

At left: U.S. volunteer Sumner McCallie cuts insulation for Habitat for Humanity Mongolia's Blue Sky Build in 2010. Second from left: Volunteer Kurt Newton, from Trinity, Colorado, helps to rehabilitate the home of the Csapó family in Vac, Hungary, as part of Habitat for Humanity Hungary's thermal insulation program. Third from left: Double-paned windows help conserve energy in the 29 houses built for Habitat Mongolia's Blue Sky Build. At right: Dan Santa Lucia, 57, a volunteer from Habitat for Humanity Trenton, installs insulation in one of the many homes in Ocean Beach, New Jersey, damaged by Superstorm Sandy in 2012.

Background photo: Morguefile, Inset photos, left to right: ©Habitat for Humanity/Mikel Flamm, Ezra Millstein, Mikel Flamm, Bob Longino.

EXECUTIVE SUMMARY Less Is More: Transforming Lovy-Income

Communities Through Energy Efficiency

Residential energy efficiency offers untold potential for savings, job creation, improvements in health and safety, and community reinvestment. But often, the people who would benefit most from energy upgrades are least able to afford them. Low-income Americans face a disproportionate energy burden, spending between 17 percent and more than 50 percent of their incomes on energy while other households average just 4 percent. They also typically live in older homes that lack adequate insulation, have appliances that are less energy-efficient, and contain outdated heating and cooling systems.

Many challenges hinder low-income communities from taking advantage of energy efficiency, including split incentives, lack of financing and little awareness of existing programs. Split incentives occur when building owners lack motivation to make efficiency upgrades because the tenants pay the utility bills, and the tenants lack the incentive (and frequently the up-front funds) to invest in upgrades to property they do not own. Financing is a factor when upgrades can cost up to \$7,000 and more comprehensive retrofits can cost as much as \$50,000. One way to address the cost has been on-bill financing, which allows utility customers to upgrade their homes and amortize the cost over time by adding charges to their utility bill.

Federal and state resources, such as the Weatherization Assistance Program, have also helped to finance and incentivize energy efficiency. WAP is estimated by the Department of Energy to save between \$250 and \$450 annually for 20 to 30 years in weatherized units, depending on housing type and location. But these resources are not reaching a large enough segment of distressed households. The challenge all federal and state programs face is leveraging these limited funds and creating new partnerships when demand on budgets is high.

But energy efficiency goes beyond the dollars individual households save. Energy upgrades in underserved communities can improve health, safety and job opportunities and reduce carbon emissions. Retrofits provide an opportunity — in many instances the only opportunity — for trained professionals to enter a home and identify problems that can become life-threatening, such as carbon monoxide or fire hazards. Trained professionals can also identify other issues relating to mold and moisture (as seen through infrared cameras used in energy retrofits), indoor air quality, lead paint and radon.

Typical evaluations of energy programs fail to

calculate these co-benefits when determining if the program was cost-effective, significantly undervaluing the benefits of energy efficiency.

Making a home energy efficient might seem like a small action, but residential energy use represents 22 percent of total energy consumption in the United States, and Americans spend \$230 billion annually on home energy. It is not only an important element of our national energy policy, but also a global necessity. World energy consumption is projected to grow by 56 percent between 2010 and 2040. A much stronger national commitment is needed to support both public- and privatesector efforts to deploy residential energy efficiency, particularly in low-income communities. Reform, innovation and bipartisan support must lead the way and put us on a path toward a more sustainable future.

Make financing available: The key is to enable all measures that help residents handle the "cash flow" requirements of energy efficiency upgrades. One effective way to achieve that is by supporting funding and incentives for the adoption of utility-sponsored "on-bill financing" (or "on-bill payment"), which offers the greatest near-term potential for low-income households to take advantage of energy efficiency (and offers utilities repayment through the meter as part of the customer's regular bill). States should consider social impact bonds as a means of financing energy efficiency services to distressed communities. Stakeholders should support enabling legislation for on-bill financing, and other financing mechanisms, such as green leases and energy services agreements, should be encouraged.

- Expand public-private partnerships: Collaborations with the private sector, including foundations and NGOs, should build on models such as those in Baltimore and New Orleans and seek to combine energy, health and housing services to benefit distressed communities.
- Implement energy efficiency in manufactured housing: Update the HUD Code and provide incentives to replace all mobile homes constructed before 1976. There are 6.9 million mobile homes in America. Most occupants of mobile homes have low incomes, and many "manufactured homes" (including all manufactured before 1976) are energy-inefficient and unsafe for their occupants.
- Target energy efficiency in multifamily and public housing: Multifamily and public housing present opportunities for big returns from investments in energy efficiency.
- Prepare low-income communities for natural disasters: Support studies on the impact of extreme weather events such as Hurricane Sandy on low-income communities and ways low-income housing is considered in the development of national strategies on the resiliency and reliability of the power grid. Low-income residents experience disproportionate losses from extended power outages and property destruction from extreme weather events, and their needs should be a prominent part of national planning for grid-related emergencies. Make energy efficiency an integral part of rebuilding after natural disasters.

Broader reforms:

- Support enactment of energy efficiency financing programs such as Property Assessed Clean Energy, or residential PACE loans, which are financial tools that help owners finance energy-efficiency and renewable energy projects for their properties. Under a residential PACE program, a local government helps homeowners finance the initial cost of energy improvements. The property owner repays the cost over 20 years, usually through an assessment on the property tax, which is tied to the property for repayment. Stakeholders should support PACEenabling legislation.
- Allow homebuyers to receive a larger mortgage for purchasing an energy efficient home: Enact legislation such as the SAVE Act for energy-efficient mortgages, which enables buyers to get credit for energy-efficient features when they apply for a mortgage, thereby qualifying for a larger mortgage, and require energyefficient improvements to be included in all home appraisals for purchase or refinancing.
- Support "energy performance labeling" strategies: Strategies such as building labeling (at the time of purchase) and labeling for all energyrelated products increase the value of home energy upgrades.
- Support state programs to strengthen building codes, including compliance and enforcement for all types of residential buildings.
- Encourage "energy use disclosure" to all homebuyers: Allowing homebuyers to see the energy bills for the previous five years is currently standard practice in Europe. Support incentives for the installation of "smart meters" that enable residents to manage their energy usage, such as by using dishwashers and washing machines during off-peak hours.

Support greater public awareness:

• Implement public information campaigns: Provide greater awareness of energy-efficient products through federal, state and local public information and awareness campaigns and public education. Promote programs that emphasize energy efficiency as a behavioral issue. • Launch a national energy efficiency campaign: There is a need for a national energy efficiency campaign on the theme of "Energy Efficiency Works." This campaign would target residents of distressed communities who are unaware of energy efficiency resources and would be based on the Alliance to Save Energy's successful "Don't Blow It America" campaign featuring Gregory Peck, which drew nationwide attention to energy efficiency 35 years ago. The campaign should be run in conjunction with community-based organizations.

Bolster existing resources:

- Create a competitive, federal, residential energy efficiency retrofit program for nonprofits to provide energy-efficient retrofits to homes of low-income families.
- Expand efforts to build stronger bipartisan support for reform and deployment of programs including the State Energy Program; the Weatherization Assistance Program, or WAP; and the Low-Income Heating Assistance Program, or LIHEAP. Weatherization provides \$250 to \$450 annually to program recipients in energy savings, on average, and the savings continue for 20 years after the upgrade. LIHEAP has provided \$2.5 billion to weatherization during the past 30 years. Stakeholder support is needed for enlarging the scope of weatherization to address health and safety issues in the home and for bringing more nonprofit organizations into the program.
- Support the permanent extension of the lowincome housing tax credit and the extension of provisions in the tax code for the construction of new energy-efficient rental homes, along with incentives for retrofitting existing residences.



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