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Introduction

The City of Boulder is applying for an Alliance for Innovation award for the design and development of the innovative EnergySmart residential energy efficiency service in conjunction with a policy called SmartRegs which is the nation's first rental housing energy efficiency building code. The EnergySmart service evolved from many years of lessons learned by providing assistance to residents to implement energy upgrades in their properties. The resulting services reduce many of the barriers that previously existed to making energy efficiency upgrades. This service provides an amazing complement to SmartRegs, an energy efficiency requirement in rental housing developed at the same time, by providing assistance and incentives to property owners who are required to complete energy upgrades in their properties. The results achieved through both EnergySmart and SmartRegs demonstrate an innovative approach to complementing a policy requirement with assistance and funding to ease the burden of compliance.

Background

The City of Boulder's Climate Action Plan offers residential programs and services that aim to make Boulder's residential building stock more energy efficient and educate residents on ways they can conserve energy and reduce greenhouse gas emissions. Through lessons learned from past services offered to residents, the city aimed to design a new service and delivery mechanism which delivered a comprehensive package of services to the residential sector that result in reduced greenhouse gas emissions from residential buildings. The program aimed to be a "one-stop shop" solution for residents, including an initial visit to install low-cost efficiency measures, provide education and promote additional packaged offerings of deeper energy efficiency retrofits. The program also intended to remove barriers to implementing energy retrofits and move residents from energy audit to action.

The model revolves around an energy advisor, who works with homeowners throughout the entire process. This advisor helps limit implementation barriers by "translating" a technical energy audit report to prioritize upgrades, identifying rebates and financing options (many of which are available through the program itself), and helping with associated paperwork. The program offers a pool of pre-approved contractors to choose from, as well as a quality assurance component. Called "EnergySmart," the program was launched in January of 2011.

While EnergySmart was being developed on the programmatic side, city staff was also working to overcome the "split-incentive" that often prevents wide scale adoption of energy efficiency upgrades in renter-occupied properties. This exists when a tenant does not have an incentive to invest in energy upgrades in the unit they rent since they don't own the property and the landlord does not have an incentive to invest in energy upgrades since they typically don't pay the energy bills. The resulting policy that was developed, "SmartRegs," is the nation's first energy code for rental housing, and works with an innovative point scale that can be applied to any type of housing unit. SmartRegs became effective on January 2011, coordinated with the launch of the EnergySmart service to provide landlords with implementation assistance and rebates for these required energy efficiency upgrades.

This policy benefits the Boulder community by reducing local emissions, increasing eco-literacy among tenants and property owners, facilitating market transformation, catalyzing job creation, and increasing the value of Boulder's rental housing stock. Tenants also directly benefit from lower energy bills due and increased comfort in the properties they rent due to improvements made as a result of the SmartRegs policy.

In May 2010, Boulder County received a large federal grant in collaboration with the city of Boulder and other communities. One of the main programs written into the grant was EnergySmart, designed by the city of Boulder. This grant resulted in significant expansion of the program's reach (\$12 million of this \$25 million grant was dedicated to energy efficiency in Boulder County jurisdictions). Additionally, the City of Boulder was able to partner with existing energy efficiency programs to offer a subsidized audit as well as "quick install" items on the first visit with a client. Quick install items include compact fluorescent light bulbs, low-flow showerheads, faucet aerators, and pipe wrap insulation.

Results

The national average for converting an energy audit to an energy upgrade has been approximately 15% in recent years. The advisor model of EnergySmart addresses many of the barriers that have kept this number low, and has resulted in a conversion rate of 67% in owner occupied units, and 33% in rentals. The program provides a model for other communities to learn from and establish similar success rates in their respective cities. The success of the program has also made an impact locally, by bringing the City of Boulder closer to its greenhouse gas reduction goal, increasing awareness around energy efficiency, and improving the local housing stock. The city organization has benefited from establishing partnerships to promote and manage EnergySmart; these working relationships have proven strong and are important for other local programs moving forward. Homeowners are improving upon their investment while decreasing their energy bills, and local contractors are able to hire more staff due to the increase in home improvement activity.

Communities across the country are also looking to address the "split incentive." Developing and implementing the first-ever energy code for rental housing provides a model for other communities, and many have looked to Boulder for direction on the matter. Pairing an advisor-model energy audit program with a rental housing requirement created a convenient path for property owners to reach compliance.

Within the city organization, the project required great collaboration between departments, bringing together environmental sustainability staff, building code officials, rental housing administration, inspector licensing, and communications. The implementation of SmartRegs also sheds light on the city's existing rental licensing program, resulting in a pro-active effort to strengthen enforcement of unlicensed rental properties. Similar to the EnergySmart program as a whole, the implementation of SmartRegs requirements improves the city's housing stock and results in lower utility bills for tenants. Residents, particularly property owners and managers, have become

more educated about energy efficiency, and local contractors have received more work. With rental housing making up approximately 50% of all residential housing in Boulder, the improvement of these properties brings the city closer to climate action goals and transforms the marketplace, making energy efficiency the new norm or expectation for high-demand rental units.

Key community partnerships, incentives through a local carbon tax, funding from the American Recovery and Reinvestment Act, combined with superior consulting services have enabled the City of Boulder to offer a limited-time SmartRegs pathway specifically tailored to assist rental properties through the EnergySmart service, a one-stop-shop for energy efficiency upgrades. With rental properties making up approximately 50% of all residential housing in Boulder, addressing this commonly ignored housing stock also makes a significant impact in the city's steps towards greenhouse gas reductions. Having the SmartRegs policy adopted at the same time as the EnergySmart launch has driven the majority of the participation in the EnergySmart service. This can serve as model for other communities trying to achieve similar goals. By creating policies coupled with incentives and assistance, not only are success rates high, but cooperation from stakeholders is also remarkable.

Some key results from these efforts in 2011 include:

- 678 owner-occupied units participated in the EnergySmart service, with 67% completing upgrades
- 2,081 renter-occupied units participated in the EnergySmart service as a result of the SmartRegs policy, with 33% completing upgrades
- Average annual energy savings per owner-occupied home is \$219/year
- Average annual energy savings per renter-occupied home is \$63/year
- Approximately \$575,000 of city funding and city allocated American Recovery and Reinvestment Act (ARRA) funding supported these services and incentives
- Approximately \$900,000 of County ARRA funds supported the launch and operations of these services through Boulder County
- Approximately \$1.6 million in private investment has been made in residential energy upgrades