DRIVING ENERGY EFFICIENCY THROUGH HIGHER EDUCATION COLLABORATION

EXECUTIVE SUMMARY

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The higher-education sector presents a key opportunity to address climate change and energy-reduction goals across the country. College and university facilities account for 5% of U.S. commercial-building emissions and comprise over 5 billion square feet of space, leading to nearly $14 billion in annual energy costs. Unlocking the vast savings potential in this sector is critical to meeting the ambitious carbon-reduction goals of states, cities, and utilities.

The Alliance to Retrofit Chicago Higher Education (ARCH), a project of the Global Philanthropy Partnership and administered by CB&I, was created to help institutions in the Chicagoland region work together to find effective strategies for reducing energy consumption and carbon emissions on their campuses. To assist in this endeavor, ARCH, in partnership with the Rocky Mountain Institute (RMI), examined best practices in energy efficiency among higher-education institutions across the country; specifically, how collaborative efforts among schools and external stakeholders help drive significant savings. This research explores how collaborations work best, documents the benefits that accrue to participants in these collaborations, and assesses how these collaborators can effectively partner with local governments and utilities to promote greater investment in energy efficiency and drive further reductions in energy consumption on campuses. These collaborations, termed cohorts, are groups of institutions focused on a common objective.

This report serves as a practitioner’s guide to enable individual institutions to benchmark their progress and activities, help cohorts become more effective and better connected, and demonstrate the opportunities for municipalities and utilities to understand the potential for cohorts to increase the effectiveness of energy reduction efforts and goals. The study is meant to serve as the starting point for a broader conversation about collaborative efforts nationally.

SPECIFIC OBJECTIVES OF THE REPORT INCLUDE:

1. Highlight best practices of institutions around the country that are considered leaders in promoting energy efficiency in existing buildings.

2. Explore various examples of collaboration among networks of higher-education institutions (cohorts).

3. Explore partnerships among cohorts and municipalities.

4. Explore partnerships among cohorts and utility-funded efficiency programs.

5. Determine the gaps that currently exist in understanding what makes collaborations effective.
FINDINGS & LESSONS LEARNED

PURPOSE

Higher-education institutions are incredibly diverse in their models (e.g., public vs. private, liberal arts vs. research dominated), sizes, campus-sustainability and/or energy-reduction goals, and successes. Given this diversity, there is no “one-size-fits-all” model or program. Common to all of the leaders in this space is a commitment to collaboration, both internal to the institutions, and externally with peers, local governments, and utilities. Effective institutional collaboration increases energy efficiency on campuses, while strong partnerships with local governments and utilities offer resources, policies, and leadership that can increase effectiveness of energy reduction efforts.

The research uncovered a set of activities commonly executed by successful institutions which were instrumental to achieving long-term, deep energy reductions on campuses. The data also demonstrate that leadership is occurring across the spectrum of higher-education segments. Due to the diversity of actions, activities, and successes, even leaders in one area have much to learn from other institutions.

Among the best practices within institutions, there appear to be five key areas that drive efficiency on campuses:

- **Engagement**: Engaging students, faculty, staff, and the surrounding community is necessary to push energy efficiency.
- **Management Systems**: Executive leadership, policies and procedures, action plans, and goals are essential for providing lasting and powerful mechanisms to drive energy-saving programs forward.
- **Demand-Side Management Programs**: There are a number of measures and approaches for achieving significant savings at the individual building, as well as the campus, level.
- **Supply and Distribution**: From procurement, to investments in renewable energy, microgrids, and combined heat and power, institutions are beginning to focus more heavily on their supply and distribution systems.
- **Financing Strategies**: Innovative ways to fund and finance capital projects present a critical avenue for increasing investment and ensuring energy efficiency gains are realized.
THE IMPORTANCE OF COHORTS

While institutions are expanding energy efficiency programs on their own campuses, they are also increasingly looking to their peers for assistance. Higher-education cohorts are an important mechanism to accelerate and scale energy efficiency on and across campuses; they provide a platform to share lessons learned, leverage collective purchasing, and take advantage of shared resources. Cohorts can vary widely in their geographic reach, institutional makeup, and specific goals and objectives. But in-depth research and interviews conducted with 25 cohorts across the country reveal common characteristics or practices of groups that have been the most successful in driving change.

- **Top-Level Buy-In**: Support from high-level university officials provides an important context for achieving results.
- **Defined Roles and Accountability**: Assigning a group facilitator drives action and success.
- **Information Sharing**: Sharing best practices and lessons learned offers a straightforward mechanism for cohorts to show value to their members.
- **Commitments**: Having participants commit to a specific outcome is key to raising accountability.
- **Documenting Value and Outcomes**: Measuring the value created by the cohort ensures continued participation by members.
- **Fostering Internal Relationships**: Extending involvement to other stakeholders on individual campuses is critical for attaining success.
- **Leveraging Collective Action**: Being perceived as behind the curve may allow institutions to achieve results that may not have been impossible on their own.
HIGHER EDUCATION AND MUNICIPALITY COLLABORATION

Colleges and universities are important in their localities due to their size, level of employment, and social purpose. Effective partnerships between campuses and municipalities benefit both parties by aligning their interests in meeting climate action goals. Municipalities can provide a context for action by eliciting commitments from universities and raising the visibility of efficiency among senior leadership. Institutions, in turn, can assist in shaping local ordinances (e.g., energy benchmarking), joining energy efficiency programs and initiatives, participating in planning and research, and engaging students, faculty, staff, and alumni around the municipalities’ emission reduction goals.

HIGHER EDUCATION AND UTILITY COLLABORATION

Working collaboratively with utilities is another way higher-education institutions can implement energy efficiency measures through partnership. Due to their substantial energy use, large number of buildings, and long-term ownership, colleges and universities are ideal partners for utilities. Individual institutions, as well as cohorts, have formed partnerships with their utilities to promote, fund, and implement energy efficiency measures. Some of these partnerships include working to overcome specific internal energy efficiency barriers and co-creating solutions that help meet institutional climate goals. As well, colleges and universities are helping utilities meet the challenges of enhanced environmental and renewable standards as well as aging infrastructure. By capturing utility efficiency incentives, instituting sub-metering, participating in demand-response programs, and creating a more resilient grid, campuses can significantly reduce costs, while helping utilities better serve the surrounding community.
WHAT MORE IS NEEDED

The research indicates that there is growing interest in collaboration among institutions, stakeholders, and established cohorts. The data also demonstrate that cohorts have a measurable impact on driving emission reductions and facilitating action. Through sharing best practices, gaining executive buy-in, leveraging collective action, and forging joint commitments, cohorts can broaden engagement, enhance management systems, speed adoption of new technologies, green supply chains, and increase investment in efficiency within individual institutions. Thus, collaboration greatly enhances the key elements of efficiency on campuses, but more action is needed.

While cohorts are found to be a mechanism for successfully catalyzing institutional change, there is need for more research and effort to strengthen and support cohorts:

- Research is needed to demonstrate the measurable impacts of cohorts and better understand how to broaden collaborations and make them more impactful.

- A platform could allow cohorts to communicate with each other and share successes, failures, and lessons learned. A platform of this nature has the potential to drastically increase the effectiveness of individual cohorts.

- Web-based tools and on-line resources would help cohorts lacking an outside facilitator maintain this critical function. An online platform also could connect cohorts to funders interested in supporting this critical service.

- A set of industry best practices could offer insight into the mechanisms critical for success, such as developing common commitments and metrics for measuring impact.

This report aims to start a larger conversation about these needs and the benefits of collaboration. Though resources exist for enabling individual institutions to become more energy efficient, there is less known about how groups of institutions can best collaborate with each other and with other partners. It is essential that individual institutions, cohorts, municipalities, and utilities have a platform for enhancing the effectiveness of their efforts.

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