

ALLIANCE TO RETROFIT CHICAGO HIGHER EDUCATION

March 2018

Background

Alliance to Retrofit Chicago Higher Education (ARCH) launched in the fall of 2012 after Mayor Emanuel's Green Ribbon Committee highlighted the role of higher education in the City's climate reduction efforts.

Effective institutional collaboration on college campuses allows institutions to:

- Identify and share best practices around energy efficiency implementation
- Raise the visibility of efficiency on campuses
- Expand Influence of participating institutions through collective action
- Help secure outside resources

Chicago Partners

City Colleges of Chicago

Columbia College Chicago

DePaul University

Illinois Institute of Technology

Lewis University

Loyola University Chicago

Northwestern University

Roosevelt University

School of the Art Institute of Chicago

University of Illinois Chicago

The University of Chicago

Since 2013 Institutional collaboration in Chicago has led to:

- ⇒ Over 16,478,059 kWh in committed savings
- ⇒ Financial savings expected to exceed over \$1,480,000 annually

Participants own and operate a diverse portfolio of buildings:

- 850 buildings
- 75+ million square feet of space
- Combined annual utility spend exceeding \$150 million.



ARCH is based in Chicago, Illinois

Project Snapshots

Northwestern University

Worked with ComEd to install energy-efficient equipment in data centers on campus.

- ⇒ Total Cost: \$203,200
- ⇒ Estimated Annual Energy Savings: 823,903 kWh
- ⇒ Estimated Annual Cost Savings: \$61,793
- ⇒ Estimated Payback Period without ComEd's Smart Ideas Incentive: 3.3 years
- ⇒ Estimated Payback Period with ComEd's Smart Ideas Incentive: 2.4 years

Illinois Institute of Technology

Worked with ComEd to implement retro-commissioning measures.

- ⇒ Total Cost: \$60,400 (incentive)
- ⇒ Implementation Cost paid by IIT: \$14,000
- ⇒ Verified Annual Energy Savings: 307,846 kWh
- ⇒ Estimated Annual Cost Savings: \$27,706
- ⇒ Estimated Payback Period without ComEd's Smart Ideas Incentive: 2.7 years
- ⇒ Estimated Payback Period with ComEd's Smart Ideas Incentive: 6 months



Collaboration with Utilities

Teaming with utilities is critical to the success of reducing energy use and costs around campus by taking advantage of current program offers, cash incentives and free technical assistance. Higher education facilities are comprised of a wide range of building types which includes classrooms, dormitories, offices, laboratories, health care centers, auditoriums, cafeterias, and fitness centers that typically do not see upgrades for decades. By increasing the energy efficiency of these buildings, colleges and universities can reduce energy and maintenance costs, while improving occupant comfort and modernizing the spaces to meet the needs of today's students and educators.

Working closely with the local utilities, ARCH has seen first hand the results of collaborating with the local utility. According to the U.S. Energy Information Administration, 84% of college and university education buildings energy consumption comes from lighting, space heating, and water heating.



Milwaukee, WI: Pilot Strategic Energy Management Program with 9 institutions

National Expansion

Due to the great success of ARCH program in Chicago, APTIM has expanded the concept of having a local energy and sustainability cohort of colleges and universities to the cities of Milwaukee and New Orleans. In 2017, the Program was awarded the AESP Marketing & Customer Engagement Award in the non-residential sector for our work in Milwaukee on the Focus on Energy Higher Education Efficiency Initiative.

Higher Ed Initiative in Milwaukee

Upon identifying a gap in the marketplace, administrators from the Focus on Energy program approached the City of Milwaukee about partnering on an initiative to bring together two- and four-year higher education institutions to learn from each other about energy management best practices, highlight cost-effective energy efficiency improvements, and learn about incentive opportunities from Focus on Energy. The goal of this program is to increase participation by two- and four-year higher education institutions in Focus on Energy incentive programs. To date, nine institutions have agreed to be a part of this Higher Education Initiative.

Milwaukee Success

The program has been extremely successful since its inception in October 2015. Savings from October 8, 2015 through October 5, 2016 totaled 398,877 BTUs, which is 179% more than savings achieved in the previous year.

Even more spectacularly the program accounted for 30,298,504 kWh savings, which is 284% more than the previous two years in aggregate. This is a significant increase in savings and the Higher Education initiative group attributes that success to their organized efforts with the nine colleges and universities that have participated to date

ARCH Project Activities

Deliver tailored Technical Assistance to support specific institutional needs.

Leverage external resources to enhance investment in energy efficiency and resiliency on campuses.

Develop mechanisms for higher education to coordinate their activities to amplify their effectiveness.

Provide an increased opportunity for networking and communication across institutions.

Integrate higher education into local, regional, and national initiatives and strategies.



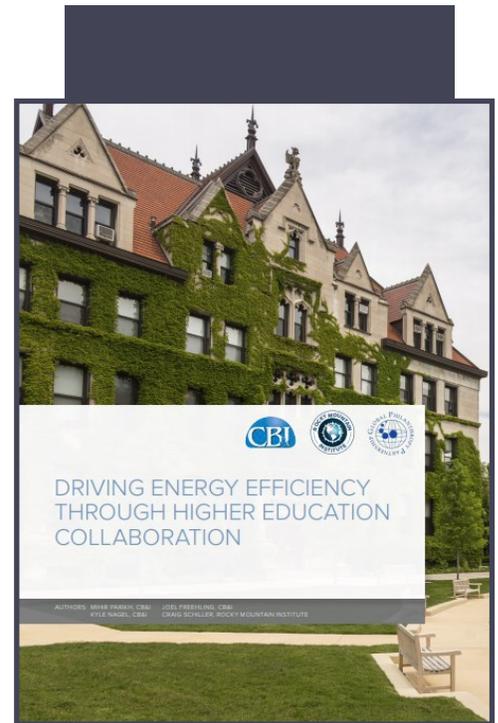
APTIM won the 2017 AESP Marketing & Customer Engagement (non-residential) Award for the Higher Education Energy Efficiency Initiative run by the Focus on Energy program in Wisconsin.

Driving Energy Efficiency Through Higher Education Collaboration

Inspired by our work with ARCH, GPP and APTIM, formerly known as CB&I, collaborated with Rocky Mountain Institute in 2015 to develop the report, *Driving Energy Efficiency through Higher Education Collaboration*.

The goal of this report was to start a larger conversation about the needs and the benefits of collaboration; how best to expand these partnerships into geographies where they may not currently exist; how to increase their effectiveness; and how to use these networks as a mechanism for scaling efficiency efforts and reduce the transaction costs associated with efficiency efforts.

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.



You can access the full report at this [here](#).

SUSTAINABLE - RESILIENT - CAMPUSES

APTIM

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