ms. Nicholls, I could ask you, too. There is no one here from the Army Corps, but maybe you are the one most knowledgeable about the dams that the Federal Government works on. It strikes me that those could be powered up for hydropower through power purchase agreements, would make a lot of sense.

Are you familiar with how far the Government has come on doing that sort of work with dams and hydropower?

Ms. NICHOLLS. There certainly is an opportunity with regard to hydropower and performance contracting. However, currently, there is a lack of clarity with regard to the use of performance contracting and the ability to use performance contracting on hydro facilities.

There are some agencies, such as the Army with Mr. Surash, that have been able to use performance contracting, with hydro facilities, but it is not a consistent wide practice across the Federal Government.

Mr. PETERS. OK. Is that something that needs legislative attention?

Ms. NICHOLLS. It definitely would need clarity. There is not clarity whether a "thou shalt" or a "thou shalt not."

So, again, that goes back to my opening statement that this is one of the areas where there is inconsistent interpretation of the legislation.

Mr. PETERS. I hope we can work on that in the next Congress. I think it should be "thou should." Those are opportunities to provide some really clean energy that is baseload power, and I think we could take advantage of that. So I will look forward to that in the next Congress.

And I yield back.

Mr. UPTON. Mr. McKinley.

Mr. MCKINLEY. Thank you, Mr. Chairman.

This is something that when I had my engineering architectural practice, this was one of our specialties, was the energy efficiency and performance contracts. So I have quite a familiarity with this.

But I am curious now, Cato has come out recently and said that there are some 360,000 Federal buildings across the country, or maybe around the world, especially because of the military.

And if this hue and cry coming from some of the new Members about making our buildings all energy efficient, state of the art within 10 years, I am just curious about the fiscal challenges that that is going to pose to all of us.

So if we could start, Mr. Surash, you with the Army. The Army has the majority of the buildings, Federal buildings. Do you have a projection at all of what that cost might be to bring all your buildings up to state-of-the-art highest efficiency within 10 years? Do you have an idea what that might cost?

Mr. SURASH. Sir, I don't, but I can attempt to provide that in followup. I mean, the Army has many facilities. Due to other priorities, we are not always able to devote, frankly, the resources that——

Mr. MCKINLEY. Well, that is the second part is where I was going to go with the Army is that if we are going to put all this

into energy efficiency—and listen, I am a very strong supporter of that—but what effect does that have on our national security and our preparedness? So I would like to see the—how that contrast could be with that.

Do you have within the Army a cost-benefit ratio that you try to consider before you do a project?

Mr. SURASH. We are very focused on lowest life cycle cost, sir. So we would be willing to spend an extra dollar upfront when we are doing something to save $1,000 over its life cycle.

Mr. MCKINLEY. Sure.

Mr. SURASH. I can assure you that any of our new projects or major upgrades or modernizations we are providing are very efficient. We are meeting statute requirements and regulations, so that is all being done.

Mr. MCKINLEY. OK. Let me go to Kampschroer with the GSA. How about the same thing? Do you have an idea, projection, an estimate of what it might cost to bring our buildings to energy efficiency within the—state of the art within the next 10 years? Do you have an idea of what that might cost?

Mr. KAMPSCHROER. I do not have that idea today, and I would be happy to do a little research and get back to you on that.

Mr. MCKINLEY. If you could. Let me just say, while I have got your attention, is that a reasonable goal that we should set aside? We have got modernization, upgrades, other things we have to do to our buildings. Is this the right thing to do to make our buildings energy efficient within 10 years?

Mr. KAMPSCHROER. I think that is a goal that the Congress could set, and we would do our damndest to achieve it.

Mr. MCKINLEY. Yes. I hear you say that, and that is a good political answer, but I am curious about what the cost would that be and how we do that.

Same thing with the VA, how much do you think it is going to cost to—if you had a timetable of 10 years to make every VA facility across this country state of the art, highly efficient, what do you think that might cost?

Mr. BRADLEY. We have no metrics on the cost, but we do know that within our portfolio, over the next 10 years, we have roughly $50 billion worth of upgrades and improvements that need to be done to VA's infrastructure and facilities. A portion of that cost would be energy efficiency, water conservation, and so forth.

Mr. MCKINLEY. OK. That is——

Mr. BRADLEY. What percentage, no idea.

Mr. MCKINLEY. Can you get back to—I would like to start building a file on this of what the cost could be for VA, for GSA, and for military. Maybe we just focus on the Army and then, of course, the Department of Energy.

So just closing is, you have—you are following the same thing I am about what—some of the proponents of this Green New Deal. For each of the four of you, is it reasonable to expect that we can achieve these things within 10 years? Yes or no?

Ms. NICHOLLS. Yes.

[Additional information submitted by Ms. Nicholls follows:]

Department of Energy
Washington, DC 20585

December 20, 2018

The Honorable Fred Upton
Chair
Committee on Energy and Commerce
United States House of Representatives
Washington, DC 20515

Dear Chairman Upton:

At the Committee's hearing on December 12, 2018, I provided a response to a question posed by Representative McKinley. For purposes of clarifying the record, my answer to Mr. McKinley's question was meant to convey the same point made by the other witnesses on the panel. That is, I was meaning to say, without committing to a particular set of specific requirements and after consideration of the cost implications, that it could be possible to set building efficiency goals.

Sincerely,

Leslie Nicholls
Strategic Director
Federal Energy Management Program
U.S. Department of Energy

Mr. SURASH. Sir, we would try. I could not commit it. I would have to do a little bit more work on this.

Mr. KAMPSCHROER. I think it is a reasonable goal, sir.

Mr. MCKINLEY. It is a reasonable——

Mr. BRADLEY. I think it is a goal. Reasonable, I am not sure, based upon the other needs of VA and so forth. We are building energy efficiency and energy conservation into all of our projects, so we are getting a lot of that through that. But the overall goal, it would—I would like to be reasonable, but I am not sure.

Mr. MCKINLEY. Thank you. I yield back.

Mr. UPTON. Mr. Green.

Mr. GREEN. Thank you, Mr. Chairman and Ranking Member Rush, for holding this hearing today. And following my—I am glad to follow my colleague from West Virginia.

Federal energy management is an issue that we have been trying to address for years. Having programs that permit—promote energy efficiency, conserve water, and reduce emissions should be part of Federal building management. Energy efficiency improves—improvements are often difficult to obtain due to budget constraints and competing agency missions. I am glad that we are taking the time today to look at what we are doing right or see where improvements can be made.

Under current law, often referred to as section 433, bans the use of all fossil fuel generated energy in Federal buildings by the year 2030. It has been 11 years since this law passed, and not only are we not on schedule to meet the 2030 target, but we are not on schedule to meet the 80 percent reduction in 2020, just 2 years away.

Neither the Obama administration nor the Trump administration have created regulations to implement the law. I don't believe these goals are achievable as such, and I introduce legislation along with my colleague on our committee, Congressman Buddy Carter, to replace these provisions with a series of energy efficiency measures that can be implemented today.

My questions are, does the administration believe that section 433 is implementable? I will just go down the list, if you know what the administration's stance is on this.

Ms. NICHOLLS. I do not know where the administration stands on particularly 433. Executive Order 13834 does promote the use of cost cutting and waste reduction through energy efficient upgrades to promote resilience and looks at an all-of-the-above strategy for energy.

Mr. GREEN. OK.

Mr. SURASH. Sir, I am not familiar with exactly where we stand, but the direction the Army is going in is we are laser focused on resilience. There are a lot of threats out there that we are very worried about. And at the same time, we are interested in efficiency and the lowest life-cycle cost as we move forward.

Mr. GREEN. But is it true though that we are not going to meet the 80 percent in 2 years, much less 100 percent in——

Mr. SURASH. Sir, I don't have those details at my fingertips. I will provide that as a followup.

Mr. GREEN. OK. Thank you.

Any other responses?

I am just concerned because Fort Hood in central Texas—it is not my area, I am in Houston—it is probably the biggest Army base, I think. And just trying to put investment in that would take a significant amount.

Do any of you believe a focus on energy efficiency would be a better target to aim for—than a complete fossil fuel ban? Just to have steps to take over a period of years instead of saying we are going to do this.

Mr. SURASH. Sir, if I can just quickly address Fort Hood. The Army has a project down there where half of the electricity is being provided by a wind farm. It is actually—it is a couple hundred miles away. And the other half we are buying from the local utility, and we have got a real good deal there. We are very happy with that.

Mr. GREEN. Yes. Any other to that question?

Well, I have admit, coming from Texas, and this Energy Subcommittee has done a lot of hearings on what is happening with—and oftentimes 40 percent of our baseload is from windmills, whether it be from west Texas or south Texas. And other—and since natural gas is so cheap, it is easy to turn on a burner and turn on a—can you elaborate on how energy savings performance contracts, or ESPCs, are a valuable tool toward meeting the efficiency goals? Yes.

Mr. KAMPSCHROER. Mr. Green, thank you for the question.

Given the amount of repair and alteration request, which all mentioned, and the lack of ability to fund all of that, ESPCs and UESCs and energy conservation are a key component to being able to achieve energy conservation but also to improve the deteriorating infrastructure of the Federal Government.

And I think, as Mr. Bradley pointed out, not every item on our list of deferred maintenance is an energy item. So there is never going to be, under the current statutes, the ability to do all of the repair and alteration backlog with energy savings performance contract. However, they can be a key component and should be.

Mr. GREEN. OK. I know I am out of time, Mr. Chairman, but maybe the committee could look at that and say, you know, instead of this hard 100 percent use, we could actually see progress over the next few years and—because the electricity market and energy market are changing literally every day, so—and thank you for your time.

Mr. UPTON. Thank you, Mr. Green.

Mr. Johnson.

Mr. JOHNSON. Thank you, Mr. Chairman.

And before I start my questions, I would just like to say to Mr. Green, I know you are not going to be coming back next session. Best of luck to you. It has been a pleasure serving with you on our——

Mr. GREEN. Thank you.

Mr. JOHNSON [continuing]. On our committees. Appreciate that.

Mr. GREEN. Thank you. I wish my wife was here. She would never believe it.

Mr. JOHNSON. Mr. Bradley, for you, you know, I am a veteran of nearly 27 years myself, and I know that the work that the Veterans Affairs Department does is extremely important. I would

think that the health and comfort of our Nation's heroes is, first and foremost, in the minds of executives when they are making management decisions, including changes in your energy management plan.

Can you tell us a bit more how our veterans are considered, their health and welfare, when making energy management decisions?

Mr. BRADLEY. They are considered in the way that we put together our various projects and so forth, the impact on the care and the services that we provide to veterans. That is one reason that every energy conservation measure that we see, we look at the impact on the operations; we look at the impact on the veterans, being able to serve the veterans, decide strategically what is the priority as far as what needs to go now, what needs to go later, the impact on care. We look at all that before we decide which ones we go to, and then we set up a site development plan that we work with the various ESCOs achieve.

Mr. JOHNSON. And you have got multiple sets of eyes that are looking at all that?

Mr. BRADLEY. Yes, sir, from up and down the VA.

Mr. JOHNSON. OK. How does addressing resiliency and reliability of our energy delivery systems impact how the VA cares for our veterans, and how can the VA further improve those efforts?

Mr. BRADLEY. From the resiliency standpoint, VA is a 24/7 operation. We have within all of our designs, our implementation of projects, our implementations of retrofits, resiliency built in, resiliency and reliability.

With being a 24/7 operation, we are there to serve the veteran at that time, so we have got to make sure everything is up and running, the equipment is running, the operating rooms are conditioned properly, the sanitary is there, things such as that. This is something that we constantly build in.

Mr. JOHNSON. OK.

Ms. Nicholls, in your testimony, you discuss how the Federal Energy Management Program will continue to refine practices relating to measurement and verification. Can you discuss some of the challenges in that current work, and do you believe there is a role that Congress will need to play?

Ms. NICHOLLS. In terms of what we are doing, we continually work with agencies and ESCOs to ensure that M&V is happening, and then we analyze the M&V reports to ensure that the savings are being retained. We constantly want to improve the accountability and transparency around M&V.

There are challenges that M&V is not necessarily consistently applied and utilized throughout the Federal Government, so training and providing training of full contracting teams, both those technical energy managers and contracting officers, would be something we would like to see continue, as well as clarity, again, for the need to use Federal Energy Management Program guidelines around performance contracting.

Mr. JOHNSON. OK. Are there other issues that the Federal Energy Management Program is looking at or plans to more closely examine after it gets done with its measurement and verification work?

Ms. NICHOLLS. We continue to do our life of contract support and quality assurance where we are looking to make sure through the use of data collection and eProject Builder that we have sound, viable projects and case studies throughout the Federal Government, and also looking, again, at clear and consistent understanding of legislation interpretations for these bigger complex projects such as resilience, leveraging appropriations with performance contracting.

Mr. JOHNSON. OK. Right on time. Mr. Chair, I yield back.

Mr. UPTON. Mr. Doyle.

Mr. DOYLE. Thank you, Mr. Chairman.

Mr. Surash, battery storage paired with renewables or any other type of energy production can lead to energy efficiency and resiliency for microgrids and isolated military bases. Is the Army taking steps to utilize this technology, and how does the Army determine which technologies are preferable for a given project?

Mr. SURASH. Thank you, sir. Yes, we are interested in all the above. First of all, our view is we are currently technology agnostic, so we are looking for what the market could bring. Now, our focus is resilience, but that is very complementary to the legacy focus on efficiency and conservation and, of course, lower cost.

I can just give you a quick example. It happens to be out in California. We are using an enhanced-use lease, so this is a deal where a third party is going to come in and generate power and actually sell it to the market. And we are only going to want it during a contingency or when the grid goes down.

That is an active procurement right now, and it appears that the proposer is going to bring in—in the case out there, it is going to be a PV with a very large battery storage and a microgrid and a little bit of an either natural gas or diesel generator to ensure that we have a 24/7 availability of power.

Mr. DOYLE. Thank you.

Mr. Kampschroer, you speak about opportunities that deep energy retrofits present. Are there challenges to deployment, and how are you trying to address those challenges?

Mr. KAMPSCHROER. In any large and complex construction contract, of course, there are challenges, and we do look at that. One of the principal ways we are doing that is by having very consistent contracting support centralized so that we can get not only the best experienced contracting officers but also consistent legal interpretations that we use nationwide.

Secondly, as with the Army, we are looking for a—somewhat an agnostic approach to what is proposed. But what we have found is that working in partnership with the companies, we get a much better result than just keeping everything hands off. So we use our engineers, we use their engineers, and we work together with the building manager to see all the things that can be done in the building and push for the deep energy retrofit.

And I mentioned things like leaking roofs. We have been able to put that in there. We have been able to incorporate, for example, in San Diego battery storage that enables us to take advantage of the demand response systems there which saves money—and it is not just energy but money that we are also focused on savings—and then consistent management over time of the contract.

Mr. DOYLE. I meant to ask you too: I know you noted that there is a backlog, a repair backlog of $150 billion. It is not all energy. But I am just curious, how does GSA assess and prioritize projects to address the backlog? Is there a methodology to that, what you do first?

Mr. KAMPSCHROER. Yes, there is. We have an organization that consists of portfolio and asset managers that looks every year at a 5-year-forward look at all of the repair requirements, sets priorities based on a series of criteria that we develop and modify every year; looks at, you know, how long do we intend to be in the building, what is the condition of the building, what is the urgency of the mission, what are the needs of the agencies.

It is important for GSA also to look at it not just from the pure real estate point of view but also the point of view that we only exist to serve the mission needs of the other agencies. So we are looking very closely with the agencies that we serve as to what their needs are, and we prioritize them accordingly. And we go through that set of priorities using some fairly modern systems for analyzing them in order to come up with our budget request every year.

Mr. DOYLE. Thank you.

Mr. Chairman, I will yield back.

Mr. UPTON. Mr. Long.

Mr. LONG. Thank you, Mr. Chairman.

And I will yield my time to my good friend from the Bluegrass State, Mr. Guthrie.

Mr. GUTHRIE. Thanks. You didn't tell me ahead of time you were going to do that. So I appreciate that very much. I know I am——

Mr. LONG. You have been asking me all day to do it, and you didn't know I was going to do it?

Mr. GUTHRIE. I appreciate it very much. And I am on the full committee but not on the subcommittee. I wanted to come because, Mr. Surash, you and I participated in an exercise at Fort Knox, which is in my district. Fort Knox is obviously a key component of the Army's function with Human Resources Command, 1st Theater Sustainment trains most of our officers.

And we experienced in Kentucky the 2009 ice storm, so we are talking about resilience and being down. Things were down all the way across Kentucky and affected Fort Knox. And, of course, Kentucky is blessed in many ways, one is that we have a lot of natural gas. So we are able to—so Fort Knox is able to go off the grid and be resilient. We were there to experience that exercise when they showed they could go off the grid.

And while Fort Knox is unique because of Kentucky's abundance of natural gas, can you speak in general how the Army is taking full advantage of natural resource production on bases across the country to support energy resilience and Army readiness?

Mr. SURASH. Yes, sir. Congressman, it was great to be down at Fort Knox with you in late October to witness that very successful exercise. And thank you for your assistance with section 320 of the National Defense Authorization Act to remedy things down there with respect to the Army's drilling for natural gas.

So this is something we are very interested in, and it is because of resilience. That is our focus. So we are interested in working

with the Congress and the Department of Interior and the Department of Defense to see where it would make sense to do something similar to what we have at Fort Knox where we essentially are able to produce our own natural gas and provide, you know, power and heating and cooling in a very—it is very efficient. It is very low cost, but it is very, very secure.

And probably at the top of our list would be the McAlester Army Ammunition Plant out in Oklahoma. There are a couple other installations also that we are very interested in, but we are actively working this issue right now.

Mr. GUTHRIE. OK. Thank you.

And I know, as you have talked resilience several times, when the Army looks at installations, they specifically emphasize the ability to continue operations off the grid. And I know Fort Knox has done that. So that is a big plus for Fort Knox that they are able to be off the grid. I know not every base has that ability to do so.

Mr. SURASH. Congressman, that is right. And actually the current Army policy is focused on facilities that support critical missions and what—we would like them to have a minimum of 14 days ability to continue to operate. So, in my lane, that is energy and water sorts of considerations. And Fort Knox, you know, absolutely has that with respect to energy and water.

Mr. GUTHRIE. Well, thank you very much. And I appreciate that. And those are the questions I had.

But before I yield back to Mr. Long, just to answer Mr. Olson earlier, so, Mr. Surash, you were a career Navy officer, but you now work for the Army. So "Go Army, beat Navy," right?

Mr. SURASH. Congressman, sometimes I seem to say, "Go Army, go Navy," and I seem to get away with it.

Mr. GUTHRIE. OK. That sounds good. I notice your boss was on the field——

Mr. OLSON. Cop out. Cop out.

Mr. GUTHRIE. I will yield back to Mr. Long.

Mr. LONG. Well, thank you. I didn't know you were going to yield back to me.

Mr. Bradley, in your testimony, you highlight the success that the VA has seen in reducing its energy cost through energy savings performance contracts and utility energy service contracts with a savings of over $230 million since 2008.

How have centralizing the management of the ESPCs and UESCs through the VA Energy Management Program helped the VA maximize energy savings, and is this something that could be replicated across other agencies?

Mr. BRADLEY. The way we have done that is that we have centralized the procurement of the ESPCs and UESCs with a central contracting arm in Ohio, Cleveland, Ohio. By doing that, we have the expertise together of doing ESPCs and so forth in conjunction with our field energy managers that are identifying the ECMs and things like that.

And with the centralization, everyone understands how the contracts are set up, how they are put together, how they are negotiated, how you are going through the investment grade audits, things like that. When you decentralize it to individual contracting

people in the field, they may be doing one UESC or ESPC in their lifetime. These guys are working it every day, and that is how we get the efficiency of what we are doing.

Mr. LONG. And is that something you think could be replicated throughout other agencies?

Mr. BRADLEY. It certainly could be, yes. I am not sure what the other agencies' contracting arms, how they are set up, but it could be replicated, and we have promoted that quite a bit.

Mr. LONG. OK. Thank you.

Mr. Chairman, I yield back.

Mr. UPTON. Mr. Welch.

Mr. WELCH. Thank you very much.

And I thank all the panel for the good work you are doing. I really appreciate it.

President Trump's 2018 Executive Order 13834, it said some of the really good things about needing to improve Federal energy and water efficiency. It didn't provide details or metrics. In my view, no details, no metrics, no progress.

And the question I have for really all of you is whether energy efficiency has been less of a priority since the new executive order was released. Has there been a dropoff in new performance contract project starts?

Maybe I will start with you, Mr. Kampschroer.

Mr. KAMPSCHROER. For GSA, energy efficiency and improving building operations has remained a high priority. It has not diminished. We awarded a large number of contracts, and there is kind of a cyclical process for identifying and bringing forward new contracts.

But we have continued the program, continued the centralized program for energy efficiency, and we continue to work on improving the operations of buildings even without energy performance contracts through better use of the existing funding streams that we have and prioritizing the operations of buildings.

Mr. WELCH. Mr. Bradley.

Mr. BRADLEY. We essentially have not slowed down. Basically, we are doing 25 percent at our facilities a year, looking at energy conservation measures through audits. And, with that, we are putting together ESPCs, UESCs because we see this as a way to use nonappropriated dollars that essentially we can use in other places to get the energy efficiency, to get the water efficiency, and, in concert with that, get some upgrades as we go through.

Mr. WELCH. Let me ask you—thanks. I will ask you a different question, Mr. Surash.

Thank you, gentlemen.

You know, the longer—the deeper retrofits have a longer payback, and that is tougher sometimes to make the numbers work as quickly as you want. How much does your agency rely on performance contract to deal with these deferred maintenance issues where you are trying to get a longer payback but actually longer term savings as well?

Mr. SURASH. Sir, we are doing a lot. As my statement mentions, we are the largest user of these third-party——

Mr. WELCH. Right.

Mr. SURASH [continuing]. Public-private venture agreements in the Federal Government. Now, we happen to also have the largest amount of infrastructure.

So we find it very complementary to the direct funding we are able to receive. You know, it really helps us with efficiency, but we hope to use these deals to help us strengthen resilience at our installations as we go forward.

Mr. WELCH. So you are moving ahead?

Mr. SURASH. Absolutely.

Mr. WELCH. All right.

Ms. Nicholls, you know, at the Federal level, we have heard from all of you, but there is a big opportunity to get the same benefit in municipal buildings, State buildings, State facilities, schools, hospitals. And as you know, the States often lack the resources, including kind of the infrastructure of people like you who have got some experience on how you make it work.

And the question I have is, do you have some practical suggestions in how we can encourage more of this work at the State level, and do you see any opportunity for Congress to partner with States in a way that we could help provide technical assistance in training where it is warranted?

Ms. NICHOLLS. Yes. I do see opportunities to facilitate performance contracting at the State and at the local government level. FEMP has partnered with the WIP program within EERE to help facilitate to training of best practices for performance contracting. Last year, in last August, we had our large training event that also included State and local governments, where we went through best practices for performance contracting.

In addition, our training is open, and our tools are agency agnostic. We try to defederalize our tools and resources. Many agencies are members of communities, so there is synergy that we can learn from each other, and so any help to help us bolster our ability to provide training and provide our resources both to the Federal and State level would probably be helpful.

Mr. WELCH. OK. Thank you very much.

And I yield back the balance of my time.

Mr. UPTON. The gentleman yields back.

I would just note that we had a very good attendance today, but we have other subcommittees that are meeting. We may have some questions that may pop up by other Members that were not able to come, but we really appreciate your testimony, your thoughts, your answers.

And I look forward to working with my new chairman, Mr. Rush, next year to continue to make sure that this is a priority, and appreciate all the work that you do.

And, with that, the subcommittee stands adjourned.

[Whereupon, at 11:49 a.m., the subcommittee was adjourned.]

[Material submitted for inclusion in the record follows:]

PREPARED STATEMENT OF HON. GREG WALDEN

Today's hearing exploring "Public-Private Partnerships for Federal Energy Management" continues our oversight of the Federal Government's efforts to improve energy efficiency and modernize its operations. Since the 1970's, Congress has encouraged Federal facility managers to establish conservation goals and reduce energy

use. Through subsequent legislation, Congress authorized a number of tools to help Federal agencies improve energy efficiency.

Today, we are examining two prime examples of public-private partnerships for Federal energy management: Energy Savings Performance Contracts (or ESPCs) and Utility Energy Service Contracts (or UESCs). ESPCs allow a private party to pay for energy efficiency upgrades in a Federal facility. The private company brings new technology and expertise to the table, and it gets paid back, over time, on the basis of reduction in the agency's energy costs. In the case of an ESPC, the energy service company is qualified by the Department of Energy to enter into the contract with the Government. With UESCs, the services and equipment are provided by the local gas or electric utility.

ESPCs and UESCs have been in use since the mid-1990's, and Congress most recently reauthorized the programs in 2007. Since then, Federal agencies have increasingly relied on performance contracts to manage their facilities, leading to declines in energy and water consumption, and increases in the share of renewable energy.

Through performance contracts, a wide array of equipment and services have been financed by Federal agencies without having to rely on annual appropriations, including, for example, new windows, lighting upgrades, new HVAC, and building automation systems. Federal facility managers are increasingly looking beyond the building envelope to improve efficiency, and we have seen innovative uses of performance contracts to tackle more challenging demands, such as on-site power generation, peak shaving capability, and energy infrastructure hardening.

Today's hearing will allow Members to hear from several Federal agencies with firsthand experience overseeing performance contracts. We'll hear testimony from the Department of Energy, the lead agency authorized by statute to establish procedures and methods for ESPCs and UESCs. DOE provides training, guidance, and technical assistance, and compiles data about energy costs and savings, which they collect from across Government.

Members will also hear from some of the agencies that are most closely involved with energy performance contracts. The Department of Army, the Government Services Administration, and the Department of Veterans Affairs are three agencies that have made significant investments in facility efficiency improvements with ESPCs and UESCs. Though they face unique challenges and very different mission requirements, they all have significant energy demands and a large footprint of facilities to manage.

Today's testimony will help build our record and guide us as we move forward with legislation to improve performance contracting authorities. The committee has been hard at work this Congress, but there is one piece of legislation, particularly relevant today, that hasn't gotten over the finish line.

Earlier this year, the committee reported Mr. Kinzinger's bill, H.R. 723, the Energy Savings Through Public Private Partnerships Act of 2017. This is a commonsense bipartisan bill that would encourage the use of performance contacting in Federal facilities. I look forward to continuing our work to see this bill pass the House and get signed into law. While today's hearing is not a legislative hearing, I expect the testimony and real-world examples will make the case for the targeted improvements contained in the bill.

With that, I'd like to thank our witnesses for appearing before us today, and I yield back the balance of my time.

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