Duluth Flood Recovery Program

Program Profile

Adapting to Serve Low-Income Residents

In the wake of a natural disaster, the City of Duluth, Minnesota, and its partners found a way to evolve an existing residential energy program to ensure that energy efficiency was part of rebuilding efforts, reducing greenhouse gas emissions and bringing economic benefits and healthier homes to low-income residents.

Beginning in 2011, the City of Duluth (population 86,000) partnered with a consortium of government, nonprofit, and private sector stakeholders to create the Duluth Energy Efficiency Program (DEEP), a comprehensive energy efficiency program that benefits city residents. While low-income households were eligible for DEEP's services, they were not the focus of the program. However, when a 500-year flood hit the city in June 2012, Ecolibrium3 was able to parlay its existing DEEP framework into a successful flood recovery program that incorporated energy efficiency into the rebuilding of 168 homes owned by low-income residents. By focusing on the elements that made its general energy efficiency program successful and adapting its services to meet the critical needs of low-income households in Duluth, DEEP overcame common barriers to improving low-income energy efficiency while providing critical and timely disaster recovery assistance.

Fast Facts

***Program scope*:** A residential energy efficiency program, operated by a nonprofit on behalf of the City of Duluth, adapted to meet the needs of flood-stricken, low-income residents.

***Communities served*:** 168 low-income households served with emergency flood recovery support.

Funding: Over $1 million from a variety of federal, state, and foundation sources.

***Key partners*:** City of Duluth, local utilities, foundations, and nonprofit community organizations.

Promising practices: Eliminate/reduce up-front costs, address eligibility gaps.

Making It Happen

Duluth created DEEP to respond to an economic downturn and rising concerns about the environmental impacts of energy use. The local nonprofit Ecolibrium3 administers the program. The program's goals include reducing Duluth's carbon footprint, creating and retaining jobs, making energy more affordable for Duluth families, and keeping energy dollars in the city and state. DEEP aims to achieve these goals by increasing the percentage of households that pursue energy improvements after completing an energy audit.

Developing a Customized, Case-Management Approach

Interviews with households revealed that the main barriers to implementing energy efficiency were lack of information and guidance, lack of capital, uncertainties about which contractors could be trusted to do the work, and inexperience with managing home improvement projects. Duluth designed the DEEP program specifically to overcome these barriers, incorporating solutions such as education campaigns, online workshops, and customized incentive packages that bundled available rebates, tax credits, and loan opportunities. DEEP staff also assumed the role of trusted case managers, guiding residents through the entire upgrade process from initial outreach and energy audit through helping with financial applications, finding contractors, and overseeing upgrades. The program encouraged full participation from the community by establishing targeted pathways to involvement for single-family, multifamily, and "do-it-yourself" households. Between 2011 and 2014, DEEP's approach transformed the local market for energy efficiency, with the percentage of households implementing upgrades after an energy audit rising from two percent to 65 percent.

Adapting to Meet Critical Needs

The 2012 flood damaged thousands of homes in northeastern Minnesota and northwestern Wisconsin. Just 16 months into the operation of the DEEP program, staff quickly recognized that their model could be retooled to help with the recovery effort. As a result, Ecolibrium3 partnered with the Duluth-based Ordean Foundation to create the DEEP Flood Recovery Program.[1]

Ecolibrium3 designed the flood recovery program to help low-income families affected by the flood meet their immediate needs for heating, hot water, and electricity, while ensuring energy efficiency was incorporated into home repairs and appliance replacements. The organization again served as a case manager from beginning to end of each project and developed customized funding packages for each household. Ecolibrium3 staff first met with flood-affected households to assess flood damage and to verify income eligibility. They then inspected each home, developed an initial scope of work, and opened projects for bidding by prequalified contractors. After the contractors installed new furnaces and water heaters and repaired electrical systems (meeting emergency needs for hot water, electricity, and heat), Ecolibrium3's energy auditor returned to conduct quality assurance on the new mechanical systems and complete blower door testing. Following the blower door testing, staff developed a second scope of work to address air sealing, insulation, and resilience strategies (e.g., gutters, sump pumps, and landscaping changes to prevent or reduce future water damage). While these

upgrades were necessary for the long-term efficiency, health, safety, and financial viability of the home, they were not eligible for flood assistance funds.

Because financing from state housing agencies for flood relief was not immediately available to low-income residents, Ecolibrium3 partnered with the Ordean Foundation to provide seed funding for emergency bridge loans (i.e., an interim loan until more permanent financing from the agencies could be obtained) to allow flood recovery work to proceed. Ecolibrium3 staff then worked with residents to apply for and acquire flood assistance funding to pay back the emergency bridge loan, pay for other flood recovery repairs, and replace personal items. As residents repaid the bridge loans, the Ordean Foundation reinvested those funds to provide grants for energy efficiency measures not eligible for flood assistance. Because the Flood Recovery Program built on DEEP's pre-existing model, it was able to help residents receive assistance two months before other organizations involved in the flood response were up and running. In total, the DEEP Flood Recovery Program resulted in 168 low-income households receiving assistance with energy-efficient rebuilding projects.

Key Partners

Ecolibrium3 partnered with many organizations on the DEEP Flood Recovery Program to deliver funding, technical assistance, outreach support, and other vital collaborative help. The Ordean Foundation provided critical funding and helped identify eligible families. Other key partners included the City of Duluth, the Duluth Superior Area Community Foundation, Duluth Local Initiatives Support Corporation, Minnesota Housing Finance Agency, Minnesota Power, ComfortSystems, and local nonprofit housing agencies.

Funding Sources

To support DEEP's flood recovery work, Ecolibrium3 leveraged its past experience in energy efficiency and its diverse relationships in the community to obtain funding from a variety of sources. The Ordean Foundation provided just over $500,000 to fund bridge loans and grants to conduct the energy efficiency flood recovery work. Ecolibrium3 also leveraged funding from the American Recovery and Reinvestment Act (ARRA), a U.S. EPA Climate Showcase Communities grant, U.S. Department of Housing and Urban Development Community Development Block Grants, the Small Business Administration disaster program, the Minnesota Housing Finance Agency's Quick Start loan fund, utility rebates, and local disaster recovery funds. In total, the DEEP Flood Recovery Program invested over $1 million into energy improvements.

Achievements

DEEP's flood recovery model has received wide recognition for its design and impacts, including from the White House, which selected Ecolibrium3's CEO as a Champion of Change for Building Resilient Communities. Key accomplishments include:

- DEEP assisted 168 low-income households with flood recovery.
    - 114 households received bridge loans and case management services, and subsequently received disaster recovery grants from the Ordean Foundation.
    - An additional 54 households received bridge loans and/or case management services.
    - In addition to HVAC and water heater replacements, homes received needed repairs to electrical systems, plumbing systems, foundations, and roofs. Combined with air sealing, insulation, and other energy efficiency measures, these measures reduced energy bills while improving the health, safety, and comfort of the homes.
- From 2011–2014, the overall DEEP program avoided 9,000 metric tons of CO_2, equivalent to the annual energy-related emissions of 950 average American homes.[2] These avoided emissions resulted from energy savings of more than 632,360 therms of natural gas, more than 164,800 gallons of fuel oil, and nearly 4,500 megawatt-hours of electricity from more than 900 home energy retrofits over the three-year period. The cumulative economic savings from these improvements were $1.877 million.[3] Ecolibrium3 provides energy assistance to households at all income levels and is not able to disaggregate the quantitative results of the Flood Recovery Program or the DEEP programs serving low- and moderate-income households. These programs' results are included in DEEP's overall achievements described above.

Replicability

The DEEP Flood Recovery Program's approach can be a model for capturing energy improvement opportunities from other types of natural or man-made disasters. Its techniques have become part of regional and national conversations with other communities, foundations, and state agencies that are interested in effective ways to structure disaster response for low-income households. For example, the loan management system became a model for the

Minnesota Housing Finance Agency's disaster recovery program, and the Lutheran Social Service disaster program adopted DEEP's energy efficiency standards for appliance and mechanical systems replacement.

Ecolibrium3's hands-on approach with contractors is another key element that could be replicated by other organizations. Key features of its approach included requiring Building Performance Institute training, establishing mentoring programs, maintaining a network of trained contractors, conducting quality assurance on the work contractors performed, and operating an equipment lending library.

For More Information

- Ecolibrium3 website
- Duluth Energy website
- EPA Informational Resources on Energy Efficiency and Renewable Energy in Low-Income Communities

[1] The information in this profile is based on Ecolibrium3's Climate Showcase Communities grant reports and personal communications with Ecolibrium3 staff.
[2] Equivalency calculated using EPA's Greenhouse Gas Equivalencies Calculator.
[3] Data on energy and cost savings reported by Ecolibrium3 under its U.S. EPA Climate Showcase Communities grant. Emissions avoidance calculated by EPA.