



THE DEPARTMENT OF ENERGY

DEEP ENERGY RETROFIT CHALLENGE

ENHANCED FACILITIES; HAPPIER, HEALTHIER RESEARCHERS; AND ENERGY SAVINGS WITH NO UPFRONT

DOE's goal is to significantly increase the level of energy savings achieved in retrofit projects through integrative design, driving toward a 40 percent energy use reduction. The Challenge will develop a pipeline of at least \$125 million in energy savings performance contract (ESPC) and utility energy service contract (UESC) projects in support of [Executive Order 13693](#).

This project will provide enhanced tools and procurement resources to help sites meet their energy reduction and resilience requirements—while also encouraging more innovative approaches to implementing energy savings measures at DOE sites among the ESCO community to create a strong and scalable business case.

WHY

DOE has the second largest energy use across federal agencies and operates offices and labs for over 13,000 federal employees with more than 111 million square feet of facilities; thus it can serve as a national leader in sustainable building infrastructure improvements. DOE sites have made progress driving down energy to meet the targets set by the Energy Independence and Security Act of 2007 (EISA). But, continuing to drive deeper savings with limited budgets and competing requirements can be challenging. Traditional energy efficiency projects and ESPC approaches have historically yielded ~20 percent energy savings. With the new goal of reducing energy use by 25% from the 2015 baseline, a focused, holistic approach is needed.

APPROACH

The DOE Sustainability Performance Office (SPO), the National Renewable Energy Laboratory (NREL), and Rocky Mountain Institute (RMI) are bringing together DOE contracting officers, program support offices, site teams, subject matter experts, and ESCOs to collectively determine ways to achieve deeper energy savings at DOE sites. This approach will build upon the GSA National Deep Energy Retrofit program that drove GSA's average energy savings from 18 to 39 percent. By drawing on these successes while working with DOE stakeholders the team will provide unparalleled support and guidance through a four-step process:

1. **Opportunities audit and site selection facilitation:**

The core team will generate interest and assist with program engagement by providing site audits and support to select the buildings best suited to participate in the challenge. The goal is to identify opportunities for projects to address existing site pain points and infrastructure upgrade needs, while demonstrating the business case with ESPCs and UESCs.

2. **Program support:**

Through two charrettes (focused, collaborative workshops that help participants achieve a desired outcome), the core team will help participants work together to explore barriers and opportunities to deep retrofits, and develop an advanced toolset that supports efficient and effective program implementation.

3. **Execution support:**

The core team will mobilize existing skill and talent, challenging participants and stakeholders to think out of the box with ongoing resources and support throughout project execution to achieve greater savings.

4. **Scaling solutions:**

Throughout the challenge, the core team will collect and report best practices and lessons learned to scale within the DOE portfolio and beyond to other federal agencies.

PARTICIPANT BENEFITS

The DOE Sustainable Facilities Retrofit Challenge will help partners:

Meet goals and demonstrate leadership:

The challenge will position participants as leaders helping to achieve ambitious goals, including a 50 percent greenhouse gas emissions target. In addition, projects may help satisfy other DOE directives, such as the climate change and resilience requirements, and move DOE facilities towards the goal of bringing 1 percent of its buildings to net zero energy.

Mobilize capital to address long-standing issues or site needs:

Projects can address existing site and maintenance needs, freeing up previously allocated capital for more pressing needs or mission-related improvements. These projects can also address broader site needs, such as deferred maintenance, that have encountered funding barriers in the past.



Enhance mission effectiveness:

The challenge will update critical DOE facilities to generate higher levels of performance through more state-of-the-art equipment and improved building automation and controls. Such improvements will make buildings more resilient, reducing system down time. The support provided throughout the challenge will improve process efficiencies.

Boost employee productivity and recruitment:

Higher performing buildings improve employee productivity, satisfaction, and morale. The challenge will help participants improve their own buildings, positioning them for competitive advantage in employee recruitment and retention.

ADDITIONAL RESOURCES

- [Energy Savings from GSA's National Deep Energy Retrofit Program](#)
- [Energy Savings Performance Contracts for Federal Agencies](#)
- [RMI resources on GSA retrofits](#)
- [Presidents Performance Contracting Challenge and October 2016 extension](#)

GET INVOLVED

The DOE Sustainable Retrofit Challenge is seeking applications from participating facilities. For more information, contact

Cara Carmichael (ccarmichael@rmi.org) and Douglas Dahle (douglas.dahle@nrel.gov).