

Members in the Better Buildings Alliance agree to participate in at least one program activity each year and share their successes with their peers. Explore a variety of activities below tailored to your sector, from testing out an implementation model to joining a technology adoption campaign. [Contact us](#) to participate today!

### Technology and Market Solutions

Try a new technology or market solutions activity for your sector. To view a full list of activities, visit each team's webpage on the [Technology Solutions pages](#) or [Market solutions pages](#).

| Team   | Activity  |
|--|---|
| <a href="#">Lighting &amp; Electrical</a>                    | <ul style="list-style-type: none"> <li>▶ <b>New in 2015</b> <a href="#">Interior Lighting Campaign</a>: Receive technical assistance and win awards for high efficiency troffer lighting retrofits. Coming soon: a specification for 2x2, 2x4, and 1x4 troffers, a utility incentives database, product lists, technical reports, and case studies.</li> <li>▶ <a href="#">Lighting Energy Efficiency in Parking Campaign (LEEP)</a>: Receive technical assistance and recognition for reducing parking garage and parking lot energy use.</li> </ul> |
| <a href="#">Energy Management Information Systems (EMIS)</a> | <ul style="list-style-type: none"> <li>▶ Use the <a href="#">technology classification framework</a>, <a href="#">EIS cost and benefits report</a>, and <a href="#">EMIS crash course</a> to learn about critical aspects of successful EMIS use.</li> </ul>  |
| <a href="#">Space Conditioning</a>                           | <ul style="list-style-type: none"> <li>▶ <a href="#">Advanced RTU Campaign (ARC)</a>: Install efficient HVAC rooftop unit (RTU) technology. Gain access to DOE technical experts, be recognized for achievements in RTU retrofits or upgrades, and qualify for discounts on ASHRAE technical guides.</li> <li>▶ Coming soon: Best practices for duct leakage fact sheet and guidance for a systems approach to central plant HVAC.</li> </ul>   |
| <a href="#">Renewables Integration</a>                       | <ul style="list-style-type: none"> <li>▶ Use the <a href="#">solar decision guide</a> to evaluate solar for your organization.</li> <li>▶ Contribute <a href="#">case studies</a> to help other members learn about solar PV options.</li> </ul>  |
| <a href="#">Plug &amp; Process Loads</a>                     | <ul style="list-style-type: none"> <li>▶ Plan for appropriate plug and process load capacity and power requirements with the <a href="#">Capacity and Power Requirements Analysis</a>.</li> </ul>   |
| <a href="#">Laboratories</a>                                 | <ul style="list-style-type: none"> <li>▶ Save energy by retrofitting with high efficiency <a href="#">fume hoods</a>, taking advantage of the fume hood sash management campaign, and reducing <a href="#">simultaneous heating and cooling</a>.</li> <li>▶ Manage laboratory freezer temperature settings and replace or eliminate older freezers with the <a href="#">Ultra-low Freezer User Guide</a>.</li> </ul>  |
| <a href="#">Food Service</a>                                 | <ul style="list-style-type: none"> <li>▶ Collaborate with the Consortium for Energy Efficiency (CEE) to develop guidance on commercial kitchen Demand Control Ventilation (DCV) best practices and a retrofit evaluation checklist. See the introductory webinar presentation <a href="#">here</a>.</li> <li>▶ Profile a food service energy efficiency project as a Showcase Project on the Better Buildings website or help quantify the non-energy benefits of energy management systems (EMS) to justify project costs.</li> </ul>                |
| <a href="#">Financing</a>                                    | <ul style="list-style-type: none"> <li>▶ Overcome barriers to energy efficiency financing by leveraging solutions to common barriers. Consider <a href="#">ESCO financing</a>, <a href="#">Property Assessed Clean Energy (PACE) financing</a>, <a href="#">Energy Service Agreements</a>, and other mechanisms.</li> </ul>   |

## Procurement Specifications

Try a procurement specification tailored for your sector when purchasing energy efficient technologies. The specifications listed below have the potential to offer significant benefit for the various end-use energy consumers in commercial buildings.

| Specification                              | Savings Opportunity  |
|--|--|
| High-Efficiency Troffer Lighting           | <p>Save 15% – 45% on lighting energy costs by replacing fixtures and up to 75% by using controls. <a href="#">View spec.</a></p> <p>A <b>Walmart Neighborhood Market</b> in Wichita, KS installed an LED system with bi-level controls that reduced power usage over typical linear fluorescents by 29%. <a href="#">View the case study.</a></p>  |
| LED Site Lighting (for Parking Lots)       | <p>Save 40% or more on energy costs; additional benefits include long life, reduced maintenance costs, and improved lighting uniformity. <a href="#">View spec.</a></p> <p><b>T.J.Maxx</b> realized a 3-year payback by replacing high-pressure sodium and metal halide luminaires with LED technology. <a href="#">View the case study.</a></p>   |
| High-Efficiency Parking Structure Lighting | <p>Save nearly 15% on energy costs compared to current code; additional energy savings are possible with lighting controls and day-lighting techniques. <a href="#">View spec.</a></p> <p><b>Cleveland Clinic Foundation</b> in Cleveland, OH installed a LED system in a 970,250-square-foot garage that utilizes sensors to operate in low states, and saved 82% on energy use. <a href="#">View the case study.</a></p>   |
| High-Efficiency Wallpack Lighting          | <p>Save approximately 40% by replacing fixtures and 70% by using controls. Additional benefits include longer life and lower maintenance costs. <a href="#">View spec.</a></p> <p>If a hotel of 185 rooms applied the specification at 1,200 sites across its building portfolio, it would save an estimated 12.7 million kWh and \$1.3 million in energy savings annually.</p>  |
| Fume Hoods                                 | <p>Save up to 50% per unit by retrofitting fume hoods in labs with fume-hood dominated ventilation system airflows. <a href="#">View spec.</a></p> <p>The <b>University of California, Irvine</b> implemented a suite of energy conservation measures in 10 laboratory retrofits, including installing and operating high-performance, low-flow fume hoods at a face velocity of 70 feet per minute. The average energy savings across the retrofitted laboratories was 61%. <a href="#">View the field demonstration study.</a></p> |
| Ultra-Low Temperature Freezers (ULT)       | <p>Save up to 66% over typical freezers. <a href="#">View spec.</a></p> <p><b>Michigan State University</b> and the <b>University of Colorado at Boulder</b> installed high-efficiency ULT freezers in their laboratories. The ULT freezers generated between 20% and 66% electricity savings over typical units. <a href="#">View the field demonstration study.</a></p>  |
| Commercial Heat Pump Water Heater          | <p>Save 70% on water heating energy by using heat pump water heaters instead of electric storage water heaters. <a href="#">View spec.</a></p> <p>A <b>commercial kitchen</b> with daily hot water usage of 1,000 gallons installed a heat pump water heater with a heating capacity of 32,000 British thermal units per hour and a coefficient of performance of 3.5. The heat pump water heater saved the facility more than \$6,000 per year with additional space conditioning impacts.</p>                                      |
| Low-Voltage Distribution Transformer       | <p>Save more than 40% on energy use by installing high-efficiency distribution transformers. <a href="#">View spec.</a></p> <p>The <b>University of California, Merced</b> replaced two existing distribution transformers at an off-campus office building with high-efficiency models, and reduced related energy losses by 85%. <a href="#">View the case study.</a></p>  |

## Implementation Models

Try a proven solution from a **Better Buildings Challenge partner**. Better Buildings Challenge partners share strategies for addressing key barriers to energy efficiency, including policies, processes, outreach efforts, tools, and resources. Click [here](#) for a full list.

| Topic  | Barrier  | Solution   |
|--|--|--|
| <a href="#">Delta Force</a><br><b>New!</b><br><b>UNIVERSITY OF VIRGINIA</b>  | <ul style="list-style-type: none"> <li>▶ Energy conservation projects were difficult to justify because the funding sources were rarely the same entities that captured the resulting cost savings. A mechanism was needed to create a self-funding source to fund conservation projects from realized savings.</li> </ul> | <ul style="list-style-type: none"> <li>▶ Implement an internal, cross-functional team (Delta Force) to perform retro-commissioning on the most energy intensive buildings.</li> <li>▶ Create a cost-recovery program akin to a revolving loan fund, so future projects can be paid for with metered savings from past and future projects.</li> </ul>  |
| <a href="#">On-Balance Sheet, Off-Debt Capacity Performance Contracting</a><br><b>DELAWARE STATE UNIVERSITY</b>  | <ul style="list-style-type: none"> <li>▶ DSU faced strict debt capacity limits set by the State of Delaware, making it difficult to borrow sufficient capital to implement a broad program of energy efficiency projects on campus</li> </ul>  | <ul style="list-style-type: none"> <li>▶ Work with state regulators to create a unique "on-balance sheet, off-debt capacity" approach; working within the constraints of existing accounting principles, DSU obtained permission to utilize previously restricted appropriations to create a revenue-neutral debt structure thereby allowing large-scale bond financing of energy efficiency through a guaranteed energy savings agreement (GESA)</li> </ul> |
| <a href="#">Leverage Student-Faculty Research</a><br><b>ALLEGHENY COLLEGE</b>  | <ul style="list-style-type: none"> <li>▶ Lack of organizational buy-in for energy efficiency, insufficient access to capital</li> </ul>  | <ul style="list-style-type: none"> <li>▶ Leverage a student-faculty research to predict financial benefits of energy-saving options for campus construction and renovations</li> </ul>   |
| <a href="#">Internal Green Revolving Fund</a><br><b>UNIVERSITY OF UTAH</b>   | <ul style="list-style-type: none"> <li>▶ Energy efficiency projects were being funded piecemeal from a general fund, with savings disappearing back into the general facilities budget</li> </ul>  | <ul style="list-style-type: none"> <li>▶ Implement an internal Green Revolving Fund (GRF) to allocate savings from current energy efficiency projects to invest in future energy efficiency projects</li> </ul>  |
| <a href="#">Integrated Model for Long-Term Campus Energy Planning</a><br><b>MICHIGAN STATE UNIVERSITY</b>  | <ul style="list-style-type: none"> <li>▶ Lack of understanding of the impact of energy systems on the environment, campus resources, and the community</li> </ul>  | <ul style="list-style-type: none"> <li>▶ Create the Integrated Energy Planning Model (IEPM) to articulate the complex nature of energy use at a research institution and impacts to key metrics, such as utility costs, tuition, greenhouse gas emissions, debt capacity and more</li> </ul>   |
| <a href="#">Developing an Integrated "Smart Lab" Program</a><br><b>UNIVERSITY OF CALIFORNIA, IRVINE</b><br><b>Coming soon!</b> Tracking and improving manager performance to meet energy reduction goals | <ul style="list-style-type: none"> <li>▶ Laboratories consume the majority of building energy on the UCI campus. However, lab retrofits face restrictive requirements to maintain safety and adhere to stringent building and fire codes</li> </ul>  | <ul style="list-style-type: none"> <li>▶ Develop an integrated "Smart Lab" program to improve lab energy efficiency through an array of control and sensor technologies without compromising safety</li> </ul>   |
| <a href="#">Chasing Quarters With Energy Set-Points</a><br><b>HEI HOTELS AND RESORTS</b>   | <ul style="list-style-type: none"> <li>▶ Lack of standard operating procedure for key energy set-points for HVAC systems, Domestic Hot Water and Food &amp; Beverage areas at managed properties</li> </ul>  | <ul style="list-style-type: none"> <li>▶ Partner with chief engineers and hotel department heads at each facility to develop and certify building-specific temperature set-points</li> <li>▶ Implement portfolio-wide standard operating procedures for set-point maintenance</li> </ul>   |
| <a href="#">Student Fellowships to Kickstart In-House Energy Programs</a><br><b>SHORENSTEIN PROPERTIES</b>   | <ul style="list-style-type: none"> <li>▶ No dedicated position for coordinating energy efficiency and sustainability initiatives across the real estate portfolio</li> </ul>   | <ul style="list-style-type: none"> <li>▶ Create an annual summer fellowship program provides analytic and strategic support to accelerate energy efficiency investment and communicate the value of sustainable investments</li> </ul>   |