



Community Building Renewal pilot helps cities improve energy efficiency

Existing buildings with aging equipment and infrastructure represent a tremendous opportunity for energy savings. The energy performance of public buildings is often cited when jurisdictions consider expenses. However, without a mechanism to identify inefficient buildings, prioritize upgrades and guide policy, it's difficult to know where to start.

In most cities, building energy codes are the primary way that energy performance of buildings is regulated. While codes can have significant impact on new buildings, the impact on existing buildings is limited to major renovation projects. Furthermore, the influence of energy codes ends before the building is occupied so they have limited impact on actual energy use over the life of the building. As jurisdictions begin to grapple with this issue, they are coming to recognize that their own publicly-owned portfolio of buildings represent an opportunity to both reduce energy use and to demonstrate leadership in targeting broader city sustainability and performance goals.

A pilot program, funded by the U.S. Department of Energy and the Northwest Energy Efficiency Alliance (NEEA) has allowed New Buildings Institute (NBI) and supporting partners to work directly with several jurisdictions to provide solutions through the Community Building Renewal pilot program.

NEEA and NBI are developing this pilot program to help jurisdictions adopt meaningful policies to address the performance of public building portfolios. Measured energy use data is being used to compare energy consumption in public buildings and identify the opportunities for physical and operational performance improvements. Using performance diagnostics tools developed by NBI, performance characteristics of buildings are being evaluated and prioritized to identify where limited jurisdictional resources can be most effective in improving building performance, and to develop longer term plans to monitor and manage public building performance. This analysis along with policy mechanisms will encourage greater reductions of energy use in existing buildings and deliver an overall greater magnitude of savings compared to the approach that addresses one building at a time in a more piecemeal fashion

The City of Boise has participated as the first pilot location in the Northwest. The project team has helped the city to set up performance tracking protocols and to understand building performance issues and priorities. Policymakers have closely tracked this progress, and have used this information to set up new city-wide

City of Boise Testimonial

"We were all very impressed by your team's willingness to listen to our feedback/concerns and customize solutions to meet our needs. The result was a very successful project that delivered several outcomes that will positively affect our City in the decades to come. Specifically:

- **Systematic Approach.** Prior to the CBR Pilot, we were struggling with how to organize our approach to reducing energy use. We are confident that we now have an approach to energy reduction that allows us to systematically baseline current activities, prioritize next steps, and develop action plans to make tangible reductions.
- **Efficiency First.** Perhaps the most important realization that came from this project was to emphasize efficiency first in design and operation. By emphasizing efficiency, we're able to make substantive reductions in the near term to establish program momentum while reducing future capital costs for upgrades.
- **Identify Needs.** Through the process, we recognized the need for better data collection and tracking. As a result, we are adding ½ FTE for energy data management and have hired a Sustainability Coordinator to help manage the tracking and reporting of data to the public. In addition, we are partnering with Idaho Power to identify ways to increase the granularity of data to better inform our decision making.
- **Energy Disclosure.** Based on the project's data management work, we are working to establish the means by which the City will disclose energy use at various municipal facilities. This will allow us to lead by example in our community and work towards broader energy disclosure policies.
- **Metrics and Goals.** As a result of the project, we are moving aggressively towards establishing specific energy reduction metrics and goals for internal municipal operations as well as external community activities. This will be done through a formal City of Boise Energy Reduction Plan that establishes clear glide paths for reduction over time."

– Steve Burgos,
Environmental Manager, City of Boise



building performance goals and to adopt a set of strong building performance and sustainability goals for the City moving forward. The program team has used the pilot results to help the city develop a strategic energy management plan, and to build a business case for outcome-based energy policies and to provide lessons learned for other cities.

The Community Building Renewal pilot program will give cities a toolkit that helps them to track and manage the performance of municipal building portfolios, while moving toward broader policies to extend these efforts to the entire building stock. The strategy allows cities to 'led by example' while building expertise and credibility in managing building performance. As demonstrated in the City of Boise, these efforts can quickly become part of wider city energy and sustainability efforts.

The project team includes:

- New Buildings Institute
- EcoEdge
- Integrated Design Lab
- Maalka

Cities that participate in the pilot will receive assistance from NEEA and NBI to craft and implement a new energy policy that targets worst performing buildings. They will also receive technical assistance in setting up a data repository, analyzing performance data and setting performance standards.

For more information on this program, contact:

Mark Frankel
NBI Technical Director
mark@newbuildings.org

About the Program Team:



NEEA is dedicated to accelerating both electric and gas energy efficiency, leveraging its regional partnerships to advance the adoption of energy-efficient products, services and practices.

Visit: neea.org/home



NBI is a nonprofit organization working to improve the energy performance of commercial buildings. We work collaboratively with commercial building market players to remove barriers to energy efficiency, including promoting advanced design practices, improved technologies, public policies and programs that improve energy efficiency. We also develop and offer guidance to individuals and organizations on designing and constructing energy-efficient buildings through our Advanced Buildings® suite of tools and resources.

Visit: newbuildings.org

Other outcome based performance tools:

The **FirstView** software tool automatically creates a simplified building energy model that can quickly diagnose opportunities for improvement and automatically compare a building's performance against peers, using only monthly utility bills and a few building characteristics.

For more information on the FirstView software tool, visit: newbuildings.org/firstview

The **Retrofit Savings Estimator** uses basic information about your building to automatically perform a set of custom building energy simulations. The results allow you to investigate how much energy you could save by implementing promising groups of building improvements.

For more information on the Retrofit Savings Estimator, visit: newbuildings.org/retrofit-savings-estimator