Better Buildings®
U.S. DEPARTMENT OF ENERGY

Successful Strategies Driving Innovation & Results

PROGRESS REPORT 2017

U.S. DEPARTMENT OF ENERGY

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The efforts of leading organizations to reduce energy and water waste and modernize the nation's buildings and industrial facilities make a difference in the lives of everyday Americans. Since 2011, the U.S. Department of Energy's (DOE) **Better Buildings Initiative** has advanced proven efficiency solutions by challenging market leaders to accelerate the pace of energy efficiency adoption, highlighting partner success stories and industry best practices, and encouraging the latest technological innovation. The country's top energy and facility managers, superintendents, and state and local officials have pioneered measures and strategies to lower operating costs in their buildings and plants. This drive toward efficiency has direct benefits for all Americans who have better classrooms to learn in, better places to work, better housing, and a more resilient infrastructure.

More than 900 organizations across many diverse sectors are now part of the Better Buildings Initiative. These partners represent more than 13% of total U.S. commercial building space, about 12% of the U.S. manufacturing energy footprint, and 125 state and local governments. More than a third (345) of these organizations have taken the Better Buildings Challenge. This leadership initiative calls on CEOs, university presidents, building owners, state and local government leaders, and housing developers to reduce the energy use of their entire building portfolios by 20% within 10 years. They are on track to meet their energy reduction goals, saving more than 2% each year on average, and $1.9 billion since the start of the program. Financing is often cited as a key barrier to energy efficiency; however, 37 Financial Allies have committed $7 billion in capital for efficiency projects, including 9 new allies in the past year.

DOE has also engaged diverse partners in a set of 13 **Better Buildings Accelerators**, which are time-limited collaborations with market leaders to overcome specific barriers to energy efficiency. Three Accelerators successfully closed out after completing their missions during the past year. They generated an array of tools and resources for others to use when considering energy savings performance contracting (ESPC), upgrading outdoor lighting infrastructure, or leveraging the ISO 50001 energy management standard.

Close to 200 leading manufacturers are setting energy reduction goals in the **Better Buildings, Better Plants** program, while building owners and operators are engaging with a network of DOE's research and technical experts to develop and deploy innovative, cost-effective, energy-saving solutions through the **Better Buildings Alliance**. Municipal and county governments representing more than 40 million Americans have joined the **Better Communities Alliance** to develop solutions to common challenges facing local governments.

"Through the Better Buildings Initiative, leaders from the public and private sector are utilizing innovative approaches and deepening American investments in critical building infrastructure. By investing in cost-effective energy efficiency strategies, partners are bringing better buildings to our communities, while creating new and lasting jobs."

— Rick Perry
U.S. Department of Energy Secretary

As the nation's largest energy consumer, the **federal government** is doing its part by cutting energy waste in its own buildings, laboratories, and data centers. This includes 340 ESPC projects that are expected to save taxpayers $8 billion over the next 18 years.

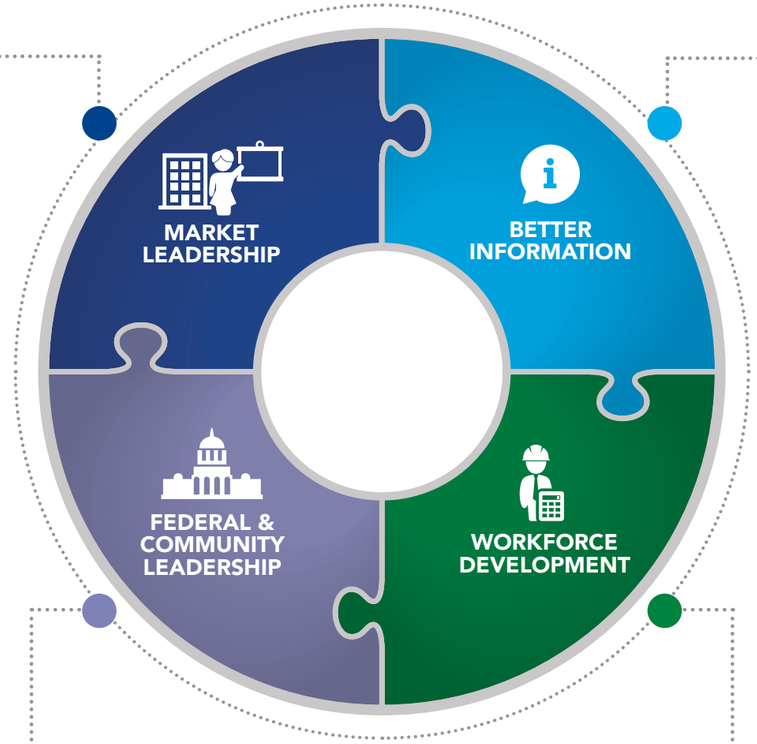
DOE released two new installments of the **Better Buildings Challenge SWAP**. The U.S. Air Force Academy and U.S. Naval Academy engaged in friendly competition to reduce energy use on each other's campuses. This spring the cities of Atlanta and Boston took their game off the gridiron and into the boiler room to address energy waste in municipal facilities. The SWAP provides a behind-the-scenes perspective on how energy savings can be achieved and shared with others, from planning to implementation.

Together, these and related Better Buildings efforts maintain a focus on four key strategic areas: **(1) developing innovative, replicable solutions with market leaders**, **(2) making energy efficiency investment easier**, **(3) state, local, and federal governments leading by example**, and **(4) expanding the workforce**. By showcasing what's possible in energy and water efficiency, DOE's Better Buildings Initiative aims to inspire more owners and operators to make a difference for the people that live, work, and learn in their buildings.

Developing Innovative, Replicable Solutions with Market Leaders

- **Better Buildings Challenge**
  CEOs, university presidents, and state and local governments are leading the way. More than **345** organizations have now taken the Challenge, are reducing their energy costs, and are sharing solutions with others.
- **Better Buildings Alliance**
  More than **230** organizations representing more than **11 billion** square feet are working to develop high-impact technical and market solutions for improved energy efficiency in commercial buildings.
- **Better Buildings, Better Plants**
  190 industrial companies representing more than 12% of the U.S. manufacturing energy footprint are committed to reducing their energy intensity, usually by 25% over 10 years.
- **Better Buildings Accelerators**
  More than **200 organizations** participating in **13 Accelerators** are creating toolkits with new energy reduction approaches and solutions. More than **30** have already achieved their goals in the three completed Accelerators this year.
- **Better Buildings Residential**
  More than **300** organizations are sharing best practices to help more businesses work with homeowners to improve their homes and lower their energy costs, including by providing credible home energy savings information.

  More than **80,000** home energy upgrades were completed in 2016. More than 1,200 examples, strategies, and resources for utility and government program administrators and home energy upgrade professionals are available through the Residential Program Solution Center.
- **Strategic Energy Management**
  43 buildings and plants in the U.S. have adopted ISO 50001, the international energy management standard, as they achieved certification under DOE's Superior Energy Performance program.



State, Local, and Federal Governments Leading by Example

- **Better Communities Alliance**
  43 government leaders have joined this leadership network, along with key businesses and institutions, to improve the prosperity of American communities through energy efficiency and renewable energy technologies and solutions.
- **Performance Contracting**
  21 federal agencies have awarded **340 projects** worth more than **$4.2 billion** since 2011, reducing energy spending by **$8 billion** over the next 18 years. State and local governments have invested an additional **$2 billion** since 2013 through the ESPC Accelerator.

Expanding the Workforce

- **Better Buildings Workforce Guidelines**
  Two new voluntary and national commercial building certification programs were recognized, and more than **200** courses, workshops, webinars, and Energy Exchange accredited sessions were delivered.
- **Industrial Energy Management Workforce**
  In-Plant Trainings have prepared **nearly a thousand workers** to identify, implement, and replicate savings projects in topics like process heating, steam, and industrial refrigeration. Additionally, in 2016, the number of Certified Practitioners in Energy Management Systems, which help facilities develop advanced energy management systems, grew to 111.

Making Energy Efficiency Investment Easier

- **Better Buildings Solution Center**
  More than **1,000** solutions are available publicly in the Better Buildings Solution Center, making it easy to access proven energy and water strategies.
- **Financing Navigator**
  This new online tool, which received more than **12,000** page views and **2,600** users in its first four months, makes it easy to compare options to finance efficiency projects.
- **Improved Data Consistency and Access**
  More than **13,000** users have input data on **960,000** buildings through the Building Performance Database (BPD), which helps compare the physical and operational characteristics of real buildings, provides insights into market trends, and informs investment decisions. The Building Energy Data Exchange Specification (BEDES) now contains more than **600** terms and definitions to facilitate the transfer and sharing of data between platforms and entities in the market.
- **Tools to Assess the Efficiency of Buildings/Homes**
  DOE developed **two scoring tools** to help owners and buyers approximate how much energy a building or home would use under standard operating assumptions, thus allowing an apples-to-apples comparison of different properties.

  Building Energy Asset Score
  More than **1,600** buildings across **44** states have been scored using this tool, totaling more than **160 million** square feet. DOE also supports the **17** leading organizations in the Asset Score National Leadership Network with case studies and effective data-driven decision-making strategies.

  Home Energy Score
  With more than **60,000** homes scored to date, this tool helps homeowners and homebuyers understand how much energy a home is expected to use and provides suggestions for improving its energy efficiency.
- **Tools for Energy Management**
  DOE has developed a new online tool that provides step-by-step guidance on how to put in place an energy management system that uses the structure of the ISO 50001 international energy management standard. A companion online calculator supports the overall energy management system and features a regression-based methodology to determine and report energy performance improvement and savings.

Better Buildings Challenge

More than 345 organizations from diverse sectors have now stepped up to the Better Buildings Challenge. These organizations represent more than 4.4 billion square feet of building space, more than 1,000 industrial facilities, and $7 billion in committed financing. Through 2016, 200 partners shared energy performance results for nearly 38,000 properties. On average, partners in the Better Buildings Challenge are now saving more than 2% per year and are on track to meet their energy savings goals of 20% over the next 10 years. Since the Challenge launched in 2011, partners have cumulatively saved 240 trillion Btus and an estimated $1.9 billion.

Increased Contributions and Leadership

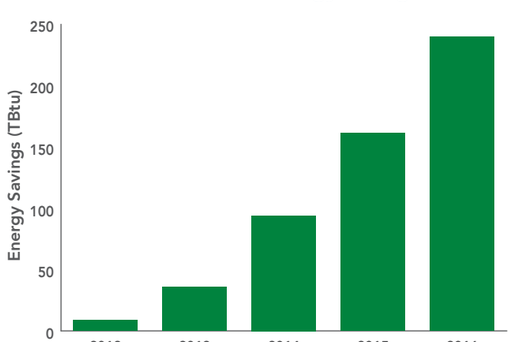
In the past year, more than 35 partners and allies joined the Better Buildings Challenge, committing 200 million square feet of building space, nearly 40 plants, and $650 million for efficiency projects. These partners are contributing to the more than 1,000 proven solutions now available online. When partners share their energy and water savings strategies and results, they demonstrate their collective leadership by making it easier for others to replicate their success.

Better Buildings Challenge Partner Progress and Cumulative Results

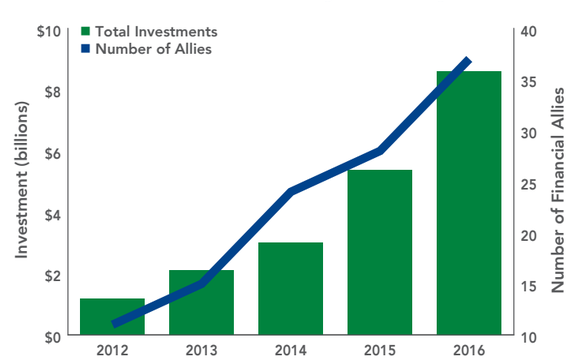
Results	2015	2016
Energy Saved (Btus)	160 trillion	240 trillion
Dollars Saved	$1.3 billion	$1.9 billion
Avoided CO_2 Emissions (tons)	10 million	15 million
Funding Committed	$5.5 billion	$7 billion
Funding Extended	$5.4 billion	$8.6 billion
Water Savings (gallons)	2.3 billion	4 billion
Solutions		
Partner Solutions Available Online	400+	1,000+
Partners		
Number of Partners and Allies	310+	345+
Square Feet Represented	4.2 billion	4.4 billion

Thanks to the efforts of partners working with DOE, there are now more than 1,000 proven energy and water solutions available on the Better Buildings Solution Center.

Cumulative Energy Savings



Total Investment and Ally Growth by Year



Better Buildings Accelerators

Better Buildings Accelerators are short-term, collaborative efforts that target specific barriers to energy efficiency. Since 2013, 13 Accelerators have been launched, featuring more than 200 partnering organizations across the private, public, and non-profit sectors. Three of these collaborative efforts concluded successfully in the past year. Partners across the nation completed ground breaking activities and contributed to the creation of toolkits for others to leverage their approaches and solutions.

The **Energy Savings Performance Contracting (ESPC) Accelerator** was a three-year partnership (2013-2016) with states, local governments and K-12 schools to expand access to performance contracting. DOE worked with 25 state and local agencies to develop solutions for the most common barriers to ESPC. As a result, the ESPC Accelerator catalyzed public-sector energy efficiency investments of more than $2 billion during the Accelerator and left a legacy of valuable tools and resources to support organizations considering using ESPC in the future.

The **Outdoor Lighting Accelerator (OLA)** worked with leaders from three states, 16 cities, and six regional energy networks to accelerate the deployment of high-performance street and area lighting. Participants committed to replacing more than 1.3 million lights over two and half years (2014-2016). OLA was designed to overcome the financial, technical, and regulatory barriers to system-wide replacement processes. OLA public sector partners shared practical and effective best practices to accelerate the adoption of LED street lights to achieve greatly needed energy and electricity cost savings in their jurisdictions.

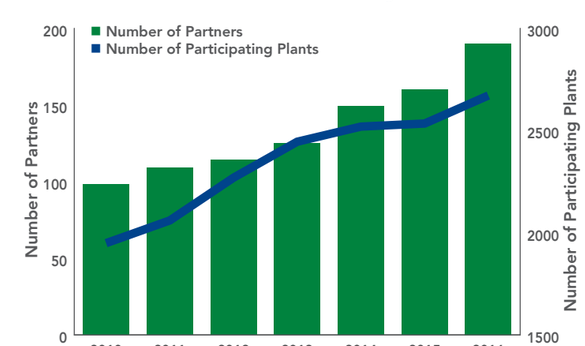
In the **Industrial Superior Energy Performance (SEP) Accelerator**, five manufacturers and four electric utilities worked with DOE over a three-year period to explore new models to cut costs and scale up implementation of SEP, a robust strategic energy management approach built around the ISO 50001 international energy management standard. SEP has been shown to drive energy savings of up to 30% in manufacturing plants, often through no- and low-cost operational improvements. The Industrial SEP Accelerator was designed to demonstrate strategies that reduce costs and maximize the value of SEP implementation.

Better Plants

It is estimated that for every dollar spent in U.S. manufacturing, another $1.81 is added to the economy;[1] the highest multiplier effect of any economic sector. Making smart energy investments enhances our nation's security, productivity, and energy independence, while making U.S. companies more competitive. Better Plants has grown to encompass nearly 200 industrial partners spread out across close to 2,600 facilities in all 50 states, Washington D.C., and Puerto Rico. These partners collectively represent an estimated 12% of the total U.S. manufacturing footprint, with 14 partners in the Fortune 100, the largest corporations by gross revenue.

This past year, Better Plants partners pursued a range of cost-cutting strategies to achieve their goals, leveraging the resources of the program and other DOE tools. Through Better Plants, nearly a thousand plant workers were trained to identify, implement, and replicate energy-savings projects through In-Plant Trainings. Organizations also utilized DOE's SEP program to quantify and verify energy savings from the ISO 50001 standard. The regional Combined Heat and Power Technical Assistance Partnerships (CHP TAPs) provide support to end-users and stakeholders considering CHP and guide them through the project development process, from initial CHP screening to installation, helping industry reduce costs and improve resiliency. These strategies and other innovative approaches have helped partners collectively report estimated cumulative energy savings of 600 TBtu and $3.1 billion in energy costs.

Better Plants Growth by Year



Better Buildings Alliance

More than 230 Better Buildings Alliance partners and affiliates in the commercial real estate, healthcare, higher education, hospitality, retail, food service, and grocery sectors represent more than 11 billion square feet of U.S. real estate, and catalyze energy and water efficiency by sharing information with one another and the public. Sector Steering Committee members help set priorities for each Alliance sector group for the year, based on their "boots on the ground" knowledge of the nuanced challenges and opportunities for efficiency in their organizations. These priorities inform Alliance peer networking opportunities, resource development, and new initiatives.

In the past year, the Alliance welcomed 15 new partners and affiliates, representing more than 100 million square feet. The Energy Management Information Systems (EMIS) technology team kicked off the Smart Energy Analytics (SEA) campaign to drive implementation of energy management systems. Partners shared nine case studies highlighting efficiency successes through new technologies and organizational changes. Partners contributed to technical resources, including case studies on plug load strategies for zero energy buildings, and making on-site energy storage decisions. Partners are also hosting DOE technology demonstrations, supporting development of trusted, third-party evaluations of promising energy-saving technologies for commercial buildings. Affiliates extend the reach of Better Buildings in myriad ways, including hosting shared energy efficiency education events, supporting technology campaigns, and promoting Better Buildings resources to their memberships.

TECHNOLOGY CAMPAIGNS

Advanced Roof Top Units (RTU): Encourages the replacement or retrofit of old RTUs with more efficient units that have advanced controls.

Interior Lighting: Helps facility owners and managers take advantage of savings opportunities from high-efficiency interior lighting solutions.

Lighting Energy Efficiency in Parking: Enables facility owners and managers to take advantage of savings opportunities from high-efficiency lighting solutions.

Smart Energy Analytics: Encourages the use of EMIS technologies and ongoing monitoring practices.

Better Communities Alliance

The Better Communities Alliance (BCA) is a national leadership program working with communities to explore, develop, and demonstrate solutions for meeting their energy, economic, and environmental goals. This is accomplished through three approaches:

Characterizing common issues. BCA is working in partnership with 43 municipal and county governments representing more than 40 million Americans across 23 states and in every region of the country, as well as with 28 national organizations. In January, 2017, BCA convened officials from 15 leading U.S. cities and staff from five national laboratories to discuss issues and possible solutions in the areas of local energy planning and analysis, energy-efficient buildings, energy supply and infrastructure, and transportation and urban mobility.

Delivering integrated, community-scale support to local governments. BCA is fielding the Community Data Analysis Initiative, an effort to support positive economic outcomes in communities through data analysis and local energy planning through technical assistance from the National Renewable Energy Laboratory. BCA is also fielding the Commitments for Better Communities Initiative, an effort to help match resources from public and private sector organizations to local government needs.

Streamlining local government access to DOE resources. In May 2017, BCA began delivering customized Resource Portfolios to its local government partners. The portfolios contained existing DOE research, decision- support tools, case studies, and other resources that correspond with the partner's expressed energy priorities and interests.

STATE AND LOCAL GOVERNMENT CONVENERS

BCA works closely with these associations to more effectively reach local governments:

ICMA INTERNATIONAL CITY/COUNTY MANAGEMENT ASSOCIATION

NATIONAL ASSOCIATION of COUNTIES NACo

NASEO National Association of State Energy Officials

NLC NATIONAL LEAGUE OF CITIES

NARC Building Regional Communities National Association of Regional Councils

Energy and water efficiency is typically not a daily concern for people. However, many of the factories and offices Americans work in, or the buildings they rely on, such as schools and hospitals, are at the forefront of a national drive toward efficiency. Facility and energy managers use existing, cost-effective efficiency methods and new innovations to keep our buildings well-maintained, maximize performance, and ease the national energy burden. By making smart decisions to reduce energy use and making buildings run more efficiently and safely, their efforts are making a difference in the lives of all Americans.

SCHOOLS

For many school districts, energy costs are second only to salary costs and exceed the cost of supplies and books.[2] Every dollar saved on energy could be spent on books, supplies, and other materials that improve the learning environment.

"Every dollar we don't have to spend on energy is a dollar we can spend on our primary mission of educating children. That's particularly important during times like this, when resources for schools are so limited."

— Sandy Hollinger, Alachua County Public Schools

HOMES

Low-income families spend more on utility bills than they do on education or healthcare–up to 25% of their expenses, after rent or mortgage payments.[3] By reducing energy and water costs, families have more money for other important household expenses, like healthy food and their children's education.

"After installing efficient lighting, appliances and/or low flow water fixtures, residents see a direct bottom line impact on their utility bills. Residents have commented on how their bills decreased after efficiency measures were implemented in their units."

— Caitlin Rood, Mercy Housing

RESTAURANTS

Fast food restaurants use 10 times as much energy as a typical retail store.[4] Cutting energy costs and improving restaurant ambiance helps to keep a family meal out affordable and comfortable.

"We are very proud of our dedicated franchisees and their investment in the Wendy's brand, and their individual businesses, through their involvement in the Better Building Challenge. Sixteen Wendy's franchisees representing more than 1,000 restaurants have joined the company in the Better Buildings Challenge, and we celebrate their results and successes."

— Abigail Pringle, The Wendy's Company

HOSPITALS

A typical 200,000-square-foot hospital in the U.S. spends $680,000 a year, or $13,600 per bed, on electricity and natural gas.[5] Savings on energy could be used to improve treatment and lower medical costs for patients.

"The energy and cost savings we are able to achieve through energy efficiency results in dollars being reinvested into patient care."

— Jon Utech, Cleveland Clinic

FACTORIES

Energy costs for energy-intensive manufacturers can be 20% or more of total operating costs.[6] Making efficiency a priority helps factories increase productivity and competitiveness.

"We approach energy efficiency using a combination of people and partnerships. We have great people working on energy efficiency at our plants, and our partnership with the DOE Better Plants program provides resources that help them to achieve significant energy savings. Through this synergy we achieved the program's 25% energy intensity improvement goal five years ahead of schedule and decided to recommit with a further 25% goal by 2025."

— Bert Hill, Volvo Trucks

This year, 18 Better Buildings Challenge partners and allies met their energy, water, or financing goals. Since the start of the program, more than 40 Challenge partners have met their energy goals, 6 have met their water goals, and 12 Financial Allies placed sufficient investments to meet their financing goals.

Energy Savings Goal Achievers

JOHNSON CONTROLS

26%

Johnson Controls is an industrial partner based in Milwaukee, WI. It committed 79 facilities with almost 16 million square feet and has a 2009 energy baseline.

CHESAPEAKE COLLEGE

23%

Chesapeake College is a higher education partner in Wye Mills, MD. It committed more than 300,000 square feet and has a 2011 energy baseline.

SCHNEIDER ELECTRIC

26%

Schneider Electric is an industrial partner based in Andover, MA. It committed 32 facilities with more than 9 million square feet and has a 2008 energy baseline.

DEUTSCHE ASSET MANAGEMENT

22%

Deutsche Asset Management is a commercial partner based in New York, NY. It committed more than 20 buildings with 5 million square feet and has a 2010 energy baseline.

DIGITAL REALTY TRUST

25%

Digital Realty Trust is a data center partner based in San Francisco, CA. It committed 11 data centers with 20 MW of utility consumption and has a 2013 energy baseline.

MACY'S

21%

Macy's is a commercial partner based in Cincinnati, OH. It committed approximately 900 buildings with more than 150 million square feet and has a 2009 energy baseline.

JEWISH COMMUNITY HOUSING FOR THE ELDERLY (JCHE)

24%

JCHE is a multifamily partner based in Eastern Massachusetts. It committed 8 buildings with 926,000 square feet and has a 2011 energy baseline.

THE TOWER COMPANIES

21%

The Tower Companies is a commercial partner based in Rockville, MD. It committed 9 buildings with 2.5 million square feet and has a 2010 energy baseline.

CKE RESTAURANTS HOLDINGS, INC.

23%

CKE Restaurants is a commercial partner based in Carpinteria, CA. It committed more than 290 buildings with 2.6 million square feet and has a 2011 energy baseline.

CELANESE INTERNATIONAL CORPORATION

21%

Celanese is an industrial partner based in Irving, TX. It met its first energy efficiency target in 2013, and followed up with a new target and met that goal this year.

SHORENSTEIN PROPERTIES LLC

20%

Shorenstein Properties is a commercial partner based in San Francisco, CA. It committed 60 properties with 20 million square feet and has a 2010 energy baseline.

TOWSON UNIVERSITY

20%

Towson University is a higher education partner in Towson, MD. It committed 45 buildings with 5 million square feet and has a 2010 energy baseline.

Water Savings Goal Achievers

STAPLES

40%

Staples is a commercial partner based in Framingham, MA. It has a water commitment of more than 900 buildings with 28 million square feet, with a 2011 water baseline.

GENERAL MOTORS

28%

General Motors is an industrial partner based in Detroit, MI. It committed more than 30 plants and has a 2011 water baseline.

Financial Ally Goal Achievers

RENEW FINANCIAL

$473 MILLION

Renew Financial is a Financial Ally based in Oakland, CA. Since joining it has surpassed its goal of $150 million in financing for energy efficiency.

LISC

$146 MILLION

LISC is a Financial Ally based in New York, NY. Since joining it has surpassed its goal of $25 million in financing for energy efficiency.

CLEANFUND LLC

$57 MILLION

CleanFund is a Financial Ally based in Sausalito, CA. Since joining it has surpassed its goal of $50 million in financing for energy efficiency.

BIOSTAR RENEWABLES

$36 MILLION

BioStar Renewables is a Financial Ally based in Overland Park, KS. Since joining it has surpassed its goal of $25 million in financing for energy efficiency.

Previous Goal Achievers

Sharing and Showcasing New Projects, Proven Strategies, and Innovative Solutions

The solutions featured in this section, developed and used by the nation's energy and water efficiency leaders, demonstrate how advanced technologies, organizational strategies, and partnerships with financiers and utilities are moving the market forward. These solutions reduce costs for organizations and make it easier for companies to keep and create jobs.

These solutions are organized by barrier to energy efficiency. They include showcase projects and implementation models created by Challenge partners, technology resources created by Alliance experts, toolkits that resulted from the work of Accelerator participants, and more.

To access these tools and many others, visit the Better Buildings Solution Center at:

betterbuildingssolutioncenter.energy.gov

Accessing Data and Information

EMIS Pilot and Deployment Model

Starbucks used advanced metering systems to measure equipment performance and monitor store comfort for customers. Starbucks also set in-store temperatures and lighting to automatically match local weather conditions, which resulted in a 6% utility cost reduction on average.

Energy Data Access Toolkit

This blueprint for action was developed in collaboration with utilities and local governments. The toolkit contains 10 resources to help others access data, including case studies, best practices, strategy guides, and more.

High-Performance Appraisal Toolkit

This toolkit provides resources and trainings for owners, lenders, and appraisers to help make building energy efficiency information available for consideration during the appraisal process.

Identifying Energy-Saving Technologies

Energy Dashboards

Celanese installed sensors and created sophisticated dashboards to spot energy-saving opportunities, saving $300,000 at a pilot plant after empowering operators with real-time energy information.

High-Efficiency Troffer Lighting

When integrated with dimming, occupant, or daylight controls, this lighting specification can result in 80% savings.

LED Street Lighting with Smart Technology

San Diego cut street light energy use by more than 50% since upgrading to more efficient lights and integrating smart technology to measure and adaptively control energy use.

Treasure Hunt Exchanges

Better Plants developed a new In-Plant Training in 2016, Treasure Hunt Exchange. Nissan and Toyota performed energy treasure hunts in two of each other's plants. Joint teams of employees found a total of $615,000 in energy cost-saving opportunities.

Using Technology to Meet Portfolio-Wide Energy Reduction Goals

To meet energy-reduction goals, Forest City Realty Trust established an Integrative Design Services group to research, pilot, recommend, and deploy new technologies with payback periods of six months to three years.

Paying for It

Better Buildings Financing Navigator

This online tool lets users explore a wide array of financing options for energy efficiency projects and connect with Better Buildings Financial Allies.

Efficiency Services Agreement Model

To finance $10 million of multi-measure energy efficiency retrofits across a national mixed-used portfolio, Metrus Energy established an efficiency services agreement. Their results exceeded original projections, reaching $4.1 million total energy savings to date.

ESPC Toolkit

This toolkit provides a collection of state, city, and K-12 school best practices and innovative approaches for establishing and implementing performance contracting.

Financing Toolkit

To help with traditional and specialized financing, this toolkit provides resources for energy savings performance contracts, energy services agreements, on-bill financing and repayment, commercial property assessed clean energy financing, and more.

Rapid Solar Roll-out

Whole Foods Market installed approximately 100 new rooftop solar systems through third-party power purchase agreements and expects energy offsets of up to 8% in stores and 50% in distribution centers.

Retail Energy Efficiency Financing Decision Support

This Retail Industry Leaders Association tool helps users leverage external financing for energy and sustainability projects. Users can view basic finance metrics for a specific project.

Increasing Expertise Within My Organization

Energy Conservation Incentive Program

Albuquerque Public Schools created an Energy Conservation Incentive Program to clearly define best practices for educating administrators, teachers, custodians, and students so they know how to implement energy-saving measures.

Energy Efficiency Training Module

Corcoran Management created a standardized, mandatory training module to make identifying energy-saving opportunities a daily practice in their buildings.

SEP Cohort

Five Better Plants partners, including Kent County and Alexandria Renew, are in a cohort of water/wastewater treatment agencies seeking certification to Superior Energy Performance (SEP). It is expected that all will achieve certification by the summer of 2017.

Reaching My Community

Energy Roadmap

The city of Rochester developed an energy roadmap to communicate its commitment to a resilient, vibrant, and sustainable community. When the plan is fully implemented, the city will save approximately 7 GWh annually.

Smart Meter Resident Energy Savings Program

Balfour Beatty engaged more than 3,900 homes across 11 communities by using smart meter data to provide specific energy efficiency feedback and recommendations.

Engaging Key Stakeholders

Energy Reduction in Industrial Leased Spaces

Lennox International ramped up its collaboration with landlords at its leased facilities, overcoming split incentives and achieving financial returns that surpassed those in Lennox-owned buildings.

Franchisee Energy Management and Benchmarking

Wendy's model provides resources to support franchisee energy reduction goals. The model helps franchisees collect and analyze energy data and capture energy saving opportunities.

Green Lease Library

This library is a one-stop shop providing access to green leasing resources like case studies, sample lease language, best practices, and toolkits.

Supply Chain Cohort

Recognizing the importance of a highly productive supply chain for manufacturing competitiveness and reliability, four Better Plants partners, including Lockheed Martin, sponsored supply chain cohorts and enlisted a total of 32 suppliers to set ambitious energy-saving goals through Better Plants.

Tenant Engagement Program

The CommonWealth Partners Tenant Engagement Resource Packet is helping meet larger corporate goals, contributing to an average annual savings of more than 3.5% across the portfolio.

Motivating My Organization

Building Occupant Costs Responsibility

The University of California, Berkeley, Energy Management Initiative used surveys and energy dashboards to shift energy cost responsibility to individual campus operating units, creating an incentive for occupants to reduce usage and contributing to cost savings of $6.5 million in three years.

Continuous Energy Efficiency Improvement

Briggs & Stratton institutionalized energy management as a key element in the company's Corporate Continuous Improvement Program, helping achieve a 19% reduction in portfolio energy intensity.

Incentives for City Departments

City of Philadelphia departments saved more than $115,000 the first year they were allowed to keep a portion of their energy cost savings rather than return those funds to the city's general fund.

Toolkits

See below for some of the latest Toolkits, which are all available through the Better Buildings Solution Center. Each Toolkit contains technical resources, case studies, guides, and more.

- Commercial Laundry Facilities
- Control Plug and Process Loads
- Energy Management Information Systems
- Energy Savings Performance Contracting
- Laboratory Energy Use
- Open Refrigerated Display Case Retrofits
- Outdoor Lighting
- Parking Lot and Parking Structure High-Efficiency Lighting
- Rooftop Solar
- Utility-Based Strategic Energy Management Programs for Industry

View the monthly top-10 program solutions at the Better Buildings Solution Center.

Better Buildings partners are demonstrating leadership in reducing the energy needs of our nation's water infrastructure. More than 35 partners have set goals to reduce water consumption by about 20% and to share their market-tested solutions. Because energy is required to pump and treat water, every gallon of water saved will almost always lead to energy reductions, which amplifies the utility bill savings. At the same time, more than 150 municipal water and wastewater treatment plants have set goals in partnership with Better Buildings and Better Plants to reduce the energy intensity of their operations by 20-30%. This reduction can have a big impact on city finances, because water and wastewater treatment plants can account for a third or more of a municipality's energy bill.

Partners with Greatest Water Savings

Savings Since Baseline Year

HARBEC	**53%**
Cummins, Inc.*	**45%**
Staples*	**40%**
Shari's Cafe & Pies	**30%**
Anthem, Inc.	**29%**

**Water goal achiever*

Water/Wastewater Partners with Greatest Savings

Savings Since Baseline Year

Orange Water and Sewer Authority	**23%**
Bucks County Water & Sewer Authority	**21%**
Los Angeles Department of Water and Power	**5%**

Accomplishments and Partner Solutions

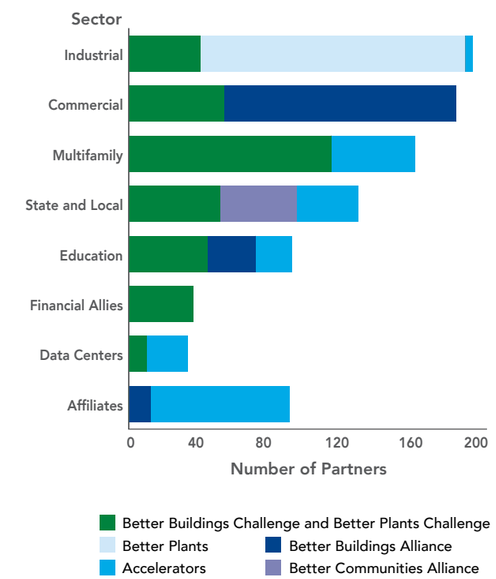
- **Loews Santa Monica Beach Hotel** reduced water usage by 20% a year after sub-metering led to the installation of water recycling technology at the on-site laundry facility.
- **27 state, regional, and local agencies** are seeking energy savings of at least 30% across a combined 100 wastewater treatment plants through the Sustainable Wastewater Infrastructure of the Future Accelerator. These partners will develop replicable improvement plans based on best-practice approaches to tracking energy performance, identifying energy-saving opportunities, and financing major efficiency projects.
- **Los Angeles Department of Water and Power** began a comprehensive modernization of its Aqueduct Filtration Plant that will save $115,000 a year by installing new and better equipment that requires less energy to run.
- **Ford Motors** is updating their water intensity goal to an aggressive, additional 30% water intensity reduction by 2020, having already overachieved on their earlier water savings goal. Within their portfolio of 24 U.S. manufacturing plants, Ford's water management program emphasizes innovative technology solutions such as Minimum Quantity Lubrication for machining, increasing cooling tower cycles of concentration, replication of water reduction best practices, and the sharing of best practices with its suppliers as part of Ford's Partnership for A Cleaner Environment program.
- **Better Plants** began offering a three-day, water/wastewater-focused In-Plant Training with informative content, tools, and practical exercises designed to lower energy consumption in treatment facilities. Partners that treat wastewater and potable water have the option of a fourth day of training covering ways to identify savings opportunities in water sourcing, treatment, and distribution.

The network of partners that have joined one or more Better Buildings programs is large, diverse, and leveraging energy efficiency to improve and save money in buildings across the nation. Collectively, these partners represent more than 13% of U.S. commercial floorspace, more than 12% of its manufacturing energy footprint, and 34 states across the nation. Financial Allies, meanwhile, have funded nearly $8.6 billion worth of energy efficiency projects since the start of the program. In the past year alone, more than 275 partners have joined the Better Buildings Initiative with the goal of reducing their energy waste or improving the efficiency of their buildings and infrastructure.

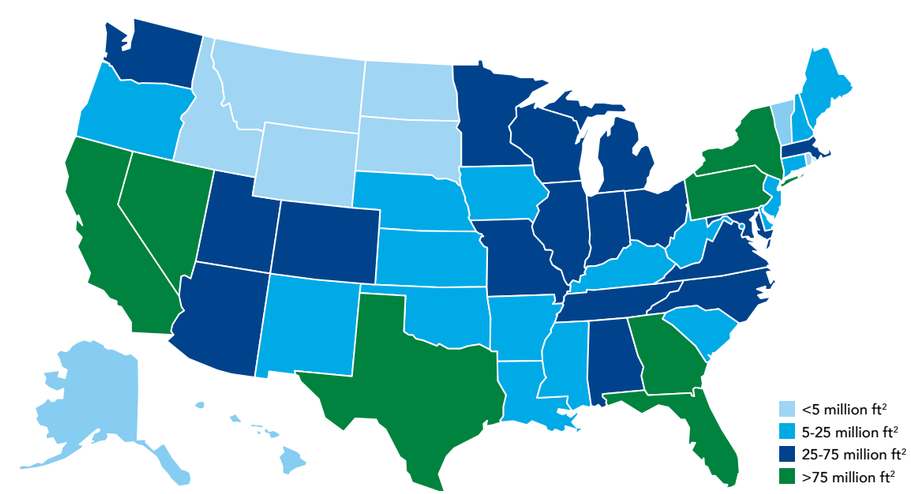
Also in the past year, new service offerings were launched to help organizations across all sectors connect with valuable resources and connect with each other. For example, the Better Buildings Financing Navigator came online, helping partners and other organizations find financing solutions for energy efficiency projects and connect directly with Financial Allies.

The sector spotlights found on the following pages feature partners across the broad Better Buildings landscape. These organizations lead the way with innovative approaches that result in demonstrated energy savings. These examples show the savings possible by implementing their proven solutions.

Better Buildings Partners Connected Across the Marketplace



Better Buildings Challenge Participation Across the Nation

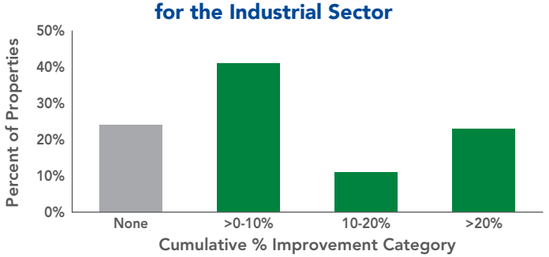


American manufacturing is very important for jobs, directly employing 12 million people and indirectly supporting another 17.1 million workers.[7] It also accounts for 19 quadrillion Btu in annual energy consumption.[8] Saving energy in manufacturing and the larger industrial sector can save money and boost competitiveness in a big way. Leading manufacturers are capitalizing on this opportunity by taking advantage of a wide variety of technical assistance resources, sharing best practices, adopting strategic energy management systems, and researching and implementing innovative technologies and solutions. Together, they are proving that industrial energy efficiency measures pay off—often with high returns at relatively low risk.

Building on Success: Partners Pledging a Second Energy Goal

3M
Bentley Mills
Celanese International Corporation
Lafarge-Holcim
Ingersoll Rand
Legrand
Lennox International
Nissan North America
Patriot Foundry & Castings
Procter & Gamble
TE Connectivity
ThyssenKrupp Elevators
Toyota Motor Engineering & Manufacturing North America, Inc
United Technologies Corporation (UTC)
Volvo Group North America

Property-Level Percent Improvements for the Industrial Sector



190 SECTOR PARTNERS

40 STEPPED UP TO THE CHALLENGE
150 others pledged to reduce energy intensity

2,600 FACILITIES
more than $3 billion saved to date

8 ADDED A WATER COMMITMENT
4 sponsored a cohort of their suppliers

Leadership in Action

- **Honda North America** sponsored the most recent cohort of suppliers through the Supply Chain Initiative. With Better Plants guidance and technical assistance, Honda's cohort of suppliers are working to collectively set, track, and meet energy savings goals. More than 30 supply chain companies have joined the effort, because a strong, competitive supply chain means greater reliability and savings.
- **Nissan North America**, a Challenge partner, has recommitted with a new pledge to reduce its energy intensity by an additional 15% by 2022 after meeting its initial goal five years ahead of schedule. It joins **3M**, **Legrand**, and **Volvo Group North America** as the first Challenge partners to set new goals after meeting their original goals.
- **Martin Guitar** joined as a Better Plants Challenge partner in 2016, pledging to reduce energy intensity 25% by 2026. Martin Guitar undertook an ambitious retrofit of its Pennsylvania plant HVAC system that will yield a 39% improvement in that facility's HVAC energy intensity, as well as lower maintenance costs and more reliable guitar quality.
- **Bradken**, a Better Plants program level partner, achieved its energy savings goal this year. Founded in 1922, Bradken is a leading global supplier of differentiated consumable and capital products to the mining, transport, general industrial and contract manufacturing markets.
- Partners are helping DOE develop resources to advance strategic energy management, including an online tool that walks organizations through the steps of establishing an energy management system that follows the structure of ISO 50001. Best practice energy management systems can lead to substantial utility bill savings for organizations after just a few years of implementation.
- Partners are pursuing creative financing models to ensure adequate funding for energy efficiency capital projects. **Eastman Chemical** formed an Executive Steering Team to elevate its energy management program and established a capital set-aside fund dedicated solely to energy efficiency projects. **Victor Valley Wastewater Reclamation Authority** used a special lease and power purchase agreement to finance vital plant energy improvements.
- Since 2014, Better Plants has been working with water/wastewater treatment partners like **Kent County Water Authority**, and **Alexandria Renew**. To date, 23 agencies have joined, including nine at the Challenge level. As a group, partners from this sector have been highly proactive: six hosted In-Plant Trainings, two already met their energy goals, and all five that joined the SEP cohort expect to certify in 2017.

Sector Accomplishments

- **New In-Plant Trainings** were offered on treasure hunt exchanges, refrigeration, and water/wastewater treatment.
- **The Diagnostic Equipment Loan Program** was launched to provide partners with free access to 19 different tools, including anemometers, flow meters, and infrared cameras and thermometers, to gather critical energy data.
- **The inaugural Technology Day** at Oak Ridge National Laboratory enabled partners to learn about state-of-the-art R&D facilities, and hear industry success stories.
- **The summer Industrial Energy Efficiency Internship Portal** was established to build a pipeline between partners and energy-engineering savvy students at university-based Industrial Assessment Centers around the country.
- **A corporate water management strategy for manufacturers** was published to provide industrial partners with insights into successful water management efforts, including metrics to track progress and specific projects and activities.
- **New annual Better Practice and Better Project awards** recognize partner leadership and achievements in energy efficiency at the organizational and facility levels.

The U.S. commercial real estate sector spends more than $30 billion annually on energy, which is nearly 20% of total commercial building energy use.[9] Because energy is often a property's largest controllable operating expense, adopting energy efficiency measures and solutions can help companies to drastically cut waste, reduce energy use, save money, and even have a lower default risk on commercial mortgages.[10] Building owners can improve their financial performance and better meet capital provider expectations through increased tenant attraction and retention, higher rents, and reduced waste. Owners are exploring how high-performing buildings can help achieve these goals.

69
SECTOR PARTNERS

6.6 BILLION SQ. FT.
represents 40% of market floorspace

20 STEPPED UP TO THE CHALLENGE
5 of which became Goal Achievers

49 ARE PARTNERS IN THE ALLIANCE

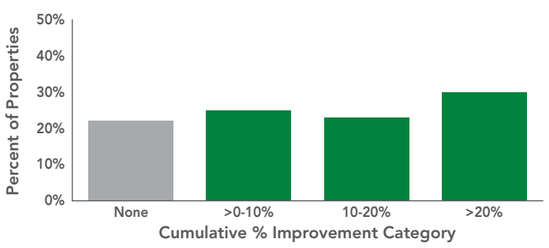
Challenge Partners with Greatest Energy Savings

Savings Since Baseline Year

Lendlease*	**31%**
The Hartford Financial Services Group, Inc.*	**23%**
Deutsche Asset Management*	**22%**
The Tower Companies*	**21%**
Shorenstein Properties LLC*	**20%**
Columbia Association	**18%**
Anthem, Inc.	**17%**
CommonWealth Partners	**11%**

**Goal achiever*

Property-Level Percent Improvements for Commercial Real Estate Sector



Leadership in Action

- **Parkway Properties** developed internal Property Sustainability Awards to recognize staff for engaging in sustainability projects, helping achieve a 6% reduction in portfolio-wide energy use in 2015.
- In 2016, **Kimco Realty Corporation** saved 6.7 million kWh by retrofitting 111 parking facilities with LED lighting, or 31.8 million square feet, earning two awards from the Lighting Energy Efficiency in Parking (LEEP) campaign.
- **MC Realty** replaced 1,500 metal halide fixtures with an equal number of T8 fluorescents in a five-story parking structure and cut energy use by 2 million kWh annually, earning two LEEP awards.
- **Lendlease** installed a Building Energy Management System to monitor and optimize energy performance in nearly 4,500 homes throughout its military housing portfolio, reducing energy use by 16% and saving 12 million kWh annually.
- **Shorenstein Properties** upgraded to direct digital controls, modified set points, installed variable frequency drives, and upgraded to LEDs at a 735,000-square-foot office building in San Francisco, reducing energy use by 31% and saving $623,000 annually.
- **Columbia Association** upgraded interior and exterior lighting fixtures and installed a 60 kW CHP generator to reduce energy use by 22% and save $96,000 annually at a 100,000 square-foot 24-hour fitness facility.
- **The Tower Companies** employed a grant from the Maryland Energy Administration to upgrade a class C building in Silver Spring, MD. The project reduced energy use by 20% and saved almost $40,000 annually.
- **Principal Real Estate Investors** contributed lease-level data for preliminary research to better understand the links between building energy performance and financial performance. They also earned a LEEP award for achieving 78% savings by upgrading to LED technology at their parking facility.
- **TH Real Estate** has been achieving average annual portfolio savings of more than 2%, in part by implementing efforts like the Property Energy Target program, which equips third-party property management teams with tools to reduce costs and improve asset performance and marketability.
- **Forest City Realty Trust** created an internal team to research and vet new market offerings, and to pilot, monitor, and bring technology implementation to scale, helping achieve a 3% reduction in portfolio-wide energy use in 2015.
- The **U.S. General Services Administration** won awards from the Interior Lighting Campaign for reducing its troffer lighting energy use by 82% across two different sites through the use of LED and controls technology.

Sector Accomplishments

- **Launched a working group** to develop protocols for data collection and matching to facilitate real estate research on high-performing, energy-efficient buildings and building financial performance.
- **Developed an Appraisal Toolkit** to highlight the importance of incorporating high-performance and energy-efficient features during commercial building appraisals. The toolkit provides building owners, appraisers, and lenders with resources and training opportunities focused on valuation of high-performance commercial buildings.
- **Promoted landlord/tenant engagement** by publishing a study discussing the feasibility of energy efficiency in leased space and proven approaches for tenants to enable energy savings during the tenant improvement process.
- **Conducted a scoping study with commercial lenders and owners**, which identified mortgages as an underutilized channel for achieving energy efficiency. Several potential interventions to properly account for energy factors in the underwriting process were also identified.

Healthcare facilities are one of the most energy-intensive building types,[11] spending more than $9.7 billion on energy every year.[4] Program participants contribute to strategic initiatives that address common barriers in healthcare facilities, by implementing less energy-intensive technologies while meeting patient comfort standards and identifying funding opportunities for projects. Energy project funding mechanisms include green revolving funds, and partnerships with local utilities, to finance and implement energy-efficient upgrades. Water management has become a priority in more health systems to reduce operating costs and environmental impact. The activities of Better Buildings healthcare partners provide best practices that hospitals nationwide can replicate in energy management plans.

37 SECTOR PARTNERS

470 MILLION SQ. FT. represents 11% of market floorspace

9 STEPPED UP TO THE CHALLENGE

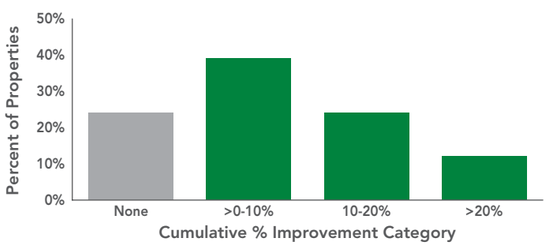
28 ARE PARTNERS IN THE ALLIANCE

Challenge Partners with Greatest Energy Savings

Savings Since Baseline Year

UW Health	**18%**
Cleveland Clinic	**15%**
NewYork-Presbyterian Hospital	**11%**
UPMC: University of Pittsburgh Medical Center	**10%**
University of Maryland Medical Center	**10%**
University of Nebraska Medical Center	**10%**

Property-Level Percent Improvements for the Healthcare Sector



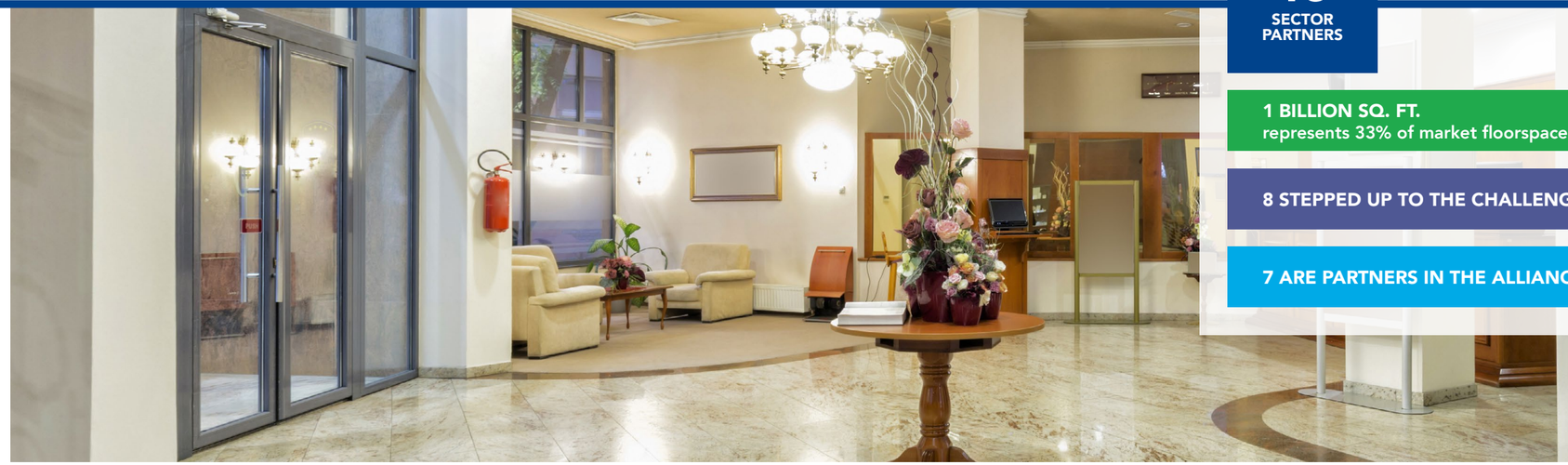
Leadership in Action

- **Beaumont Health System** saved an average of 69% across 253 lights, or 241,000 kWh in total annual savings, winning a Lighting Energy Efficiency in Parking (LEEP) campaign award.
- **HackensackUMC** anticipates 20% annual energy savings at its Medical Plaza facility by utilizing the local utility's on-bill repayment upfront funding program for projects like central chiller plant optimization, building automation system upgrades, and steam trap replacements.
- Leveraging an integrated approach to onsite renewable energy and energy efficiency, **Gundersen Health System** achieved over 3 months of energy independent days in 2016, while **Kaiser Permanente** is ranked in the top 25 commercial companies with installed solar capacity.
- **Welltower** was awarded National Association of Real Estate Investment Trusts' (NAREIT) Leaders in the Light for Sustainable Real Estate Practices in healthcare. Additionally, Welltower has certified 75 buildings in an internal Green Arrow Building Program that recognizes implementation of key sustainability measures.
- **NewYork-Presbyterian Hospital** is working closely with Lawrence Berkeley National Laboratory to host a new technology demonstration that provides real-building measurement and verification to advance EMIS technologies.
- **Cleveland Clinic** has reduced portfolio energy use 15% while improving patient comfort. For example, Hillcrest Hospital and the Twinsburg Family Health and Surgery Center completed air exchange rate optimizations and temperature setbacks in non-patient care areas. Cleveland Clinic also replaced 50,000 troffer lights, saving 10.2 million kWh in electricity annually and winning an award from the Interior Lighting Campaign.
- Responding to increasing water costs, droughts, and corporate goals, **Catholic Health Initiatives**, **Cleveland Clinic**, **Montefiore Medical Center**, **Oregon Health & Science University**, and **University of Nebraska Medical Center** are working to accurately benchmark and track water consumption, while finding opportunities to increase water efficiency across their portfolios.
- Recognizing a pivot toward water management, the Better Buildings Affiliate **American Society for Healthcare Engineering (ASHE)** included water consumption and operational data for the first time on its survey. The survey is intended to update the ENERGY STAR® score for hospitals and medical office buildings.
- **UW Health** enrolled in Wisconsin's Focus on Energy On Demand Savings Program and successfully reduced three facilities' electric demand levels by 12% compared to recent years, without disrupting employee or patient comfort.

Sector Accomplishments

- **Supported and shared solutions on optimizing air exchange rates** through case studies and conference presentations in healthcare facilities to improve patient health while reducing unnecessary energy consumption and meeting code standards.
- **Promoted the ASHE Healthcare Energy and Water Survey** to influence improved metrics for general medical and surgical hospital and medical office building performance benchmarking.
- **Encouraged improved operations with building energy management information systems (EMIS)** by promoting the Smart Energy Analytics campaign and the new EMIS Primer, which provide critical support and information to partners.
- **Provided resources on managing energy consumption** of central plants and related equipment through the HVAC Resource Map and conference presentations.
- **Helped utility members of the Consortium for Energy Efficiency** connect with utility energy efficiency offerings and provide resources to healthcare organizations. Documented best-practices in case studies, which are available at the Better Buildings Solution Center.

The hospitality sector in the U.S. includes everything from luxury hotels to family-owned motels and inns. It includes more than 3.3 billion square feet of hotel floor area[12] that encompass nearly 5 million guest rooms[13] and results in $5.3 billion annual energy spend.[14] It is estimated that the hospitality and lodging industry accounts for 15% of total commercial and institutional water expenditure in the country.[15] Partners have found that improving energy and water efficiency has reduced operational costs while also improving guest comfort and satisfaction. Several Better Buildings hospitality partners have successfully used employee engagement programs to achieve energy and water savings through low/no-cost behavioral change. Other partners and Better Buildings affiliates have developed tools to enable franchisees to maintain efficient energy and water operations.



15 SECTOR PARTNERS

1 BILLION SQ. FT. represents 33% of market floorspace

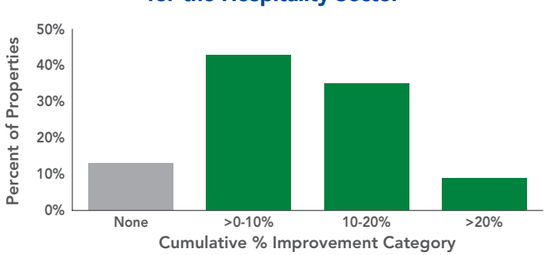
8 STEPPED UP TO THE CHALLENGE

7 ARE PARTNERS IN THE ALLIANCE

Challenge Partners with Greatest Energy Savings

	Savings Since Baseline Year
Las Vegas Sands Corporation	**17%**
Wyndham Worldwide	**13%**
Loews Hotels	**13%**
HEI Hotels & Resorts	**11%**
Saunders Hotel Group	**9%**
MGM Resorts International	**8%**

Property-Level Percent Improvements for the Hospitality Sector



Leadership in Action

- **MGM Resorts International** upgraded more than 14,500 lights across 49,000+ parking spaces, saving more than 18 million kWh in 2016 and winning a Lighting Energy Efficiency in Parking (LEEP) Campaign award.
- **Loews Hotels** and **InterContinental Hotels Group (IHG)** expanded efficiency efforts to include water, particularly in water-sensitive regions. Loews combines low-cost and cap-ex projects to achieve the greatest savings. IHG distributes water-saving toolkits to franchises as part of an effort to reduce water use by 12% per occupied room in water-stressed regions.
- **Marriott International** earned SEP certification for the JW Marriott Hotel in Washington, DC. **Hilton Worldwide** earned SEP certification for hotels in San Francisco, San Diego, Washington, Waikoloa Village, and Waikiki Beach. The hotels in SEP met the ISO 50001 standard and improved their energy performance between 6% and 23% over three years.
- **Wyndham Worldwide** Super 8 Ukiah, CA, franchisee implemented lighting, envelope, guest room, laundry upgrades, and operational improvements that resulted in 27% annual energy savings and ENERGY STAR® certification from 2011 to 2017.
- **HEI Hotels & Resorts** refined employee engagement best practices by selecting "energy buddies" within each hotel department to be responsible for day-to-day implementation and validation of the energy conservation measures using department-specific checklists. Implementation of the program has contributed to 5% annual energy cost savings across HEI's portfolio.
- **Loews Hotels** recognizes a top property engineer with the Gold Wrench Award each year for excellent performance, including managing and improving energy and water performance at the hotel, which helped drive 13% portfolio savings for Loews Hotels since 2012.
- **MGM Resorts International** joined the Smart Energy Analytics campaign, an effort to recognize organizations successfully using EMIS and to encourage others to adopt EMIS in their buildings. MGM reduced central plant energy use at one property by 81% after implementing new EMIS programming and infrastructure.
- **Las Vegas Sands Corporation's** commitment to sustainable building development and operations, institutionalized in its ECO360 Global Sustainability strategy with a focus on green buildings, has resulted in 17% energy savings across its U.S. portfolio.

Sector Accomplishments

- Partnered with the **Asian American Hotel Owners Association (AAHOA)**, the **American Hotel & Lodging Association (AH&LA)**, and brand partners to educate and enable franchisees to implement energy- and water-efficient operations at their own hotels.
- **Supported the development of water efficiency solutions** that can be implemented across hotels, and showcased the value of benchmarking and managing water in hotels, through IHG Holiday Inn Diamond Bar, Loews Santa Monica Beach Hotel, and Wyndham Super 8 Ukiah showcase projects.
- **Presented at AAHOA Independent Hoteliers Conference** to showcase low- and no-cost energy and water efficiency solutions that can be implemented by smaller portfolio hotel owners with minimal investment.
- **Connected regional and small portfolio hoteliers with energy-saving DOE resources** at the Virginia Green Tourism Conference and shared key partner solutions.
- **Promoted the AH&LA Hotel Energy Survey** that will contribute to improved metrics for hotel building performance and industry benchmarking, a priority for hospitality partners to evaluate progress and success.

The retail, food service, and grocery (RFSG) sector spends more than $41 billion on energy costs annually.[16] Retail companies alone represent almost 13% of the commercial building space, contributing $2.6 trillion to the nation's economy and supporting one in four American jobs.[17] The sector is comprised of a variety of building types and spaces, ranging from storefronts and warehouses to commercial kitchens and supermarkets. As a result, typical building energy use varies from as low as about 100 kBtu per square foot for retail stores, to more than 1,000 kBtu per square foot for fast-food restaurants.[4] Despite this variance, similar technologies and strategies have been applied by leading organizations across the sector to improve building efficiency and capture savings. Lighting plays a key role in the design of most RFSG buildings, and dramatic savings are being realized through the implementation of advanced LED lighting and controls systems. Partners have also seen significant improvement in their buildings' energy performance by focusing on employee behavior and other strategies that do not necessarily involve the rollout of new technologies and equipment.

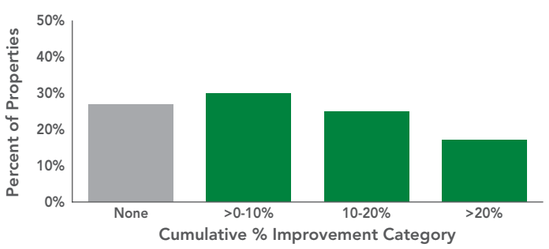
Challenge Partners with Greatest Energy Savings

Savings Since Baseline Year

Sprint*	**40%**
Best Buy*	**35%**
Havertys*	**26%**
CKE Restaurants Holdings, Inc.*	**23%**
Macy's*	**21%**
Kohl's Department Stores	**18%**
Staples	**15%**

*Goal achiever

Property-Level Percent Improvements for the Retail, Food Service, and Grocery Sectors



59 SECTOR PARTNERS

2.7 BILLION SQ. FT.
represents 19% of market floorspace

16 STEPPED UP TO THE CHALLENGE
6 of which became Goal Achievers

43 ARE PARTNERS IN THE ALLIANCE

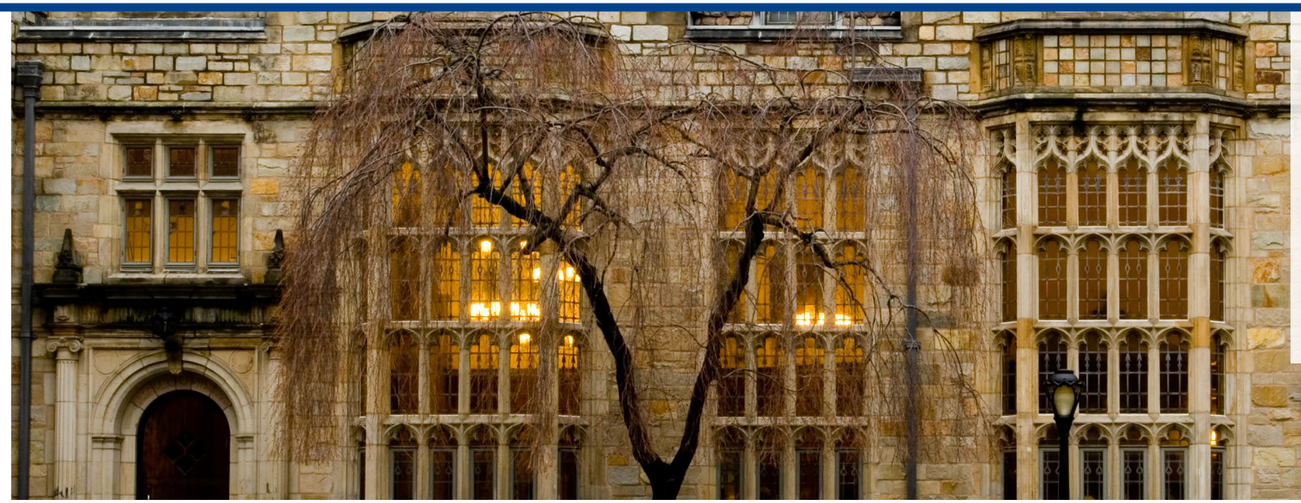
Leadership in Action

- **The Wendy's Company** became the first partner to actively recruit franchisees to join the Better Buildings Challenge, with 16 franchisees representing more than 1,000 restaurants joining the Challenge this year. Wendy's offers technical assistance and benchmarking support through a third party to support franchisee efficiency efforts. A franchisee-owned showcase restaurant features all LED lighting and efficient HVAC equipment to achieve dramatic energy savings.
- **Arby's Restaurant Group**, **Target**, **Walmart**, and **Whole Foods Market** were recognized by the Better Buildings Advanced Rooftop Unit Campaign for their leadership in replacing and upgrading rooftop air-conditioning units. These four partners accounted for upgrading or installing more than 7,500 high-efficiency rooftop units (RTU), saving more than 60 million kWh annually.
- **CKE Restaurants Holdings** upgraded more than 5,600 troffers, achieving average annual savings of more than 50% in lighting costs, and winning an ILC award. Additionally, CKE demonstrated energy savings of up to 30% with pilots of a demand-based defrost controller.
- **Target** replaced 120,000 troffers across 100 stores, resulting in $1.5 million in electricity savings and an award from ILC for its achievements.
- **Shari's Cafe & Pies** maximized water savings by obtaining rebates from Avista Utilities to install energy- and water-efficient heated dipper-wells, which use about 40% less energy than conventional wells, and are also more convenient for restaurant staff to use.
- Partners have been early adopters of alternative refrigerant technology–**Starbucks** is in the process of replacing display cases at all their U.S. locations with propane-based systems. **Giant Eagle**, **Hannaford**, and **Whole Foods Market** have piloted natural-refrigerant systems in grocery stores and supermarkets.
- With retail sales moving online, retailers are focusing on energy efficiency in their supply chain and, specifically, at distribution centers and warehouses. **REI's** LEED® Platinum distribution center in Goodyear, Arizona, is a zero-energy facility that features renewable energy, energy efficiency, and water efficiency solutions.
- The **Retail Industry Leaders Association (RILA)**, a Better Buildings affiliate, is developing trainings and resources to help energy managers in their member organization better present the case for internally financing energy efficiency projects. RILA has shared best practices from these companies as implementation models on the Better Buildings Solution Center.

Sector Accomplishments

- Nineteen RFSG partners are **leading the way in the Advanced RTU Campaign (ARC)** by representing over 90% of the RTUs replaced or retrofitted in the campaign, and sharing case studies online to encourage others to follow their lead.
- RFSG partners **helped inform LED manufacturers** by contributing their real-world expertise to the development of an LED Lighting Retrofit Specification document. This specification outlines desired performance, features, and installation information to inform LED product development. Products meeting this specification can help organizations reduce their lighting energy use by 50%, and up to 80% when also using controls.
- Sector partners **communicated new product and service needs** directly to vendors and suppliers in a partner-driven "reverse pitch" session at the Better Buildings Summit, so that vendors and suppliers could hear directly from their customers.
- Sector partners helped tenants and landlords **overcome the split-incentive** issue which can be a barrier to installation of high efficiency RTUs serving tenant spaces, by developing a RTU lease language resource.

The education sector is made up of more than 389,000 classroom buildings, consuming more than 840 trillion Btus annually across more than 12 billion square feet.[4] Reducing energy usage by 20% would result in annual cost savings of more than $3.3 billion that K-12 schools, colleges, and universities can better spend on educating students.[18] The challenges to achieving this goal include aging facilities, rising utility costs, limited budgets, and increased demand for technology in the classroom. To address these challenges, partners are employing creative approaches in a number of key areas: on-site renewable energy generation, continuous building commissioning, occupant engagement, workforce training and retention, innovative financing, and the reinvestment of energy savings to support educational needs and additional energy conservation measures.



86 SECTOR PARTNERS

27 K-12 SCHOOLS IN THE CHALLENGE
3 of which became Goal Achievers

17 HIGHER ED. INSTITUTIONS IN THE CHALLENGE
3 of which became Goal Achievers

22 HIGHER ED. INSTITUTIONS IN THE ALLIANCE
20 additional Accelerator Partners

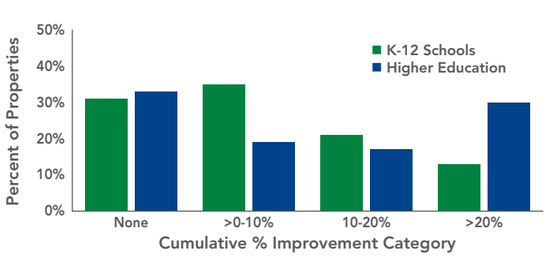
Challenge Partners with Greatest Energy Savings

Savings Since Baseline Year

Poudre School District, CO*	**28%**
Camas School District, WA*	**28%**
River Trails School District 26, IL*	**28%**
University of California, Irvine*	**27%**
Chesapeake College*	**23%**
Xenia Community Schools, OH	**23%**
Towson University*	**20%**
Manchester School District, NH	**19%**
Allegheny College	**15%**
Fairfax County Public Schools, VA	**15%**

**Goal achiever*

Property-Level Percent Improvements for the K-12 and Higher Education Sectors



Leadership in Action

K-12 SCHOOLS

- **Houston Independent School District** achieved a 4% energy reduction and saved more than $2.1 million to date as part of its Energy Master Plan, which enabled the district to reduce costly energy deficiencies, hire additional staff, and develop best practices.
- **Aurora Public Schools** implemented a 14-month recommissioning of the HVAC system of Vista Peak Preparatory to maximize energy savings potential, with an expected annual energy savings of 20% and annual cost savings of $54,000. The district has realized an 11% reduction since 2014 across its portfolio of 4.3 million square feet.
- **Xenia Community Schools** upgraded lighting and building controls for Warner Middle School, achieving 17% energy savings, and $23,000 in cost savings. Xenia has achieved a 23% reduction in energy from 2013 across its 706,000-square-foot portfolio.
- **Bullitt County Public Schools** selected Mt. Washington Elementary to undergo improvements to its HVAC system, lighting, and indoor air quality that are expected to reduce energy by 20%, saving $15,000 annually.
- **Los Angeles Unified School District**, the second largest public school district in the nation, joined the Better Buildings Challenge with 70 million square feet. In 2016, the K-12 sector increased the number of partners taking the Challenge and more than doubled the committed square footage.

HIGHER EDUCATION

- **Chesapeake College** implemented ground source heat pumps, LED lighting with sensors, an advanced building envelope, and a 1.8 MW solar array to achieve 50% energy savings at its Health Professions and Athletics Center. These changes drove portfolio-wide savings of 23% in just five years.
- **Community College of Allegheny County** implemented new electric chillers and boilers, retrocommissioned remaining HVAC components, and installed low-flow plumbing fixtures in its South Campus building, to save an expected 44% on energy and 38% on water annually.
- **The University of California, Berkeley's** Energy Management Initiative (EMI) incentivizes occupant engagement by allocating energy costs to individual campus operating units, and by providing energy dashboards and building surveys for the campus community. It has achieved savings of $6.5 million, 58.7 million kWh, and 893,000 therms in just three years.
- Five universities, **University of California, Irvine**; **University of Colorado**, **University of Illinois, Chicago**; **University of Minnesota**, and **University of New Hampshire** have committed to 20% improvements in energy efficiency across their portfolio of laboratories through DOE's Smart Labs Accelerator. Labs can account for up to 70% of a given campus' energy footprint.

Sector Accomplishments:

K-12 SCHOOLS

- 13 Challenge partners contributed to a toolkit titled **K-12 Solutions for Building Energy Excellence**, which features a suite of practices, programs, and policies designed to capture savings in schools.
- 17 partners joined the **Zero Energy Schools Accelerator** to accelerate market transformation for zero-energy construction that provides healthy, dynamic learning environments.

HIGHER EDUCATION

- More than 30 program stakeholders participated in an **Energy Management Information Systems** workshop hosted by Lawrence Berkeley National Laboratory, receiving expert guidance on submetering, occupant engagement, and M&V 2.0.
- The efforts of eight higher education trade organizations were coordinated to help universities leverage existing data tools to improve facilities benchmarking. The **Campus Data Tools webinar and Facilities Benchmarking Workshop** offered technical guidance and tools.
- Sector partners teamed with technology team experts to help lead a **Fault Detection and Diagnostics** peer exchange, sharing best practices and learning about new software developments from fellow universities.

State and local government buildings across the U.S. consume 1,450 trillion Btus annually.[4] A 20% efficiency improvement in these buildings can deliver an estimated $6 billion in annual savings. Additionally, outdoor lighting and wastewater treatment facilities offer energy efficiency opportunities in state and local infrastructure. Wastewater treatment systems can represent 30% to 40% of a city's energy use,[19] and offer up to a 50% savings opportunity.[21] Outdoor lighting can represent over 50% of a municipality's energy budget,[20] and offers an even greater savings opportunity.[21] State and local governments are implementing solutions in these areas by identifying strategic opportunities for improved performance, launching ambitious energy programs, and collaborating with a range of public and private partners.

125 SECTOR PARTNERS

7 STATES
committing 465 million sq. ft. to the Challenge

44 CITIES AND COUNTIES
committing 424 million sq. ft. to the Challenge

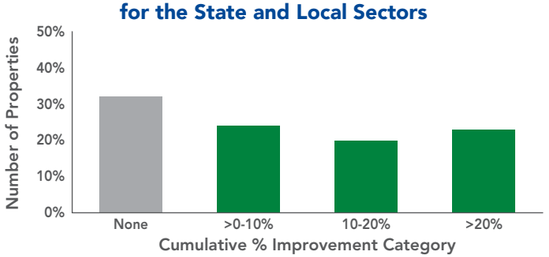
43 COMMUNITIES ALLIANCE PARTNERS
31 additional Accelerator Partners

Challenge Partners with Greatest Energy Savings
Savings Since Baseline Year

State of Maryland*	**28%**
Hillsboro, OR*	**25%**
State of Delaware*	**24%**
Orlando, FL	**19%**
Chula Vista, CA	**16%**
Margate, FL	**15%**
Beaverton, OR*	**13%**
Roanoke, VA	**12%**
Cook County, IL	**11%**
Arlington County, VA	**11%**

**Goal achiever*

Property-Level Percent Improvements for the State and Local Sectors



Leadership in Action

- The **State of Montana** exceeded its Accelerator commitment by 30% and worked with DOE to develop the ESPC Virtual Technical Assistant, an innovative solution to a common need for technical assistance on ESPC projects.
- The **Commonwealth of Massachusetts** upgraded the North Central Correctional Institute at Gardner's high-pressure steam heating system, building envelope, and thermal improvements, expecting more than 60% energy savings.
- **Hall County, GA**, and **Placer County, CA**, installed efficient lighting and HVAC equipment in their courthouses to realize energy savings of 30% to 50%. As part of the retrofits, Hall County also integrated new sensors and controls, while Placer County preserved the original architecture of its historic Auburn Courthouse.
- **Arlington County, VA**, added new tools to its Energy Lending Library, across its seven public library branches. These lending libraries contain tools designed to help community members take a hands-on approach to evaluating energy consumption.
- Through the Outdoor Lighting Accelerator, the **Washington State Transportation Improvement Board** launched Relight Washington to support small and rural communities, and the **Delaware Valley Regional Planning Commission** developed the Regional Street Light Procurement Program, to help smaller cities pursue retrofits.
- **Chicago, IL**, leveraged public-private partnerships to deliver customized Energy Road Maps with technical and strategic recommendations aimed at maximizing internal rate of return and utility incentives, identifying an annual average of 22% energy savings and $254,000 cost savings.
- The **State of Hawaii**, with the highest per capita ESPC investment in the U.S., registered the largest performance contract at $158 million, which includes work at 12 state airports, estimating energy savings of almost 50%.
- **Chula Vista, CA**, has achieved portfolio-wide savings of 16% through projects like the South Branch Library improvement, which saved 26%, in part by installing controls that allowed for building scheduling optimization.
- Eighteen states, two regional organizations, and seven local governments joined the Sustainable Wastewater Infrastructure of the Future Accelerator, to improve the energy efficiency of about 100 participating water resource recovery facilities by at least 30% and integrate resource recovery measures.
- Better Buildings partnered with three states, six regional energy networks, and 16 cities in the Outdoor Lighting Accelerator to garner a commitment to retrofit 1.3 million streetlights with an expected annual energy savings of more than 450,000 MWh and $48 million for participating municipalities.

Sector Accomplishments

- **Launched a financing consultation service** for local governments to learn about and leverage the new Better Buildings Financing Navigator tool and access financing experts.
- **Created the Leading by Example Interstate Network**, a partner-driven peer network of state energy efficiency leaders to open channels of communication and share best practices, in partnership with DOE, NASEO and the National Governors Association.
- **Twenty-five public sector partners collectively invested more than $2 billion** in ESPC across 23 states. ESPC projects typically result in 15% to 30% of energy savings with no upfront funding needed.
- **Partnered with key stakeholders to advance CHP** as a key component of resiliency strategies through the CHP for Resiliency Accelerator and shared best practices on keeping critical infrastructure operational.
- **Launched the Better Communities Alliance**, including more than 40 partners from more than 20 states representing over 43 million people and about 30 affiliate organizations.

More than 85% of the 18.6 million multifamily units that Americans call home were built more than 15 years ago and have significant improvement potential.[22] Through cost-effective upgrades, savings of 15% to 30% in energy consumption and costs can be achieved in these buildings,[23] a sector-wide value of $3.4 billion annually.[24] The market for energy-efficiency retrofits in multifamily buildings continues to offer local green job opportunities nationwide.

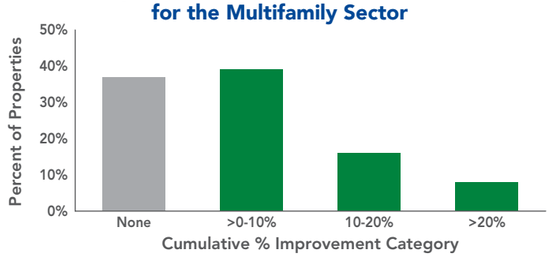
Challenge Partners with Greatest Energy Savings

Savings Since Baseline Year

Jewish Community Housing for the Elderly*	**24%**
Trinity Housing Corporation of Greeley, CO	**16%**
Atlanta Housing Authority	**15%**
Cambridge, MA Housing Authority	**11%**
The Housing Authority of the City and County of Denver	**10%**

**Goal achiever*

Property-Level Percent Improvements for the Multifamily Sector



Sector Accomplishments

- The multifamily sector launched the "Year of Data" in August 2016 to increase the number of partners benchmarking utility data. Results to date include over 500 million square feet reporting property and/or utility data (up 200% since last year).
- The U.S. Department of Housing and Urban Development (HUD) has published an online Utility Benchmarking Toolkit to guide best practices in utility benchmarking for all public and assisted multifamily housing providers.
- Sector partners are participating in a joint federal initiative to extend STEM education and green job training to low-income residents (The Housing Authorities of Denver, Tampa, San Antonio, and Cuyahoga County).

163 SECTOR PARTNERS

616 MILLION SQ. FT. COMMITTED

97 HUD PUBLIC/ASSISTED PARTNERS
7 market-rate and 10 mixed Partners

49 PARTNERS PARTICIPATING IN CLEAN ENERGY FOR LOW INCOME COMMUNITIES

Leadership in Action

- **Jewish Community Housing for the Elderly** became the first multifamily partner to reach its Challenge goal of 20% energy savings, achieving 24% savings in only six years.
- The **New York City Housing Authority** committed to benchmarking the largest portfolio of public housing units in the country, totaling more than 175 million square feet.
- **Mercy Housing** and the **San Antonio Housing Authority** are developing plans to expand their energy efficiency and distributed renewables projects by participating in the Clean Energy for Low Income Communities Accelerator.
- **Corcoran Management** recently retrofitted Canterbury Towers, achieving 30% annual energy savings at the high-rise building. The partner hosted a building tour and press event highlighting the business case for energy and water efficiency investments.
- **The Economic Development Authority of the City of Mankato, MN**, renovated 101 units of low-income senior housing to reduce energy use by more than 40%, improve self-reported resident health, and reduce the incidence of multiple health issues.
- **Preservation of Affordable Housing** has developed the first phase of new design guidelines that incorporate energy efficiency standards for its properties.

Data centers in the United States consume more than 70 billion kWh a year. Energy efficiency measures can reduce energy usage in poorly optimized data centers by up to 45%.[25] Data centers tend to operate on a 24-hour schedule with little downtime. Information technology infrastructure typically contributes to more than half of the total data center energy consumption, offering many opportunities for energy efficiency investments that offer high returns. Currently, leading data center operators are harnessing technologies such as free air cooling and best practices such as consolidating smaller data centers to save energy.

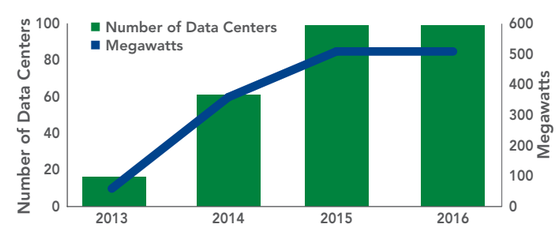
Partners with Greatest Energy Savings

Savings Since Baseline Year

Sabey Data Center Properties*	**31%**
eBay Inc.*	**29%**
Digital Realty Trust*	**25%**
Intuit*	**24%**

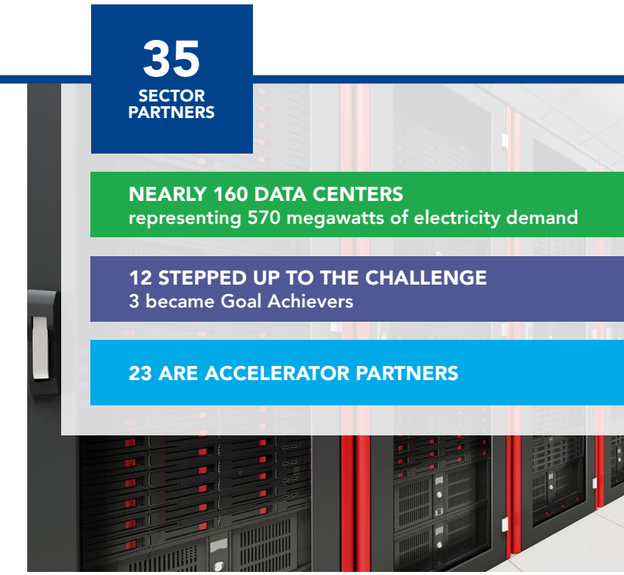
**Goal achiever*

Data Centers Sector Commitments Over Time



Leadership in Action

- **Sabey Data Center Properties** has demonstrated that high-efficiency design can be applied effectively in colocated data center spaces by achieving 41% savings at the multitenant Intergate Quincy facility. Sabey also incorporated efficient design in sales material and contractual requirements for clients for this facility.
- **Waste Management** met its goal under the Better Buildings Data Center Accelerator, reducing energy use by 40% at one of its data centers by retrofitting an advanced HVAC system and implementing other energy-efficient technologies.



35 SECTOR PARTNERS

NEARLY 160 DATA CENTERS
representing 570 megawatts of electricity demand

12 STEPPED UP TO THE CHALLENGE
3 became Goal Achievers

23 ARE ACCELERATOR PARTNERS

Sector Accomplishments

- Several data center partners have made strides in **consolidating data centers to save energy and cut costs**–allowing for more efficient power supply and building cooling. For example, the University of Iowa, Intel, and Schneider Electric have seen significant energy savings due to data center consolidation.
- A growing number of data center partners are focusing on **increasing the amount of renewable energy** in their portfolios. Iron Mountain Data Centers has recently deployed a colocation data center powered entirely by renewable energy. Others, including Digital Realty Trust, the U.S. Social Security Administration, and the National Renewable Energy Laboratory are also investing in on-site or off-site renewable energy generation to power their data centers.
- Lawrence Berkeley National Laboratory's Center of Expertise for Energy Efficiency in Data Centers has **published metering guidance** on the Better Buildings Solution Center to help organizations identify metering needs and select cost-effective implementations to allow collection of power usage effectiveness (PUE) and other data center energy data.

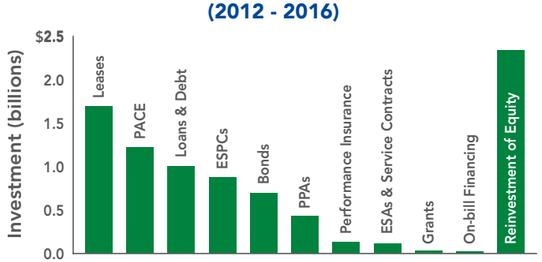
Financing is often cited as a key barrier to energy efficiency. Through the Better Buildings Challenge Financial Ally program, members of the financial community provide innovative financial products to help partners fund energy efficiency projects, demonstrate transparency in their approaches for others to follow, and promote energy efficiency financing opportunities to the market. In the past year, the allies extended $3.2 billion in financing.

Financial Allies with Most Capital Invested in 2016

Bank of America Merrill Lynch	**$639M**
Citi*	**$634M**
Enterprise Community Partners*	**$608M**
Ygrene Energy Fund*	**$450M**
Renew Financial*	**$372M**

**Goal achiever*

Total Investment by Financial Product (2012 - 2016)



Leadership in Action

- **Renew Financial** reached the $1 billion mark for funded projects across its financing programs.
- **CleanFund** financed the largest deal in the history of property assessed clean energy (PACE) financing—a $10 million dollar project at an ethanol plant.
- **SparkFund** closed a $7 million Series B investment round to scale its efficiency-as-a-service offering.
- **Citi** worked with Spruce Finance to structure the largest securitization of residential efficiency loans in the U.S.

37 SECTOR ALLIES

$8.6 BILLION IN FINANCING EXTENDED TO DATE

9 NEW FINANCIAL ALLIES

11 TYPES OF FINANCIAL PRODUCTS OFFERED

Sector Accomplishments

- DOE launched the **Better Buildings Financing Navigator,** which is an online tool that helps private and public sector organizations find financing solutions for energy efficiency projects. Through the Navigator, users can learn the basics of the energy efficiency financing market, explore fact sheets and industry resources, compare financing options to find the ones that are best for their organizations, and connect directly with Financial Allies who can provide these options. The Navigator was developed in consultation with Financial Allies, program affiliates, and other industry leaders. More than 2,600 users have visited the site since its launch in December 2016.
- **PACE financing** experienced record growth in 2016. Financial Allies represented a significant portion of this growth, providing $693 million in residential PACE and $160 million in commercial PACE.
- Financial Allies worked with DOE to host a series of **sector-specific webinars to educate partners** about financing options. Sectors included local governments and K-12 schools. A special cross-sector session was also held specifically to explore financing options for combined heat and power projects.

The U.S. housing market includes more than 114 million households with average annual energy bills of $2,000.[26] On average, home energy upgrades can save average American households 20%, or $400, annually in energy costs.[27] These upgrades can offer a wide range of benefits, including improved health and comfort, lower utility costs, and increased home value. Better Buildings partners are working to ensure homeowners realize opportunities for cost-effective energy improvements.

Better Buildings Residential partners are overcoming barriers to enable efficiency investments. They are implementing innovative strategies to minimize costs associated with managing and operating home energy upgrade programs while improving overall program effectiveness. Partners are also expanding the availability of information about a home's expected energy use at time of sale.

Leadership in Action

- **Arizona Public Service** and Arizona's HPwES Sponsor, **FSL Home Energy Solutions**, streamlined the program reporting, rebate approval, and quality assurance process, boosting program cost-effectiveness and achieving a 31% decrease in contractor administrative labor per project.
- **New York State Energy Research and Development Authority's** EmPower program embraced the Lean approach to streamline and reduce project approval times by 30% to reduce payment time from 35 days to seven days. EmPower NY provides no-cost energy efficiency services to low-income households in New York State.
- **NeighborWorks of Western Vermont HEAT Squad** improved their customer relationship management system to better manage website-generated leads, improving lead-to-home assessment conversion rates by 67%.
- The **Appraisal Institute** updated the Residential Green and Energy Efficient Addendum to allow appraisers to more consistently document and value home energy information.
- The **Home Performance Coalition** launched the HPXML website, a central platform for home performance data collection and transfer standards.

300+ RESIDENTIAL NETWORK MEMBERS
4,300+ participants on 45+ peer exchange calls this past year

29 HOME ENERGY SCORE PARTNERS
Over 60,000 homes scored since 2012

45+ HOME PERFORMANCE WITH ENERGY STAR® (HPwES)
Sponsors upgraded 80,000+ homes in 2016

Better Buildings Residential Highlights

- **New DOE guidelines for residential PACE financing programs** outline best practices for state and local governments, PACE program administrators, contractors, and other partners to develop and implement programs that effectively deliver home energy and related upgrades.
- **Home Rx: The Health Benefit of Home Performance** is a literature review of current knowledge on how upgrades can improve the quality of a home's indoor environment by reducing the prevalence of harmful indoor air pollutants and contaminants.

- **Council of Multiple Listing Services**, **Real Estate Standards Organization (RESO)**, **National Association of REALTORS®**, and **Center for REALTOR® Technology** authored a guide to help real estate professionals and multiple listing services use the latest RESO fields for verified home energy information.
- **California Regional MLS**, **Build it Green**, and **U.S. Green Building Council** garnered support and resources for home energy data sharing through effective collaboration. They trained over 400 REALTORS® and over 60 appraisers on home energy features and valuation.
- The **Oregon Department of Energy**, **City of Portland**, and **Earth Advantage** finalized a new city policy standardizing residential energy information at the time of sale by ensuring homebuyers have access to a Home Energy Score for all single-family homes listed on the local **Regional Multiple Listing Service**.

The federal government is the single largest U.S. energy consumer, representing about 1.4% of total energy use in the United States.[28] This carries significant costs—about $20 billion a year in energy bills.[29] DOE is working with federal agencies through Better Buildings to meet energy-related goals, identify affordable solutions, facilitate public-private partnerships, and provide energy leadership to the country by identifying government best practices. The following efforts are cutting energy and water use in federal operations, reducing the tax burden for all Americans.

Energy Savings Performance Contracting (ESPC)

DOE provides agencies with assistance, guidance, and training to help them implement ESPC projects, and led the federal government to exceed a $4 billion performance contracting challenge for energy and water system and building infrastructure improvements over the past five years. Through 340 performance contracts, the federal government's energy spending will be reduced by $8 billion over the next 18 years. This effort has also expanded employment in emerging technical fields, adding as many as 35,000 job-years in energy efficiency, manufacturing, and construction in the past five years. Through the Better Buildings ESPC Accelerator, partners have explored ways to enable greater access to ESPC by: standardizing and leveraging ESPC project data, streamlining the ESPC process, establishing ESPC as the go-to vehicle for advancing energy efficiency projects, using innovative approaches for applying ESPC in new market sectors, and measuring project results.

Federal Interior Lighting Campaign

Through this effort, 14 federal entities receive technical assistance with high-efficiency troffer lighting and share their success stories through case studies. Two examples of this leadership in action are:

- The **Army Reserve's 9th Mission Support Command (MSC)** implemented a lighting retrofit program in Guam that cut energy use by 62%, for a total savings of more than $50,000 per year.
- The **U.S. General Services Administration** replaced T12 and T8 luminaires at the Byron G. Rogers Federal Building with LED-dedicated troffers with advanced controls, cutting energy use by nearly 60% and saving more than $49,000 a year.

Center of Excellence for Data Centers (CoE)

The CoE provides training in collaboration with the industry that reinforces proven best practices and introduces new tools and techniques in key areas such as IT equipment, air management, cooling systems, and electrical systems. The CoE provides technical assistance to help Better Buildings data center partners and federal agencies meet their goals. Two new resources recently released by the CoE are:

- **Data Center Metering Guide (updated)**
  This guide helps federal and private data center owners and operators implement a metering system that allows their organizations to gather the necessary data for effective decision-making and energy efficiency improvements.
- **Energy Savings Guide for Small Data Centers**
  This guide presents low-cost, easy to implement energy-saving opportunities that owners and operators of small data centers can take advantage of to cut operating costs in their agencies or businesses.

Federal Workforce Development

In 2016, DOE offered more than 200 courses, workshops, webinars, and Energy Exchange accredited sessions, awarding more than 6,500 continuing education unit (CEU) certificates. In addition, the Certified Energy Manager and Certified Energy Auditor, and the Building Commissioning Association's Certified Commissioning Professional, became the latest voluntary and national commercial building certification programs to be recognized, with several more in the process of being accredited to meet guideline standards.

Better Buildings Solution Center

There are now more than 1,000 solutions publicly available at the Better Buildings Solution Center, an online tool designed to help organizations easily find proven and cost-effective energy and water efficiency solutions by topic, building type, sector, technology, location, and barrier.

Collectively, partner solutions received more than 50,000 views this year, and there were more than 480,000 visits to the Better Buildings websites in total. In addition, the Solution Center now features 40 toolkits and online resources, such as the Financing Navigator, the Outdoor Lighting Decision Tree, and the Energy Savings Performance Contracting Virtual Assistant. Users can now pinpoint sets of resources organized to help put specific energy savings measures into action.

Each month the top-10 solutions are pulled based on website views and shared with partners more broadly.

Top-10 Solutions in 2016

1. Energy Data Access: Blueprint for Action Toolkit
2. Toolkit: Implement Energy Management Information Systems in your Building Portfolio
3. SWAP Season 2: U.S. Naval Academy vs. U.S. Air Force Academy
4. Better Buildings Outdoor Lighting Accelerator: Decision Tree Tool
5. Better Buildings Financing Navigator: Online Tool to Help Identify Funding for Energy Efficiency Projects
6. Better Buildings Alliance Technology Specifications & Technology Team Activities
7. UC Berkeley Implementation Model: Tying Energy Costs to Building Occupants
8. LINC Housing Implementation Model: Replicable and Scalable Near-Zero Net Energy Retrofits for Low-Income Housing
9. City of Milwaukee, WI Implementation Model: Property Assessed Clean Energy (PACE) Program
10. Los Angeles Department of Water and Power Showcase Project: Aqueduct Filtration Plant Modernization – Oxygen Plant Replacement

Learn more at: betterbuildingssolutioncenter.energy.gov

Better Buildings Summit

The 2017 Better Buildings Summit connects industry leaders and national experts. Together, over 900 attendees and speakers learn "what's possible and new" in world-class energy saving strategies, and discover "what's next" in high-impact technologies.

New this year, an interactive app provides a tool for lasting connections between attendees and a mobile way to pinpoint more than 225 speakers across more than 130 sessions, workshops, building tours, meet-ups, and much more.

Summit Highlights

- Cross-cutting Sessions: In-depth sessions are led by partners and stakeholders, featuring actionable insights that are applicable to various sectors. Sessions include tips to overcome market barriers and implement energy efficiency practices and technologies across an organization.
- Peer Networking: Attendees have access to DOE technology and market solutions experts, building tours of local energy leaders, speed dating with Financial Allies, and sector-specific meet-ups.
- Partner Recognition: Better Buildings Challenge Goal Achievers are recognized for their leadership in Better Buildings and their impressive energy saving results across their building portfolio.

Learn more at: betterbuildingsinitiative.energy.gov/summit

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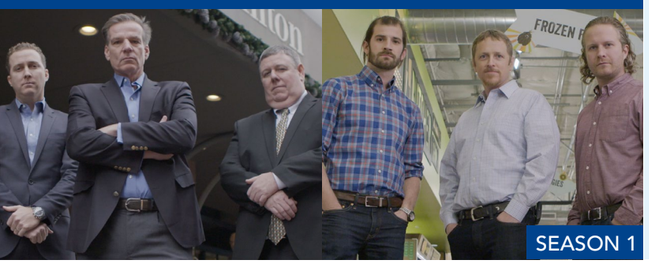
Better Buildings Challenge SWAP

When you think about energy savings, reality TV probably doesn't come to top of mind. But that all changed in 2016 when DOE launched the Better Buildings Challenge SWAP, an online Web series that already has attracted more than 45 million viewers–and counting. Through the series, leaders of various organization and business types, all over the country, demonstrate how they have achieved significant energy savings. SWAP partners broadcast their innovative approaches to operating and powering their buildings. So far, Whole Foods has taken on Hilton Worldwide in a battle between industry grocery and hotel giants, the U.S. Air Force and Naval Academies traded insider tips on their campuses, and the cities of Atlanta and Boston opened up their streets, airports and libraries, for a fresh perspective on saving energy.

Watch the full SWAP series at: betterbuildingsinitiative.energy.gov/swap

HILTON WORLDWIDE | WHOLE FOODS MARKET



Widespread Outreach

2.1 Million VIDEO VIEWS

14 Million IMPRESSIONS

74+ Million UNIQUE MEDIA HITS

Reaching Media, Making Headlines

Can a Reality TV Show Help Cut America's Power Bill?
Bloomberg
2/17/2016

The Department of Energy's Efficiency-Based Reality Show is Great TV
FAST COMPANY
11/30/2016

UNITED STATES AIR FORCE ACADEMY | UNITED STATES NAVAL ACADEMY

CITY OF ATLANTA GEORGIA | CITY OF BOSTON MASSACHUSETTS

Better Buildings CHALLENGE U.S. DEPARTMENT OF ENERGY | SWAP

COMMERCIAL
Abbott Northwestern Hospital
Anthem, Inc.*
Arby's Restaurant Group, Inc.*
Army & Air Force Exchange Service
Ascension*
AtSite
Beaumont Health System
Belk, Inc.
Best Buy*
BJ's Wholesale Club, Inc.
Bon Secours St. Francis Health System
Boston Market
Broward Health North
Catholic Health Initiatives
CBRE
CC Frost Properties, Ltd.
CEFCO Stores
CentraCare Health
Chipotle Mexican Grill
CKE Restaurants Holdings, Inc.*
Clarion Partners
Cleveland Clinic*
Colliers International
Columbia Association*
CommonWealth Partners*
Community Services Agency & Development Corporation
Costco Wholesale Corporation
Cox Enterprises
Crate & Barrel
Cushman and Wakefield
Dacra Development
Denver West
Deutsche Asset Management*
Dunkin' Brands
Einstein Noah Restaurant Group, Inc.
Equity One Inc.
First Potomac Realty Trust
Food Lion
Forest City Realty Trust*
Fresh & Easy
Glenborough
Gundersen Health System
H&M
Hannaford
Harris Teeter
Havertys*
HealthSouth
HEI Hotels & Resorts*
Hilton Worldwide*
Hines
Hospital Corporation of America
Hyatt Hotels Corporation
IBM
IHG (InterContinental Hotels Group)*
Inova Health System
Jamestown*
JC Penney
Jones Lang LaSalle
Kaiser Permanente
Kelco Management & Development
Kessinger Hunter & Co
Kilroy Realty
Kimco Realty Corporation
Kohl's Department Stores*
Lamey-Wellehan Shoes
LaSalle Investment Management
Las Vegas Sands Corporation*
LBA Realty*
Legacy Health
Lendlease*
Liberty Property Trust
Lincoln Harris
Living City Block
Loews Hotels*
Lowe's
Luxottica North America
Macy's*
Marriott International
Mayo Clinic
McDonald's Corp.
MC Realty
Mesa Lane Partners, LLC
MGM Resorts International*
Montefiore Medical Center*
Newmark Grubb Knight Frank
NewYork-Presbyterian Hospital*
Nike*
North Shore-Long Island Jewish Health System
Panda Restaurant Group, Inc.
Parkway Properties*
Parmenter Realty Partners*
Petco
PetSmart
PNC Financial Services Group*
Principal Real Estate Investors
Prologis*
Providence Health & Services
Prudential Financial, Inc.
Publix
Red Robin Gourmet Burgers
Regency Centers
REI
Related Companies
Retail Properties of America
Ryan Companies US, Inc.
Safeway
Saunders Hotel Group*
Sears
Shari's Cafe & Pies*
Sharpe Properties Group, LLC
Shorenstein Properties LLC*
Siemens
Southwestern Vermont Health Care
Sprint*
Staples*
Starbucks Coffee Company*
Stream Realty Partners, L.P.
Studley
Summa Health System
Suncoast Credit Union*
SUPERVALU
Target
TH Real Estate (TIAA)*
The Hartford Financial Services Group, Inc.*
The Home Depot
The JBG Companies*
The Kessler Collection
The Malcolm Bryant Corp.
The Tower Companies*

KEY
- Partners with names in **bold** are energy, water, or Accelerator goal achievers
- Partners with a * have taken the Better Buildings Challenge

The Walt Disney Co.
The Wendy's Company*
The Westfield Group
Tishman Speyer
Transwestern*
Ulta Inc.
USAA Real Estate Company*
U.S. Navy CNIC Facilities and Acquisitions
U.S. Space and Rocket Center*
UW Health*
Vornado
Walgreens Co.*
Walmart*
Washington REIT
Wawa
Weis Markets
Welltower
Westchester Medical Center
Whole Foods Market*
Wyndham Worldwide*
Yum! Brands

DATA CENTERS

CenturyLink, Inc.*
Digital Realty Trust*
eBay Inc.*
Facebook*
Georgia Institute of Technology
Intuit*
IO Data Centers*
Iron Mountain Data Centers*
Sabey Data Center Properties*
Virtustream
Waste Management

EDUCATION

Adams 12 - Five Star Schools
Alachua County Public Schools, FL*
Albuquerque Public Schools, NM*
Allegheny College*
Amity School District
Anne Arundel County Public Schools, MD*
Arizona State University
Arlington County School District
Aurora Public Schools*
Bard College*
Boulder Valley School District
Bullitt County Public Schools, KY*
Camas School District, WA*
Chesapeake College*
Clark Atlanta University
Community College of Allegheny County*
Cornell University
Delaware State University*
Douglas County School District, CO
Douglas County School District, NV*
Duke University
Dysart Unified School District 89, AZ*
Emory University
Evergreen Public Schools, WA*
Fairfax County Public Schools, VA*
Florida A&M*
Fort Atkinson School District, WI*
Garnet Valley School District, PA*
Grand Valley State University
Hackensack University Medical Center*
Hermosa Beach City School District
Hillsboro School District, OR*
Houston Independent School District, TX*
Huntsville City Schools, AL*
Indianapolis Public Schools, IN*
Indian River Central School District, NY*
Indiana University
Kansas City Public Schools, MO*
Los Angeles Unified School District*
Loyola University
Manchester School District, NH*
Massachusetts Institute of Technology
Mesa County Valley School District, CO*
Michigan State University*
Northwestern University*
Oregon Health & Science University
Parkway School District, MO*
Penn State University*
Portland Public School District, OR*
Portland State University
Poudre School District, CO*
Ramapo College
River Trails School District 26, IL*
San Mateo Community College District
School District of Philadelphia, PA
Sewanee: The University of the South*
Stanford University
Stevens Institute of Technology*
Towson University*
Tulane University
Tulsa Public Schools*
University of California, Berkeley*
University of California, Davis
University of California, Irvine*
University of California, Merced
University of Colorado Boulder
University of Hawaii at Manoa*
University of Iowa
University of Maryland
University of Maryland Medical Center*
University of Massachusetts Medical School
University of Miami
University of Minnesota
University of Nebraska Medical Center*
University of New Hampshire
University of South Alabama Medical Center
University of South Carolina
University of Utah*
University of Utah Health Care
University of Virginia*
University of Wisconsin
UPMC: University of Pittsburgh Medical Center*
Washtenaw Community College
Xenia Community Schools, OH*

FEDERAL

Argonne National Laboratory
Defense Health Agency
Environmental Molecular Sciences Laboratory
Lawrence Berkeley National Laboratory
Lawrence Livermore National Laboratory
Los Alamos National Laboratory
National Energy Research Scientific Computing Center
National Renewable Energy Laboratory
Oak Ridge National Laboratory
U.S. Department of Defense - Defense Information Systems Agency
U.S. Department of Justice - Drug Enforcement Agency
U.S. Department of Veterans Affairs*
U.S. Environmental Protection Agency
U.S. General Services Administration
U.S. National Aeronautics and Space Administration
U.S. Social Security Administration
Veterans Health Administration

FINANCIAL ALLIES

Abundant Power*
AFL-CIO Housing Investment Trust*
All American Investment Group*
Allumia
Bank of America*
BioStar Renewables*
Blue Hill Partners LLC*
Bostonia Partners LLC*
Byline Financial Group*
California Housing Partnership*
CBJ Energy*
Citi*
CleanFund LLC*
Commercial Power Partners, LLC*
Community Investment Corporation*
Connecticut Green Bank*
Energi*
Enterprise Community Partners*
Flywheel*
Greenworks Lending*
Hannon Armstrong*
LISC*
Low Income Investment Fund*
Metrus Energy*
New York City Energy Efficiency Corporation*
Onsite Utility Services Capital*
PACE Equity*
Petros PACE Finance LLC*
Renew Financial*
Rockwell Financial Group*
Samas Capital*
Southeast Capital & Finance*
SparkFund*
Structured Finance Associates, LLC*
Triple Bottom Line (TBL) Foundation*
Urban Ingenuity*
Ygrene Energy Fund*

INDUSTRIAL

3M*
AbbVie Inc.
Alcoa*
Alexandria Renew Enterprises
Amcor PET Packaging
American Mitsuba
ArcelorMittal
Armstrong Flooring, Inc.
Asama Coldwater Manufacturing
AT&T
Ball Packaging North America
Bath Electric Gas & Water Systems*
BD*
Bentley Mills*
BIC Graphic
Bosch Rexroth
BPM, Inc. (Badger Paper Mills, Inc.)
Bradken
Bridgestone Americas, Inc.
Briggs & Stratton*
Bristol-Myers Squibb
Buck Company
Bucks County Water & Sewer Authority*
California Portland Cement Company (d.b.a. CalPortland)
Campbell Soup
Carlton Forge Works
Cascade Engineering Technologies, Inc.
Celanese International Corporation*
C. F. Martin & Co., Inc. (Martin Guitar)*
Chapco Inc.
Charter Steel
Chippewa Valley Ethanol Company
Citrus World, Inc (formerly Florida's Natural Growers)
City of Charleston, SC, Water System
City of Grand Rapids Water Resource Reclamation Facility*
City of Phoenix Water Services Department
City of Roseville, Environmental Utilities Department
Clearwater Engineering
CoilPlus Inc.
Comau Inc.
Commercial Metals Company
Complete Design and Packaging
Co-Operative Industries Aerospace & Defense
Cooper Standard
Cummins, Inc.*
Daikin Applied Americas, Inc.
Darigold*
Davisco Foods
Delta Diablo
Denison Industries
Des Moines Water Works
Didion Milling
Dow Chemical
DSM North America
Durex Inc.
Earth2O (d.b.a. The Sweetwater Company Inc)
Eastman Chemical Company*
Eaton Electric
Eck Industries
Electrolux*
Encina Wastewater Authority*
Expera Specialty Solutions (Thilmany Mill)
Flambeau River Papers
FMC Corporation
Ford Motor Company*
General Aluminum Manufacturing Company
General Dynamics Ordnance and Tactical Systems
General Electric*
General Mills*
General Motors*
General Sheet Metal Works, Inc.
GKN Aerospace Services Structures
Golden Renewable Energy, LLC
Goodyear Tire & Rubber Company
Graphic Packaging International, Inc.
HARBEC*

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Harley-Davidson Motor Company
Harrison Steel Castings Co.
Haynes International
Hitchiner Manufacturing Co. Inc.
HNI Corporation / Allsteel
Honda
Huntsman Corporation
Ingersoll Rand*
Ingevity
Intel*
International Paper Company
Intertape Polymer Group
Ithaca Area Water Wastewater Treatment Agency*
JBT Corporation
Johnson Controls*
Johnson & Johnson
Johnson Matthey
J.R. Simplot*
Kent County Levy Court
Kenworth Truck Company
Kingspan Insulated Panels, Inc.
KYB Americas Corporation
Lafarge-Holcim*
Land O' Lakes
Legrand*
Lennox International*
Lineage Logistics
Lockheed Martin
Los Angeles Bureau of Sanitation
Los Angeles Department of Water and Power*
Lynam Industries Inc.
Magnetic Metals Corp.
MAHLE Engine Components USA
Manitowoc Grey Iron Foundry
Mannington Mills
Marquis Energy
Massachusetts Water Resources Authority
MB Aerospace East Granby
McCain Foods USA, Inc.
MedImmune
Metal Industries, Inc.
Mohawk Industries
Narragansett Bay Commission
Navistar International Corporation
Neenah Foundry
Newman Technology
NEW Water (Green Bay Metropolitan Sewerage District)*
Nissan North America*
Novati Technologies
Novelis
NYC DEP - Bureau of Wastewater Treatment
O'Fallon Casting
OFD Foods
OMNOVA Solutions Inc.
Orange Water and Sewer Authority*
Oshkosh Corporation
Osram Sylvania
Owens Corning
Pactiv
Paperworks Industries
Parker Hannifin
Patrick Cudahy
Patriot Foundry & Castings
PepsiCo
Pima County, AZ
PPG
Procter & Gamble
Quad/Graphics, Inc.
Raytheon
Research Electro-Optics
Richmond Industries Inc.
Roche Diagnostics Operations
Rowley Spring and Stamping
Saint-Gobain Corporation*
Savage Precision Fabrication
Schneider Electric*
Selmet, Inc.
Shaw Industries
Sherwin Williams
Solberg Manufacturing Inc.*
Sony DADC
Spirax Sarco, Inc.
Stanley Spring and Stamping
Steelcase, Inc.
St. Petersburg Water Resources Department
SunOpta, Inc.
TE Connectivity*
Tenaris
Tennessee Valley Authority
Texas Instruments
Textron, Inc
ThyssenKrupp Elevators
Toyota Motor Engineering & Manufacturing North America, Inc*
TPC Group LLC
United Technologies Corporation*
Vermeer
Verso Corporation
Victor Valley Wastewater Reclamation Authority*
Volvo Group North America*
Waupaca Foundry
Weber Metals Inc.
Western Lake Superior Sanitary District
Westrock
Weyerhaeuser
Whirlpool Corporation
W. L. Gore

MULTIFAMILY

ACTION-Housing Inc.*
Aeon*
AHEAD, Inc.*
Angola Housing Authority*
Atlanta Housing Authority*
Avon Park Housing Authority*
Balfour Beatty Communities*
Beacon Communities*
BRIDGE Housing Corporation*
Cambridge, MA, Housing Authority*
Capitol Hill Housing*
Caritas Communities, Inc.*
Cascap, Inc.*
Century Housing*
Cion Housing Services*
Cleveland Housing Authority*
Codman Square Neighborhood Development Corporation*
Columbia Residential*
CommonBond Communities*
Community Housing Partners*
Consecra Housing Network*
Corcoran Management*
Cuyahoga Metropolitan Housing Authority*
Danville Development*
EAH Housing, Inc.*
East Bay Asian Local Development Corporation*
East Hartford, CT, Housing Authority*
Eden Housing*
Elderly Housing Development and Operations Corporation*
Essex Management Company, LLC*
Fort Wayne Housing Authority*
Foundation for Affordable Housing*
FS Energy*
Gary Housing Authority*
Gateway Management Services, LLC*
Gragg Cardona Partners*
Green Coast Enterprises*
Hispanic Housing Development Corporation*
H.J. Russell & Company*
Homes for America*
Housing Authority of Baltimore City*
Housing Authority of City of Bristol, CT*
Housing Authority of City of Freeport, IL*
Housing Authority of City of Helena, MT*
Housing Authority of City of Palatka, FL*
Housing Authority of City of Philadelphia, PA*
Housing Authority of City of San Buenaventura, CA*
Housing Authority of Knox County, IN*
Housing Authority of McDonough County, IL*
Housing Authority of the Birmingham District, AL*
Housing Authority of the City of Los Angeles, CA*
Housing Trust of Rutland County*
Houston Housing Authority*
Jamaica Plain Neighborhood Development Corporation*
Jersey City, NJ, Housing Authority*
Jewish Community Housing for the Elderly*
Jonathan Rose Companies*
Keene Housing*
King County Housing Authority*
Korman Residential Properties, Inc*
LINC Housing Corporation*
Lucas Metropolitan Housing Authority*
Manhattan Housing Authority*
McCormack Baron Salazar*
Mercy Housing, Inc.*
Michigan City Housing Authority*
Minneapolis Public Housing Authority*
Multi-Family Mission Ministries*
National Church Residences*
New Bedford Housing Authority*
New York City Housing Authority*
Newark Housing Authority*
NewLife Homes*
NHP Foundation*
NHT/Enterprise Preservation Corporation*
Peabody Properties, Inc.*
Presby's Inspired Life*
Preservation of Affordable Housing*
REACH CDC*
Retirement Housing Foundation*
Rockford Housing Authority*
Rural Ulster Preservation Company*
San Antonio Housing Authority*
Satellite Affordable Housing Associates*
Schochet Companies*
Stewards of Affordable Housing for the Future
Tampa Housing Authority*
Tenderloin Neighborhood Development Corporation*
The Boston Land Company*
The City of Hickory Public Housing Authority*
The Community Builders, Inc.*
The DeBruler Co.*
The Economic Development Authority of the City of Mankato, MN*
The Evangelical Lutheran Good Samaritan Society*
The Housing Authority of the City and County of Denver*
The Renaissance Collaborative*
The Silver Street Group and Housing Management Resources, Inc*
Tonti Properties*
Trinity Housing Corporation of Greeley, CO*
Trinity Management*
Truth or Consequences Housing Authority*
Utica Municipal Housing Authority*
Village of Hempstead Housing Authority*
Vistula Management Company*
VLV Development*
Volunteers of America
Washington, DC, Housing Authority*
Wesley Housing Corporation*
Windsor Locks Housing Authority*
WinnCompanies*
Wishrock Investment Group*
Yolo County, CA Housing Authority*

PUBLIC

Albany, NY
Anchorage, AK
Arlington County, VA*
Arvada, CO*
Atlanta, GA*
Beaverton, OR*
Boston, MA*
Boulder, CO
Boulder County, CO
Broward County, FL
Chattanooga, TN*
Chicago, IL*
Chula Vista, CA*
Cincinnati, OH
Clark County, NV*
Cleveland, OH*
Columbia, MO*
Commonwealth of Massachusetts*
Commonwealth of Pennsylvania
Commonwealth of Virginia
Cook County, IL*
Dearborn, MI
Deerfield Beach, FL
Delaware Valley Regional Planning Commission
Denver, CO*

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Des Moines, IA
Detroit, MI
District of Columbia*
Dubuque, IA
Duluth, MN
El Paso, TX*
Erie County Industrial Development Agency
Evanston, IL
Flint, MI
Fort Worth, TX*
Gary, IN
Gillette, WY*
Greater Lawrence Sanitary District
Hall County, GA*
Hawkeye Area Community Action Agency
Hillsboro, OR*
Hoboken, NJ
Holland, MI
Houston, TX*
Huntington Beach, CA
Huntington, NY*
Kansas City, MO
Kauai County, HI*
King County, WA*
Knoxville, TN*
Knoxville Utilities Board
Little Rock, AR
Local Government Commission
Los Angeles, CA*
Los Angeles County, CA
Margate, FL*
Medford, MA*
Miami-Dade County, FL
Milwaukee, WI*
Montgomery County, MD
Montpelier, VT
New York, NY
Newark, NJ
Northeast Ohio Regional Sewer District
Oakland, CA
Orlando, FL*
Perry, IA
Philadelphia, PA*
Phoenix, AZ
Pittsburgh, PA*
Placer County, CA*
Portland, ME
Portland, OR
Racine, WI
Richmond, VA
Rhode Island Infrastructure Bank
Roanoke, VA*
Rochester, NY*
Saint Paul, MN
Salt Lake City, UT*
San Diego, CA*
San Francisco, CA
Santa Fe, NM*
Seattle, WA*
Sonoma County, CA
Southeast Michigan Regional Energy Office
Southern California Regional Energy Network
Spokane County, WA*
State of Alabama
State of California
State of Colorado
State of Connecticut
State of Delaware*
State of Florida
State of Hawaii
State of Illinois
State of Indiana
State of Iowa
State of Kansas
State of Maryland*
State of Michigan
State of Minnesota*
State of Missouri
State of Montana
State of Nevada
State of New Hampshire
State of New Mexico
State of New York*
State of North Carolina*
State of North Dakota
State of Oklahoma
State of Oregon
State of Rhode Island*
State of South Carolina
State of Tennessee
State of Texas
State of Utah
State of Washington
State of Wisconsin
St Petersburg, FL
Takoma Park, MD
Tallahassee, FL
The Fresno Energy Performance District
Thurston County, WA*
Toledo, OH*
Virgin Islands Energy Office
Washington State Transportation Improvement Board
West Palm Beach, FL*
West Virginia Rural Water Association
Will County, IL*
Worcester, MA*

UTILITY

Arizona Public Service
Bonneville Power Administration
California Energy Commission
Efficiency Vermont
Eversource
Focus on Energy
Long Island Power Authority
National Grid
Pacific Gas and Electric Company
Pennsylvania PUC
PSEG Long Island
Southern California Edison
TECO

PROGRAM AFFILIATES

Alliance to Save Energy
American Council for an Energy-Efficient Economy
American Hotel & Lodging Association
American Institute of Architects
American Planning Association
American Society for Healthcare Engineering
American Society for Heating, Refrigerating, and Air-Conditioning Engineers
APPA - Leadership in Educational Facilities
Appraisal Institute
Arup
Asian American Hotel Owners Association
Association for Learning Environments
Association for the Advancement of Sustainability in Higher Education
Association of Energy Affordability
Biomass Thermal Energy Council
BlocPower
Building Owners and Managers Association International
Building Performance Institute
Build It Green
C40
California Regional Mutliple Listing Service
California Street Light Association
City Zenith
Community Action Partnership of Oregon
Community Action Program of Evansville and Vanderburgh Counties
Consortium for Building Energy Innovation
CoreLogic
Couleecap Inc
Council of Multiple Listing Services
Denver National Western Center
Earth Advantage
EcoDistricts
Edison Electric Institute
Eetility
Elevate Energy
Emerald Cities Collaborative
Energy Efficiency for All/NRDC
Energy Foundation
Energy Outreach Colorado
Enhabit
Environmental Defense Fund
Ford Twin Cities Assembly Plant Redevelopment Project
Garfield Clean Energy Collaborative
Global Cool Cities Alliance
Google
Governing Institute
Green Building Alliance
Green Button Alliance
Green Parking Council
Green Sports Alliance
GRID Alternatives
Groundswell
Hatch
Health Care Without Harm
Home Innovation Research Labs
Home Performance Coalition
Homes.com
ICLEI
Illuminating Engineering Society of North America
Institute for Market Transformation
Institute for Sustainable Communities
International City/County Management Association
International Council of Shopping Centers
International District Energy Association
International Facility Management Association
IRES MLS
Kresge Foundation
Metropolitan Regional Information Systems
Mid-America Regional Council
Midwest Energy Efficiency Alliance
Midwest Real Estate Data
NACUBO
NAIOP (Commercial Real Estate Development Association)
National Association of Convenience Stores
National Association of Counties
National Association of Real Estate Investment Trusts
National Association of REALTORS® - Center for REALTOR® Technology
National Association of Regional Councils
National Association of State Energy Officials
National Co-op Grocers
National Energy Education Development Project
National League of Cities
National Multifamily Housing Council
NeighborWorks of Western Vermont
New Buildings Institute
Northeast Energy Efficiency Partnerships
Opportunity Council
Pearl National Certification
Philips Lighting
PicketFence.com
Practice Greenhealth
Professional Retail Store Maintenance Association
Public Technology Institute
Real Estate Standards Organization
Realtors Property Resource, LLC
Regional MLS
Renewable Energy Transition Initiative
Retail Industry Leaders Association
Rocky Mountain Institute
Roof Coatings Manufacturers Association
Second Nature
Seventhwave
Smart Cities Council
Smart Energy Decisions
STAR Communities
Sun Valley EcoDistrict
Surdna Foundation
Sustainability Roundtable Inc.
Sustainable Endowments Institute
The Bullitt Foundation
The Energy Coalition
The Real Estate Round Table
The Solar Foundation
Unified Foodservice Purchasing Co-op, LLC
United Illuminating
Urban Sustainability Directors Network
U.S. Green Building Council
Vermont Energy Investment Corporation
Virginia Green Travel Alliance
Vizient
Vote Solar
Water Environment Federation
Western New York Manufacturing ZNE District

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Better Buildings®
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