

Duke Energy Neighborhood Energy Saver Program

Program Profile



A Neighborhood-Based Approach to Energy Efficiency

The Duke Energy Neighborhood Energy Saver Program uses a community approach to swiftly reduce energy bills for a large number of participants. By targeting low-income neighborhoods, working with local leaders to build neighborhood engagement and buy-in, and conducting energy assessments, energy-saving improvements, and participant education at no cost, the program is able to upgrade hundreds of homes in a cost- and time-efficient manner while reducing carbon pollution.

Duke Energy, an electric and natural gas utility serving customers in the Southeast and Midwest, uses census and other data to identify low-income neighborhoods of approximately 1,000 homes. Program representatives then work with local leaders in interested neighborhoods to hold community events that explain the upgrade process and its benefits. Over the next 8–10 weeks, Duke Energy contractors conduct walk-through home energy assessments, install up to 20 energy-saving improvements in each participating home, and educate households about ways to further improve energy efficiency, all at no cost to participants.

The program's free upgrades eliminate the barrier of up-front costs, and its focus on partnering with community leaders to build neighborhood engagement and buy-in overcomes common trust concerns associated with utility-sponsored programs. These tactics have led to an average 70 percent participation rate in neighborhoods served by the program.

During its first decade (2006–2016), the program served more than 95,000 households in 156 communities, resulting in more than 218,000 megawatt-hours (MWh) of energy savings and avoiding 153,000 metric tons of CO₂—equivalent to the annual energy-related emissions from more than 16,000 average U.S. homes.¹ The installed energy-efficiency measures generally save around \$100 per year for a typical single-family home,² representing a seven percent savings on an average annual electricity bill.³

Fast Facts

Program scope: A neighborhood-scale utility energy efficiency program for low-income households.

Communities served: Low-income homeowners and tenants in individually metered residential buildings in pre-selected, census-defined neighborhoods.

Funding: Utility ratepayers.

Key partners: City and county governments, private and public organizations such as community groups and assistance agencies.

Promising practices: Eliminate/reduce up-front costs, partner with trusted organizations.



Making It Happen

A Duke Energy subsidiary piloted the Neighborhood Energy Saver Program in 2006 in Florida, designing it to expand the reach of its existing Low-Income Weatherization Assistance Program. Low-income communities were an underserved segment of the utility's customer base; many low-income residents could not afford the measures needed to make their energy bills more manageable. The utility's existing weatherization program was helpful, but not all low-income customers were eligible for or interested in in-depth weatherization services. The new pilot used a streamlined, neighborhood "blitz" to reach a larger number of low-income residents with cost-effective and convenient energy efficiency services.

Crafting a Neighborhood Approach

The developers of the Neighborhood Energy Saver Program use census and state income data to identify neighborhoods with large numbers of low-income households. The program defines low-income neighborhoods as those in which at least 50 percent of the residents live below 200 percent of the federal poverty level.

After identifying a promising location (one that meets the income criteria and has local leaders interested in participating), program staff meet with community leaders to explore the program, build support, and ask for help in publicizing the program. They also canvass each neighborhood to solicit participants, walking door-to-door to explain the program and how it will benefit residents. This personalized approach helps gain the trust of the neighborhood and increase interest in the program. Program staff provide additional opportunities to learn about the program, including sending individual letters to residents inviting them to join an evening event with local leaders and Duke Energy representatives. At the event, residents can speak with energy specialists to ask questions and discuss any concerns they may have. To make attendance as convenient as possible, staff leave reminders on residents' doors before the event and provide a free dinner at the event.

After the event, Duke Energy offers to have an energy specialist come to residents' homes to identify energy efficiency opportunities and install improvements free of charge. Some of the 16–20 products and services provided during the assessment include:

- water heating upgrades, including a water heater temperature check and adjustment, insulation for the water heater and pipes, faucet aerators, and low-flow showerheads;



- refrigerator efficiency improvements, including cleaning refrigerator coils and installing refrigerator thermometers;
- space conditioning improvements, including wall plate thermometers, filters and filter-change calendars; door sweeps, caulking, foam insulation, and weather stripping. In 2016, Duke Energy added air-conditioning maintenance, duct sealing, and attic insulation to its program in Florida; and
- seven compact fluorescent light bulbs, one LED light, and a calendar with energy-saving tips for each month of the year.

Duke Energy uses the walk-through assessments to educate participants about the upgrades as they are being made and inform them of behavior changes they can make to conserve energy (e.g., adjusting thermostats when they're not at home, turning off lights when rooms are not in use). Duke Energy's approach includes coordinating with local weatherization agencies and other community organizations to connect households to services that can help them make further improvements.

Duke Energy contractors usually spend about 8–10 weeks in each neighborhood, providing plenty of opportunities for customers to participate in the program. The program makes special efforts to accommodate the schedules of working people: participants can request home visits to be performed during or after business hours, and on weekends, and the home visits (including the walk-through assessment and installation of improvements) usually take no longer than one hour. The visits generate interest and boost participation in the neighborhood as residents watch upgrades being performed to their neighbors' homes.

From Pilot to Full-Scale Program

The program's success in Florida encouraged additional Duke Energy subsidiaries in North Carolina, South Carolina, Ohio, and Kentucky to adopt it in 2013, followed by Indiana in 2014. By 2016, the Neighborhood Energy Saver Program had grown to serve about 21,000 homes per year across all participating Duke Energy companies. Each utility's program offerings and requirements differ slightly, though the general program services are the same. Duke Energy's efforts to communicate early and often, build trust through face-to-face contact, and emphasize convenience led to an average participation of 70 percent in the neighborhoods served by the Neighborhood Energy Saver Program.



Key Partners

Each subsidiary's program has its own key partners, including city and county governments, private and public organizations, and community action agencies, which mainly help with outreach and engagement. For example, when implementing the Neighborhood Energy Saver Program in Eustis, Florida, Duke Energy partnered with the City of Eustis, the Florida Department of Economic Opportunity, the Lake Community Action Agency, the Eustis Housing Authority, and the Bates Avenue Improvement Council.⁴ In one neighborhood in Orlando, Florida, Duke Energy partnered with the Department of Economic Opportunity's Weatherization Assistance Program and the Orange County government.

Partnering with trusted community members such as local government officials and nonprofit organizations has been instrumental in building support for the program in the communities it serves. Duke Energy also partners with agencies that provide supplementary energy services to the residents of the neighborhoods selected for upgrades: for example, it invites local weatherization agencies to neighborhood kickoff events, asks for their help in promoting the program, and helps them connect with eligible households about their weatherization services.

Funding Sources

Funding for the program comes from ratepayers, typically in the form of energy efficiency-demand side management charges that cover costs for the utility's full portfolio of energy-saving programs offered to customers.

Achievements

Low-income participants in Duke Energy's Neighborhood Energy Saver Program benefit from lower energy bills and a greater awareness of how they can keep energy costs down, while Duke Energy benefits from reduced peak demand and reduced risk of arrearages among its low-income customers. Other accomplishments include:

- Participants in the program have saved a total of more than 218,000 MWh of electricity and avoided more than 153,000 metric tons of CO₂—equivalent to the annual energy-related emissions from more than 16,000 average U.S. homes.¹



- In 2016, over 21,000 households participated in the program, saving more than 13,000 MWh annually.²
- Households typically save an average of \$100/year from the upgrades, representing a seven percent savings on the average electricity bill.³
- Since its inception, the program has served more than 95,000 homes across 156 communities in Florida, Indiana, Kentucky, North Carolina, Ohio, and South Carolina.²

Replicability

In addition to replication among Duke Energy's subsidiaries, several utilities around the country have replicated Duke Energy's approach of using census data to identify low-income neighborhoods in which to perform an energy upgrade blitz, including Jacksonville Electric Authority, the municipal utility for Jacksonville, Florida; and DTE Energy, a Detroit-based electric and natural gas utility. (See EPA's [profile of DTE Energy](#) in the *Energy Efficiency and Renewable Energy in Low Income Communities* series for more information.) Duke Energy's focus on engaging local government officials and community leaders early on and conducting personalized outreach to residents are other key elements of the program that could be replicated by utilities and other organizations.

For More Information

- [Neighborhood Energy Saver Program website](#)
- [EPA Informational Resources on Energy Efficiency and Renewable Energy in Low-Income Communities](#)

¹ Electricity savings provided by Duke Energy, January 10, 2017. Emissions avoided and equivalencies estimated using EPA's [Greenhouse Gas Equivalencies Calculator](#).

² Personal communication with Jeff Brooks and Lorrie Maggio, Duke Energy, January 10, 2017.

³ Calculated with 2014 U.S. average monthly residential electric bill data from the Department of Energy's Energy Information Administration: http://www.eia.gov/electricity/sales_revenue_price/pdf/table5_a.pdf

⁴ Duke Energy Florida, 2016. [Duke Energy provides free energy makeovers for low-income residents in Eustis.](#)