

ECONOMIC OPPORTUNITY STUDIES

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How Do Utility Residential Energy Efficiency Programs for Low- and Moderate-Income Consumers Work Now? *What Makes Them Effective?*

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Over the course of the past 30 years, a well-established framework for funding efficiency investments for utility customers has produced significant rate-payer funded investments. They operate under the oversight of regulators. A wide range of program designs and their varying results provides ample guidance for considering 21st century initiatives.

The Weatherization Leveraged Partnership Project has been asked by environmental groups and others for descriptions of today's many utility-funded efficiency programs for low-income consumers and the authorities under which they are funded and operated. Understanding the nature and results of programs the utility rate payers have funded with more than \$1 billion in the past decade can help with designing partnerships to reduce greenhouse gas; others are exploring comprehensive affordable housing strategies, and in evaluating emerging legislative proposals to expand utility engagement in residential efficiency improvements.

The framework for effective partnerships that achieve these goals is introduced below.

Extensive data on such programs and tools for the process of building partnerships between utility-financed work and public investments in low-income housing are available online through the Project's website, www.weatherizationplus.org. Send specific inquiries to info@opportunitystudies.org.

How many utility low-income efficiency initiatives exist today?

In 2007, more than 300 major investor-owned local utilities (LDCs), both gas and electric, spent nearly \$361 million on low-/moderate-income efficiency programs in 43 states.¹

¹Two sets of state reports provide annual data : the state supplement report of the HHS Office of Energy Assistance posted at liheap/ncat.org catalogs the value non-federal contributions to low-income energy programs coordinated with state LIHEAP and weatherization programs and offers some detail on LDC

Who pays for them?

The funding, which totals more than in any previous year, was collected from ratepayers according to rate schedules established by state regulatory commissions. In a few states, publicly-owned utilities run similar programs funded by rates or fees mandated by their state legislatures (CA, WI, and NE) or by their local governing bodies. As of Sep. 15, 2008, at least a dozen states have announced expanded 2008-2009 rate-based investments in low-income Weatherization.²

Every low-income and, to our knowledge, every efficiency or growth program run by utilities is ultimately financed by the ratepayers. No federal or state grants directly to the LDCs are involved or have been tested. (Certainly, joint public-private projects have been financed, with funding directed by all entities to the project.)

What is the scale of these programs?

They vary; California's LIEE program makes up 36% of the nation's total I-I efficiency funding. 12 other states have programs that are of significant size in relation to their low-income population.

What about proof of their impact? Are these utility programs effective at reducing demand? At lowering bills? At reducing CO2 emissions?

Nearly all these programs are subject to regulatory Commission-determined cost-benefit tests. None of them yet have CO2 reduction as a primary purpose or as a building selection criterion.

initiatives. The National Association for State Community Services Programs collects annual reports of non-federal funding contributed to supplement the states' Weatherization program and identifies some utility programs. <http://www.waptac.org/sp.asp?id=9014>. The Weatherization Leveraging Partnerships Project annually integrates the two state based reports and supplements them with data collected from utility efficiency programs that are managed directly by utility-local agency arrangements and not included in the NASCSP survey. Their 2007 paper cited here is to be published Nov 1 2008; the 2006 version is at <http://www.weatherizationplus.org>

The programs surveyed all serve some of the low- and moderate-income households eligible for federal and state energy assistance. In most states, they have incomes considerably lower than the maximum allowed by federal programs: 60% of the state's median income.

² <http://liheap/ncat.org> is listing such additions as they are announced

See also:

Unpublished paper, Eli Nesson, Overview: National Surveys of 2007 W.A.P. and LIHEAP Leveraging. Economic Opportunity Studies, Washington, DC. – by request

Most of the larger programs report non-energy benefits along with the energy reduction benefits, and some estimate CO2 reductions.

There are very few true evaluations of utility low-income efficiency programs, studies that measure before-and-after use adjusted for weather and price changes; even fewer separate the effects of the utility-funded investment from the Weatherization Assistance Program investments delivered in coordination with installation of the utility-funded measures. A recent analysis of the results from ten evaluations showed that programs in Ohio and Wisconsin are among the most cost effective and produce the highest net savings, while the California utility Low-Income Energy Efficiency programs rank among the least cost-effective.³ The design of utility programs and the nature of the improvements they found is discussed further below. Numerous studies show that these factors affect their impact.

How long have these initiatives been running?

Since the late 1970's, when the largest initiatives were those funded by natural gas LDCs in colder states and the West.⁴ The number of states with such rate-based programs has nearly tripled since the early 1990's when electric utility 'competition' was introduced and low-income electricity efficiency programs were established to cushion the transitional price shocks.

What is the typical utility role in operating these programs?

There are two models of utility engagement in improving the efficiency and low-income homes:⁵

1. In 20 of the states, utilities are primarily collections agents: they deliver the ratepayer contributions to third party program managers, either the state's Weatherization Program administrator or to a state entity created to run the state Public Benefit or

³ APPRISE, Inc. and Fisher, Sheehan, Colton, Ratepayer Funded Low-Income Energy Programs: Performance and Possibilities. Princeton, J 2007. See section VII and table VII – 5 and 6.

⁴ Meg Power, PhD, Joel Eisenberg et al. The Scope of the Weatherization Assistance Program, Oak Ridge national Laboratory, 1992. http://weatherization.ornl.gov/pdf/ORNL_CON-325.pdf

⁵ EOS's description differs from the chart cited by NCAT in that we make no distinction between programs called a PBF and other utility programs. Rather, we have divided them by whether the utility manages a program directly and reports on the costs and the collections from ratepayers that cover the costs or whether the utilities collect the funds and turn them over to a third party to administer.

System Benefit Fund (PBF). Examples include: Efficiency Maine, NJ Comfort Partners, and NYSERDA's EmPower NY.⁶

Most of the low-income efficiency services that those new entities fund are primarily provided by Weatherization Program delivery organizations. A handful of other programs in those same states are directly managed by utilities that also contribute the Public Benefit Fund. The efficiency investments made under the latter programs are also primarily delivered by the same service providers responsible for the state's Weatherization Assistance Program.

2. In the remaining states with low-income utility financed programs, including the large CA programs, utilities are given specific guidelines by their Commissions, and each designs programs for delivering efficiency retrofits to low-income homes; they contract for service delivery. They report to their regulators on the costs and number of investments/physical measures they install or the services, such as energy education.

While the level and nature of the investments that are made vary dramatically among states and among utilities within a state under these arrangements, a 2007 review of two 2006 national surveys and multiple regulatory commission reports determined that about 85% of utility efficiency investments, \$267.5 million, were delivered in coordination with the delivery of Weatherization services.⁷

Of the utility programs that are organized as a direct LDC/contractor implementation system, those coordinated with and delivered by the Weatherization delivery agencies are the most cost effective and have the highest impact.⁸

⁶ See details linked to State Supplement chart at <http://liheap/ncat.org>

⁷ Meg Power, PhD, "Overview of National Surveys of 2006 Weatherization and LIHEAP Leveraging" <http://www.opportunitystudies.org/weatherization-plus/leveraged-programs/>

⁸ Kushler, Martin (Ph.D.), Dan York, Ph.D. & Patti White. American Council for an Energy-Efficient Economy. Meeting Essential Needs: The Results of a National Search for Exemplary Utility-Funded Low-Income Energy Efficiency Programs. September 2005. The report summarizes their common characteristics which include close coordination with weatherization assistance and other state low-income programs and vigilant monitoring and results measurement.

Studies of Ohio's Warm Choice program (Columbia Gas-now-NISOURCE), the Massachusetts programs that are coordinated by an intermediary management group of the WAP network agencies and their private partners and a recent independent evaluation of New Mexico's PNM demand-side programs all found superior performance in the utility/WAP integrated delivery.

What role does a utility play in designing its program? How does it assure its ratepayers the funds are well-spent?

In the states that manage PBF funds through a third party, the utility role is largely technical – consulting on priorities and coordinating information on individual household’ energy usage, which is provided to the Weatherization agencies.

For most other programs, one or more utilities reach agreements with their regulatory commissions regarding the level, type, target, and provider for their investments. In most states, advocates for the low-income consumers are deeply involved in advocating for “best practices” proven through 25 years of experience, as well as for transparency in accounting for the resources delivered and their results. As a consequence, many Commissions require extensive reports and occasional evaluations.

Shouldn’t these efforts be increased and expanded by making direct grants to the Local Distribution Company so their own rate payers don’t have to pay?

This creative proposal is found in several Bills filed in Congress in 2008. It appears to be based on several misconceptions: for example, it is incorrect to define low-income programs as a *cost* to ratepayers. Low-income programs are subject to cost effectiveness tests; most are designed so that they are a benefit to the utility, its ratepayers and the public in numerous ways. Those include peak load reduction, slowing the demand for new generating capacity, decreasing bad

OH references: De Ramos, Kevin Monte. *Lessons Learned from Columbia Gas of Ohio’s WarmChoice Program*. Requested by Richard Sims, Columbia Gas of Ohio. KMDR Research, Inc. June 6, 2002.
Khawaja, M. Sami. “Re: Draft Utah HELP Evaluation Comments” Quantec. (via email to Rebecca Eberle, January 30, 2004).
Lavery, Jack. *A Full Scale Utility Weatherization Program and WAP Network Partnership* [PowerPoint Presentation]. jlavery@nisource.com. NiSource/Columbia Gas of Ohio. NCAF 2005 Energy Programs Leveraging Conference. St. Petersburg, FL. November 7-10, 2005.
Ohio Electric Partnership Program Impact Evaluation, Tables 12 and 17, pp 29 & 36, “Results for April 2004 – March 2005 Participants Final Report Prepared for the Ohio Office of Energy Efficiency June 30, 2006” by: Michael Blasnik, Michael Blasnik & Associates, Boston, MA.
http://www.odod.state.oh.us/cms/uploadedfiles/CDD/OEE/EPP_ImpactEval_yr3_final.pdf
MA references: annual reports to MA DOER include performance metrics
http://www.mass.gov/doer/pub_info/ee
NM reference: The review of the first two years of NM corporation gas efficiency programs showed the weatherization based program to be the most cost-effective and one of only two cost effective program elements in any sector. See pp 3-5 summary.
http://www.pnm.com/regulatory/pdf_gas/ee_ar_07_3rd_party.pdf

debt write-offs and customer service costs and, when emission reductions can be quantified, those benefits will also accrue to the utility. Rate-payer financing is appropriate.

Further, it suggests utilities will use grants of public funds as well or better than the states' programs that deliver Weatherization-related investments. However, there is no evidence that utility low-income programs exceed the performance and track record of the public Weatherization Assistance Program.⁹ Many state laws or rules have required the ratepayer-funded programs to be coordinated with W.A.P. The federal/state program does have strict performance criteria that may not be priorities for a utility; in that case, those public purposes would not be maximized under the proposed LDC cash grant program. Weatherization Assistance requirements that could differ from investor-owned utility goals include usage reductions that have a high impact on future bill reduction, that are durable, that have an extended life cycle, and that are cost effective with a savings to investment ratio of 1:1 or greater. Finally, the Bills create a parallel Federal bureaucracy and reporting system to collect affidavits or information from this unprecedented taxpayer block grant to private enterprise.

Summary

The current system works well and is capable of major expansion. The proven approach should accommodate more formal assessment and could be targeted to reduce emissions as well as high bills for any fuel. Information exchanges among regulators and other state and community program stakeholders about proven practices should intensify in the interest of maximizing both efficiency and affordability for vulnerable utility customers.

⁹See all current W.A.P. evaluations at <http://weatherization.ornl.gov>