

Proposal Title: An Early Launch SEU Program: High Efficiency Building Strategies for Low-income Families in the Eastside Community of Wilmington, Delaware.

Proposed by: UHELP

PROJECT NARRATIVE

a) PROJECT GOALS

The Delaware Weatherization Assistance Program (WAP) continues to serve the low-income residents of the State. In collaboration with the WAP, this pilot project seeks to advance ongoing initiatives to improve building energy efficiency for low-income homeowners.

Toward this end, this pilot project seeks to realize two important goals. First, it seeks to develop a weatherization service delivery mechanism that can leverage a greater level of investment and thus deliver more comprehensive energy efficiency and conservation gains. For this purpose the project will pilot the shared savings approach, utilized by the pioneering SEU model of Delaware.

A specific advancement, over the existing weatherization program is the installation of high efficiency oil furnaces in qualifying homes. Currently, the WAP budget cannot accommodate the investment for this critical efficiency improvement.

Second, the project seeks to strengthen ongoing efforts aimed at transforming families eligible for weatherization services from being merely recipients of services to informed and involved participants in deciding energy use. Toward this end, the project will enhance existing resources to develop a 'Comprehensive Client Education' module and a delivery mechanism based on the successful Urban Health and Environmental Learning Project (UHELP) partnership approach.

b) PROJECT TASKS

In line with the above mentioned objectives this project involves two broad task areas.

The first task area is the identification of oil-heating households eligible for weatherization assistance and the implementation of weatherization measures. A group of 25 homes from the Eastside community will be selected for this pilot project. The households for the pilot are identified from the existing database of interested and eligible households maintained by the Delaware WAP. After identification, a detailed energy audit of these homes will be conducted by the WAP in accordance with existing best practice. Based on

findings from this audit, weatherization measures will be recommended for these homes. Such measures usually include home insulation, installation of energy-efficient windows and weatherization of doors. The Delaware WAP has available federal assistance to support the installation of these measures for the 25 homes.

However, to enhance the effectiveness of these measures this pilot seeks incremental investment from the SEU for installing high efficiency furnaces. Past experience of the Delaware WAP suggests that about 50-60% of the 25 home (~15 homes) are likely to require furnace replacements.

The second task area is energy education. A comprehensive client education package is envisaged for this pilot. This component will inform recipient households on how best to realize the full dollar *as well as* energy saving potential of the newly installed weatherization improvements in their homes. In addition the pilot project seeks to empower residents to have greater control over their energy use patterns by informing them about behaviors that reduce energy use or wastage. To further enhance the reach of the comprehensive client education a video documentary of the process will be developed for wider public dissemination.

This comprehensive client education component is supported by the Delaware Department of Natural Resources and Environmental Control (DNREC) via a grant to the UHELP. (Appendix A)

c) SCHEDULE

Task:	Initiation Date:	Completion Date
Identification of eligible households in Eastside	09 Nov. 2007	30 Nov. 2007
First Client Education Workshop	18 Dec. 2007	--
Implementation of Energy Audit	01 Jan. 2008	31 Jan. 2008
Installation of weatherization measures	01 Jan. 2008	28 Feb. 2008
Second Client Education Workshop	15 Feb. 2008	--
Assessment of pre- and post-weatherization utility bills.	01 Mar. 2008	31 Mar. 2008
Third Client Education Workshop	15 April 2008	--
Evaluation Feedback Workshop	01 Mar. 2009	--

d) EVALUATION

Effectiveness of the weatherization measures and their implementation will be measured by a follow-up analysis of real energy gains based on a comparison of utility bills for the pre- and post-weatherization periods. Assessment techniques applied in the CEEP weatherization assessment study will be used.¹

Effectiveness of the Client Education component will be assessed using though focus group feedback. The feedback session will include a short survey that will assess clients in their acquired knowledge (learning) as well as the level of implementation of what they have learned.

BUDGET NARRATIVE

- On average, installation of 90% efficient oil-furnace requires an incremental investment of \$1000.
- On average, installation of four additional energy-efficient windows and doors requires an incremental investment of \$ 1,695.
- Total incremental investment per home is \$2,695
- Potential savings (after replacing the existing furnace with a high efficiency furnace and installing energy-efficient windows and doors along with insulation) on heating oil with the above measures is 34%.
- If an average Wilmington row house spends \$3,000 a year on heating oil, there is a savings potential of \$1020 per year.
- This saving is shared with 50% (\$510) staying with the customer and 50% going toward paying back the investments in weatherization measures.
- Thus, the payback period on the total incremental investment of \$2,695 is 5-6 years.²

¹ "Energy, Economic, and Environmental Impacts of the Delaware Low-Income Weatherization Assistance Program." 2006. Y-D. Wang, J. Byrne, J. Kulkarni, A. Banerjee, et al. Newark, DE: Center for Energy and Environmental Policy.

² Homes with only shell weatherization measures (e.g. insulation, energy efficient windows and doors) have a longer payback period of about 8 years.

a) SHARED SAVINGS MECHANISM

PSA will pioneer the practice of a shared-savings mechanism for heating oil through this pilot project. For this purpose, PSA will devise a shared-savings payment plan that captures a part of the savings that will then be used to pay back the investment in the installed weatherization measures. PSA will enter into agreements with the heating oil supplier and the households to participate in this shared-savings payment plan.

BUDGET

Weatherization Measure	Incremental Cost	Estimated number of units	Total
Installation of High Efficiency Oil Furnace	\$1,000/ furnace	15	\$15,000
Energy Efficient Windows	\$340/ window	25 homes @ 4 windows/ home	\$34,000
Doors	\$335/ door	25 homes @ 1 door/ home	\$8,375
TOTAL			\$57,375