



An education in energy-efficient living

An Illinois college town makes the first step effortless, putting scores of homeowners on the cutting edge of energy conservation

TRUE OR FALSE?

The tougher the challenge, the harder it is to take the first step. After that, most tasks become a breeze.

As many of us can attest, this statement is spot on. And the City of Urbana, Illinois, recently confirmed it with a program designed to reduce greenhouse gases one resident at a time. With a big assist from Ameren Illinois, the City helped more than 800 homeowners get started on the road to energy-efficient living—and succeeded in reducing their collective carbon footprint by more than 14,000 metric tons.

The origins of innovation

This story begins in 2009, when the City of Urbana applied for and received \$72,000 in Energy Efficiency and Community Block Grant (EECBG) funding from the federal government.

A vibrant micro-urban community with an internationally diverse population and a keen awareness of social and global issues, Urbana is no novice when it comes to energy conservation. Home to the University of Illinois at Urbana-Champaign, this city of 41,000+ residents is a charter member of the Tree City USA program launched in 1976 by the National Arbor Day Foundation. It has had an uncompromising Sustainability Initiative in place since 2007. And, thanks to the enthusiasm and leadership of Mayor Laurel Lunt Prussing and the entire City Council, it is generally recognized as the state’s trailblazer in this field.

“Sustainability is a relatively easy sell in this town,” said Director of Public Works Bill Gray, a 30-year veteran of municipal government. “Our citizens are generally well-

educated and well-informed, particularly on environmental issues. Still, we weren’t sure of the most efficient way to invest this limited grant money. So we contacted Ameren Illinois to explore the possibilities.”

“At the time, we already had a robust residential energy-audit program underway in the area under our ActOnEnergy® banner,” said Nick Lovier, Energy Efficiency Advisor for Ameren Illinois. “The City hoped that, with this experience, we’d be able to help them devise a plan to spend their money judiciously.”

The result? An innovative partnership formed by the City,



Ameren Illinois, and its ActOnEnergy program implementer Conservation Services Group (CSG). Together, the team formed by this unusual alliance

customized a program for Urbana’s homeowners—an unprecedented program designed to take full advantage of the EECBG funds.

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A ground-breaking solution

With each member bringing specialized knowledge, experience and resources to the challenge, the Urbana/ActOnEnergy team developed a hybrid “audit + retrofit” strategy—a strategy combining free residential energy audits with generous discounts on major envelope improvements.

It was a unique approach, according to Wade Morehead, Home Energy Performance Manager for ActOnEnergy.

“We decided to help homeowners take the first step towards conservation by including a number of free energy-saving measures in our audits,” he said. “The plan included, wherever possible, replacing conventional light bulbs with CFLs in high-usage areas, and installing high-efficiency showerheads and faucet aerators. We hoped that, by making this initial step painless, we’d motivate many of them to invest in more aggressive conservation measures.”

These measures typically involve top-to-bottom air/duct sealing along with attic and wall insulation, he said. “Air/duct sealing is usually the #1 energy-efficiency improvement a homeowner can make, with insulation upgrades coming in a close second.”

In both cases, Lovier added, the discounts were to be very attractive (see sidebar). And they were to be offered exclusively through ActOnEnergy’s existing Ally network, which is restricted to contractors who’ve undergone specialized training as well as a rigorous Business Performance Institute (BPI) certification.

“Unlike conventional insulation contractors, ActOnEnergy Allies are trained to handle the all-important sealing step, and to do all their work to meet BPI’s standards for quality, health and safety. They were the ideal solution for a program like this.”

An astounding response

To get word of the program out to residents, the Urbana/ActOnEnergy team used traditional tools:

- > Standard PR techniques, such as news releases and a kick-off press conference that was well-covered by local print and broadcast media
- > Direct mail, including a personal appeal from Mayor Prussing and an ActOnEnergy follow-up letter encouraging those undergoing audits to follow through with a retrofit
- > Online educational tools to spell out the details

The response, however, was anything but traditional. It was, in fact, dramatic.

Between September, 2010 and February, 2012, a total of 826 Urbana homeowners underwent audits, receiving not only reports detailing the improvements they’d benefit from, but also their free CFL bulbs, showerheads and faucet aerators.

Then, at least in part because of this effortless introduction to the world of energy conservation, 169 of those audited—more than 20%—proceeded to take advantage of the program’s lavish incentives for air/duct sealing and insulation improvements. And another 29 homeowners went straight to Ally contractors for both the audit and subsequent shell improvements.

High-impact results

In the final analysis, the program was even more successful than its creators had anticipated, said Morehead. “We touched 855 homes in all, exceeding our original goal by 16. And our audit-to-retrofit rate of over 20% makes Urbana our best return on our audit investment to date.”

Its environmental impact is even more impressive, he said. "In just 17 months, from the first audit in September of 2010 through the last in February of 2012, this program saved 32,000 barrels of oil and 1.5 million gallons of gas, and reduced Urbana's carbon footprint by 14,069 metric tons—almost 2,000 more than our original goal." That's the equivalent of planting 40,000 trees in the city, according to Gray – a task which would have taken many years to complete while costing literally millions of dollars.

"Our grant money was relatively modest," Gray pointed out. "But we were able to realize a major gain from those dollars, and to make a significant dent in our city's greenhouse-gas emissions."

What's more, the program has given a boost to the local economy, he said. "It's encouraging to see Ally contractor signs popping up all over the city. Even though this particular grant of ours is gone, the ActOnEnergy incentives for envelope improvements are still in force, and people are still taking advantage of them."

It pays to do the right thing

Customers are, of course, the primary beneficiaries of this program. For example, Morehead said that the average air/duct sealing and insulation retrofit will typically pay for itself in just three years in energy savings alone.

"And because they've used our Ally contractors to do the work,

they can rest assured that everything has been done according to the highest standards in the industry. For instance, our contractors are trained in complying with BPI's Building Airflow Standard. They know precisely how to get a home as tight as possible without requiring costly mechanical ventilation."

But that's just the tip of the iceberg, Lovier said.

"Homeowners who've made these investments quickly notice an improvement in their indoor air quality," he said. "Air sealing in particular minimizes the drafts that can pull allergens in from the outside and cause fluctuations in temperature. It also keeps the humidity in a home relatively stable. Together, these improvements add up to a more comfortable home year-round, and a more durable structure."

Most customers say initially that they're investing in these improvements to lower their energy bills, he said. "But ask them about it a year later, and they rarely mention the savings. Instead, they talk about how much more comfortable their homes are now."

There's an added advantage for those who eventually need to sell their homes in today's challenging real-estate market.

"The homeowners who've taken advantage of this program receive the documentation they need to set their houses apart from the competition," Lovier said. "It's an equity improvement that can mean a major return on a relatively minor investment."

WHO'S PICKING UP THE TAB?

The Urbana project was a team effort on the dollars-and-cents side of things, too.

For the free audit portion of the program, the City of Urbana contributed \$26,425 from the EECBG grant, while the rest was covered by the standard ActOnEnergy program incentives.

For the insulation and air/duct sealing retrofits, the City subsidized ActOnEnergy's existing discounts with the remaining \$45,575 of its EECBG grant, plus an additional \$2,000 in municipal funds. The resulting incentives made these improvements almost irresistible for homeowners in a position to make the investment. They paid as little as 10% to 20% of the total cost of the job!

In both cases, ActOnEnergy's contributions came from funds collected under the terms of the State of Illinois' Ratepayer Rider, which has utilities charge customers a nominal sum each month to support energy-conservation efforts. Reducing energy demand prevents the environmental impact and high cost of constructing additional power plants.



Rave reviews

The bottom line, Morehead said, is that 5% of all Urbana households received an energy audit because of this program, and better than one in five of those audited took advantage of the sealing and insulation incentives.

With free audits and steep discounts on additional improvements, why didn't the entire town sign up?

"It's a tough time for our economy," Lovier said. "No matter how much they may want to conserve energy, people are justifiably cautious about dipping into their savings these days. And let's face it – we're competing with improvements like granite countertops. We're promoting something you can't see and won't begin appreciating for at least a few months. It's not necessarily an easy sale.

"That's why we consider this program a spectacular return on our investment. Everything came together for us—having such an engaged group of City officials and staff, such great contractors, and such terrific incentives in a day when every dollar counts. It was a unique experience for us, and we're looking forward to doing it again."

Gray said that the City of Urbana is delighted with the outcome. "Sometimes you have to build the momentum to create lasting behavioral change. This program has been so successful that we may well solicit additional local and state dollars to keep it going."

In the meantime, he advised other municipalities considering a similar effort to partner with a utility that has an existing energy-efficiency program.

"What made it so easy for us was the fact that Ameren Illinois already had its audit program underway in our community. They also had the infrastructure in place to support a more ambitious undertaking. When we came on board and were able to further incentivize their work with our EECBG grant, it really took off."

But there's another reason for the success of this program, Morehead insisted—one that may be most important of all from the standpoint of permanently modifying behavior.

"I have to give a large share of the credit to the unique design of our effort," he said, "especially to those simple 'first steps' that put so many homeowners on the road to low-carbon living."

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THINKING BIG



In truth, this program's ambitions go well beyond immediate environmental concerns, said Director of Public Works Bill Gray.

"We are naturally very concerned about our being good stewards of the land," he said. "At the same time, we want to help improve our citizens' quality of life. And that includes finding ways to keep their energy costs down, which in turn gives them more discretionary money to pour back into our local economy.

"If we can accomplish these goals by moving toward renewable energy sources, and doing it in an environmentally friendly way, everyone benefits."