FINAL REPORT
12-12-2013

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Award Number: DE-EE-0003809

BBNP Name: Town of University Park, Maryland

Project Title: The Small Town Energy Program (STEP)

Name of Project Director/Principal Investigator: John Rogard Tabori, Mayor

Team Members: Suzanne Parmet, Chuck Wilson

Executive Summary

University Park, Maryland ("UP") is a small town of 2,540 residents, 919 homes, 2 churches, 1 school, 1 town hall, and 1 breakthrough community energy efficiency initiative: *the Small Town Energy Program ("STEP").* STEP was developed with a mission to "create a model community energy transformation program that serves as a roadmap for other small towns across the U.S." STEP first launched in January 2011 in UP and expanded in July 2012 to the neighboring communities of Hyattsville, Riverdale Park, and College Heights Estates, MD. STEP, which concluded in July 2013, was generously supported by a grant from the U.S. Department of Energy (DOE).

The STEP model was designed for replication in other resource-constrained small towns similar to University Park - a sector largely neglected to date in federal and state energy efficiency programs. STEP provided a full suite of activities for replication, including: energy audits and retrofits for residential buildings, financial incentives, a community-based social marketing backbone and local community delivery partners. STEP also included the highly innovative use of an "Energy Coach" who worked one-on-one with clients throughout the program. Please see www.smalltownenergy.org for more information.

In less than three years, STEP achieved the following results in University Park:

- 30% of community households participated voluntarily in STEP;
- 25% of homes received a Home Performance with ENERGY STAR assessment;
- 16% of households made energy efficiency improvements to their home;
- 64% of households proceeded with an upgrade after their assessment;
- 9 Full Time Equivalent jobs were created or retained, and 39 contractors worked on STEP over the course of the project.

Estimated Energy Savings - Program Totals	
kWh Electricity	204,407
Therms Natural Gas	24,800
Gallons of Oil	2,581
Total Estimated MMBTU Saved (Source Energy)[1]	5,474
Total Estimated Annual Energy Cost Savings	$61,343

STEP clients who had a home energy upgrade invested on average $4,500, resulting in a 13% reduction in annual energy use and utility bill savings of $325. Rebates and incentives covered 40%-50% of retrofit cost, resulting in an average simple payback of about 7 years.

STEP has created a handbook is which are assembled all the key elements that went into the design and delivery of STEP. The target audiences for the handbook include interested

[1] Total estimated source energy savings is calculated By DOE.

citizens, elected officials and municipal staff who want to establish and run their own efficiency program within a small community or neighborhood, using elements, materials and lessons from STEP.

Final Technical Report

Institutional Design and Business Model

University Park deployed STEP as a project of the Town. The Town also employed a logic model – accounting for assumptions, resources, and anticipated outcomes - to identify how best to build STEP and position it in the market.

Some of the key logic model assumptions include:

- ***Small town resources are constrained***: STEP has to work in places, such as UP, where volunteer Councils face restricted budgets, modest tax bases, and a stretched civic infrastructure. To be replicable in other small towns, STEP *must* minimize additional cost and burden to the town. As such, **the STEP model is one of leverage**: making use of existing utility and state Home Performance with ENERGY STAR program rebates and qualified contactors, STEP functions like an "app", leveraging these existing resources and making them more user-friendly.

- ***Community Based Social Marketing works in small communities***: The effective use of social marketing is proven in leading efficiency programs across the country. UP has an established spirit of civic participation and neighborly interaction, coupled with active social channels through the school, churches, clubs, and town events. By leveraging these community strengths and having neighbors as STEP ambassadors, *STEP* can achieve effective outreach without expensive purchased media.

- ***Individual facilitation will be the key to success in small communities***: Unlike broad statewide or utility efficiency programs, *STEP* provides UP residents with facilitation at an individual household level. Working directly with each homeowner, the *STEP* Energy Coach determines the factors that will best motivate program participation. S/he also identifies the particular financial, transaction and/or information barriers that may be holding back each specific resident. The Energy Coach then aligns the best mix of incentives and support to address each homeowner's unique situation. Individual support – impossible to provide in a broadcast efficiency program but playing to the strength of UP and other small towns - is the central key to the STEP model

- ***UP is a typical small town***. UP homes are of average age (1947), and UP residents are of average middle class means, with median household incomes of $110,000. Among

respondents of a baseline survey conducted for this proposal, most residents identified their energy efficiency knowledge as "average". In short, what happens in UP is replicable in almost any small, middle class town.

Market Assessment

Prior to submitting the proposal to the Department of Energy, the Town conducted a brief market survey of Town residents to understand basic awareness of and interest in an energy efficiency program. The survey confirmed overwhelming interest (92%) in running a community efficiency program, and that few homeowners had previously participated in such a program (<10%). The Town Council and STEP team identified many areas in which such a program would add value to Town residents, including:

- Community Building: the program would allow residents to work together on something positive and of benefit to the Town.
- Political: the program would help to project UP as a progressive leader in energy and environmental issues.
- Economic: the program would create jobs for contractors, consultants and services.
- Environmental: the program would have measurable environmental benefits in terms of reductions in energy use and corresponding greenhouse gas emissions.
- Health & Safety: energy upgrades have the co-benefits of improved indoor air quality, assessment of mold and moisture issues in homes and identification and mitigation of combustion issues.
- Operating Costs and Re-Sale Value: reduced utility bills make local homes more cost-effective to operate, and improve re-sale value.

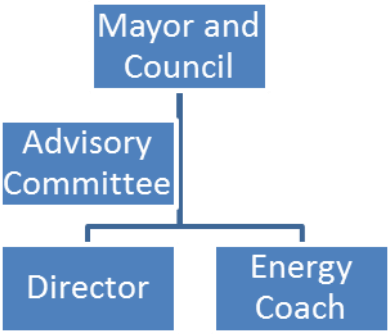
The STEP team also identified anticipated market barriers to such a program, including:

Anticipated Barriers to Participation	*STEP* Response Measures
Information and Trust Barriers	
• Conflicting sources of information about energy efficiency programs and practices	• Extensive use of Community Based Social Marketing
• Lack of information about individual impact	• User-to-user education
• Lack of trust in the entire efficiency process	• A independent Energy Coach working on behalf of the client to develop trust

Anticipated Barriers to Participation	*STEP* Response Measures
Transaction Barriers • Efficiency not top of mind – many competing priorities • Lack of confidence in tradespeople • Difficulty locating financing, tradespeople	 • Energy Coach helps client through every transaction • Transparent contractor review • Energy Coach helps clients locate and access resources
Financial Barriers • Cost of implementation • Efficiency competes with other investments	 • Leverage all available rebates, loan option • Offer time-limited, attractive incentives

Governance:

The Mayor of UP serves as the head of Town Council and its Chief Executive Officer. Since STEP was a program of the Town, the Mayor served as the business point of contact with the Department of Energy and was the ultimate authority on STEP.



As STEP expanded into other communities, the Mayor and Council were always the first route into the new communities. For unincorporated communities, a homeowners association or some other organizational body served in place of an elected Mayor / Council as the first point of contact.

The Mayor of UP selected a voluntary citizen Advisory Committee. The Advisory Committee was critical in helping to guide the development of the program, and to identify the best ways in which to work with the UP community. As STEP expanded into other communities, de facto Advisory Committees were established for each new community, typically comprised of key Town staff and leading citizens in each town.

The STEP Director led the program design, coordination, reporting, outreach, service contracting (ex: communications), media and stakeholder liaison. The Energy Coach was the primary point of contact with the clients, helping them throughout the energy assessment and upgrade process, as well as with the contractors. The Energy Coach also had primary responsibility for data tracking. Both the Director and the Energy Coach reported to Council and worked closely with the UP Town staff: Director of Public Works, Town Attorney, Treasurer, Clerk and Mayor.

Program Structure

STEP was set up as a project of the Town, but could also be established elsewhere as a project or service offering of a community organization, or even as a stand-along non-profit organization. Regardless of the specific business model, the key to STEP is the community focus. Tying STEP directly into the community is essential and quality is key – nothing will spread more quickly in a small town than news that the program does not deliver value as promised. To help ensure that community ties and program quality were maintained, STEP relied on several contract positions in addition to the Director and Energy Coach.

a. Technical Consultant: The contract technical consultant provided regular quality assurance and quality control for the project, and responded to specific technical issues on an as needed basis. The Technical Consultant was an expert in home energy efficiency. The ability to conduct regular QA/QC provided homeowners with a sense of trust that they were receiving fair value from contractors. It also provided incentive for the contractors to do quality work, knowing that one of their industry peers would be reviewing and reporting on the outcome.

b. Interns: Summer interns were hired, mostly from the University of Maryland. The interns' roles involved door-to-door neighborhood outreach, data entry and special projects. The door-to-door outreach was a low-cost way to help neighbors understand the program in a direct way and, more importantly, encourage them to attend one of the community launch events.

c. Volunteers: Throughout the program, volunteers were recruited from within the neighborhood to help with a variety of tasks, including: media help, editorial and review functions, and most often help with implementing community events.

d. Marketing & Communications Consultant: STEP hired a marketing and communications firm (Pinnacle Communications) to assist with designing the web site and all collateral program materials.

e. Program Analysis Consultant: STEP hired a firm (ICF Incorporated, LLC) to help with the technical analysis of calculating energy savings from utility bills, as well as associated emission reduction. In addition, STEP hired a consulting team (Baltimore Research and Pinnacle Communications) to assist with the development and analysis of surveys, to assess the differences between program participants and non-participants, and to measure impacts and program satisfaction.

f. Town Personnel: The Town Clerk, Director of Public Works, Town Attorney and members of the Town Police were all instrumental in STEP. Tasks ranged from ensuring STEP was on Council agendas, to legal review of all external documents, to direct program support.

Program Design and Customer Experience

The Town did not have any spare resources to put towards the development or implementation of STEP, nor the in-house expertise to deliver such a program. It was therefore imperative to identify existing and potential partners and programs that could be leveraged to deliver STEP. Some of the key partners included:

STEP Partner	Leveraged Services	Leveraged Resources
Department of Energy	EERE and ENERGY STAR programs DOE "Solution Center" site	BBNP grant funds federal tax credit
Town of University Park	Mayor, Council, town staff STEP Advisory Committee	UP civic infrastructure UP resident expertise
Utilities: • PEPCO • Washington Gas	Utility bill data Home Performance with ENERGY STAR program	EmPOWER rebates Pre-qualified BPI contractors
Sandy Spring Bank	Loan management	private equity for a low interest revolving loan
Maryland Energy Administration (MEA) and Department of Housing and Community Development	Maryland Home Performance with ENERGY STAR program DHCD BeSMART program	EmPOWER rebates Pre-qualified BPI contractors
Prince George's County Public School System	Board solar agreement Student / classroom participation	School roof

STEP developed and employed a program delivery model called "Ready, Set, Save". This program flow provided a touchpoint for participants and for the Energy Coach at every stage of the program. The different STEP forms and surveys were likewise tied to each specific stage (see enclosed "READY, SET, SAVE" form).

1. "READY"

The "READY" stage introduced residents in the participating STEP towns to the program, and prepared them to become program participants. This stage was the first in which residents received program outreach through the community-based social marketing. It was also the first time that prospective participants got in touch with the Energy Coach, the

point at which all program sign-up documentation was completed, and triggered the entering of new participants' information into the Salesforce database. The "READY" stage included the following steps:

a. *Learning About the Program*: This step was absolutely key to the success of the program, and it involved a carefully sequenced use of community-based social marketing and other collateral.

Establishing STEP as a Community Program: This involved outreach, diplomacy and presentations to the Mayor, Council or Association President in participating STEP communities. The objective was to introduce to them the value proposition of such a program for their residents, and to seek their permission to run STEP as a program in their community. Community "ownership" and leadership on STEP is essential to overcoming major trust barriers for prospective participants.

Beginning Initial Community Outreach: In each new community, STEP was formally announced through a letter to constituents from the Mayor or Association President. Thereafter, a series of CBSM tools were used to inform residents of the program, drive them to the STEP web site, and – most importantly – inform them of an upcoming launch event. CBSM tools included: newsletters, blogs, Mayor's letter, Facebook and community list serve(s).

Conducting a Community Event(s): A community event, often serving as the official launch of the program, was a key part of the CBSM sequence. Sometimes this was a standalone "Energy Fair", and at other times it was a distinct part of a larger community event (like an Arts Festival). In either case, there were common ingredients, including: presence of the Mayor or other official to announce the program; introducing and featuring the Energy Coach; offering a drawing for a cash prize for program eligible households who attended the event and signed up on a list to learn more about STEP; the presence of STEP staff with outreach materials to explain the program; and the presence of preferred Home Performance with ENERGY STAR contractors for people to meet and speak with directly. Program sign-ups from the community event were extremely high. The events were always extremely well attended.

Ongoing Community Outreach and Events: Once the program had been established through the community event, there was ongoing outreach through regular use of the Town newsletter, list serve, web site, Facebook and occasional mailing, as well as regular updates and reports to the sponsoring Councils and Association. Content included any new program developments, statistics and case studies. This was also the time to widely deploy yard signs.

Another CBSM technique was the "house party", in which an early adopter agreed to host an evening with some neighbors interested in the program. Like the Community Event (but much smaller), STEP staff and one contractor attended, and brought the drinks and snacks. Sign up rates from house parties were in excess of 80%.

Indirect outreach was undertaken through community partners, including schools, PTAs, places of worship and various clubs and associations. A level of trust was developed by residents upon receiving information about STEP through one of their trusted community partners and institutions.

Developing a Website: the Town hired a consultant to develop the STEP website, which provided interested residents with clear information regarding the program benefits and requirements. The web site also hosted information about upcoming events, sign-up documents, and means of contacting the Energy Coach.

Providing Information / Collateral Directly from the Energy Coach: Many interested households primarily learned about the program by contacting the Energy Coach directly, either by email or telephone. A template email and collateral materials were developed to enable the Energy Coach to quickly and easily provide all the information an interested resident would need to understand and sign up for the program, as well as other available resources.

b. Signing up for the Program: This small but vital step was essential to get residents to cross the threshold and actually participate in STEP. It also involved residents making real commitments, including: signing the Participant Agreement, signing a Utility Data Release Form, agreeing to undertake a Home Performance with ENERGY STAR incentive, and completing the first of the surveys.

This step was also the step where the Energy Coach began to develop a relationship with new STEP participants. After initial interaction by email and/or telephone and the submission of sign-up documents, the Energy Coach would then follow-up with a welcome e-mail providing information on and collateral materials related to the next phase of the process. Also at this stage, the new participant was entered into the Salesforce database for regular tracking and management of their customer experience throughout the process.

2. "SET"

The purpose of the "SET" phase was for the Energy Coach to help participants move through the assessment process and have all the necessary information (technical and financial) to make a decision about whether to implement energy efficiency upgrades to their home.

a. *Undertake a Home Performance with ENERGY STAR Evaluation*: The first major activity for new STEP participants was to undertake a home energy evaluation. This required the selection of a qualified assessor (energy auditor), which proved to be a significant barrier to participation for many, and most often required the assistance of the Energy Coach. Participants were allowed to select any qualified contractor that appeared on the list of eligible contractors for the state and utility efficiency programs. These extensive lists of contractors proved overwhelming for most clients, so STEP selected five

"preferred contractors" from the lists. The intent was to provide choice for the client, but not an overwhelming amount of choice. Some participants elected to have the program select an auditor on their behalf.

Some of the common considerations that arose in the assessor selection process included: determining which incentive programs was applicable and, therefore, which set of contractors were eligible; whether to choose a firm that was fully integrated (performed audits and improvements) vs. a firm that only performed audits (and then referred the work to other contractors); the type of report that would be delivered (STEP provided sample reports on its website for its preferred contractors); the availability of the firm to perform audits at mutually convenient times; and the time between audit and delivery of the report.

b. *Review the Report*: After completion of the energy evaluation, the auditor delivered a narrative report, which summarized the findings of the audit and their recommendations for energy efficiency improvements. Upon delivery of the report, the Energy Coach would contact the participant by email to offer them the opportunity to meet (either in person or by phone) to discuss the report, incentives, financing options and next steps. The breadth and clarity of these reports varied widely. In addition, they provided a lot of information that was new or unclear to most participants. As a result, most participants took advantage of the Energy Coach's offer to meet.

c. *Understand Financing and Incentives*: The various incentives and financing tools for making eligible improvements was discussed with clients as part of the Energy Coach's consultation. In addition, collateral materials summarizing financing and incentive information were prepared to enable the Energy Coach to easily disseminate the information to participants and for use as needed as reference material.

d. *Consider Proposals*: Some contractors provided a work proposal along with their audit report; others waited for homeowners to request one (to avoid the appearance of a "hard sell"). Also, participants were encouraged to obtain at least one other proposal for comparison. The Energy Coach offered to review and compare proposals on participants' behalf, so participants could better understand the scope of work being offered and how they compared on an "apples-to-apples" basis. Many participants took advantage of this service.

The Energy Coach also offered to analyze the economics of the transaction, considering upfront costs, available incentives and estimated savings, to assist participants in evaluating the financial benefits of making the improvements. Very few participants took advantage of this service.

e. *Take "Set" Survey*: Participants were asked to take the "Set Survey" after they had completed their review of the audit report. The Set survey asked the respondent to rate

their experience with the energy evaluation process, the firm and the auditor, as well as their interaction with the Energy Coach during that phase.

3. "SAVE"

The purpose of the "SAVE" phase was for STEP to help participants move forward with energy efficiency improvements to their home, to enable participants to obtain all the rebates and incentives to which they were entitled, and to track real savings over time through utility bill analysis. "SAVE" activities include:

a. *Undertake Improvements:* Participants were advised to select a contractor that was participating in the incentive program for which they were eligible. They then entered into a work contract (a copy of which was provided to STEP), scheduled the improvements, and informed the Energy Coach of the arrangements made.

b. *Have Test-Out Performed:* After the home energy upgrades were complete, the home performance contractor (or the auditor) performed certain post-installation testing, and then prepared (or assisted the client in preparing) paperwork to be submitted for payment of incentives from the utility and/or the state. The Energy Coach also assisted with this paperwork as and when needed, and explained the process and followed up on issues relating to the process on behalf of program participants.

c. *Obtain Incentives*: Once the Energy Coach was informed that the work had been completed, a template email was sent out to the participant, to congratulate them on the completion of the improvements, to inform them of the various incentives for which they were eligible and explain how and when they would be paid, and to request the remaining documentation needed for STEP to pay out its own additional incentive. All information received from the participant was logged into the Salesforce database.

d. *Take "Save" Survey:* Participants were asked to take the Save Survey as part of completing the paperwork necessary to obtain the STEP incentive. The Save survey asked the respondent to rate their experience with the home energy upgrade process, the contractor and the installers, as well as their interaction with the Energy Coach during that phase.

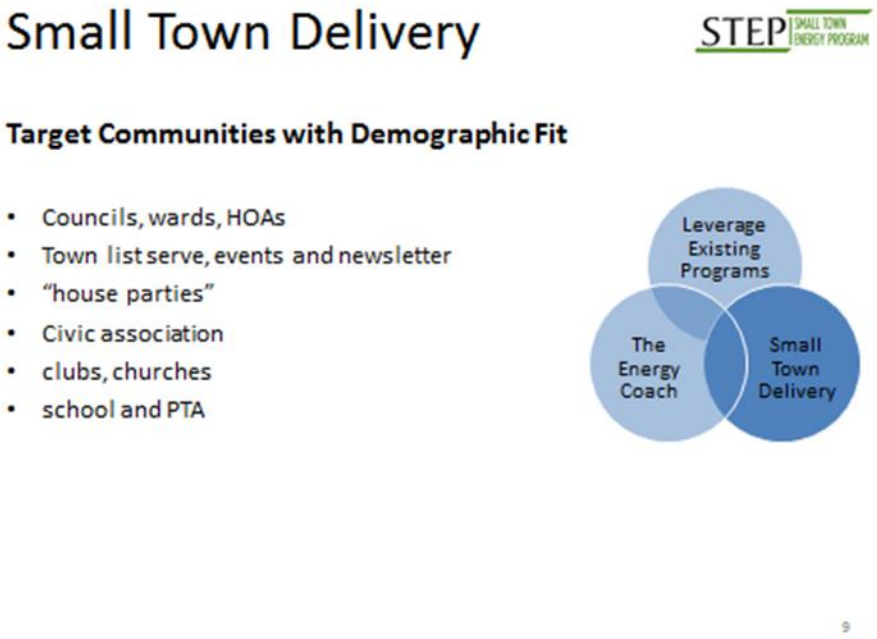
e. *Quality Assurance:* Participants were offered the opportunity to have STEP's Technical Consultant perform a Quality Assurance Review of the improvements made to their homes. This service reassured participants that work was done properly and in accordance with the agreed-upon scope of work or, in some cases, revealed issues that required additional contractor intervention, which STEP ensured took place.

Driving Demand

The first element driving demand for STEP was the exclusive use of *Community Based Social Marketing (CBSM)*. CBSM works to the strengths of a small town, leveraging the existing, trusted community channels for program outreach. Residents receive information from those very sources they most trust, providing a level of legitimacy for the program. The small community also functions like an "echo chamber", where neighbors speak with neighbors about the program, further driving demand.

CBSM can equally be applied to neighborhoods or boroughs within a big city. For although 80% of the US population lives within only 300 metro areas, within those metro areas more than half the population lives in jurisdictions of less than 25,000. In other words, even large metro areas are essentially a collection of small towns.

CBSM is also low cost, since all of the CBSM outreach infrastructure already exists within each community, and nearly all of it is free. For STEP, outreach costs were less than 5% of all program costs, compared with 30% for a typical, mature efficiency program. Using CBSM, outreach costs are further reduced by targeting communities that best fit the program demographic, rather than by spreading materials in low-potential neighborhoods



The second element driving demand for STEP was the *Energy Coach*, who became the centerpiece of the STEP value proposition. Particularly for STEP's middle class target market, the axiom "time is money" was addressed by the Energy Coach working for and with each resident throughout every step of the process. An additional degree of trust was established in having the Energy Coach work for the program and not representing a contractor or the utility. The critical role of the Energy Coach can be seen in the following statistics:

- Number of Energy Coach contacts with each client: 6-10

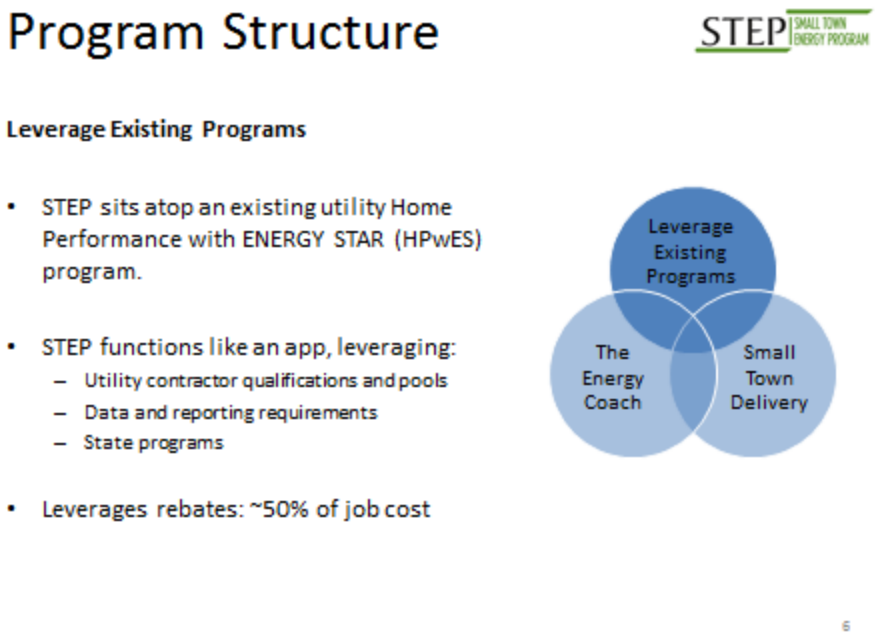
- Client satisfaction rating with the Energy Coach: 97%

- Typical comments received on program surveys: "Making efficiency upgrades to my home is something I had wanted to do for years, but I never had the time nor the confidence to do it on my own. I never would have followed through with these measures if it wasn't for the Energy Coach."

- Conversion rate from assessment to upgrade: 64% for the mature program. In other words, for every three homes that had an assessment, two went on to make upgrades. This is more than twice the average conversion rate for utility-run energy efficiency programs.

The third element driving demand for STEP was in the *reduction of financial barriers*. This was done by STEP leveraging the abundant energy efficiency rebates and incentives available through the local electric utility (Pepco), two state programs (Maryland Energy Administration and the Department of Housing and Community Development), as well as the federal tax credit. In addition, STEP used some of its grant money to provide an additional $400 to homeowners who completed upgrades.

STEP developed a low interest loan product with Sandy Spring Bank, a local Maryland financial institution. Despite having an attractive interest rate (4%) and terms (no collateral, up to $10,000 for 4 years), not a single household took up the loan option.



Workforce Development

The Town of University park was too small to be in the contractor certification and workforce development business. Instead, STEP leveraged the certification process of the utility (Pepco) Home Performance with ENERGY STAR program, and the State of Maryland's BeSMART Energy Program. Any contractor qualified to participate in these existing efficiency programs were considered qualified to participate in STEP.

In addition, STEP narrowed the selection offering for clients by creating a "Preferred Contractor Chart". This can be found in the attachments and www.smalltownenergy.org.

Over the duration of the program, STEP employed or retained 9 full-time equivalent positions. At the peak, there were 39 separate contractors working on the project, though in the latter years there were 5 certified contractors who worked on the project consistently. When benchmarked against the prevailing utility Home Performance with ENERGY STAR program, STEP represented only 1% of the utility program's service territory. However, STEP contractors accounted for almost 10% of the utility's entire HPwES audits, and almost 15% of retrofits in the program.

Financing and Incentives

Similar to the workforce development, STEP leveraged the existing financial incentives of the utility (Pepco) Home Performance with ENERGY STAR program, and the State of Maryland's BeSMART Energy Program. In addition, STEP helped clients to access any applicable federal tax credits, as well as a modest direct incentive from STEP.

Each client was eligible for a different mix of incentives, depending on the type of retrofit work they had done, the type of primary fuel source (gas or electric) in their home, and income. A major role for the Energy Coach was to help each client maximize and successfully apply for all of the incentives to which they were entitled. In addition, STEP provided $400 to each household that successfully completed a comprehensive retrofit.

The complete list of leveraged financial resources is found on the "Financial Incentives Chart" at www.smalltownenergy.org. A sample of the available incentives is found below:

Measures	Maximum Available to STEP-UP Participants	Maximum Incentive Levels by Provider				Conditions for Specific Measures
		Federal	Maryland	Pepco	STEP-UP	
Home Performance With Energy Star Audit	**Fee = $0**	$0	$100	Fee = $100	$300	• MEA: must use a MD HPwES Participating Contractor • Pepco: must use a Pepco Participating Contractor • STEP-UP: only if home is Pepco-ineligible; must use a BPI-certified auditor
Air Sealing, Insulation & Duct Sealing	**$4,500**	$500	$3,000	$1,200	$1,200	• Federal: 10% of materials cost only, up to $500; criteria required by IECC 2009; duct sealing not eligible • MEA: 35% of cost up to $1,500 per measure (attic, wall, crawl space and basement insulation; air sealing; duct sealing); must use MD HPwES Participating Contractor • Pepco: 15% of cost, up to $1,000 aggregate; air sealing must reduce leakage by 20%; duct sealing must reduce leakage by 25%; attic flat insulation (min R38), attic slope insulation (min R19 up to R38), attic knee wall insulation (fill cavity, min R13 and rigid air barrier), and wall (including rim, crawl space and basement) insulation (min R13); must use a Pepco Participating Contractor • STEP-UP: match of Pepco incentive if home is ineligible for Pepco Program; must participate in Pepco and MEA Programs if eligible; see "Miscellaneous" below for incentive for all participants
Air Conditioning (Central)	**$1,000**	$300	$0	$100 - $300	$400	• Federal: split system - 16 SEER & 13 EER; package system - 14 SEER & 12 EER • Pepco: $100 toward tuneup, $150 toward upgrade if 14 SEER & 11.5 EER, $300 toward upgrade if 15 SEER and 12.5 EER; must use a Pepco Participating HVAC Contractor • STEP-UP: see "Miscellaneous" below

Evaluation:

The STEP evaluation plan involved regular tracking in three key areas: program sign ups, Home Performance with ENERGY STAR energy evaluations, and energy efficiency upgrades. Progress was benchmarked against the initial program goals. In addition, data was collected through survey instruments to measure the relevance and impact of the program. Complete survey instruments are enclosed as Attachments, and include:

1. Demographics: Census data was collected on households in the program's service areas. In addition, surveys of participating and non-participating residents provided additional demographic data.

2. Hard Metrics: Data with respect to energy evaluations, energy upgrades, job creation and investment activity were collected and regularly reported to the Department of Energy.

3. Knowledge, Attitudes, Behaviors and Beliefs (KABBs): Using pre- and post-participation surveys, STEP sought to determine the impact of the program on client and non-client KABBs.

4. Customer Service: STEP regularly surveyed clients about their program experience.

Survey Analysis.

A consulting team (comprised of Baltimore Research and Pinnacle Communications) was hired by STEP to undertake research based on the responses to surveys the consultants developed and deployed. The purpose of the research was to determine the relevant Knowledge, Attitudes, Belief and Behaviors (KABBS) of program participants as compared to non-participants, and to link these to specific programmatic elements of STEP. The goal of doing so was to identify the ways in which the STEP program design was successful or not successful, along with actionable items through which to modify the program. The Town was also interested in ascertaining whether the program would be replicable and scalable.

Some of the key "take-away's" from the research included the following:

- STEP was a success! Overall program conversion rates were high relative to other available programs, and satisfaction levels were extraordinary.

- For successful replication, it is necessary to ensure that the right product is in place, an appropriate target audience is identified, and the program is marketed with messaging delivered through the most appropriate channels.

- A significant proportion of participants were dubious that the contractors were unbiased in their recommendations. This mistrust could be a perceptual barrier that could preclude homeowners from advancing in the program.

- While financial incentives and rebates factored heavily into the decision to participate, the availability of low interest rate loans was far less critical. Given that a primary barrier was the cost of implementation, additional exploration is needed to determine whether participants enrolled with the intent to only implement lower cost improvements that they could afford to finance out-of-pocket, or if there was a limited awareness of financing options due to a communications issue.

- Messaging statements that resonated most reflected general concerns about the impact of environmental factors on future generations. However, improving comfort in the home, addressing health and safety benefits, and reducing energy costs are more tangible calls to action. Also, addressing primary barriers to adoption – including, cost of implementation, inconvenience, and fees - is key to enrollment.

Programmatic and Utility Usage Data Analysis

A technical consultant (ICF Incorporated, LLC) was engaged by STEP to assess program impacts through utility bill analysis. More specifically, the consultant helped STEP collect and analyze pertinent programmatic and utility usage data for participants in order to gain a better understanding of the actual energy savings achieved through the efficiency upgrades completed in the program.

Due to limitations in the utility billing data available and the scope of the project, there was not a sufficient sample to make broad claims about actual energy savings that could be projected across the program with statistical significance. However, the analysis did indicate the following:

- A majority of participants were realizing a measurable reduction in natural gas and electricity use in the year after completing efficiency upgrades as compared to the year prior.

- The STEP program savings benchmarked well with another BBNP grantee in a similar climate region.

Communicating Progress & Impacts

An important element of developing and maintaining an effective program is to communicate early and often with all stakeholders – including participants, sponsoring communities, local assets, and other partners. In addition to getting buy in for the

program, and then generating program awareness, it is key to share insights into the program's progress as well as outcomes determined and insights gleaned.

Some of the information that STEP shared on a consistent basis by STEP included: program statistics, including: number of participants, number of energy evaluations completed, number of improvements completed

Some of the primary means that were used to share this information included:

- Regular updates to Council
- Ongoing use of CBSM, including Facebook posts, listserv announcements and group emails
- Website postings
- Presentations to partners and other interested groups
- Annual energy fairs

Accomplishments

1. SOPO (Statement of Project Objective) Goal 1: 25% of UP homes will have the *Home Performance with ENERGY STAR* assessment, a whole-house energy evaluation of the home based on Building Performance Institute ("BPI") requirements and protocols.

   Accomplishments: 25% of all the homes in University Park received a Home Performance with ENERGY STAR whole-house energy evaluation.

2. SOPO Goal 2: 20% of UP homes (80% of those audited) will undertake a home energy upgrade based on their assessment, aiming for a goal of 15% reduction in overall energy use per upgrade.

   Accomplishments: 16% of University Park households undertook a home energy upgrade, achieving on average a 15% reduction in annual home energy use. This represents an audit-to-retrofit conversion rate of 64%.

Estimated Energy Savings - Program Totals	
kWh Electricity	204,407
Therms Natural Gas	24,800
Gallons of Oil	2,581
Total Estimated MMBTU Saved (Source Energy)[2]	5,474
Total Estimated Annual Energy Cost Savings	$61,343

3. SOPO Goal 3: An additional 5% reduction in measureable community-wide energy use will be achieved through streetlight retrofits, a solar project, composting, and a program to reduce vehicle miles travelled (VMT);

   Accomplishments: All of these additional measures were implemented, including:
   - 96% of the Town's 196 street lights were retrofit to high pressure sodium fixtures - 60 mercury vapor and 128 incandescent;
   - A 65kW photovoltaic solar array was installed on the roof of the local school, the first such installation on a public school in the County;
   - A 150 household weekly curbside compost pick-up program, the first of its kind in the County, was implemented. The program diverts 25 tons annually from the local landfill, where it would otherwise breakdown under anaerobic conditions and create methane.
   - A policy study was concluded to implement a circulator bus to reduce VMT.

[2] Total estimated source energy savings is calculated By DOE.

4. SOPO Goal 4: 85 other small towns will download the free, ready-to-use tool-kit of templates, replicable best practices, and community case studies from *STEP*. One percent of these towns will use the STEP model to implement some iteration of their own program in the 3-year duration of the project.

   Accomplishments: STEP was successfully delivered in three neighboring communities: Hyattsville, Riverdale Park and College Heights Estates, MD. In total, 416 local households undertook a Home Performance with ENERGY STAR audit, and 240 of these proceeded with a home energy efficiency upgrade (57% audit-to-retrofit conversion). More than half a dozen other communities are now implementing some

Challenges:

1. Contractor Quality:

Within the first year of the program it was evident that the quality of the contractor workmanship varied greatly. The Energy Coach spent an inordinate amount of time trying to get participating contractors up to a quality level necessary for a tight-knit community program. STEP employed two solutions to address this issue.

First, STEP issued a market-based Request for Proposals to select a short-list of "preferred contractors". These were contractors who met certain performance benchmarks, and with whom STEP worked well. Although clients could choose from any qualified contractor (there were about 60 in the STEP market), 99% chose from the preferred contractor list. Therefore, if quality began to diminish, STEP only needed to remind the contractor of the possibility of removal from the list and quality improved.

STEP also employed a Technical Consultant. The contract technical consultant provided regular quality assurance and quality control for the project, and responded to specific technical issues on an as needed basis. The Technical Consultant was an expert in home energy efficiency. The ability to conduct regular QA/QC provided homeowners with a sense of trust that they were receiving fair value from contractors. It also provided incentive for the contractors to do quality work, knowing that one of their industry peers would be reviewing and reporting on the outcome.

2. Lack of Customer Uptake of Financing:

STEP developed a loan loss reserve fund with Sandy Spring Bank. The loan had favorable terms: no collateral, 3% annual interest, 5 year term, up to $10,000, standard underwriting and credit thresholds. Not a single client took up the loan product.

Part of the issue is that Maryland has a very generous efficiency rebate structure – at the utility and through the State. These incentives, coupled with a modest incentive directly from STEP and the federal tax credit, was sufficient for homeowners who wanted to move forward with a retrofit. In addition, middle class consumers in the STEP market had no appetite for taking on more debt during the rebound from the financial crisis.

3. Perceived Lack of Scalability:

The STEP service territory accounted for less than 1% of the local utility's residential market, yet accounted for more than 10% of all Home Performance with ENERGY STAR audits and almost 15% of all retrofits as a contributor to the utility program. Benchmarked against the utility data submitted to the Maryland Public Service Commission, the cost for

STEP to convert a client to a HPwES audit was approximately ¾ of the cost for each audit generated by the utility program.

Despite this data, and persistent outreach to the utility partners, there is a perception that STEP is a boutique program that cannot be scaled effectively across a utility service territory.

Sustainability Plan

The Town of University Park officially concluded STEP at a dedication ceremony of the rooftop solar array on October 19th, 2013. However, the program will continue to generate a positive revenue stream for the Town for the next 20 years through the production and sale of electricity from the solar array and the related sale of Renewable Energy Credits (RECS). It is estimated that annual net revenues to the Town will range from $6,000 - $12,000. Council will decide how to direct these funds in future years.

At the time of this report, the Town is currently in conversations with Prince George's County, the Maryland Energy Administration and the Environmental Finance Center at the University of Maryland about ways in which STEP may be rolled out as a stand-alone program across Prince George's and/or Montgomery County, MD. There is particular interest in seeing if there is an opportunity to apply STEP to Prince George's County Transforming Neighborhoods Initiative (TNI). The TNI focuses on uplifting six neighborhoods in the County that face significant economic, health, public safety and educational challenges.

STEP Tools & Development of Resources

A multitude of tools and resources were developed to enable the launch of STEP. Key program resources included: local asset materials, partner materials, personnel materials, project tool materials, program administrative materials, outreach materials, and surveys. All of these materials have been included in the STEP Tool Kit for modification and for use by others.

1. Local Asset Materials. A key step to getting STEP set up in each community, and to keep the program running smoothly, was to communicate directly and continuously with local government officials (e.g. Council members) and community organizations (e.g. PTA, churches), and to participate in community events (e.g. Azalea Classic, CHEA-fest).

2. Partner Materials. Another key component of the program was developing positive working relationships with organizations running programs that could be leveraged by participants (e.g. utility home performance program, state energy agency). In addition, STEP partnered with those outside the community for services needed but not available internally (e.g. financing program developed with Sandy Spring Bank, agreement with Alliance to Save Energy to provide staff resources and educational programs).

3. Personnel Materials. In addition to the Energy Coach and Project Director, STEP was run, managed and/or assisted by the services of a variety of individuals and firms, including a Technical Consultant, interns, an Advisory Committee, a Marketing and Communications Consultant, a Program Analysis Consultant, a Salesforce Consultant, volunteers, and UP staff (providing administrative and legal assistance).

4. Project Tool Materials. A variety of tools were used to create, disseminate, collect and analyze information. These tools included the following:

    a. *Survey Monkey*: This on-line survey tool was used to deliver all of STEP's surveys. Survey Monkey was selected because it is inexpensive, easy to use, and provides basic response analysis and reporting capabilities.

    b. *Salesforce*: This Customer Relationship Management (CRM) software was used to track all program data for each client and develop operational reports. Salesforce was an ideal choice based on it being very flexible, easy to customize and extremely powerful. STEP had a local Salesforce consultant customize the interface for our program purposes. This cost a few thousand dollars and took a matter of a couple of weeks – far less time and expense than a custom program.

c. BEACON: BEACON Home Energy Advisor is the software used in Maryland by the local Home Performance with ENERGY STAR programs. Having a standard technical platform ensured that the hard metric data was being entered, tracked and modeled as consistently as possible.

d. Website: A consultant (Pinnacle Communications) was hired by STEP to create a dedicated program website in DRUPAL (www.smalltownenergy.org). This was linked to the Town web site, and served as the major hub of news, information and forms throughout the program.

e. Facebook: STEP used social marketing, including Facebook and links to various web sites. The program's Facebook page provided regular updates, and informed residents of upcoming events.

f. iPad and Dropbox: The Energy Coach was armed with an iPad with Dropbox and wireless internet access. This enabled her to effectively meet with STEP participants in their homes or elsewhere, having all necessary program resources and specific participant materials easily accessible.

5. Program Administrative Materials. STEP developed a number of forms to enable the program to be delivered and managed efficiently, including:

a. Participation Agreement: The participation agreement was the threshold document signed by all STEP participants. The form was divided into two parts: Part I with the sign-up information, and Part II with conditions and necessary background information. The form's multiple objectives were:

i. To provide client contact information
ii. To indemnify the Town/program from legal action
iii. To acknowledge the program Benefits, Requirements, Limitations

b. Utility Data Release Form: By signing this form, the participant provided permission for STEP to access their utility records. This was done in order to measure program impact on energy use, and was subject to confidentiality rules.

c. Preferred Contractor Summary Chart: The objective of this form was to assist homeowners in making a selection of their Home Performance with ENERGY STAR evaluation firm or contractor.

d. Financial Incentives Summary Chart: The objective of this form was to provide a matrix of all the available financial incentives for energy efficiency in the State

of Maryland, so participants could see quickly and clearly the incentives to which they may be entitled.

e. Financing Options Summary Chart: This form was used to provide information to participants who were interested in various energy efficiency loan options.

f. Residential Energy Efficiency Programs Summary Chart: This form was for information purposes only, so that prospective participants could see all of the programs operating throughout the state to which they may be entitled.

g. Request for Incentives Form: This form served as the close-out for participants, and provided all of the necessary details for tracking and recording purposes, as well as a prompt for STEP to release final incentives.

h. Form Emails: Template email messages were developed, to enable the Energy Coach to quickly and easily provide useful operational information to participants at each phase of the program, including (among others): at the time a potential participant requested information regarding sign up, upon sign up for the program by participants who wanted STEP to assist with the selection of their energy evaluator or those who wanted to select their energy evaluator themselves, upon delivery of an energy evaluation report, once improvements had been completed but incentive applications had not yet been filed, after STEP's incentive was processed, and to remind folks who had signed up for STEP but hadn't yet had the energy evaluation that it was time to move forward.

i. Technical Consulting Forms: STEP's Technical Consultant was available to participants, as needed, to provide more in-depth technical consultations than the Energy Coach was able to address (such as to help determine the best approach to addressing a problem or building area), to analyze and compare improvement proposals, and to review energy evaluations and improvements for quality assurance.

5. Outreach Materials.

a. Information fliers: Fliers were developed for STEP in English and Spanish, including a simple door-drop flier and a tri-fold flier with more information.

b. Event collateral: Fliers and postcards were developed to inform residents about STEP house parties, community events and other activities.

c. Ready-Set-Save flier: This flier summarized the entire process for STEP participants, and became *the* touchpoint document for the Energy Coach in guiding participants through the program.

d. Yard signs: For STEP participants who voluntarily wanted to demonstrate their participation in the program, STEP developed a yard sign. The yard sign proved to be an extremely effective outreach tool. Participants were eager to let their neighbors know that they were participating in the program, and upon deploying the signs in the neighborhood, new program sign-ups surged.

e. Case studies: STEP developed a series of text and video case studies with early adopters of the program. These case studies helped prospective participants understand from their neighbors why they participated in STEP.

Attachments

Program Administrative Materials

1. Participation Agreement
2. Utility Data Release Form
3. Preferred Contractor Chart
4. Financial Incentives Chart
5. Financing Options Chart
6. Energy Efficiency Programs Summary Chart
7. Request for Incentives Form
8. STEP Brochure
9. STEP Flier
10. STEP Yard Sign
11. Ready Survey
12. Set Survey
13. Save Survey
14. Non-Participant Survey
15. Baltimore Research & Pinnacle Communications Analysis Report
16. ICF Incorporated Utility Impact Assessment Report

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PARTICIPATION AGREEMENT

PART ONE

The Small Town Energy Program ("STEP" or the "Program") is a residential energy efficiency program funded by a grant from the US Department of Energy to the Town of University Park, Maryland. The Program was initiated in University Park in January 2011, and expanded to the neighboring communities of College Heights Estates, Hyattsville and Riverdale Park in June 2012 (collectively with the Town, the "Program Sponsors"). The Program will run until July 2013.

Participation in STEP has many benefits as well as certain requirements. **Before signing and returning Part One of this Form, please carefully review Part Two, which explains the Program policies and requirements.** If you have any questions, please ask Suzanne Parmet, STEP's Energy Coach. Suzanne may be reached at energycoach@smalltownenergy.org or 240.695.3991.

ONCE COMPLETED, PLEASE RETURN PART ONE OF THIS FORM TO SUZANNE BY: (a) emailing it to energycoach@smalltownenergy.org, (b) mailing it to University Park Town Hall (6724 Baltimore Ave, University Park, MD 20782), or (c) dropping it off at University Park Town Hall. Thank you!

PART ONE – APPLICATION FORM

Please review Part Two before completing Part One.

1 CONTACT INFORMATION. Please provide the following contact information for your household ("Participant").

1 RESIDENT (primary contact)		2 RESIDENT (if 2nd adult in household)	
NAME:		NAME:	
EMAIL:		EMAIL:	
CELL#:		CELL#:	
WORK#:		WORK#:	
ADDRESS:		CITY (MAILING):	
STATE:	ZIP:	HOME#:	

COMMUNITY (Please select one): ○ College Heights Estates ○ Hyattsville ○ Riverdale Park ○ University Park

If Resident is not the Owner, HOMEOWNER'S CONTACT INFORMATION	
NAME:	EMAIL OR PHONE:

2 ELIGIBILITY. Please confirm that Participant is eligible to participate in STEP by **initialing in the box.** ☐

3 BENEFITS. Please confirm that Participant understands all of the benefits of participating in STEP by **initialing in the box.** ☐

4 REQUIREMENTS. Please confirm that Participant understands and agrees to all of the requirements of participating in STEP by **initialing in the box.** ☐

A. SELECTION OF HOME ENERGY EVALUATION FIRM. *Please select **one** of the two options below:*

○ Participant will select the evaluation firm. Participant will contact the selected firm directly to schedule the evaluation.

OR

○ STEP will suggest a specific STEP Preferred Contractor to undertake the evaluation. The evaluation firm will contact the Participant to schedule a mutually acceptable date / time for the evaluation.

CONTINUE →

B. DELIVERY OF READY SURVEY. Please confirm completion of the **Ready Survey** found at http://www.surveymonkey.com/s/STEP_READY by **initialing in the box.**

C. DELIVERY OF UTILITY DATA RELEASE FORM. Please confirm execution and delivery to STEP of the Consent to Utility Data Release form by **initialing in the box.**

5 PROGRAM YARD SIGN. *Please select **one** of the two options below:*

❍ Participant desires to display a STEP yard sign and agrees to follow the yard sign protocol described in Part Two.

OR

❍ Participant does NOT wish to display a STEP yard sign.

6 MEDIA RELEASE. *Please select **one** of the two options below:*

❍ Participant grants permission for the name, voice and photographic likeness of any of Participant's household members, and the statements provided by such individuals regarding STEP, to be used, reproduced, exhibited, displayed, broadcast or distributed by STEP.

OR

❍ Participant does NOT grant permission for the name, voice or photographic likeness of any of Participant's household members, nor the statements provided by such individuals regarding STEP, to be used in any way by STEP.

7 LIABILITY RELEASE.

Please confirm that Participant understands and agrees to fully release the Indemnitees, as described in the "Liability Release" by **initialing in the box.**

YES, I WANT TO PARTICIPATE!

In consideration for participating in STEP and being eligible to receive the benefits provided, the undersigned does hereby acknowledge and agree to this STEP Participation Agreement, and does hereby certify the accuracy of the information provided to STEP in this Participation Agreement. **IN WITNESS WHEREOF,** the undersigned has executed this STEP Participation Agreement as of _____ (mm/dd/yyy).

RESIDENT #1 SIGNATURE
(on behalf of all members of Participant's household)

HOMEOWNER SIGNATURE
(required, in addition to Resident #1's signature, only if Participant is not the property owner)

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PARTICIPATION AGREEMENT
PART TWO

PART TWO – PROGRAM POLICIES

Please review Part Two before completing Part One.

1 **CONTACT INFORMATION.** Participant shall provide current contact information. If any of this information changes while Participant is participating in STEP, Participant shall promptly notify STEP.

2 **ELIGIBILITY.** Residents of the following communities are eligible to participate in the Program: (a) College Heights Estates neighborhood of Hyattsville (20782 and 20783), (b) City of Hyattsville (20781, 20782, 20783), (c) Town of Riverdale Park (20737), and (d) Town of University Park (20782). Residents who are not the homeowner must obtain the permission of the property owner(s).

3 **BENEFITS.**

A. **ENERGY COACHING.** Suzanne Parmet, STEP's Energy Coach, is available to assist Participants through every step of the energy-improvement process, including: providing general information, explaining energy evaluation reports, discussing recommended improvements, and describing financial tools and incentives.

B. **FINANCIAL INCENTIVES.** Participants shall receive detailed information regarding financial incentives available from all relevant sources. In addition, STEP provides each Participant up to $400 to cover the cost for making at least $400 of energy efficiency improvements recommended in their energy evaluation report. This incentive shall be paid at the completion of the improvement process in accordance with the following milestones and time frames:

Milestone	Time frame for Completion from Date of signed Participation Agreement	Incentive Amount
Home energy evaluation completed	2 MONTHS	$100
Copy of signed contract for making energy efficiency improvements submitted to Energy Coach	4 MONTHS	$100
STEP Request for Incentives form, with all required documentation, submitted to Energy Coach	6 MONTHS	$200
TOTAL incentive available for timely completion of all milestones		**$400**

C. **FINANCING.** Sandy Spring Bank has agreed to provide qualified STEP Participants with low-interest loans for approved home energy efficiency upgrades. Participants shall receive detailed information regarding the Sandy Spring Bank loan, as well as other advantageous loan programs for energy efficiency improvements available from Maryland, Prince George's County and other sources.

D. **HOME PERFORMANCE FIRMS.** Participants shall receive detailed information regarding the home energy evaluation and improvement firms that have been selected as STEP's Preferred Contractors, as well as guidance regarding issues to consider when selecting a firm for performing an energy evaluation or improvements.

4 **REQUIREMENTS.**

A. **HOME ENERGY EVALUATION.**

i. Participants agree to have a whole-house energy evaluation performed on their home, at their own expense. Those who are eligible for the Pepco Home Performance with ENERGY STAR Program (the "Pepco Program"), the Be SMART Home Energy Efficiency Rebate Program (the "Be SMART Program") or any other then available rebate / incentive program shall participate in the applicable program(s) and follow all of the rules applicable to such program(s), including which energy evaluation firms may be used. (Please check with the Energy Coach before selecting an energy evaluation firm.)

CONTINUE →

ii. Participants may choose the energy evaluation firm they would like to use, subject to the requirements of subsection i. above, or they may opt to have STEP suggest a specific STEP Preferred Contractor to undertake the energy evaluation.

iii. Each participant will provide to STEP a copy of their energy evaluation report and related data as requested by STEP, or allow STEP to obtain this information directly from the evaluation firm.

B. IMPROVEMENTS. Participants who elect to make improvements recommended in their energy evaluation report will do so at their own expense. Those who are eligible for the Pepco Program, the Be SMART Program or any other then available rebate / incentive program shall participate in the applicable program(s) and follow all of the rules applicable to such program(s), including which contractors may be used to install the imrpovements. (Please check with the Energy Coach before selecting a contractor.) Each Participant will provide to STEP information regarding improvements undertaken, including the scope of work, the cost of the work, and any incentives (including tax credits and rebates) obtained, or allow STEP to obtain this information directly from the contractor(s).

C. SURVEYS. Participants will respond to all STEP surveys, including those regarding their homes and households, the energy evaluation, the improvements, and the Program. It is preferable that the surveys be completed online; however, hard copies are available upon request.

D. UTILITY DATA. All participants shall execute a "Consent to Utility Data Release" form, which will enable STEP to obtain up to five (5) years of utility data directly from your utility providers.

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5 PROGRAM YARD SIGN. Participants are eligible to display a STEP yard sign provided they agree to comply with the following protocols:

A. After completion and delivery of the Participation Agreement to STEP, STEP will provide Participant with a yard sign.

B. Participant will plant the sign in their front lawn. The sign shall be located on their private property, and shall not be placed so as to impede easy access to the home's front entry or any public areas (such as a sidewalk).

C. Upon completion of the home energy evaluation, Participant will place a check mark in the box adjacent to "evaluation." It is preferable that a permanent black marker be used.

D. Upon completion of energy efficiency improvements, Participant will place a check mark in the box adjacent to "improvements." It is preferable that a permanent black marker be used.

E. At termination of the Program or if, at an earlier date, Participant no longer desires to display the yard sign, Participant shall remove and recycle the yard sign.

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6 MEDIA RELEASE. STEP may take photographs and/or video at various events it sponsors. In addition, STEP may request that Participants provide oral or written feedback regarding their participation in STEP. STEP would like to use clips from the photographs, video and statements collected on the STEP website as well as include them in a tool kit of materials to be used by other small towns developing their own energy efficiency programs.

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7 LIABILITY RELEASE. By executing the Participation Agreement, Participant shall be indicating his/her/their agreement with and understanding of each of the following statements:

A. This Agreement has been read in its entirety and Participant has and/or shall abide by all of the terms set forth herein.

B. The type and extent of incentives and other support provided by the Program (and/or by other programs) are subject to change based on available resources.

C. STEP and the Program Sponsors, and their officials, agents, servants, employees and/or authorized representatives (collectively, the "Indemnitees"), provide no guarantee nor shall they be responsible for: (i) any representations, advice or other information or opinions provided by a financial institution, home energy evaluator, home improvement contractor or other third party, nor for the quality, scope or efficacy of work, information or opinions provided by such third parties, (ii) any financial institution's, evaluator's, improvement contractor's or other third party's work or services, (iii) any reduction in energy bills, improvement in comfort, safety or value of Participant's home, or the achievement of any other results sought by Participant as a result of the evaluation or the improvements (if any), or (iv) the accuracy or efficacy of information and resources generated by others, notwithstanding that such information or resources may be provided and/or evaluated by any of the Indemnitees.

D. Participant shall release, indemnify, forever discharge and hold harmless the Indemnitees from and against all suits, actions, damages and costs of every kind and description, including attorneys' fees, arising directly or indirectly, in whole or in part, out of (i) the negligent or other acts or omissions of third parties, including financial institutions, home energy evaluators and home improvement contractors, and (ii) any provision or evaluation by any of the Indemnitees of information and resources provided by such third parties.

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UTILITY DATA RELEASE FORM

The Small Town Energy Program (STEP) desires to collect utility information with respect to each of its participants in order to assess the effectiveness of the program. The information sought is energy usage and cost information, not information on the method or timing of payment.

The undersigned, a participant in STEP, hereby authorizes Pepco and Washington Gas to release to STEP the billing information specified below, for the accounts specified below, for the five (5) year period beginning January 1, 2009 and ending on December 31, 2014 (or so much thereof as is available).

SERVICE ADDRESS: (STREET #, STREET, UNIT #, TOWN, STATE, ZIP)	
PEPCO ACCOUNT #:	
WASHINGTON GAS ACCOUNT #:	
NAME ON PEPCO ACCOUNT:	
NAME ON WASHINGTON GAS ACCOUNT:	
BILLING INFORMATION REQUESTED FROM PEPCO AND WASHINGTON GAS:	• Consumption amount (in kWh or therms, as applicable) for each billing cycle • Meter read date for each billing cycle • Days in each billing cycle • Bill amount for each billing cycle

IN WITNESS WHEREOF, the undersigned has executed this Utility Data Release Form as of the _____ day of _____, 2012.

SIGNATURE OF PEPCO ACCOUNT HOLDER

SIGNATURE OF WASHINGTON GAS ACCOUNT HOLDER

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PREFERRED CONTRACTORS

	Doman Custom Carpentry	ecobeco	EDGE Energy	Efficient Home	TerraLogos Energy Group
CONTACT INFORMATION					
Firm Website	www.domancustomcarpentry.com	www.ecobeco.com	www.edge-gogreen.com	www.efficienthomellc.com	www.TerraLogosEG.com
Contact Name					
Contact Phone					
QUALIFICATIONS & CAPACITY					
Pepco Participating Contractor	Yes	Yes	Yes	Yes	Yes
Be SMART Participating Contractor	No	No	Yes	Yes	Yes
Type of Firm	Evaluation & Install	Evaluation & Refer to Contractor	Evaluation & Install	Evaluation & Install	Evaluation & Install
Number of Evaluators	2	7	6	23	3
ENERGY EVALUATION SERVICES & REPORT					
Days & Hours Evaluations Performed	Mon-Sat 8-4	Mon-Fri 8-6	Mon-Fri 7-4	Mon-Fri 9-3	Mon-Fri 9-5
Time per Evaluation (avg)	3 hours	3.5 hours	2-3 hours	3 hours	3.5 hours
Time from Evaluation to Report (avg)	1 business day	2 weeks	7 business days	2 business days	2 weeks
Evaluation Report contains:					
Context (size, HVAC info, etc.)	Yes	Yes	Yes	Yes	Yes
Air leakage rate; optimal rate	Yes	Yes	Yes	Yes	Yes
Photos re issues/recommendations	Yes	Yes	Yes	Yes	Yes
Estimated energy savings	Yes	Yes	Yes	Yes	Generically (not specific to house)
Work estimate/proposal	Estimate included	Estimate included	Proposal attached	Estimate included; proposal offered	Offered
Current energy use breakdown	Yes	Yes	Yes	Yes	Yes
CONTRACTING SERVICES					
Firm does Thermal Envelope Work	Yes	No	Yes	Yes	Yes
If yes, how performed?	Mix of in-house & subcontract	n/a	All in-house	Mix of in-house & subcontract	All subcontract
Firm does HVAC Work	Yes	No	Yes	Yes	Yes
If yes, how performed?	All subcontract or referral	n/a	Mix of in-house & subcontract	All subcontract	All subcontract or referral

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PREFERRED CONTRACTORS

	Doman Custom Carpentry	ecobeco	EDGE Energy	Efficient Home	TerraLogos Energy Group
PERFORMANCE REVIEWS					
MD HPwES Customer Ratings	www.mdhomeperformance.org/contractors.php?contractors_id=17	www.mdhomeperformance.org/contractors.php?contractors_id=19	www.mdhomeperformance.org/contractors.php?contractors_id=21	www.mdhomeperformance.org/contractors.php?contractors_id=22	www.mdhomeperformance.org/contractors.php?contractors_id=53
STEP Participant Ratings re Energy Evaluation (# of Ratings)	9	15	11	31	5
Firm easy to work with	4.8	4.7	4.9	4.7	5.0
Firm responsive to our inquiries	5.0	4.6	4.7	4.6	4.8
Firm prepared us for energy evaluation	4.8	4.7	4.6	4.9	5.0
Evaluator professional, courteous and considerate	4.9	5.0	4.8	5.0	5.0
Evaluator experienced, skilled and knowledgeable	4.8	5.0	4.6	4.9	5.0
Evaluator explained evaluation and answered questions	4.9	4.9	4.7	4.7	4.8
Evaluation a thorough investigation	5.0	4.8	4.5	4.7	5.0
Report delivered within proposed / reasonable timeframe	4.7	4.7	4.1	4.8	5.0
Report easy to read and understand	4.9	4.7	4.6	4.7	4.6
Report, evaluator and/or firm explained Pepco Program	4.7	4.4	4.3	4.6	4.8
Working with firm a positive experience; we'd recommend them	4.7	4.7	3.9	4.6	4.8

Contact STEP's Energy Coach for more information & sample energy evaluation reports.

STEP SMALL TOWN ENERGY PROGRAM

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PREFERRED CONTRACTORS

	Doman Custom Carpentry	ecobeco	EDGE Energy	Efficient Home	TerraLogos Energy Group
STEP Participant Ratings re Improvements (# of Ratings)	4	n/a	2	34	2
Firm easy to work with	4.8	n/a	5.0	4.7	5.0
Firm responsive to our inquiries	4.8	n/a	5.0	4.8	4.5
Proposal sufficiently detailed and clear	5.0	n/a	5.0	4.8	5.0
Firm prepared us for the installation	5.0	n/a	5.0	4.7	4.5
Firm professional, courteous and considerate	5.0	n/a	5.0	4.9	5.0
Installers professional, courteous and considerate	5.0	n/a	5.0	4.8	4.5
Installers experienced, skilled and knowledgeable	5.0	n/a	5.0	4.9	5.0
Installers did a thorough job	5.0	n/a	5.0	4.7	5.0
Work completed within proposed / reasonable timeframe	4.8	n/a	5.0	4.9	5.0
Firm explained Pepco Program	4.8	n/a	5.0	4.2	4.5
Working with firm a positive experience; we'd recommend them	4.8	n/a	5.0	4.7	5.0

Contact STEP's Energy Coach for more information & sample energy evaluation reports.

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2013 FINANCIAL INCENTIVES FOR STEP PARTICIPANTS

RESIDENTIAL ENERGY EVALUATIONS & ENERGY EFFICIENCY IMPROVEMENTS

MEASURES	MAXIMUM INCENTIVE LEVELS				CONDITIONS
	Pepco	DHCD	STEP	Federal Tax Credit	
Energy Evaluation	Fee = $100	Fee = $100	Any Additional Fee	N/A	PEPCO: must use a Pepco Participating Contractor; includes direct install measures (up to 12 CFLs, electric water heater tank and pipe wrap, low flow showerheads, faucet aerators) DHCD: must use a Be SMART Eligible Contractor STEP: if fee in excess of $100 is justified and preapproved, STEP will cover additional cost
Air Sealing & Insulation	$2,000	$2,000	$400	10%	PEPCO: 50% of cost, up to $2,000; air sealing costs are eligible provided air leakage reduction ≥ 20% or Savings to Investment Ratio ≥ 0.8; attic flat insulation costs are eligible provided existing insulation ≤ R20 and insulation level brought up to R38 or > (if not floored), or Savings to Investment Ratio ≥ 0.8; certain combustion safety issues must be remediated; exhaust fans must be vented to exterior; work scope may include window replacement provided focus of work is air sealing and/or insulation; must use a Pepco Participating Contractor DHCD: 50% of cost, up to $2,000; must use a Be SMART Eligible Contractor STEP: see "Miscellaneous" on the next page Federal Tax Credit: 10% of materials cost up to $500
Duct Sealing	$250	$250		N/A	PEPCO: up to $250 provided duct leakage reduced by at least 50%; must use a Pepco Participating Contractor DHCD: up to $250; must use a Be SMART Eligible Contractor STEP: see "Miscellaneous" on the next page
Air Conditioning (Central)	$100 - $500	$500		$300	PEPCO: $100 toward tune-up, $150 toward upgrade if at least 14.5 SEER & 12 EER, $300 toward upgrade if at least 15 SEER & 12.5 EER, $500 toward upgrade if at least 16 SEER & 13 EER; must use a Pepco Participating HVAC Contractor DHCD: must be if at least 14.5 SEER & 12 EER; must use a Be SMART Eligible Contractor STEP: see "Miscellaneous" on the next page Federal Tax Credit: must be at least SEER 16 & EER 13
Air Source Heat Pump (Electric)	$100 - $500	$500		$300	PEPCO: $100 toward tune-up, $200 toward upgrade if at least 14.5 SEER & 12 EER & 8.2 HSPF, $300 toward upgrade if at least 15 SEER & 12.5 EER & 8.5 HSPF, $500 toward upgrade if at least 16 SEER & 13 EER & 9 HSPF; must use a Pepco Participating HVAC Contractor DHCD: must be at least 14.5 SEER & 12 EER & 8.2 HSPF; must use a Be SMART Eligible Contractor STEP: see "Miscellaneous" on the next page Federal Tax Credit: must be at least 8.5 HSPF & 12.5 EER & 15 SEER
Furnace (Gas, Oil or Propane)	N/A	$500		$150	DHCD: must be at least 92 AFUE with ECM blower fan; must use a Be SMART Eligible Contractor STEP: see "Miscellaneous" on the next page Federal Tax Credit: must be at least 95 AFUE
Boiler (Gas, Oil or Propane)	N/A	$500 - $2,000		$150	DHCD: $500 if at least 85 AFUE, $1,000 if at least 90 AFUE, $1,750 if at least 95 AFUE; $250 additional if coupled with indirect companion tank; must use a Be SMART Eligible Contractor STEP: see "Miscellaneous" on the next page Federal Tax Credit: must be at least 95 AFUE
Heat Pump Hot Water Heater (Electric)	$350	$350		$300	PEPCO: must be Energy Star qualified; must use a Pepco Participating HVAC Contractor DHCD: must be Energy Star qualified; must use a Be SMART Eligible Contractor STEP: see "Miscellaneous" on the next page Federal Tax Credit: must be at least 2.0 Energy Factor

(UPDATED 4/22/13)

CONTINUE →

STEP SMALL TOWN ENERGY PROGRAM

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2013 FINANCIAL INCENTIVES FOR STEP PARTICIPANTS

RESIDENTIAL ENERGY EVALUATIONS & ENERGY EFFICIENCY IMPROVEMENTS

MEASURES	MAXIMUM INCENTIVE LEVELS				CONDITIONS
	Pepco	DHCD	STEP	Federal Tax Credit	
Hot Water Heater (Electric)	$350	$350	$400	$300	PEPCO: must be Energy Star qualified; must use a Pepco Participating HVAC Contractor DHCD: must be Energy Star qualified; must use a Be SMART Eligible Contractor STEP: see "Miscellaneous" below
Hot Water Heater (Gas, Oil or Propane)	N/A	N/A		$300	Federal Tax Credit: must be at least 0.82 Energy Factor or 90 Thermal Efficiency STEP: see "Miscellaneous" below
Tankless Hot Water Heater	N/A	$350		N/A	DHCD: must be Energy Star qualified; must use a Be SMART Eligible Contractor STEP: see "Miscellaneous" below
Ductless Mini-Split System (AC or Heat Pump)	$300	$300		N/A	PEPCO: for air conditioning system, must be at least 16 SEER & 13 EER; for heat pump system, must be at least 16 SEER & 13 EER & 9 HSPF; must use a Pepco Participating HVAC Contractor DHCD: for air conditioning system, must be at least 16 SEER & 13 EER; for heat pump system, must be at least 16 SEER & 13 EER & 9 HSPF; must use a Be SMART Eligible Contractor STEP: see "Miscellaneous" below
Appliances	$25 - $150 Each	$25 - $150 Each		N/A	PEPCO: must be Energy Star qualified; dehumidifier or room AC unit = $25, clothes washer (tier 1) = $50, clothes washer (tier 2/3) = $100, freezer = $75, refrigerator (tier 1) = $100, refrigerator (tier 2/3) = $150; $50 for recycling an old working refrigerator or freezer, $25 for recycling a working room air conditioner at the same time DHCD: must be Energy Star qualified; dehumidifier or room AC unit = $25, clothes washer = $50, freezer = $75, refrigerator = $150 STEP: see "Miscellaneous" below
Lighting	$1.50 - $10	N/A		N/A	PEPCO: $1.50 per Energy Star qualified CFL; $3 per Energy Star qualified CFL multi-pack; $10 per Energy Star qualified light fixture; $10 per Energy Star qualified LED lamp or fixture; instant in-store discount when purchased from a participating retailer; limit of 25 CFL or LED bulbs and 6 light fixtures per customer STEP: see "Miscellaneous" below
Miscellaneous	$80 - $160	N/A		N/A	PEPCO: rewards for participating in Energy Wise Rewards Program; 50% option: $40 annually, $40 install credit; 75% option: $60 annually, $60 install credit; 100% option: $80 annually, $80 credit; web-enabled programmable thermostat or outdoor switch STEP: up to $400 toward any energy efficiency improvement(s) recommended in evaluation report that satisfy Pepco or Federal Tax Credit standards; covers net cost after all other applicable incentives
Low Income Households	N/A (LIEEP moved to DHCD)	LIEEP $4,500; WAP up to $6,500 of envelope improve-ments + appliances & HVAC upgrades	N/A	N/A	DHCD LIEEP: whole-house energy evaluation and energy efficiency improvements; household must (a) have income no more than 200% of federal poverty level, (b) have a Pepco or BGE account, and (c) own home or have landlord's agreement to participate DHCD/COUNTY WAP: whole-house energy evaluation and energy efficiency improvements; household must (a) have income no more than 200% of poverty level or 60% of state median income (priority to lower income scale), (b) be elderly (60+), disabled or have children under 5 and/or have high/excessive energy consumption (priority to elderly), and (c) not have received WAP services since 1999

(UPDATED 4/22/13)

CONTINUE →

STEP SMALL TOWN ENERGY PROGRAM

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2013 FINANCIAL INCENTIVES FOR STEP PARTICIPANTS

RESIDENTIAL ENERGY EVALUATIONS & ENERGY EFFICIENCY IMPROVEMENTS

MEASURES	CONDITIONS
General Conditions & Information - Pepco	• **PEPCO HOME PERFORMANCE WITH ENERGY STAR PROGRAM:** http://homeenergysavings.pepco.com/home-performance-with-energy-star-program -Must be a Pepco customer with an active account in Maryland; must be a homeowner or tenant (with written permission of landlord) in single-family home, townhome, row home or 1 to 4 unit dwelling that are primary residences; home must have electric heat (e.g. heat pump) or central air conditioning; rebate paid 3 – 4 months after all forms submitted (post-install and test-out) • **PEPCO APPLIANCE REBATE PROGRAM:** http://homeenergysavings.pepco.com/appliance-rebate-program • **PEPCO ENERGY WISE PROGRAM:** https://energywiserewards.pepco.com/md/index.php • **PEPCO HVAC EFFICIENCY PROGRAM:** http://homeenergysavings.pepco.com/hvac-efficiency-program • **PEPCO LIGHTING PROGRAM:** https://homeenergysavings.pepco.com/lighting-program
General Conditions & Information - DHCD	• **DHCD BESMART HOME ENERGY EFFICIENCY REBATE PROGRAM:** www.mdhousing.org/website/programs/BeSmart/rebate.aspx -For homeowners who are not eligible for the Pepco Program; single family home or townhome -Must use a Be SMART Eligible Contractor for audit and improvements -Apply for pre-approval and reservation of rebate funds before making improvements • **DHCD EmPOWER Low Income Energy Efficiency Program:** www.mdhousing.org/website/Programs/LIEEP/Default.aspx • **DHCD / Prince George's County Weatherization Assistance Program:** www.princegeorgescountymd.gov/Government/AgencyIndex/HCD/weatherization.asp
General Conditions & Information - STEP	• **SMALL TOWN ENERGY PROGRAM:** www.smalltownenergy.org -Residents of College Heights Estates, Hyattsville, Riverdale Park and University Park -Must have whole-house energy audit, share energy usage & other information, and utilize Pepco HPwES Program or Be SMART Program
General Conditions & Information - Federal Tax Credit	**FEDERAL TAX CREDITS FOR CONSUMER ENERGY EFFICIENCY:** www.energystar.gov/index.cfm?c=tax_credits.tx_index • Must be an existing home and principal residence • Aggregate maximum tax credit = $500 • Available to the extent that homeowner has not previously taken ≥ $500 in federal tax credits for energy efficiency improvements in previous years

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FINANCING OPTIONS FOR ENERGY IMPROVEMENTS

Financing Programs*	MD DHCD Be SMART Home Complete	MD DHCD Be SMART Home ENERGY STAR	MEA/MCEC Maryland Home Energy Loan Program (Entire Home Package)	MEA/MCEC Maryland Home Energy Loan Program (Single Improvement)	Sandy Spring Bank
Loan Amount	Up to $15,000	Up to $15,000	$2,500 to $20,000	$2,500 to $20,000	$1,000 to $10,000 (greater on a case-by-case basis)
Interest Rate (no points, fees, or closing costs)	4.99%	6.99%	6.99%	9.99%	4% up to 36 months 4.5% up to 48 months
Lien	Unsecured	Unsecured	Unsecured	Unsecured	Unsecured
Term	3, 5 or 10 years	3, 5 or 10 years	Up to 10 years; amortized over loan term	Up to 10 years; amortized over loan term	Up to 4 years; amortized over loan term
Credit Requirements	640 or > credit score; debt-to-income ratio up to 50%	640 or > credit score; debt-to-income ratio up to 50%	620 or > credit score: debt-to-income ratio up to 60%; no bankruptcies or foreclosures within 7 years	620 or > credit score: debt-to-income ratio up to 60%; no bankruptcies or foreclosures within 7 years	(Inquire through SSB Contact)
Eligible Improvements	Any energy efficiency improvement recommended by energy evaluation, including: air sealing, attic/floor/wall insulation, hot water system improvements, furnace maintenance or replacement, lighting retrofit, and appliance replacement	ENERGY STAR appliance upgrades and energy efficient heating & cooling systems, ventilating fans, programmable thermostats, ceiling fans, insulation, windows and doors	Energy efficiency improvements recommended by energy evaluation (except windows and doors); must include insulation and duct sealing (if applicable)	Any qualifying ENERGY STAR improvement, replacement or repair, including: central AC system, furnace, water heater, boiler, air source heat pump, programmable thermostat, ceiling fan, ventilating fan	Any energy efficiency improvements recommended by energy evaluation
Eligible Borrower	MD homeowner improving primary residence	MD homeowner improving primary residence	MD homeowner improving primary residence	MD homeowner improving primary residence	STEP homeowner
Eligible Energy Evaluator	Be SMART Eligible Contractor	Evaluation not required	Lender-approved MD Home Performance with ENERGY STAR Participating Contractor ("MHP PC")	Evaluation not required	Pepco HPwES Participating Contractor or Be SMART Eligible Contractor
Eligible Contractor	Be SMART Eligible Contractor	Be SMART Eligible Contractor	Lender-approved MHP PC	Lender-approved contractor	Pepco HPwES Participating Contractor or Be SMART Eligible Contractor
Contact Information	http://www.mdhousing.org/Website/programs/BeSmart/Home.aspx	http://www.mdhousing.org/Website/programs/BeSmart/Home.aspx	http://mcecloans.com	http://mcecloans.com	Sharon Gibson, Laurel Lakes Office, 301.744.6400 x6521 sgibson@sandyspringbank.com

** Other terms apply with respect to these financing programs. Contact the specific program for details. Note that other financing options are available, including a home equity loan or line of credit, and personal savings. The total cost of utilizing a home equity loan/line or personal savings is likely to be less than any of the financing programs listed.*

(UPDATED 6/20/2012)

STEP | SMALL TOWN ENERGY PROGRAM

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RESIDENTIAL ENERGY EFFICIENCY PROGRAMS AVAILABLE TO STEP PARTICIPANTS

Program Name	Basic Description	Eligibility Requirements
STEP www.smalltownenergy.org	Assistance with home energy evaluation & improvement process, through the provision of information, technical advice and incentives.	Resident of College Heights Estates, Hyattsville, Riverdale Park or University Park; homeowner or tenant with landlord's written permission; participation in Pepco Program or Be SMART Program.
Pepco Home Performance with ENERGY STAR (HPwES) Program http://homeenergysavings.pepco.com/home-performance-with-energy-star-program	Whole-house energy evaluation with direct install measures (as applicable) & improvements through Pepco Participating Contractors; $100 for energy evaluation; incentives of up to $2000 for air sealing & insulation, plus up to $2000 for other energy efficiency improvements.	Pepco customer with an active account in Maryland; homeowner or tenant with landlord's written permission; home in a 1 to 4 unit building; primary residence; home has primary electric heat or central air conditioning.
DHCD Be SMART Home Energy Efficiency Rebate Program http://www.mdhousing.org/website/programs/BeSmart/rebate.aspx	Whole-house energy evaluation & improvements through Be SMART Eligible Contractors; $100 for energy evaluation; incentives of up to $2,000 for air sealing & insulation, plus up to $2,250 for other energy efficiency improvements.	Homeowner not eligible for or opts out of the Pepco HPwES Program; home has oil or gas heating system; home in 1 or 2 unit (side-by-side) building.
DHCD Low Income Energy Efficiency Program http://www.mdhousing.org/website/Programs/lieep/Default.aspx	Whole-house energy evaluation & improvements through LIEEP Participating Contractors; no cost for energy evaluation; up to $4,500 of improvements.	Household (a) has income no more than 200% of federal poverty level, (b) has Pepco or BGE account, and (c) is homeowner or tenant with landlord's written permission.
DHCD/County's Weatherization Assistance Program http://www.mdhousing.org/website/programs/wap/Default.aspx AND http://www.princegeorgescountymd.gov/Government/AgencyIndex/HCD/weatherization.asp	Whole-house energy evaluation & improvements through WAP Contractors; no cost for energy evaluation; up to $6,500 of improvements.	Household (a) has income no more than 200% of poverty level or 60% of state median income (priority to lower income scale), (b) is elderly (60+), disabled or has children under 5 and/or high/excessive energy consumption (priority to elderly), and (c) has not received WAP services since 1999.
Pepco Quick Home Energy Check-up Program http://homeenergysavings.pepco.com/quick-home-energy-check-up-program	Quick energy evaluation with direct install measures (as applicable) through Pepco subcontractor.	All Pepco customers who reside in Maryland.

(UPDATED 6/20/2012)

CONTINUE →

STEP | SMALL TOWN ENERGY PROGRAM

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RESIDENTIAL ENERGY EFFICIENCY PROGRAMS AVAILABLE TO STEP PARTICIPANTS

Program Name	Basic Description	Eligibility Requirements
Pepco Heating, Ventilation & Air Conditioning Efficiency Program http://homeenergysavings.pepco.com/hvac-efficiency-program	Performance tune-up or upgrade of HVAC equipment through Pepco Participating HVAC Contractors; up to $750 in rebates.	All Pepco customers who reside in Maryland.
Pepco Appliance Rebate Program http://homeenergysavings.pepco.com/appliance-rebate-program	Mail-in rebate for purchasing qualified ENERGY STAR appliances.	All Pepco customers who reside in Maryland.
Pepco Appliance Recycling Program http://homeenergysavings.pepco.com/appliance-recycling-program	Incentive paid for recycling certain refrigerators, freezers and (if picked-up with other appliance) window air conditioners.	Pepco customers who own the appliance to be recycled; picked up from account address; limit on # of appliances recycled.
Pepco Lighting Program http://homeenergysavings.pepco.com/lighting-program	Instant, in-store discount on select ENERGY STAR qualified CFLs, LED lamps and fixtures.	Purchase at a participating retailer; limits apply.
Pepco Consumer Electronics Program http://homeenergysavings.pepco.com/consumer-electronic-program	Instant, in-store discount on select energy-saving smart strips.	Purchase at a participating retailer; limits apply.
Pepco Energy Wise Rewards Program https://energywiserewards.pepco.com/	Pepco cycles use of central air conditioning and heat pumps over short intervals on peak demand summer days in exchange for bill credits; customer chooses participation level and energy-saving device.	All Pepco customers who reside in Maryland.

(UPDATED 6/20/2012)

STEP | SMALL TOWN ENERGY PROGRAM

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Save REQUEST FOR INCENTIVES

The Small Town Energy Program ("STEP" or the "Program") provides each of its participants up to $400 to cover the cost for making at least $400 of energy efficiency improvements recommended in their energy evaluation report. This incentive is payable at the completion of the improvement process in accordance with certain milestones and timeframes.

Please complete this Request for Incentives form in order to claim the STEP financial incentive for which you are eligible. If you have any questions about this form, please ask Suzanne Parmet, STEP's Energy Coach. Suzanne may be reached at energycoach@smalltownenergy.org or 240.695.3991.

ONCE COMPLETED, PLEASE RETURN THIS FORM TO SUZANNE BY: (a) emailing it to energycoach@smalltownenergy.org, (b) mailing it to University Park Town Hall (6724 Baltimore Ave, University Park, MD 20782), or (c) dropping it off at University Park Town Hall. Thank you!

1 CONTACT INFORMATION. Please provide the following contact information for your household ("Participant").

1 RESIDENT	2 RESIDENT *(if 2nd adult in household)*	
NAME:	NAME:	
ADDRESS:	CITY:	
STATE:	ZIP:	HOME #:
If Resident is not the Owner, HOMEOWNER'S CONTACT INFORMATION		
NAME:	EMAIL OR PHONE:	

2 MILESTONE INFORMATION. Please provide the completion dates for each of the following milestones.

Milestone	Time frame for Completion from Date of Signed/Submitted Participation Agreement	Incentive available if Time frame Satisfied	Date Completed
Participation Agreement signed and submitted to Energy Coach	N/A	N/A	
Home energy evaluation completed (date evaluator came to your home)	2 MONTHS	$100	
Copy of signed work contract submitted to Energy Coach	4 MONTHS	$100	
Submission of this Request fully completed (as described herein)	6 MONTHS	$200	

CONTINUE →

3 PARTICIPATION IN OTHER PROGRAMS.

Please select the other program(s) for which Participant was eligible to participate in connection with the energy efficiency improvements that are the subject of this Request. (Please select all that apply.)

- ❍ Pepco Home Performance with ENERGY STAR Program
- ❍ DHCD's Be SMART Home Energy Efficiency Rebate Program
- ❍ Other (please specify):

4 SATISFACTION OF STEP REQUIREMENTS.

Please confirm that Participant has satisfied **all** of the following requirements by **initialing in the box. →**

A. Participant is eligible to participate in STEP.

B. Participant has satisfied all of the requirements for participating in the program(s) selected in Section 3 above (including engaging an eligible energy evaluation firm and improvement contractors), and has or will apply for the incentives available under such program(s).

C. Participant is submitting to STEP with this Request, or has previously submitted, all of the following documentation (all of which may be copies):
- → Evaluation report
- → Beacon report prepared with evaluation (note: this may be included in the evaluation report)
- → Work receipt or invoice marked "paid"
- → If air sealing, insulation and/or duct sealing improvements were undertaken:
  - **1)** Test-out form
  - **2)** Beacon report revised to reflect work completed and test-out results
- → If other energy efficiency improvements (e.g. heating or cooling system, hot water heater, windows) were undertaken:
  - **1)** Evidence that the contractor is licensed by the State of Maryland to install the applicable improvements
  - **2)** Evidence that energy efficiency rating(s) of item(s) installed satisfies the highest performance standards set forth by the program(s) selected in Section 4 above

D. Participant has completed the following three (3) STEP online surveys:
- → Paricipation Survey
- → Evaluation Survey
- → Improvement Survey

IN WITNESS WHEREOF, the undersigned has executed this Request for Incentives form as of the _____(mm/dd/yyyy), and does hereby certify the accuracy of the information provided to STEP in this Request for Incentives form.

RESIDENT #1 SIGNATURE
(on behalf of all members of Participant's household)

HOMEOWNER SIGNATURE
(required, in addition to Resident #1's signature, only if Participant is not the property owner)

WHAT IS STEP-UP?

The Small Town Energy Program (STEP) is for residents of College Heights Estates, Hyattsville, Riverdale Park and University Park. The program makes it easy and affordable for you to increase the energy efficiency of your home, so you and your family may enjoy these benefits year-round:

- **Comfort**, with fewer drafts and hot/cold rooms;
- **Savings**, with lower utility bills and huge rebates for home energy improvements;
- **Value**, because an energy-upgraded home is worth more to buyers; and
- **Health**, by helping to identify mold, moisture, CO leaks and home air quality issues.

"The process is much easier than I thought, so don't let this opportunity get away from you."

Michele L.

STEP UP

SMALL TOWN ENERGY PROGRAM FOR UNIVERSITY PARK

Small STEP. Big Impact.

www.SmallTownEnergy.org
energycoach@smalltownenergy.org
240-695-3991

BETTER BUILDINGS
U.S. DEPARTMENT OF ENERGY

STEP-UP is made possible by a grant from the Better Buildings Neighborhood Program of the U.S. Department of Energy.

"As the Energy Coach, I'm dedicated to helping you get all of the benefits of STEP-UP and making the program smooth and simple.

You can call, email or meet with me for answers, information, and all types of assistance."

Energy Coach
Suzanne Parmet

STEP UP
SMALL TOWN ENERGY PROGRAM FOR UNIVERSITY PARK
Small STEP. Big Impact.

ITS AS *Easy* AS:

Ready

Sign up, learn about the benefits and get ready to save.
www.SmallTownEnergy.org
240-695-3991

Set

Get an energy evaluation, find out what your home needs, and decide on the improvements you'll make.

Save

Make improvements, get financial incentives, and enjoy comfort and lower bills.

A STEP-UP *Success* STORY

STEP-UP recently helped University Park residents Sandy and Brandt make their home more comfortable and energy efficient. "There was one side of the house where most of the windows had been replaced just before we moved in so we figured there weren't any issues with them. The evaluation found just the opposite," Sandy said. "When the windows were installed they were never caulked, so the evaluator showed me where you could actually look right through the space and see outside the house. That really shocked me, but it also was an easy and inexpensive repair that made a huge difference. And on top of the energy savings, we benefitted by reducing the noise from the road and from the rattling of the windows when it got windy."

THE STATS

Home built in 1916 | 2,440 Sq. Ft. | Oil Heat

Project cost	$3,130
Rebates	$2,365
Project Cost After Rebates	$765
Energy Cost Savings/Year*	$1,168

*cost savings are estimates

WHAT YOU GET WITH STEP-UP

- Rebates of $400 to $4,650 for home energy efficiency upgrades
- Free support and answers from the Energy Coach
- Information on qualified energy evaluators and contractors
- A "one-stop shop" for accessing all available incentives
- Financing with low rates
- Follow-up to ensure your comfort and savings

> Within the first two months we saw our energy bill drop close to 20 percent."
>
> Tassie H.

SPECIAL FINANCING

Through an agreement with Sandy Spring Bank, qualified STEP-UP participants can get financing for home energy efficiency improvements at rates as low as 4%, with no money down. Between the rebates, energy bill savings and below market rate financing, your home energy improvements can quickly pay for themselves.

STEP UP
SMALL TOWN ENERGY PROGRAM FOR UNIVERSITY PARK

Small STEP. Big Impact.

LAST CALL TO SAVE WITH STEP!

MONDAY, APRIL 1ST, 2013 WILL BE THE LAST AND FINAL OPPORTUNITY FOR RESIDENTS OF COLLEGE HEIGHTS ESTATES TO JOIN THE SMALL TOWN ENERGY PROGRAM (STEP).

WHAT IS STEP?

STEP is a community program that makes it easy and affordable to improve the energy efficiency of your home. Hundreds of your neighbors are already participating in STEP.

"TO SAVE ENERGY IN YOUR HOME AND GET THE MAXIMUM REBATES THROUGH STEP, CONTACT ME TODAY."

Energy Coach
Suzanne Parmet

STEP will be closing the program to new participants after April 1st to ensure that all participants have enough time to complete the program by its end date of July 1st, 2013. So don't delay, sign up today!

More than 20 neighbors from College Heights Estates, almost 15% of all CHE households, are already participating in STEP.

HOW TO SIGN UP:

Sign up materials can be found on the STEP website at: www.SmallTownEnergy.org, or simply contact STEP Energy Coach Suzanne Parmet at: EnergyCoach@SmallTownEnergy.org or **240-695-3991**

STEP | SMALL TOWN ENERGY PROGRAM FOR COLLEGE HEIGHTS ESTATES

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STEP | SMALL TOWN ENERGY PROGRAM

We completed our home energy

- ☐ evaluation
- ☐ improvements

240-695-3991 www.SmallTownEnergy.org

BETTER BUILDINGS
U.S. DEPARTMENT OF ENERGY

Generously supported by Better Buildings and
The American Recovery and Reinvestment Act

STEP | SMALL TOWN ENERGY PROGRAM

We've taken a STEP forward and completed our home energy

- ☐ evaluation
- ☐ improvements

240-695-3991 www.SmallTownEnergy.org

BETTER BUILDINGS U.S. DEPARTMENT OF ENERGY

Generously supported by Better Buildings and The American Recovery and Reinvestment Act

Thanks for your interest in the Small Town Energy Program (STEP)!

We have just a few questions for you to answer as part of the process of signing up for STEP. This survey should take less than 10 minutes, and should be completed by the primary contact for your household. Your responses are very important to us, and will help us to develop future programs. As you progress through this survey, please provide your honest feedback. There are no right or wrong answers and the survey is strictly confidential.

After you complete this survey and submit the STEP Participation Agreement and the Utility Data Release Form, you will be contacted by Suzanne Parmet, STEP's Energy Coach, to discuss next steps.

1. Please provide your household's contact information

Name of primary contact:

Street Address (including unit #, if applicable)

Phone number

Email

2. Where do you live? (please select one)

- ○ College Heights Estates
- ○ City of Hyattsville
- ○ Town of Riverdale Park
- ○ Town of University Park

3. In which type of home do you live?

- Single family detached
- Single family attached (town home or row house)
- Residential building with 2 – 4 units
- Other (please specify)

4. Do you own or rent your home?

- Own
- Rent
- Other (please specify)

5. In what year did you start living at your present address?

6. To the best of your knowledge, how old is your home?

- Less than 5 years
- Between 5 and 10 years
- Between 11 and 20 years
- Between 21 and 40 years
- Between 41 and 80 years
- More than 80 years

7. Have you previously had a whole-house energy evaluation (also known as an audit or assessment) performed on your home by a certified energy evaluator?

- ○ No, prior to STEP I was not aware that such a service existed
- ○ No, there were other reasons I opted not to have it performed
- ○ Yes, within the past 12 months
- ○ Yes, 1 – 2 years ago
- ○ Yes, more than 2 years ago

8. Please rate how confident you are in your ability to complete each of the following tasks on your own, in the absence of STEP.

	1 VERY UNSURE	2 Somewhat unsure	3 Neither confident nor unsure	4 Somewhat confident	5 VERY CONFIDENT	N/A Not applicable
Find a qualified energy evaluator	○	○	○	○	○	○
Schedule the home energy evaluation	○	○	○	○	○	○
Review the home energy report	○	○	○	○	○	○
Select the appropriate upgrade measures based on the report	○	○	○	○	○	○
Obtain proposals to get the improvements done	○	○	○	○	○	○
Review the proposals and select a qualified improvement contractor	○	○	○	○	○	○
Evaluate if the job was done correctly	○	○	○	○	○	○
Identify and obtain the applicable incentives / rebates	○	○	○	○	○	○

9. How much do you agree or disagree with each of the following statements about having a whole- house energy evaluation performed on your home?

	1 STRONGLY DISAGREE	2 Somewhat disagree	3 Neither agree nor disagree	4 Somewhat agree	5 STRONGLY AGREE	N/A Not applicable
It will be time-consuming to find a qualified evaluator						
It is difficult to schedule the time to have the service performed						
Having to straighten up the house is a barrier to having the evaluation performed						
Concern about security / safety from strangers in our home is a barrier to having the evaluation performed						
We don't trust the contractors involved will be unbiased in their recommendations						
It will tell us we need to make improvements we cannot afford.						
Cost is a barrier to having the evaluation performed – because it has a fee, or the fee is too high						
We rent so do not believe that having the evaluation will help us.						
The overall process is too complicated						
We don't need the evaluation because we already know how to make our home more energy efficient						
We don't need the evaluation because our house is already as energy efficient as it needs to be						

10. Do your household have any additional concerns, other than those listed in the preceding question, about having a whole-house energy evaluation performed on your home?

- a. No
- b. Yes: (please specify)

11. From which of the following sources did your household get information about STEP? (please select all that apply)

- Community newsletter
- Community website
- Community listserv
- STEP staffer at my door
- STEP info left at my door
- At a STEP event
- STEP website
- Radio/TV/Newspaper
- From another STEP participant / neighbor / word of mouth
- Letter from mayor / community association
- Energy evaluator / contractor
- Other (please specify)

12. To which 2 sources of information did you give the most consideration when your household decided to join the program?

a. Source 1 (most consideration)

b. Source 2 (2nd most consideration)

13. The following are attributes of STEP. Please rate the importance of each to your decision to participate in STEP.

	1 VERY UNIMPORTANT	2 Somewhat unimportant	3 Neither important nor unimportant	4 Somewhat important	5 VERY IMPORTANT
The Energy Coach is available to provide unbiased advice and assistance throughout the process	○	○	○	○	○
STEP helps us get Pepco and State incentives / rebates for making improvements	○	○	○	○	○
STEP provides additional financial incentives / rebates for making improvements	○	○	○	○	○
Our community supports STEP	○	○	○	○	○
A low interest rate loan is available to participants	○	○	○	○	○

Other (please specify)

14. Why are you interested in finding out about and/or improving the energy efficiency of your home? Please rate the importance of each of the following statements.

	1 VERY UNIMPORTANT	2 Somewhat unimportant	3 Neither important nor unimportant	4 Somewhat important	5 VERY IMPORTANT
To find out how much energy we use in our home and for what purposes	○	○	○	○	○
To find out if there are any health or safety issues in our home (e.g. moisture, gas leaks)	○	○	○	○	○
To increase the value of our home	○	○	○	○	○
To save money on our energy bills	○	○	○	○	○
To make our home less drafty/temperatures more consistent between rooms	○	○	○	○	○
To reduce our household's carbon footprint	○	○	○	○	○

Other: (please specify)

15. Please indicate the extent to which you agree or disagree with each of the following statements.

	1 STRONGLY DISAGREE	2 Somewhat disagree	3 Neither agree nor disagree	4 Somewhat agree	5 STRONGLY AGREE
There is not much I can do to decrease the amount of energy used in my home.	○	○	○	○	○
Conserving energy makes a positive difference to future generations or the environment.	○	○	○	○	○
Efficiency actions can provide an easy way for me to control energy costs in our household.	○	○	○	○	○
Protecting the environment should be given priority, even if it causes slower economic growth and some loss of jobs	○	○	○	○	○
Economic growth and creating jobs should be the top priority, even if the environment suffers to some extent	○	○	○	○	○
Convenience is more important to me than saving money	○	○	○	○	○
My efforts to save energy and help the environment only make a difference if others do it too	○	○	○	○	○

16. How often do you do each of the following?

	1 VERY RARELY	2 Somewhat rarely	3 Sometimes	4 Somewhat often	5 VERY OFTEN
Turn off lights when not in use	○	○	○	○	○
Wash clothes in cold water	○	○	○	○	○
Turn down thermostat in the winter	○	○	○	○	○
Unplug appliances when not in use	○	○	○	○	○
Dry clothes on the line instead of a dryer	○	○	○	○	○

17. What is the highest level of education you have completed?

- Some high school
- Graduated high school
- Some college no degree
- 2-year college grad / Associate's Degree
- 4-year college grad / Bachelor's Degree
- Some graduate school
- Completed graduate / professional school (MA, MS, Ph.D. MD, JD)

18. What is your age?

- Under 19 years
- 20 to 24 years
- 25 to 29 years
- 30 to 34 years
- 35 to 39 years
- 40 to 44 years
- 45 to 49 years
- 50 to 54 years
- 55 to 59 years
- 60 to 64 years
- 65 to 74 years
- 75 to 84 years
- 85 years and over

19. What is the total number of people living in your home on a permanent basis?

20. What is your marital status?

- Single, living alone
- Cohabiting
- Married
- Separated
- Divorced
- Widowed

21. Gender

- Male
- Female

22. What is your ethnic background?

- American Indian/Alaskan Native
- Asian
- Black/African-American
- Caucasian/White
- Hawaiian/Pacific Islander
- Hispanic/Latino
- Mixed ethnicity or multi-ethnic
- Prefer not to answer
- Other (please specify)

23. Which of the following best describes your 2012 household income before taxes?

- Less than $25,000
- Between $25,000 and $49,999
- Between $50,000 and $74,999
- Between $75,000 and $99,999
- Between $100,000 and $149,999
- Between $150,000 and $199,999
- $200,000 or more
- Prefer not to answer

Thanks very much for participating in this survey. We really appreciate your time and help!

Thank you for your participation in the Small Town Energy Program (STEP), and for completing this short feedback survey about your home energy evaluation and the evaluation process. Your feedback matters! We need your insights to help us improve the program moving forward. Please complete only one survey per household. Individual responses will be kept strictly confidential.

1. Please indicate the name of the energy evaluation firm that you used, and the name of the individual who performed your whole-house energy evaluation.

Name of firm

Name of evaluator(s)

2. What are the primary reasons your household selected this firm? (please select all that apply)

- They are a neighbor/friend
- They were recommended by a neighbor/friend
- We had a previous business relationship with them
- They are located in Prince George's County
- They were on a STEP list of Participating or Preferred Contractors
- They were available on the date/time we wanted
- We were impressed when we met them at a STEP event
- We were impressed by their website and/or other marketing materials
- We were impressed by their sample report form
- They are a firm that only performs energy evaluations (not improvements)
- They provide both energy evaluations and improvements
- Other (please specify)

3. Please rate how much your household agrees or disagrees with each of the following statements with respect to the evaluation firm, the evaluator(s), and/or the evaluation report. (please select only one choice per statement)

	STRONGLY DISAGREE	Somewhat disagree	Neither agree nor disagree	Somewhat agree	STRONGLY AGREE
The firm was easy to work with.					
The firm was responsive to our inquiries.					
The firm prepared us for the evaluation - either on the phone or in writing (e.g. described the process, explained how to prepare our house, told us the information they would need from us).					
The evaluator was professional, courteous and considerate with respect to our home/time.					
The evaluator was experienced, skilled and knowledgeable with respect to the tests performed and home performance issues generally.					
The evaluator explained what he/she was doing and answered our questions during/after the evaluation.					
The evaluation was a thorough investigation of our home's energy systems and related issues.					
The report was delivered within the timeframe we'd been told (or, if no timeframe was given, within a reasonable period).					
The report was easy to read and understand.					
The report, the evaluator and/or the firm explained the Pepco Home Performance with ENERGY STAR Program (including eligibility requirements and incentives available).					
The report, the evaluator and/or the firm explained the status of other incentives available at the time, if any (such as the Be					

SMART Program, MD Home Performance Rebate Program, federal tax credits).					
Overall, working with this firm was a positive experience; we would recommend this firm to a friend.	○	○	○	○	○
Overall, working with the evaluator(s) was a positive experience; we would recommend the evaluator(s) to a friend.	○	○	○	○	○

4. Are there any additional comments you'd like to provide regarding...

a) the evaluation firm?

b) the evaluator(s)?

c) the evaluation report?

5. Has your household made any of the building envelope improvements (air sealing, insulation, ductwork) or upgraded any equipment (heating, cooling, hot water heater, appliances) recommended in your evaluation report?

- ○ Yes
- ○ No

5a) How likely is your household to implement some or all of the energy efficiency improvements recommended in your evaluation report at some point in the future? (please select only one)

	VERY UNLIKELY to make improvements	Somewhat unlikely	Neither likely nor unlikely	Somewhat likely	VERY LIKELY to make improvements
Likelihood	○	○	○	○	○

5b) Does your household have any concerns about implementing the recommended home energy efficiency improvements?

- ○ No
- ○ Yes

Please list your top concerns:

Concern #1

Concern #2

5c) How likely are each of the following to influence your household's decision to proceed with making improvements? (please select only one choice per statement)

	VERY UNLIKELY to influence decision	Somewhat unlikely	Neither likely nor unlikely	Somewhat likely	VERY LIKELY to influence decision
The Energy Coach is available to assist us with the process.					
STEP has staff available to answer technical questions and review the proposed work scope.					
STEP has staff available to check that the work has been properly completed.					
There are incentives available, ranging from $400 - $4,500, for eligible improvements.					
There is an option to pay only the net cost upfront (because a third party would "front" the incentive amount, which otherwise is received by the homeowner 1 to 2 months after the work has been completed and paid for).					
There is an option to borrow the cost of making the recommended improvements at a low interest rate.					

6. How often has your household been in contact with Suzanne Parmet, STEP's Energy Coach, since signing up for the program? (please select only one)

- We have had no contact with the Energy Coach since signing up for STEP
- We have met in person, spoken and/or emailed back and forth 1 time
- We have met in person, spoken and/or emailed back and forth 2 - 5 times
- We have met in person, spoken and/or emailed back and forth more than 5 times

7. Please rate how much your household agrees or disagrees with each of the following statements with respect to Suzanne Parmet, STEP's Energy Coach, based on your interaction with her to date. (please select only one rating per statement)

	STRONGLY DISAGREE	Somewhat disagree	Neither agree nor disagree	Somewhat agree	STRONGLY AGREE	N/A
The Energy Coach is easy to work with.						
The Energy Coach is responsive to our inquiries.						
The Energy Coach is professional, courteous and considerate with respect to our home/time.						
The Energy Coach was helpful in selecting an evaluation firm. **(Please select N/A is such assistance was not requested)**						
The Energy Coach was helpful in explaining the findings & recommendations in our report. **(Please select N/A is such assistance was not requested)**						
The Energy Coach was helpful in explaining available incentives. **(Please select N/A is such assistance was not requested)**						

8. Please rate your household's overall satisfaction with STEP, based on your participation to date. (please select only one)

	Very unsatisfied	Somewhat unsatisfied	Neither satisfied or unsatisfied	Somewhat satisfied	Very satisfied
Level of satisfaction					

9. Are there any additional comments you would like to provide regarding your household's experience to date working with...

a) STEP?

b) the Energy Coach?

10. Please provide the contact information requested below. This will enable us to confirm that your household has completed this survey. Your answers will only be reported in the aggregate, and will not be attributed to your household in any way.

Last name

House #

Street name

Thank you for completing this survey and sharing your opinions with us! Your feedback is crucial in helping to make STEP even better.

Thank you for your participation in the Small Town Energy Program (STEP), and for completing this short feedback survey about your energy efficiency improvements and the improvement process. Your feedback matters! We need your insights to help us improve the program moving forward. Please complete only one survey per household. Individual responses will be kept strictly confidential.

1. Please indicate the name of the contractor that your household used to install your energy efficiency improvements. (If you used more than 1 firm, please list the primary one.)

Name of firm

Name of primary contact

2. What are the primary reasons you selected this firm? (please select all that apply)

- They are a neighbor/friend of ours.
- They were recommended by a neighbor/friend.
- We had a previous business relationship with them (other than the energy evaluation).
- They were the firm that did our energy evaluation.
- They are located in Prince George's County.
- There were on a STEP list of Participating or Preferred Contractors.
- Their proposal was less expensive than others we received.
- Their proposal was the best (e.g. clearest, most comprehensive) we received.
- Their proposal was the only one we received.
- Other (please specify)

3. Please rate how much your household agrees or disagrees with each of the following statements with respect to the contractor, the installers and/or the improvements. (please select only one rating per statement)

	STRONGLY DISAGREE	Somewhat disagree	Neither agree nor disagree	Somewhat agree	STRONGLY AGREE
The firm was easy to work with.					
The firm was responsive to our inquiries.					
The firm provided a proposal that was sufficiently detailed and clear enough for us to understand.					
The firm prepared us for the installation - either on the phone or in writing (e.g described the process, explained how to prepare our house).					
The firm was professional, courteous and considerate with respect to our home/time.					
The installers were professional, courteous and considerate with respect to our home (e.g took measures to protect our belongings, cleaned up after work was completed).					
The installers were experienced, skilled and knowledgeable with respect to the work undertaken.					
The installers explained what they were doing and answered our questions during the installation.					
The installers did a thorough job.					
The work was completed within the timeframe we were told (or, if no timeframe was given, within a reasonable period).					
The firm explained the Pepco Home Performance with ENERGY STAR Program (including the process for obtaining					

incentives).					
The firm explained the status of other potential incentives & (if applicable) assisted with the paperwork.	○	○	○	○	○
Overall, working with this firm was a positive experience; we would recommend this firm to a friend.	○	○	○	○	○

4. Are there any additional comments you would like to provide regarding...

a) the contractor?

b) the installers?

c) the improvements?

5. How often has your household been in contact with Suzanne Parmet, STEP's Energy Coach, since signing up for the program?

- We have had no contact with the Energy Coach since signing up.
- We have met in person, spoken and/or emailed back and forth 1 time.
- We have met in person, spoken and/or emailed back and forth 2 - 5 times.
- We have met in person, spoken and/or emailed back and forth more than 5 times.

6. Please rate how much your household agrees or disagrees with each of the following statements with respect to Suzanne Parmet, STEP's Energy Coach, based on your interaction with her to date.

	STRONGLY DISAGREE	Somewhat disagree	Neither agree nor disagree	Somewhat agree	STRONGLY AGREE	N/A
The Energy Coach is easy to work with.						
The Energy Coach is responsive to our inquiries.						
The Energy Coach is professional, courteous and considerate with respect to our home/time.						
The Energy Coach helped us decide on the work scope for our home. **(Please select N/A if such assistance was not requested.)**						
The Energy Coach was helpful in reviewing our work proposal(s). **(Please select N/A if such assistance was not requested.)**						
The Energy Coach was helpful in explaining the incentives available for this work. **(Please select N/A if such assistance was not requested.)**						

7. Please rate your overall satisfaction with STEP, based on your participation to date.

	VERY UNSATISFIED	Somewhat unsatisfied	Neither satisfied nor unsatisfied	Somewhat satisfied	VERY SATISFIED
Level of satisfaction					

8. Are there any additional comments you would like to provide regarding your experience working with STEP and/or the Energy Coach based on your participation to date?

9. Please indicate the extent to which your household agrees or disagrees with each of the following statements.

	1 STRONGLY DISAGREE	2 Somewhat disagree	3 Neither agree nor disagree	4 Somewhat agree	5 STRONGLY AGREE
There is not much we can do to decrease the amount of energy used in our home.					
Conserving energy makes a positive difference to future generations or the environment.					
Efficiency actions can provide an easy way for us to control energy costs in our household.					
Protecting the environment should be given priority, even if it causes slower economic growth and some loss of jobs.					
Economic growth and creating jobs should be the top priority, even if the environment suffers to some extent.					
Convenience is more important to us than saving money.					
My efforts to save energy and help the environment only make a difference if others do it too.					

10. How often does your household do each of the following?

	1 VERY RARELY	2 Somewhat rarely	3 Sometimes	4 Somewhat often	5 VERY OFTEN
Turn off lights when not in use					
Wash clothes in cold water					
Turn down thermostat in the winter					
Unplug appliances when not in use					
Dry clothes on the line instead of a dryer					

11. Please provide the contact information requested below. This will enable us to confirm that your household has completed this survey. Your answers will only be reported in the aggregate, and will not be attributed to your household in any way.

a) Last name

b) House #

c) Street name

Thank you for completing this survey and sharing your opinions with us! Your feedback is crucial in helping to make STEP even better.

Non-Participant Survey

Thank you for your willingness to take this community survey about energy issues. This survey should take less than 10 minutes to complete. It is designed to help us better understand what residents might like to see in a community energy program. Your responses are very important to us, and will help us to develop future programs. As you progress through this survey, please provide your honest feedback. There are no right or wrong answers. This survey is strictly confidential and your personal information will in no way be associated with your responses.

Upon completion of the entire survey, you may elect to be entered into a drawing for a free Kindle. Thank you most sincerely for your time and consideration.

ENERGY AND YOUR HOME

1. In which town/neighborhood do you live?

- a) College Heights Estates
- b) City of Hyattsville
- c) Town of Riverdale Park
- d) Town of University Park
- e) Other

2. Are you able to answer questions for your household related to energy issues?

- a) Yes
- b) No

Is someone who's able to answer such questions for your household available now to complete this survey?

- Yes.
- No.

Non-Participant Survey

3. In which type of home do you live?

- a) Single family, detached
- b) Single family, attached (town home, row house)
- c) Residential building with 2-4 units
- d) Residential building with more than 4 units
- e) Other (please specify)

4. Do you own or rent your home?

- a) Own
- b) Rent
- c) Other (please specify)

5. In what year did you start living at your present address

6. To the best of your knowledge, how old is your home?

- a) Less than 5 years
- b) Between 5 and 10 years
- c) Between 11 and 20 years
- d) Between 21 and 40 years
- e) Between 41 and 80 years
- f) More than 80 years

7. Have you previously had a whole-house energy evaluation (also known as an audit or assessment) performed on your home by a certified energy evaluator?

- a) No, we were not aware that such a service existed
- b) No, there were other reasons we opted not to have it performed
- c) Yes, within the past 12 months
- d) Yes, 1 – 2 years ago
- e) Yes, more than 2 years ago

Non-Participant Survey

8. Please rate how confident you are in your ability to complete each of the following tasks

	VERY UNSURE	Somewhat unsure	Neither confident nor unsure	Somewhat confident	VERY CONFIDENT
Find a qualified energy evaluator	○	○	○	○	○
Schedule the home energy evaluation	○	○	○	○	○
Review the home energy report	○	○	○	○	○
Select the appropriate upgrade measures based on the report	○	○	○	○	○
Obtain proposals to get the improvements done	○	○	○	○	○
Review the proposals and select a qualified improvement contractor	○	○	○	○	○
Evaluate if the job was done correctly	○	○	○	○	○
Identify and obtain the applicable incentives / rebates	○	○	○	○	○

Non-Participant Survey

9. How much does your household agree or disagree with each of the following statements about having a whole-house energy evaluation performed on your home.

	1 STRONGLY DISAGREE	2 Somewhat disagree	3 Neither agree nor disagree	4 Somewhat agree	5 STRONGLY AGREE	N/A Not applicable
It will be difficult to find a qualified evaluator.	○	○	○	○	○	○
It is difficult to schedule the time to have the service performed.	○	○	○	○	○	○
Having to straighten up the house is a barrier to having the evaluation performed.	○	○	○	○	○	○
Concern about security / safety from strangers in our home is a barrier to having the evaluation performed.	○	○	○	○	○	○
We don't trust the contractors involved will be unbiased in their recommendations.	○	○	○	○	○	○
It will tell us we need to make improvements we cannot afford.	○	○	○	○	○	○
We don't need the evaluation because our house is already as energy efficient as it needs to be.	○	○	○	○	○	○
We don't need the evaluation because we already know how to make our home more energy efficient.	○	○	○	○	○	○
We rent so do not believe that having the evaluation will help us.	○	○	○	○	○	○
The overall process is too complicated.	○	○	○	○	○	○
Cost is a barrier to having the evaluation performed – because it has a fee, or the fee is too high.	○	○	○	○	○	○

10. Does your household have any concerns, other than those listed in the preceding question, about having a whole-house energy evaluation performed on your home?

○ a) No

○ b) Yes: please specify

Non-Participant Survey

11. The following statements could be reasons for having an energy evaluation or improving the energy efficiency of your home. Please rate the importance of each.

	1 VERY UNIMPORTANT	2 Somewhat unimportant	3 Neither important nor unimportant	4 Somewhat important	5 VERY IMPORTANT
To find out how much energy we use in our home and for what purposes	○	○	○	○	○
To find out if there are any health or safety issues in our home (e.g. moisture, gas leaks)	○	○	○	○	○
To increase the value of our home	○	○	○	○	○
To save money on our energy bills	○	○	○	○	○
To make our home less drafty/temperatures more consistent between rooms	○	○	○	○	○
To reduce our household's carbon footprint	○	○	○	○	○

Other (please specify)

12. If you have had an energy evaluation of your home, or plan to do so in the future, do your household have any concerns about implementing the recommended home energy improvements?

○ a. No

○ b. Yes

Please list your top concerns:

Concern #1

Concern #2

Non-Participant Survey

13. Please indicate the extent to which you agree or disagree with each of the following statements.

	1 STRONGLY DISAGREE	2 Somewhat disagree	3 Neither agree nor disagree	4 Somewhat agree	5 STRONGLY AGREE	N/A Not applicable
There is not much we can do to decrease the amount of energy used in our home.						
Conserving energy makes a positive difference to future generations or the environment.						
Efficiency actions can provide an easy way for us to control energy costs in our household.						
Protecting the environment should be given priority, even if it causes slower economic growth and some loss of jobs						
Economic growth and creating jobs should be the top priority, even if the environment suffers to some extent						
Convenience is more important to us than saving money						
Our efforts to save energy and help the environment only make a difference if others do it too						

14. How often do you do each of the following?

	1 VERY RARELY	2 Somewhat rarely	3 Sometimes	4 Somewhat often	5 VERY OFTEN
Turn off lights when not in use					
Wash clothes in cold water					
Turn down thermostat in the winter					
Unplug appliances when not in use					
Dry clothes on the line instead of a dryer					

ABOUT THE STEP PROGRAM

Non-Participant Survey

15. Have you heard of the STEP - Small Town Energy Program - energy efficiency program offered in your community?

- a) Yes, we have definitely heard of it
- b) Maybe we have heard of it
- c) No, we have not heard of it

16. From which of the following sources did your household get information about STEP? (please select all that apply)

- [ ] Community newsletter
- [ ] Community website
- [ ] Community listserv
- [ ] STEP staffer at my door
- [ ] STEP info left at my door
- [ ] At a STEP event
- [ ] STEP website
- [ ] Radio/TV/Newspaper
- [ ] From a STEP participant / neighbor / word of mouth
- [ ] Letter from mayor / community association
- [ ] Energy evaluator / contractor
- [ ] Other (please specify)

17. To which 2 sources of information would your household give the most consideration when deciding whether to join the program?

a) Source 1 (most influential)

b) Source 2 (2nd most influential)

18. Would you say what your household has heard about the STEP program is...

- a) Very negative
- b) Somewhat negative
- c) Neutral - neither positive nor negative
- d) Somewhat positive
- e) Very positive

Non-Participant Survey

Can you identify the negative features your household heard?

19. The following are benefits of participating in STEP. Please rate how important each of the following benefits would be to your household if it were to decide to participate in a program such as STEP. (Please select only one answer for each benefit).

	1 VERY UNIMPORTANT	2 Somewhat unimportant	3 Neither important nor unimportant	4 Somewhat important	5 VERY IMPORTANT
An Energy Coach is available to provide unbiased advice and assistance throughout the process	○	○	○	○	○
The program helps us get Pepco and State incentives / rebates for making improvements	○	○	○	○	○
The program provides additional financial incentives / rebates for making improvements	○	○	○	○	○
Our community supports the program.	○	○	○	○	○
A low interest rate loan is available to participants	○	○	○	○	○

Other (please specify)

20. What is the highest level of education you have completed?

- ○ Some high school
- ○ Graduated high school
- ○ Some college no degree
- ○ 2-year college grad / Associate's Degree
- ○ 4-year college grad / Bachelor's Degree
- ○ Some graduate school
- ○ Completed Graduate / Professional school (MA, MS, Ph.D. MD, JD)

Non-Participant Survey

21. What is your age?

- Under 19 years
- 20 to 24 years
- 25 to 29 years
- 30 to 34 years
- 35 to 39 years
- 40 to 44 years
- 45 to 49 years
- 50 to 54 years
- 55 to 59 years
- 60 to 64 years
- 65 to 74 years
- 75 to 84 years
- 85 years and over

22. What is the total number of people living in your home on a permanent basis?

23. What is your marital status?

- Single, living alone
- Cohabiting
- Married
- Separated
- Divorced
- Widowed

24. Gender

- Male
- Female

Non-Participant Survey

25. What is your ethnic background?

- American Indian/Alaskan Native
- Asian
- Black/African-American
- Caucasian/White
- Hawaiian/Pacific Islander
- Hispanic/Latino
- Mixed ethnicity or multi-ethnic
- Prefer not to answer
- Other (please specify)

26. Which of the following best describes your 2011 household income before taxes?

- Less than $25,000
- Between $25,000 and $49,999
- Between $50,000 and $74,999
- Between $75,000 and $99,999
- Between $100,000 and $149,000
- Between $150,000 and $199,000
- $200,000 or more
- Prefer not to answer

27. If you would like to be entered into the raffle for a Free KINDLE, please provide a contact name, phone and email below:

a) Name (first and last)

b) Contact phone #

c) Email address

Thanks very much for participating in this survey. We really appreciate your time and help!

Click here if you would like more information about the Small Town Energy Program.

ANALYSIS REPORT

on STEP Participants'
and Non-Participants' Surveys
July 26, 2013

Prepared by:
Baltimore Research
and Pinnacle Communications

STEP | SMALL TOWN ENERGY PROGRAM

Small STEP. Big Impact.

Executive Summary of Findings

July 26th, 2013

Prepared by Jeff Henn

Background information on Baltimore Research

Founded in 1960, Baltimore Research is a 53-year old, full service marketing research firm and focus facility located in Towson, MD. We provide research consultation, research design, data collection, analysis, field management, and recruiting and focus facilities. The company offers both qualitative and quantitative research solutions.

Background information on Pinnacle Communications

Pinnacle Communications has been using award-winning strategies and creative services to develop and implement social marketing campaigns for 16 years. Our work has increased awareness about important issues and influenced positive behavior.

Report Authors

Jeff Henn is one of two in-house research consultants at Baltimore Research. He was certified at RIVA Inc. Training Institute, which is the industry gold standard for moderator education and research consultation. Jeff has been with Baltimore Research since the fall of 2002 and is an expert at conducting qualitative and quantitative field studies. He holds a Bachelor's degree in Psychology and a Master of Arts in Experimental Psychology, both from Towson University. He also is a member of the Marketing Research Association (MRA) and is a former board member of their Mid-Atlantic Chapter. Additionally, Jeff is a member of the Qualitative Research Consultants Association (QRCA).

Ted Donnelly has a formal and advanced education grounded in marketing research and consumer psychology. He has a Ph.D. in Consumer Behavior and Advertising Research from the Management School at the University of Edinburgh in Scotland. Dr. Donnelly also has a Master of Science degree in marketing research from the University of Edinburgh. He completed his Bachelor of Science at the Pennsylvania State University in Psychology with minors in Business and Sociology.

Ted is an expert in social research methodology and analysis in both quantitative and qualitative traditions. Ted has researched consumer behavior in both American and British cultures. Dr. Donnelly has designed and conducted academic research and developed theories in cross-cultural advertising, affective advertising appeals, the use of humor in advertising, consumer product involvement, consumer personality profiling, consumer processing and decision making, persuasion in advertising, and the effects of television program involvement and media placement on advertising effectiveness. He taught Marketing at Johns Hopkins University.

In his capacity as Managing Director, Ted oversees all business operations, strategy and finance. Additionally, he continues to consult on full service research design and fulfillment, serving as a focus group moderator and analyst. He specializes in branding research, new product development, communications concept testing, and advertising development. Additionally, Ted sits on the Marketing Research Association's (MRA) National Board of Directors, currently serving on the Executive Committee as Vice Chairman of the

Board. He also serves on the Professional Research Certification's (PRC) Board of Directors, recently completing a three year stint as Chairman. He sits on a number of MRA and PRC's subcommittees.

Tracey Haldeman has extensive experience working on social marketing, branding and marketing at national, regional, state and local levels with Pinnacle Communications. With over 23 years of experience working with government agencies, retail, health care, corporate and non-profits, Tracey has a deep practical understanding of designing and implementing strategies for successful change. As President of Pinnacle Communications, she has developed and implemented programs for energy conservation, reduction of solid waste disposal, smoking cessation, reduction of teen pregnancy, reduction of drunk driving, reduction of infant mortality and low birth weight babies, increasing recycling participation, and recruitment for social service volunteering. Tracey has earned a master's degree from Georgetown University's Communication, Culture and Technology program.

Research purpose and objectives

The Town of University Park, MD (the "Town") runs the Small Town Energy Program ("STEP"). STEP began with a three-year grant from the U.S. Department of Energy in 2010, and was exclusively for residents of College Heights Estates, Hyattsville, Riverdale Park and University Park, Maryland. The goals of the program were to transform the way residents use energy in their homes, and also to serve as a model for other small towns. The program ended on July 31, 2013.

Key programmatic elements of STEP include:

- Energy evaluations for residents
- Preferred home performance contractors
- Post-improvement reviews to ensure residents receive services that satisfy industry standards
- Rebates, low-interest loans and other financial incentives
- Ongoing support from a local Energy Coach

The purpose of the research was to determine the relevant knowledge, attitudes, beliefs and behaviors ("KABB") of program participants as compared to non-participants, and to link these to specific programmatic elements of STEP. In so doing, the ways in which the STEP program design is successful / not successful can be identified, along with actionable items through which to modify the program and make the case for future funding. More specifically, the Town is interested in ascertaining why the program was particularly successful in University Park as compared to the other communities in which it was run, and whether the program is replicable and scalable.

The first part of this report examines the differences in demographics between the Participant and Non-Participant survey respondents, as well as their responses to KABB questions related to their confidence in completing tasks, sources of information relied upon, the impact of affordability concerns, and the importance of particular program attributes.

Additionally, within the KABB information, the research sought to identify what **Stage of Change** the market may be in and to measure KABB as it applies to the **Health Belief Model**.

Stage of Change (also called the Transtheoretical model) can be broken out into these 5 phases:

1. Pre-contemplation
2. Contemplation
3. Preparation
4. Action
5. Maintenance

As this model applies to STEP, the objective was to determine the proportion of residents who have even thought about home energy efficiency issues, considered taking proactive measures, researched their options and/or followed through with any action.

The **Health Belief Model** is a means for evaluating behavioral change, which states that for a change to occur (i.e.: undertaking home energy efficiency upgrades), individuals must progress through the following stages:

1. There must be a perceived threat (e.g. wasted money, lost comfort, health threat)
2. There must be a solution presented to mitigate that threat (e.g. home energy efficiency upgrades)
3. Person must feel capable of performing the desired behavior (e.g. believe it is easy/convenient)
4. Person must believe that successfully performing the behavior will produce the desired outcome (e.g. believe it is effective)

The research was structured to identify what threats the community members may perceive, whether they are aware of solutions, if they feel capable of performing energy upgrades, and whether they believe the energy upgrades will produce the desired results.

The second part of this report examines the KABB differences between program participants who were "Ready" (e.g. signed up to participate) and those that progressed through to "Save" (e.g. completed energy efficiency upgrades) and those that didn't progress through to completing upgrades. In doing so, we can identify what attributes are important and might predict that someone will move entirely through the process vs. dropping out and not finishing. Additionally, we can analyze whether there was any "spillover" effect on behavior. In other words, what other behaviors were affected by the program in addition to the ones we were promoting? While the completion of energy efficiency upgrades is the promoted behavior, did that, for example, encourage anyone to take shorter hot showers or recycle more?

Initially, one goal of the research was to identify "net-to-gross" of all the participants in the STEP program. (In other words, how many STEP participants were people who were going to do energy efficiency upgrades anyway but just piggy backed on the STEP program for the extra benefits vs. how many people were encouraged to have energy upgrades because of the STEP program?) In an effort to reduce survey length, a direct question to answer net-to-gross was not included; however, we try to extrapolate this answer based on the responses to questions about perceived confidence levels in completing critical energy efficiency upgrade tasks in the absence of STEP.

Data Collection

The survey was delivered via town newsletters, emails, newspaper ads, flyers posted in the community, etc. Notification included website reference for the survey and a “prize” for taking the survey.

Participants vs. Non-Participants

Demographics

The average profile of a STEP Participant vs. a STEP non-Participant was rather similar. As detailed in figure one, the average ranges for most demographic variables were very close to one another. Some slight but noteworthy differences are that participants tended to be older, more educated, higher-earning, and more likely to be married than non-participants. Also, the participant sample was a bit more homogenous racially than the non-participants, with a higher percentage of Caucasians. One figure that stayed truly consistent from one sample to the other was average # per household at 2.9 people. These differences were evaluated for statistically significant differences using an independent samples t-test. The only statistically significant difference observed ($p < 0.05$) was that STEP participants were more likely to have an advanced degree than non-participants.

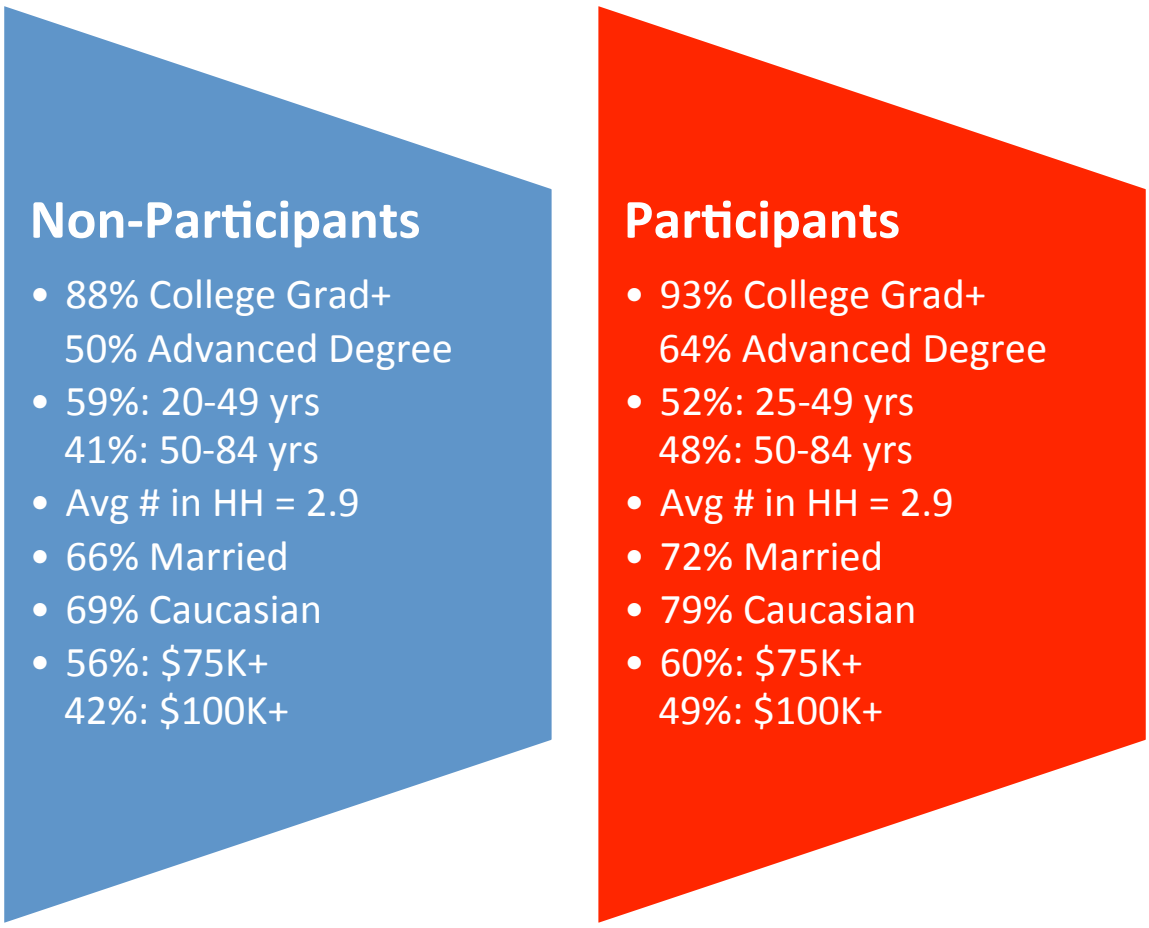


Figure 1. Comparison of key demographic variables.

KABBs

When it came to differences in knowledge, attitudes, beliefs and behaviors ("KABB"), the participant and non-participant samples did not greatly differ on most scales. A few areas however that did stand out are detailed below in tables one through three. Details on all KABB data collected are provided in the accompanying deep dive participant and non-participant reports.

Confidence in Completing Tasks

Specifically, with **confidence in completing tasks** that relate to conducting a whole-house energy evaluation, there are some key differences that emerged between non-participants and participants. Most notable are the proportion of "very confident" ratings found in the **non-participant** population. These differences were evaluated for statistically significant differences using an independent samples t-test, with nearly all differences tested being found to be statistically significant. Consistent with this finding is that **participants** were statistically more likely to report feeling unsure about completing the bottom two tasks: *Evaluate if the job was done correctly* and *identify and obtain the applicable incentives / rebates*.

Please rate how confident you are in your ability to complete each of the following tasks on your own			
Answer Options	**Non-Participants 5 VERY CONFIDENT**	**Participants 5 VERY CONFIDENT**	**Statistically Significant (p <0.05)**
Find a qualified energy evaluator	26%	15%	☑
Schedule the home energy evaluation	39%	34%	☒
Review the home energy report	41%	20%	☑
Select the appropriate upgrade measures based on the report	35%	14%	☑
Obtain proposals to get the improvements done	34%	15%	☑
Review the proposals and select a qualified improvement contractor	30%	9%	☑
Evaluate if the job was done correctly	20%	6%	☑
Identify and obtain the applicable incentives / rebates	21%	5%	☑

Table 1. Difference in Very Confident ratings between Participants and Non-Participants

These observed differences could be the result of a natural tendency for individuals who are less comfortable undertaking these tasks opting into a program that will provide the necessary guidance. Alternatively, it could be that those who have not participated are less informed about the complexities surrounding these activities, thereby overestimating their capabilities. Without further investigation, the reason behind this observed difference is unknown. However, if it's the former, the directional insight is that messaging should be crafted to address how STEP makes it easy to navigate through this process for those who have apprehension.

Consistent with this trend are the differences in agreement from non-participants to participants on the statement "We don't need the evaluation because our house is already as energy efficient as it needs to be," and "We don't need the evaluation because we already know how to make our home more energy efficient."

	NON-Participants We don't need the evaluation because our Non-Participants house is already as energy efficient as it needs to be	PARTICIPANTS We don't need the evaluation because our Participants house is already as energy efficient as it needs to be	Stat Sig Top 2/ Bottom 2 Box Ratings ($p < 0.05$)
1 Strongly Disagree	36%	71%	☑
2 Somewhat Disagree	27%	17%	
3 Neither Agree nor Disagree	20%	9%	
4 Somewhat Agree	10%	1%	☑
5 Strongly Agree	4%	1%	

Table 2. Percentage differences on "house is already as efficient as it needs to be" between Non-Participants and Participants.

	NON-Participants We don't need the evaluation because we already know how to make our home more energy efficient	PARTICIPANTS We don't need the evaluation because we already know how to make our home more energy efficient	Stat Sig Top 2/ Bottom 2 Box Ratings ($p < 0.05$)
1 Strongly Disagree	18%	42%	☑
2 Somewhat Disagree	30%	31%	
3 Neither Agree nor Disagree	20%	15%	
4 Somewhat Agree	17%	7%	☑
5 Strongly Agree	12%	2%	

Table 3. Percentage differences on "we already know how to make our home more energy efficient" between Non-Participants and Participants.

As illustrated by the red boxed percentages in tables two and three, there is a clear and significant perceptual difference in the necessity of an energy evaluation between participants and non-participants. Non-participants were more likely than participants to believe an evaluation is **not** needed because they thought their homes were as efficient as could be, or because they already know what to do on their own. The corollary to this is that if you want to penetrate the minds of the average consumer, understand that they may overrate their own confidence in do-it-yourself (D-I-Y) actions and underestimate the importance of an energy

evaluation, and speak to the benefits that can be made to one's home by using a true professional.

Sources of Information

A **key question** sought to be answered by this research was: "What worked so well in University Park (UP)?" That community had a 30% participation rate in STEP community-wide. Why? Looking at differences between UP STEP READY participants and other communities' STEP READY participants, coupled with differences between UP Non-Participants and other communities' Non-Participants, there are a few obvious differences to be found between the UP residents and those in the other communities. One noteworthy finding that may lend insight to guide future campaigns is **sources of information** relied upon to learn about the program**.**

While community newsletter, community list serve, and STEP participant / neighbor / word-of-mouth were the top three key information sources in general, community newsletter was a clear front-runner and had one of the highest penetrations of source type across samples amongst all UP respondents. In University Park, the high readership of the community newsletter was a tool that worked well. High public engagement with community-based communications helped University Park reach a healthy participation rate. (See table four for a complete analysis by community.) While the individual sample sizes were not large enough to verify the observed differences had statistical significance, they may offer directional insight. It is also important to note that the program was available to University Park residents for a longer period of time than to residents of the other towns. Additional time to implement the STEP program in the other towns would be helpful to measure participation rates in the new communities and then compare participation rates to UP.

Non-Participant Towns	Information SOURCE		
	STEP Participant / Neighbor / WOM	Community Listserv	Community Newsletter
College Heights	55%	55%	73%
Hyattsville	36%	65%	58%
Riverdale Park	67%	33%	33%
University Park	57%	**79%**	**86%**
Participant Towns	**Information SOURCE**		
	STEP Participant / Neighbor / WOM	Community Listserv	Community Newsletter
College Heights	67%	20%	47%
Hyattsville	51%	54%	55%
Riverdale Park	27%	46%	36%
University Park	43%	52%	**86%**

Table 4. Most frequently mentioned sources of information by community across surveys.

Affordability

Because affordability was identified as a concern by a substantial portion of the survey respondents in both participant and non-participant surveys, it is helpful to see if the primary statement about affordability was rated differently by different segments. Given that both samples tended to skew upper educated and high earning, it stands to reason that those with more disposable income would be less put out by costs in general. However, caution must be exercised with such an interpretation. As shown in tables five and six, while there was more agreement than disagreement to the statement "[a whole-house energy evaluation] will tell us we need to make improvements we cannot afford" among those in the $100-$149K income range, there was still enough agreement among those in the upper ranges to suggest that income alone is not predictive of agreement with this statement. This suggests that any messaging campaign about STEP should appeal to the financial benefits of participation and the more immediate energy waste it can address.

STEP PARTICIPANTS	It will tell us we need to make improvements we cannot afford.						
Answer Options	1 STRONGLY DISAGREE	2 Somewhat disagree	3 Neither agree nor disagree	4 Somewhat agree	5 STRONGLY AGREE	Response Percent	Response Count
Less than $25,000	1	0	0	0	0	0.7%	1
Between $25,000 and $49,999	1	0	0	4	1	4.4%	6
Between $50,000 and $74,999	0	0	7	5	1	9.6%	13
Between $75,000 and $99,999	0	2	5	7	2	11.8%	16
Between $100,000 and $149,999	1	5	3	19	11	28.7%	39
Between $150,000 and $199,999	3	3	5	4	1	11.8%	16
$200,000 or more	2	2	6	3	0	9.6%	13
Prefer not to answer	3	6	13	10	0	23.5%	32
						answered question	**136**

Table 5. Step participants' agreement with affordability broken out by income.

NON-PARTICIPANTS	It will tell us we need to make improvements we cannot afford.						
Answer Options	1 STRONGLY DISAGREE	2 Somewhat disagree	3 Neither agree nor disagree	4 Somewhat agree	5 STRONGLY AGREE	Response Percent	Response Count
Less than $25,000	0	0	0	0	1	1.1%	1
Between $25,000 and $49,999	0	0	1	2	3	6.4%	6
Between $50,000 and $74,999	2	0	0	5	4	11.7%	11
Between $75,000 and $99,999	2	2	2	3	3	12.8%	12
Between $100,000 and $149,000	1	1	7	7	5	22.3%	21
Between $150,000 and $199,000	0	2	4	4	3	13.8%	13
$200,000 or more	1	1	2	3	0	7.4%	7
Prefer not to answer	4	2	5	5	7	24.5%	23
						answered question	**94**

Table 6. NON-Step participants' agreement with affordability broken out by income.

Another important question going into this study was whether the success of adoption in UP is scalable to other similar communities. As shown earlier, one predictor of adoption success will be if similar communities have high engagement of residents with community-based publications.

When compared to national averages, UP is a relatively affluent community. Nevertheless, there is still some degree of frugality, which was observed in the survey results. This is a very important finding in pitching this to folks who may have the means to follow through with STEP, but also a degree of skepticism about its true efficacy. There seems to be one subset that gets it, believes in it and will stand behind it based on direct experience. Specifically, conversion rates, on the surface, appear high and the satisfaction level reported by participants is extraordinary. There is another subset that recognizes the threat, but is dubious of the behaviors being worth their while. Unfortunately there doesn't seem to be an obvious demographic correlation. Regardless of how we segmented the data, they all shared a very similar amount of variance.

As with any offering, there will be the early adopters, main-streamers, and laggards. Targeting early adopters in other communities will be the most effective way to replicate the success found in UP. Both participants and non-participants gave very high ratings for the level of importance of all reasons to conduct a whole–house energy evaluation and subsequent improvements. Table ten showcases the similarities between participants and non-participants with the average rating for each reason presented.

A few areas that did stand out and may warrant additional exploration are some perceptual differences held by participants versus non-participants regarding program attributes. For example, as illustrated by table ten, non-participants on average rated attributes of STEP as being slightly less important than participants. Also, both sample sets rated **our community supports the program**, and **a low interested rate loan is available** as less important than the top three attributes.

Importance of STEP Attributes. 5 = Very important, 1 = Very unimportant.			
Answer Options	**Average rating by non-participants**	**Average rating by participants**	**Statistically Significant (p <0.05)**
An Energy Coach is available to provide unbiased advice and assistance throughout the process	4.0	4.6	☑
The program helps us get Pepco and State incentives / rebates for making improvements	4.1	4.6	☑
The program provides additional financial incentives / rebates for making improvements	4.0	4.5	☑
Our community supports the program.	3.6	4.1	☑
A low interest rate loan is available to participants	3.3	3.2	☒

Table 10. Importance of STEP Attributes

While both samples placed a relatively higher value on having an **energy coach** available to help as compared with other program attributes, it is interesting that this STEP attribute also shows the biggest discrepancy between samples. Perhaps those who have enrolled in the program have invested more than non-participants in terms of time and money and, therefore, rate the value of a coach higher than they would have had they not invested. Additionally, the added knowledge that participants have of what a coach can do likely has a positive impact on their perceptions of the value of the coach relative to non-participants. And, as previously stated, those feeling less confident with the process may be more likely to self-select into the program. Such individuals would likely rate the value of an energy coach higher. Either way, the availability of an energy coach and the benefits this individual can provide in simplifying the process and making it more convenient should be clearly communicated given the high satisfaction levels reported by participants.

Also noteworthy are the differences in the average ratings each sample gave to statements regarding reasons to improve the energy efficiency of one's home (see table eleven). Again, participants rated each one slightly higher than non-participants. The two statements that showed the biggest differences were "to find out how much energy we use in our household and for what purposes," and "to reduce our household's carbon footprint." Also of statistical significance (as compared with the answers of non-participants) were participants' likelihood to value energy savings, comfort and the ability to audit health and safety issues. The relative importance that each sample places on these attributes is likely a function of knowledge, or lack thereof, of what a program like STEP can actually do to positively impact an individual household's energy usage and carbon influence.

Reasons for improving the energy efficiency of your home. 5 = Very important, 1 = Very unimportant.			
Answer Options	**Average rating by non-participants**	**Average rating by participants**	**Statistically Significant (t-test for means, p <0.05)**
To find out how much energy we use in our home and for what purposes	3.6	4.3	☑
To find out if there are any health or safety issues in our home (e.g. moisture, gas leaks)	3.9	4.3	☑
To increase the value of our home	3.6	3.9	☒
To save money on our energy bills	4.1	4.5	☑
To make our home less drafty/temperatures more consistent between rooms	4.0	4.5	☑
To reduce our household's carbon footprint	**3.6**	**4.3**	☑

Table 11. Reasons for making energy efficiency improvements

Stage of Change

The non-participants appear to be somewhere between contemplation and preparation for stage of change. Looking at table four from the in depth non-participants' report, only about 22% were unaware of a whole-house energy evaluation. The large majority (56.9%) were aware but "opted not to have it performed for other reasons." It is not surprising that a large majority of non-participants were aware of the program as the single largest representation of any one community in the non-participant sample came from University Park, which has a significant participation rate in STEP and a high level of awareness of the program. While a few from the non-participant sample may have gone as far as having a whole house energy audit, we did not ask them whether or not they've implemented any improvements recommended by such an evaluation (In the non-participant report, it shows that 8% had an evaluation 1-2 years ago, while 7% had an evaluation 2 or more years ago).

In contrast, the participants seemed to be more in the "pre-contemplation" stage prior to STEP. Over 64% did not know that such a service existed before enrolling. However, the question remains: were they thinking about doing something anyway, were predisposed to being receptive to STEP, and simply piggy-backed on STEP for the perks? While we cannot answer that question directly from the data, we did ask what their perceived confidence levels would have been in completing critical tasks in the absence of STEP. Table twelve below shows the average ratings each sample gave to the list of tasks. Note that there was a slight but possibly important difference in the way this was phrased for the participants versus non-participants. The non-participants were asked "please rate how confident you are in your ability to complete each of the following tasks." Whereas the participants were asked "please rate how confident you are in your ability to complete each of the following tasks **in the absence of STEP**."

Average rating for each statement. 5 = Very confident, 1 = Very unsure			
Answer Options	**Non-Participants**	**STEP Participants that did NOT progress to SAVE**	**STEP Participants that DID progress to SAVE**
Find a qualified energy evaluator	**3.3**	**3.1**	2.7
Schedule the home energy evaluation	3.8	3.8	3.5
Review the home energy report	3.9	3.6	3.0
Select the appropriate upgrade measures based on the report	3.8	3.3	2.7
Obtain proposals to get the improvements done	3.6	3.2	3.0
Review the proposals and select a qualified improvement contractor	3.5	**3.2**	2.9
Evaluate if the job was done correctly	**3.2**	**2.7**	2.3
Identify and obtain the applicable incentives / rebates	3.3	**2.6**	2.4

Table 12. Average ratings of key tasks across samples.

The biggest differences are the relative confidence levels between non-participants and those participants who progressed to SAVE. As previously stated, reasons for this could be due to naivety amongst non-participants or a function of participants who require more guidance self-selecting into the program.

Health Belief Model

It seems the non-participants either do not perceive the threat (e.g. house is already as efficient as it needs to be), or they do not believe there is a viable solution to mitigate the threat (e.g. they can do it on their own). The participants who progressed from the STEP READY through the STEP SAVE phase do recognize the threat, see the value in the solution and have engaged in the desired energy efficiency upgrade behaviors. As mentioned previously, participants (both those who completed only the Ready survey and those who completed both the Ready and Save surveys) had the lowest self-rated confidence levels in completing key tasks absent STEP.

Granted there was a significant portion of the STEP READY sample that did not progress through the SAVE phase. Is it merely a matter of time and would they have migrated eventually? Or is there something unique about those who progress through STEP SAVE that is predictive of their likelihood of participation? A simple correlation analysis showed weak relationships between five KABB variables and whether or not one progressed through SAVE. As shown in table 13, most had an inverse or negative relationship.

	Review the home energy report	Cost is a barrier to having the evaluation performed because it has a fee, or the fee is too high	A low interest rate loan is available to participants	There is not much I can do to decrease the amount of energy used in my home.	My efforts to save energy and help the environment only make a difference if others do it too	Progressed to SAVE
Progressed to SAVE	-0.2197	-0.2638	-0.2209	-0.2116	0.22406	1

Table 13. Variables correlated to participation in SAVE.

- In the case of one's confidence in "reviewing a home energy report", those who tended to be less sure were slightly more likely to participate.
- Those who were less likely to see cost of an evaluation as a barrier were more likely to progress to SAVE.
- Those who rated "a low interest rate loan…" as less important were slightly more likely to participate.
- Those who felt less empowered to decrease home energy consumption were slightly more likely to participate.
- Those who agreed with the statement "My efforts to save energy…" were slightly more likely to participate.

STEP READY + SAVE vs. STEP READY ONLY

Demographics

Generally speaking, participants who progressed from the STEP READY phase through the STEP SAVE phase were not much different demographically nor did they differ significantly in terms of knowledge, attitudes, beliefs and behaviors (KABBs). While a perfect conversion rate would be ideal, to have 35 of 139 (25%) progress from STEP READY through STEP SAVE is respectable. Additional time to complete the process would likely have shown more progression from READY through SAVE. In fact, overall program conversion rates are closer to 49%. The surveys were conducted approximately 2 years after the STEP program launched in the University Park community and 5 months after the STEP program was launched in the College Heights Estates, Hyattsville, and Riverdale Park communities. Therefore, the abbreviated timeframe of data collection for the survey does not accurately reflect conversion.

Demographic Variable	READY NO SAVE	READY + SAVE
Education	**Some grad school**	**Some grad school**
Age	**45-54 yrs**	**45-54 yrs**
# living in household	**2.9**	**2.6**
Marital status	**Married**	**Married**
Ethnicity	**Caucasian**	**Caucasian**
Household income	**$100-$199K**	**$100-$199K**
Total Sample Size	**104**	**35**

Table 14. Average demographic profile of those who progressed to SAVE versus those who did not.

KABBs

Looking in depth at the average ratings STEP READY participants gave for the attributes of STEP and the importance that they placed on various statements for why one might improve their home's energy efficiency, one fails to find a statistically significant difference between STEP READY participants who did not progress through STEP SAVE and those who did move on through the SAVE phase. For example, the mean ratings that they gave to statements regarding, "Why are you interested in finding out about and / or improving the energy efficiency of your home?" do not demonstrate a significant difference, as shown in table 15. The only statistically significant difference observed was the importance of a low interest rate loan. However, it was deemed less important by the STEP SAVE respondents, overall.

	Step Ready ONLY	Step Ready + SAVE	t-test for means Stat Sig (p<0.05)
The energy coach is available to provide unbiased advice and assistance throughout the process	4.56	4.56	☒
STEP helps us get Pepco and State incentives / rebates for making improvements	4.6	4.6	☒
STEP provides additional financial incentives / rebates for making improvements	4.51	4.44	☒
Our community supports STEP	4.05	4.24	☒
A low interest rate loan is available to participants	3.5	2.88	☑

Table 15. Average ratings of importance for STEP attributes between STEP READY only Participants and STEP READY + SAVE Participants. 5 = Very important, 1 = Very unimportant.

Behavior-wise, there were non-significant differences between those who progressed through STEP SAVE and those who did not. Table 16 shows that both subsets of the STEP READY survey respondents paralleled one another very closely. Also, the data does not reveal any spillover effect on behavior (i.e. what other behaviors were affected by the program other than the one STEP was promoting). A larger sample size is needed to lead to more enlightening data.

Behavior	READY NO SAVE	READY + SAVE	t-test for means Stat Sig (p<0.05)
Turn off lights when not in use	**4.6**	**4.5**	☒
Wash clothes in cold water	**4.2**	**3.9**	☒
Turn down thermostat in the winter	**4.2**	**4.2**	☒
Unplug appliances when not in use	**2.7**	**2.6**	☒
Dry clothes on the line instead of a dryer	**2.0**	**2.0**	☒

Table 16. Average ratings for frequency of behaviors between STEP SAVE participants and STEP NON-SAVE participants. 5 = Very often, 1 = Rarely.

FINAL REFLECTIONS

Program Success & Future Replication

Ultimately, the intent of the research was to determine whether the STEP program was successful and whether it can be replicated effectively. For successful replication, you must ensure you have the right *product* in place, can identify an appropriate target audience, and market the program with the messaging that will resonate the best through the most appropriate channels.

From a product perspective, STEP appears to have been a success. The overall program conversion rates from STEP READY through STEP SAVE are around 49%. The reported satisfaction levels are extraordinary, with 98% of STEP SAVE and a perfect 100% of STEP SET participants reporting satisfaction! Those who have progressed through the program reported high satisfaction scores both with the selected firms for the **energy evaluation** as well as the **contractors** selected for **implementation**. The evaluators were seen as competent and professional and the reporting thorough and easy to understand. The implementation contractors received a comparable review. This indicates that STEP has developed an **effective method to vet** the necessary contractors.

Further, the review of experiences with their **energy coach** are equally exceptional. Indeed, the primary challenge lies in attracting the appropriate audience and *getting a foot in the door*. Presuming the process is in place to replicate the standards elsewhere, much of the focus should lie in effective marketing communications.

From a programming perspective, there are two possible soft areas to address. While most ultimately selected contractors from STEP's preferred list, there was a significant proportion of participants who were dubious the contractors were unbiased in their recommendations. This **mistrust** could be a perceptual barrier that precludes homeowners from advancing in the program.

The second issue is related to **low interest rate loans**. While financial incentives and rebates factored heavily into the decision to participate, the availability of low interest rate loans was far less critical. Given that a primary barrier was the cost of implementation, this stands out as an anomaly. It could be that participants enrolled with the intent to only implement lower cost improvements that they could afford to finance out of pocket. However, it's possible that awareness of financing options was low due to a communications issue. Why this program feature is not as important a factor in decision making given the significance of cost warrants further exploration.

KABBs & Sources of Information

The most effective means of learning about STEP were newsletters, listservs, and word of mouth. Community newsletter was a clear front runner among both non-participants and participants. The program will be most successfully implemented in communities where residents are highly engaged with community publications. Given the awareness level reported in this study, these channels should be replicated, where possible.

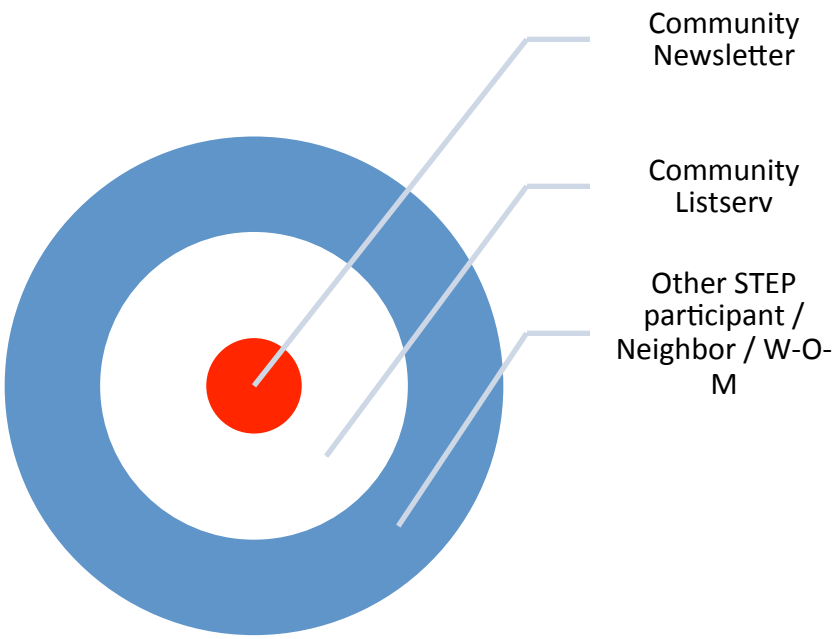
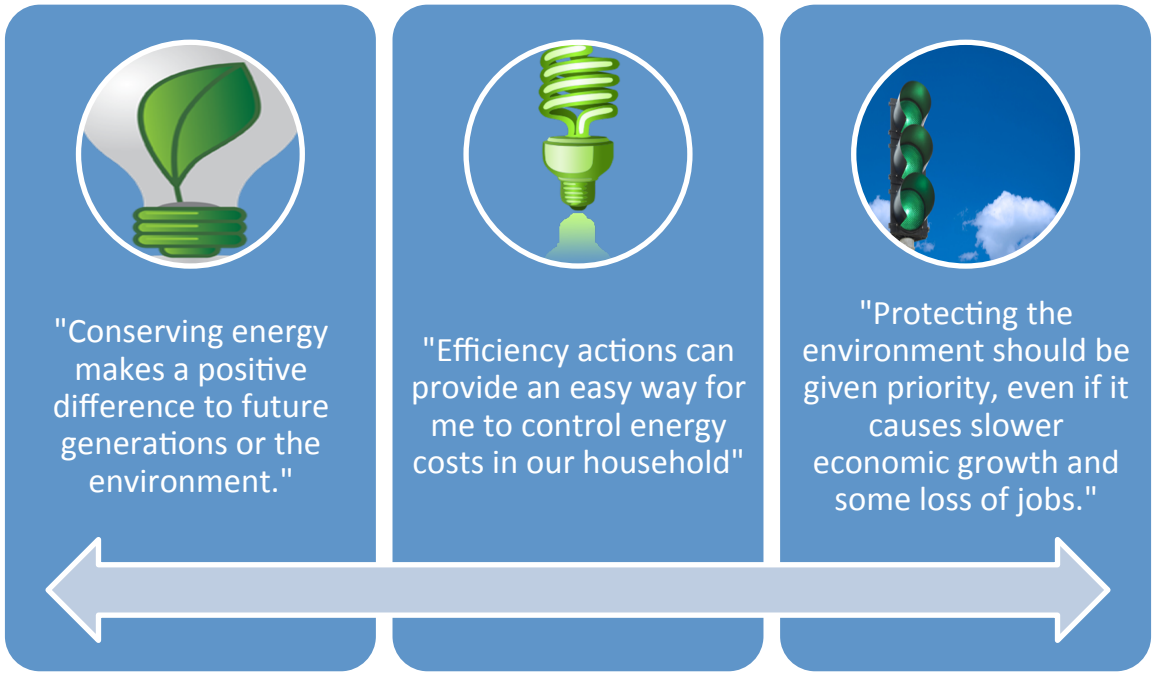


Figure 2. Hitting the target on effective means of communication.

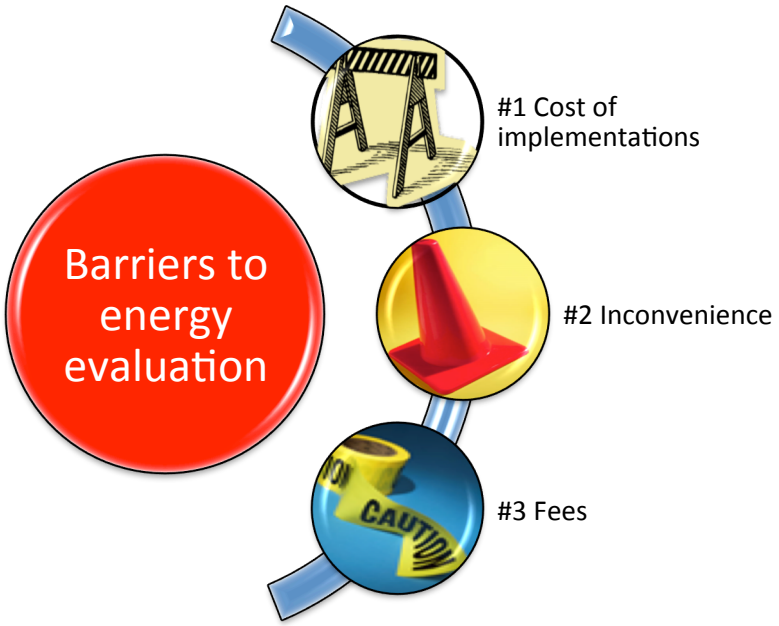
KABBs & Messaging

The **message statements that resonated** most for both the participants and non-participants alike were:



While these general themes should be incorporated into the appeal of STEP, it may not be enough to drive growth. **Environmental factors** and the impact on future generations is a noble response to the question of "why?"; however, it may not drive enrollment unless the more immediate question, "why now?" is addressed. **Comfort** in the home and **health and safety** benefits, as well as a focus on **reducing energy costs** would provide more tangible calls to action. However, awareness of STEP was extremely high in the marketplace and energy waste in the home is a ubiquitous subject in the media. Consequently, addressing primary barriers to adoption is key to growing enrollment.

The biggest **barriers to adoption** identified by this survey included:



The lower levels of **confidence** navigating through the process of auditing home energy and implementing change were two of the most significant differences observed in participants. Furthermore, **convenience** related issues emerged as barriers amongst the participants (i.e.: time consuming to find an evaluator and perceived difficulty finding the time to have services performed). To successfully appeal to likely candidates, the marketing messaging should focus on how easy STEP makes the process and the support made available through the **energy coach.**

Affordability of implementing improvements is another clear barrier. How this is addressed in the marketing of the program is likely a key to success. While long-term ROI is one way to frame this, a focus on the more immediate monthly or annual energy waste of *not* acting and how it may affect the household budget/lifestyle may be more impactful.

Given the satisfaction expressed by program participants, messaging should incorporate slice of life **testimonials** from satisfied participants. The **satisfaction level and conversion data** would also likely be effective messages.

Future research would be recommended to evaluate specific **message concepts** as well as **creative platforms** for execution. Additionally, further exploration on other cost effective and modern means to promote the program is warranted. Specifically, the role **social media** could play in effectively engaging the community on education and promotion merits consideration. Those with **advanced degrees** are more likely to participate. This should be a factor when selecting additional communities and determining the appropriate media to effectively target such individuals within a given community.

Appendix 1: Words of caution when interpreting small sample sizes

Caution is warranted in comparing and interpreting results between different sample sizes. While any research effects are already subject to chance fluctuations, having unequal sample sizes can serve to compound chance findings. Furthermore, there may be qualitative differences between those who completed the survey and those who opted to terminate the survey that were not captured by this study. For example, several people in the Non-Participant survey dropped out after the agreement questions to having a whole house energy evaluation. Responses from such individuals could have altered the patterns to the attitudinal questions, behavioral questions, demographic questions, or a combination of one or more types of questions. Generalizations made about the data that were collected must be kept in this perspective.

	Non-Participants	STEP READY Participants	STEP SET Participants	STEP SAVE Participants^
Start	139	141	50	41
Finish	97	135	50	40
Attrition	**30%***	4%	0%	2%

Table 17: Survey response and attrition rate

^Looking at the STEP SAVE data (n = 35), less than half of that subset came from University Park. Comparing UP STEP SAVE Participants with other communities' STEP SAVE Participants would draw spurious conclusions at best due to the very small sample sizes.

* While sample sizes started out with similar counts, survey completion rates were quite different. For the non-participants survey 139 started and 97 finished. For the STEP READY participant survey, 141 started and 135 finished. As with any survey, there is a natural attrition due to survey fatigue. Generally speaking, the longer a survey one has, the higher the attrition rate will tend to be (this is summarized in table 17 above).

August 8, 2013

Town of University Park, Maryland
6724 Baltimore Avenue
University Park, MD 20782

ATTENTION: **Mr. Chuck Wilson**
Program Director
Phone: 202-530-2228
Email: cwilson@ase.org

SUBJECT: **STEP Actual Energy Savings – Insight from the SIMS Utility Bill Analysis**

Dear Mr. Wilson:

ICF Incorporated, L.L.C. – an ICF International, Inc. company hereafter referred to as "ICF" – is one of the world's leading management and analytical consulting firms, assisting clients in managing the world's natural, physical, economic and community resources in a sustainable way. We provide services and products to help meet environmental challenges, optimize energy resources, and foster economic and community development.

We have been working to help you and your team collect and analyze pertinent programmatic and utility usage data for participants in the Small Town Energy Project (STEP) to gain a better understanding of the actual energy savings achieved through the efficiency upgrades completed in the program. I am pleased to provide this report summarizing the energy usage trends and actual energy savings observed to-date across the program participants.

Due to limitations in the utility billing data currently available for these participants and the scope of this project, there is not a sufficient sample to make broad claims about the actual energy savings that can be projected across your program with statistical significance at this time. There are, however, a number of energy use insights ranging from savings observed to-date and the general energy use characteristics of the program participants outlined below that I think you'll find valuable.

If you have any questions about the information contained in this report or if there is anything we can do to further assist your efforts, please don't hesitate to contact me.

Sincerely,

Tim Hillman, PhD
Specialist – Strategic Intelligence
Phone: 303-817-3325
Email: Timothy.Hillman@icfi.com

Enclosure

Project 2012_1529

Small Town Energy Program (STEP) Assessment of Program Impacts through Utility Bill Analysis

August 8, 2013

Submitted to Client:
Town of University Park, Maryland
6724 Baltimore Avenue
University Park, MD 20782

Submitted by Contractor:
ICF Incorporated, L.L.C. ("ICF")
9300 Lee Hwy
Fairfax, VA 22031

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Executive Summary

The Town of University Park, MD has overseen the implementation the Small Town Energy Program (STEP), a 3-year program designed to achieve energy efficiency market transformation among the communities surrounding University Park and to serve as a roadmap for energy transformation in small towns across the US. The main focus of STEP is residential energy audits and retrofits and was made possible by a grant from the Better Buildings Neighborhood Program of the US Department of Energy.

ICF was contracted to assist the STEP program with consulting services to help coordinate the collection of utility billing information (from Pepco and Washington Gas utilities) and customer participation data as well as to complete a utility bill analysis of STEP program participants to evaluate actual utility bill savings (gross) being achieved using ICF's Strategic Intelligence Management System (SIMS). This report summarizes the results of the utility bill analysis, which involves a pre/post assessment of weather normalized annual consumption for each individual meter, comparing one full year (12 months) prior to the first measure install date to the first 12 months following the measure install date.

Utility billing data (including natural gas and electricity consumption) has been collected for about 350 participating residences. No building characteristic data – such as size or age of the building – was collected or used in this analysis so only a summary of the energy use across these homes is presented (i.e., no energy use intensity information is provided). To further inform program staff of energy use distributions among residences over the seasons of a year, summary information on usage by month is also provided. On average, the sample homes use about 10 times as much natural gas in the winter (130 therms/month – November through February) as they do in the summer (13 therms/month – June through August). In terms of electricity use, the sample homes on average use about twice as much electricity in the summer (1,240 kWh/month – June through August) as they do in the swing season months in the spring and fall (650 kWh/month – March, April and October). General energy use summary statistic for the sample of program participants is shown in Table ES-1.

Table ES-1 Summary natural gas and electricity energy use characteristics of program participants in 2012

Number of Homes	Average Gas Usage (therms/mo)	Standard Deviation (therms/mo)	Average Electricity Usage (kWh/mo)	Standard Deviation (kWh/mo)
~ 350	63	27	880	432

Based on the data provided, and after the data quality checks and minimum data requirements (a full 12 months of usage history before and after the month the first upgrade was completed) were assessed on this data set, 20 homes were evaluated based on their natural gas savings and 35 homes were evaluated based on their electricity savings. All homes evaluated and represented in the savings estimates here completed air sealing and insulation upgrades (some additional equipment upgrades were made in a couple of homes). Upon further inspection of the savings for each individual participant, there were two homes that resulted in a much greater increase in their electricity use compared to the other homes in the sample (electricity use increased by 71% and 62% for these two homes during the year after the upgrades were completed). This analysis includes a summary of average electricity savings with and without these two homes included. Table ES-2 provides a summary of the number of participants STEP staff provided data for and the number of homes that were evaluated by utility service.

The sample size included in this analysis is too small to speak in terms of statistical significance and shouldn't be applied as representative of overall program savings, however the trends to-date highlight that a majority of pariticipants are realizing a reduction in natural gas and electicity use in the year after completing efficiency upgrades compared to the year prior. In addition, the natural gas and electricity energy savings results to-date benchmarched well with another Better Buildings Neighborhood Program grantee in Denver metro Colorado, which represents a similar climate region in terms of heating and cooling degree days. A summary of the relative (percent) and absolute (native units, therms or kWh) savings are provided in Tables ES-3 to ES-5 below.

Table ES-2 Summary of program participants and data availability for utility bill analysis

	Number of Homes with Air Sealing, Insulation or HVAC Upgrade	Number of Homes who made Updgrades that also have Utility Data	Number of Homes with Sufficient Data to Evaluate (Gas)	Number of Homes with Sufficient Data to Evaluate (Electricity)[1]
Participant Pool	226	140	20	35

Table ES-3 Summary of relative (percent) natural gas and electricity savings for program participants

		Annual Savings per Program Participant		Confidence Interval for Average Savings [1]		
	Number of Homes	Median (%)	Average (%)	Absolute (+/- %)	Relative (+/- %) [2]	Standard Deviation (%)
Natural Gas	20	19.0	14.6	6.3	43.4	14.4
Electricity	35	5.9	1.4	6.8	484.0	20.5
Electricity (two outliers excluded)	33	7.0	5.5	4.0	73.0	11.8

[1] Confidence intervals defined for a 95% confidence level.
[2] Relative confidence interval calculated as absolute confidence level divided by the mean.

Table ES-4 Summary absolute natural gas savings for program participants

		Annual Savings per Program Participant		Confidence Interval for Average Savings [1]		
	Number of Homes	Median (therms)	Average (therms)	Absolute (+/- therms)	Relative (+/-%) [2]	Standard Deviation (therms)
Natural Gas	20	190	137	61	44	139

[1] Confidence intervals defined for a 95% confidence level.
[2] Relative confidence interval calculated as absolute confidence level divided by the mean.

Table ES-5 Summary absolute electricity savings for program participants

		Annual Savings per Program Participant		Confidence Interval for Average Savings [1]		
	Number of Homes	Median (kWh)	Average (kWh)	Absolute (+/- kWh)	Relative (+/-%) [2]	Standard Deviation (kWh)
Electricity	35	600	511	676	132	2,041
Electricity (two outliers excluded)	33	701	832	536	64.4	1,571

[1] Confidence intervals defined for a 95% confidence level.
[2] Relative confidence interval calculated as absolute confidence level divided by the mean.

The remainder of this report summarizes the following: the scope of this analysis; the methodology used to complete the utility billing analysis; results of utility bill analysis and conclusions of this assessment. Additional detail related to the energy use across the program participants is provided in Appendix A.

[1] An additional analysis is presented that excludes two homes due to the potentially anomalous increase in their electricity use after upgrades were completed, thus making the number of homes included 33.

Analysis Scope

The scope for this analysis is limited to ICF performing a utility bill analysis of STEP program participants to evaluate actual utility bill savings (gross) being achieved using ICF's Strategic Intelligence Management System (SIMS). The utility bill analysis involves a pre/post assessment of weather normalized annual consumption for each individual meter, comparing one full year (12 months) prior to the first measure install date to the first 12 months following the measure install date. Utility bill data was not collected for residential customers that did not participate in the program, so no control adjusted savings are included in this assessment. This analysis does not include any assessment of program outreach, marketing, cost (and resulting cost effectiveness), or any assessment of program impacts accounting for spillover, additionality or free ridership. The sample size of program participants included in this assessment was insufficient to attempt a meaningful benchmarking comparison of measured energy savings to deemed savings for a few applicable measures. However, the measured energy savings for each individual participant included in this analysis are being provided to STEP staff to facilitate any future research (such as an assessment of deemed savings compared to actual savings) or customer outreach that the STEP program wishes to pursue.

Methodology

The program savings methods used by the Strategic Intelligence Management System (SIMS) are consistent with the approaches related to whole building retrofit utility billing analysis outlined in the International Performance Measurement and Verification Protocol (IPMVP) – Option C and the Uniform Methods Project: Methods for Determining Energy Efficiency Savings for Specific Measures (EVO, 2012; NREL, 2013). These protocols outline recommended approaches based on program type, data availability, inferences to be made on program impacts and fundamentally have two key components: 1) data collection and validation; and 2) regression modeling of utility billing data to account for changes in weather over the analysis period. The regression modeling and data collection/validation techniques utilized by the SIMS are discussed in more detail below.

Common in these program savings quantification approaches is the use of weather normalized billing consumption data that is totaled on an annual basis to yield the normalized annual consumption (NAC). The NAC is simply the sum of the normalized consumption for a consecutive 12 month period. The utility bill regression modeling used by the SIMS to produce the NAC is based on the variable base degree day method (VBDD) that was originally established by the PRISM (PRInceton Scorekeeping Method) model (Fels, 1986).

This analysis looks at the snapshot of annual energy use (NAC) before and after the first upgrades were reportedly completed. The difference of the NAC prior to initial upgrade completion and the NAC after initial upgrade completion for each program participant is quantified to yield estimates of overall savings:

$$Unadjusted\ Program\ Savings = \sum_{i=0}^{n} \Delta NAC = \sum_{i=0}^{n} NAC_{pre} - NAC_{post}$$

where: NAC_{pre} = Pre-enrollment NAC value covering period up to 1 month prior to enrollment
NAC_{post} = Post-enrollment NAC covering period starting 1 month after enrollment

Note that the savings presented in this report are quantified based on the first measure install date of the participants (regardless of multiple program measure installs). In addition, the first measure install month is discarded from the NAC analysis since this billing record can combine both pre- and post-measure energy consumption. For example, if a home completed an attic insulation upgrade in February of 2011, the NAC_{pre} would cover an annual period from February 2010 to January 2011 and the NAC_{post} would cover from March 2011 to February 2012. Furthermore, as

discussed earlier in the project scope that due to the lack of having access to non-program participant utility billing data to be used as a control or comparison group, this analysis does not attempt to account for exogenous effects (non-program related effects such as the economy or other factors that affect energy use).[1]

Data cleaning methods are required to provide reliable energy savings (TecMarket Works, 2006; NREL, 2007), whose significance is measured by having a small standard error (Fels, 1986). Using existing protocols and methodologies (Fels, 1986; NREL, 2007; TecMarket, 2006; Snoderegger, 1998), a multitude of data cleaning approaches are used to ensure unbiased removal of incomplete and anomalous data:

- **Remove records with intermittent service or with potential billing errors –** Properties that have intermittent service will have less than 365 days of service (DOS) for each NAC value, while those with billing period overlaps (and thus a potential billing error) would have more than 365 DOS (366 DOS in leap years). Only NAC values with 365 DOS (Leap year: 366) are retained in the analysis. All other incomplete or overlapping data activity records are removed from the analysis.

- **Minimum of 12 months of pre- and post-measure install billing data –** PRISM, NREL, California's PUC and others require a minimum of 12 months of complete billing data. Incomplete data accounts are removed from the data analysis.

- **Remove data outliers to reduce outlier influence on reported savings –** Reported savings can be heavily influenced by data outliers, causing a significant change in reported savings. Two approaches are used to identify and remove outliers. First, anomalous data activity records with an NAC savings +/- 3 standard deviations of the mean NAC savings are removed from the data analysis (NREL, 2007). Second, manual inspection is employed to determine if there are any savings estimates that aren't consistent with the overall dataset and an additional analysis can be presented that excludes these potential outliers to demonstrate the impact on the overall savings estimates.

[1] Weather changes over the analysis period, while considered exogenous effects, are controlled for in the NAC analysis.

Results

This section provides a characterization of the natural gas and electricity energy use among program participants as well as the energy savings observed to-date. Supplemental information is also provided in Appendix A.

Energy Use Characteristics

Utility billing data (including natural gas and electricity consumption) has been collected for about 350 participating residences. No building characteristic data – such as size or age of the building – was collected or used in this analysis so only a summary of the energy use across these homes is presented (i.e., no energy use intensity information is provided). On average, the program participant homes use 63 therms of natural gas (standard deviation +/- 27 therms) and 880 kWh of electricity (standard deviation +/- 432 kWh) a month (see Table 1).

Table 1 Summary natural gas and electricity energy use characteristics of program participants in 2012

Number of Homes	Average Gas Usage (therms/mo)	Standard Deviation (therms/mo)	Average Electricity Usage (kWh/mo)	Standard Deviation (kWh/mo)
~ 350	63	27	880	432

To further inform program staff of energy use distributions among residences over the seasons of a year, the box-plots in Figures 1 and 2 summarize the 5th, 25th, 75th and 95th percentiles as well as the median and average energy use on a monthly basis for natural gas and electricity use, respectively. On average, the sample homes use about 10 times as much natural gas in the winter (130 therms/month – November through February) as they do in the summer (13 therms/month – June through August). In terms of electricity use, the sample homes on average use about twice as much electricity in the summer (1,240 kWh/month – June through August) as they do in the swing season months in the spring and fall (650 kWh/month – March, April and October). Detailed tabular data of the information presented in Figures 1 and 2 is located in Appendix A.

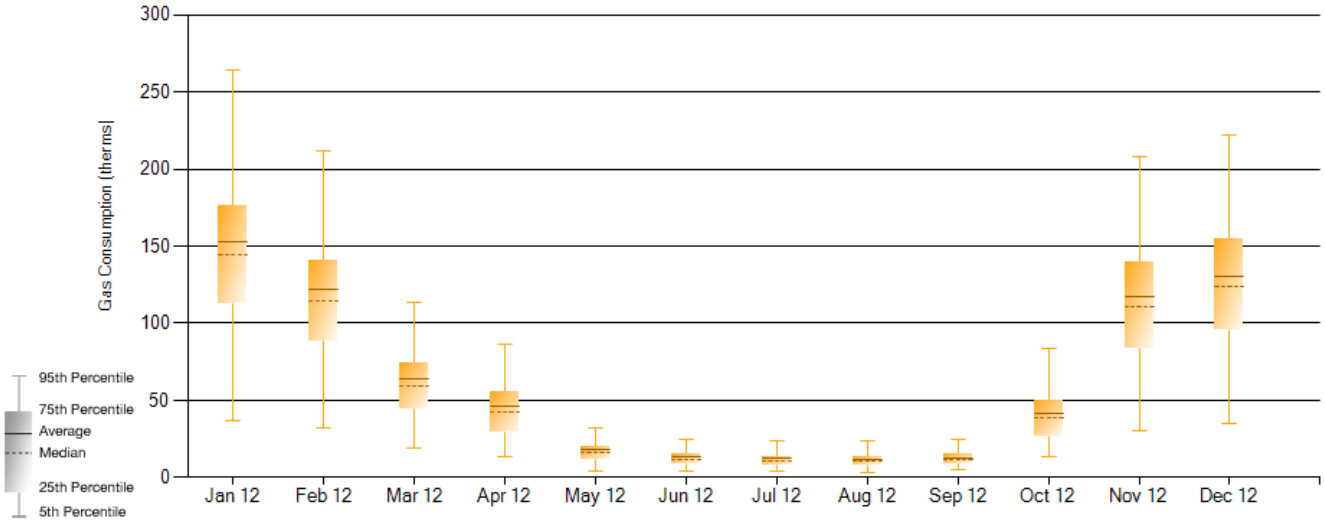

Figure 1 Natural gas energy use distribution by month among program participants in 2012

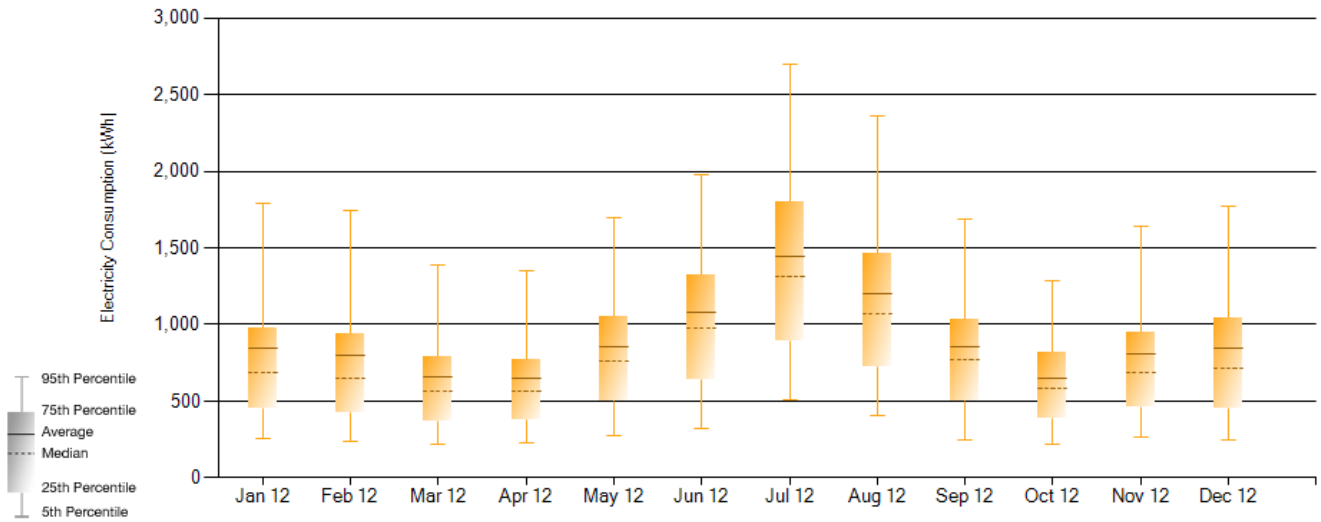

Figure 2 Electrical energy use distribution by month among program participants in 2012

Utility Bill Analysis

STEP program staff collected and maintained data on the energy efficiency improvements being completed by program participants and when those improvements were completed. STEP staff also interfaced directly with the local natural gas and electric utilities (Washington Gas and Pepco, respectively) to collect utility billing data for the program participants. These data were provided separately by the STEP staff to ICF for analysis. The remainder of this section summarizes the programmatic data provided (what improvements were made when), the number homes included in the final utility bill analysis after the data cleaning procedures described above were applied and the resulting natural gas and electricity energy use changes observed in the year following the date of the first completed upgrade.

STEP staff provided efficiency upgrade data to ICF that included participant utility account information (to enable linking to utility data received separately), the dates that upgrades were completed and details about what exact upgrades were completed. Details on the completed upgrades were broken into three main categories: 1) air sealing and/or insulation upgrades; 2) HVAC or water heater upgrades; and 3) other appliances and/or window upgrades. A vast majority of the program participants completed air sealing and/or insulation upgrades with a marginal number of participants completing HVAC or other appliance upgrades.

This analysis only focused on homes that *at least* completed some level of air sealing and/or insulation work (i.e., they may have completed HVAC or other appliance upgrades in addition to the air sealing and/or insulation work) due to the small sample size of homes that only made HVAC or other appliance/window upgrades. It turns out that only a couple of homes in the final evaluated pool made upgrades beyond the air sealing and/or insulation work, so the results are primarily representative of savings observed in homes that made some level of air sealing and/or insulation improvements. Finally, given the limited sample size and scope of this analysis, no attempt was made to differentiate savings resulting from different levels of air infiltration reduction, levels of insulation added, or where that insulation was added (attic versus walls versus crawl space, etc.). Results of this analysis for each individual participant are being provided separately to the STEP staff to aid any additional analysis they'd like to complete.

Based on the data provided, there were a total of 226 program participants that completed air sealing, insulation or HVAC upgrades. Of these participants, utility billing data was provided and was successfully linked with 140 of them. After the data quality checks and minimum data requirements (a full 12 months of usage history before and after the month the first upgrade was completed) were assessed on this data set, 20 homes were evaluated based on their natural gas savings and 35 homes were evaluated based on their electricity savings. Upon further inspection of the savings for each individual participant, there were two homes that resulted in a much greater increase in their electricity use compared to the other homes in the sample (electricity use increased by 71% and 62% for these two homes during the year after the upgrades were completed). The results below provide a summary with and without these two homes included in the electricity savings analysis to illustrate the impact on the estimated savings.
All homes evaluated and represented in the savings estimates here completed air sealing and insulation upgrades. Table 2 provides a summary of the number of participants STEP staff provided data for and the number of homes that were evaluated by utility service.

Finally, a couple of notes and considerations. Given the small sample of participants with sufficient billing data to use for this analysis, all results should be considered preliminary – from a program performance perspective – and represent the best energy savings estimates across the participants to-date. A larger dataset is required to make statistically valid inferences from this data and savings estimates may shift as more participants are analyzed.

Table 2 Summary of program participants and data availability for utility bill analysis

	Number of Homes with Air Sealing, Insulation or HVAC Upgrade	Number of Homes who made Updgrades that also have Utility Data	Number of Homes with Sufficient Data to Evaluate (Gas)	Number of Homes with Sufficient Data to Evaluate (Electricity)[1]
Participant Pool	226	140	20	35

The natural gas and electricity savings observed among the program participants are summarized in Tables 3 – 5 and Figures 3 – 6. The relative, or percent, savings for natural gas use across the evaluated participants are shown in Table 3 and the relative savings by customer are shown via a histogram in Figure 3. Similarly, the absolute savings (in native units or therms) for natural gas use for these customers are shown in Table 4 and the absolute savings by customer are shown in Figure 4.

For the 20 homes evaluated in this analysis, the natural gas savings are as follows. The median relative annual natural gas savings are 19% and the average savings are 14.6% (+/- 6.3% at a 95% confidence level). The median absolute annual savings are 190 therms/year and the average savings are 137 therms/year (+/- 61 therms at a 95% confidence level). The histograms in Figures 3 and 4 show noticeable skew to the right, indicating that a majority of the participants in this sample achieved measurable natural gas reductions after upgrades were completed. The sample size for these natural gas savings is too low to provide statistically significant results at this time (typically need a sample size of at least 30), however the trends with this sample indicate that on average, homes do appear to be reducing their natural gas use after upgrades are completed.

Table 3 Summary of relative (percent) natural gas and electricity savings for program participants

		Annual Savings per Program Participant		Confidence Interval for Average Savings [1]		
	Number of Homes	Median (%)	Average (%)	Absolute (+/- %)	Relative (+/- %) [2]	Standard Deviation (%)
Natural Gas	20	19.0	14.6	6.3	43.4	14.4
Electricity	35	5.9	1.4	6.8	484.0	20.5
Electricity (two outliers excluded)	33	7.0	5.5	4.0	73.0	11.8

[1] Confidence intervals defined for a 95% confidence level.
[2] Relative confidence interval calculated as absolute confidence level divided by the mean.

Table 4 Summary absolute natural gas savings for program participants

		Annual Savings per Program Participant		Confidence Interval for Average Savings [1]		
	Number of Homes	Median (therms)	Average (therms)	Absolute (+/- therms)	Relative (+/-%) [2]	Standard Deviation (therms)
Natural Gas	20	190	137	61	44	139

[1] Confidence intervals defined for a 95% confidence level.
[2] Relative confidence interval calculated as absolute confidence level divided by the mean.

[1] An additional analysis is presented that excludes two homes due to the potentially anomalous increase in their electricity use after upgrades were completed, thus making the number of homes included 33.

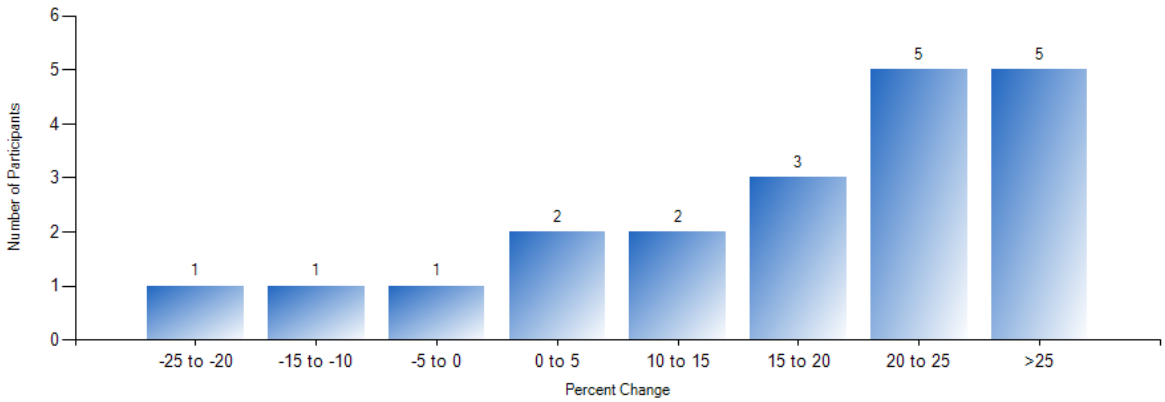

Figure 3 Distribution of annual relative (percent) natural gas savings by program participant

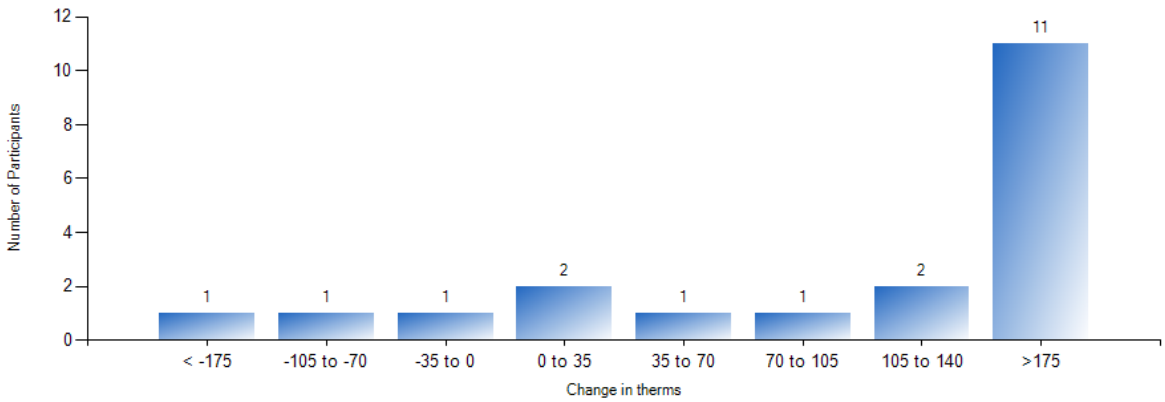

Figure 4 Distribution of annual absolute natural gas savings by program participant

Two sample data sets were analyzed to determine electricity savings: one with 35 homes that includes all participants with sufficient data; and a second with 33 homes that excludes two participants from the sample because they resulted in a substantially greater increase in energy use after upgrades were completed compared to the other homes in the analysis (electricity use increased by 71% and 62% for these two homes during the year after the upgrades were completed). For the analysis that includes all 35 homes, the median relative annual electricity savings are 5.9% and the average savings are 1.4% (+/- 6.8% at a 95% confidence level) (see Table 3 and Figure 5). The median absolute annual savings are 600 kWh/year and the average savings are 511 kWh/year (+/- 676 kWh at a 95% confidence level) (see Table 5 and Figure 6). These results shift a fair amount when two of the homes are excluded from the assessment. For the analysis that only includes 33 homes, the median relative annual electricity savings are 7.0% and the average savings are 5.5% (+/- 4.0% at a 95% confidence level) (see Table 3). The median absolute annual savings are 701 kWh/year and the average savings are 832 kWh/year (+/- 536 kWh at a 95% confidence level) (see Table 5).

Similar to what was observed with the natural gas savings, the electricity savings shown in Figures 5 and 6 show some skew to the right, with a greater number of participants achieving savings than an increase in energy use after the upgrades were completed. However, there is much greater variation in the electricity savings compared to the natural gas savings observed across these participants, as is evidenced by the larger relative confidence interval and standard deviation for electricity savings compared to natural gas savings. In essence, about 30% of the homes in this sample resulted in an increase in their electricity use after upgrades were completed, which is about twice as many as the percentage of homes that resulted in an increase in natural gas use after upgrades were completed (about 15% of the homes evaluated showed an increase in their natural gas use). The marginal error across this relatively small sample is still too great to make claims about statistically significant savings, however it does appear

that a majority of the homes are realizing a reduction in their electricity use over the year after upgrades are completed.

Table 5 Summary absolute electricity savings for program participants

		Annual Savings per Program Participant		Confidence Interval for Average Savings [1]		
	Number of Homes	Median (kWh)	Average (kWh)	Absolute (+/- kWh)	Relative (+/-%) [2]	Standard Deviation (kWh)
Electricity	35	600	511	676	132	2,041
Electricity (two outliers excluded)	33	701	832	536	64.4	1,571

[1] Confidence intervals defined for a 95% confidence level.
[2] Relative confidence interval calculated as absolute confidence level divided by the mean.

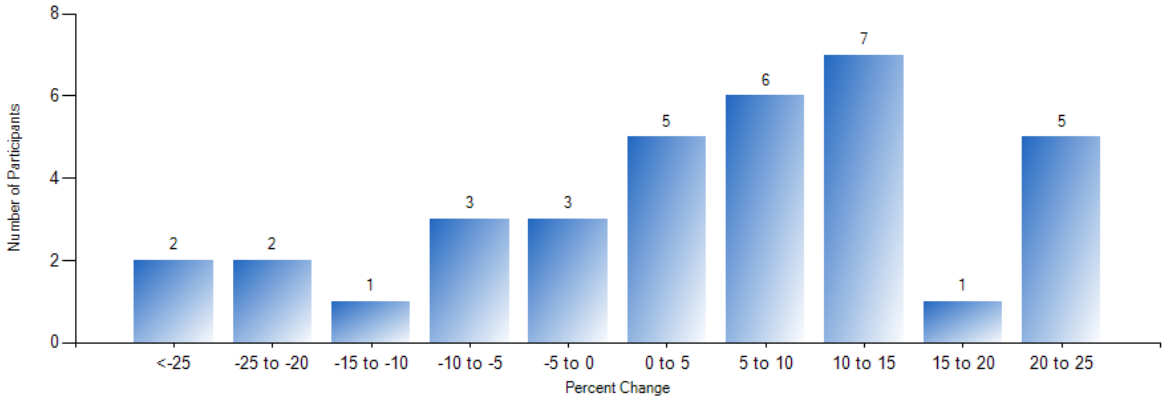

Figure 5 Distribution of annual relative (percent) electricity savings by program participant

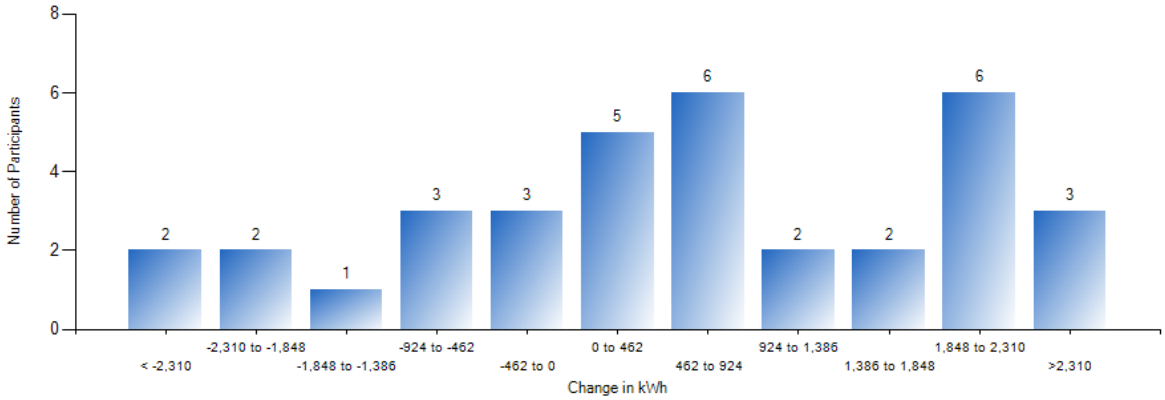

Figure 6 Distribution of annual absolute electricity savings by program participant

ICF has also used the SIMS to provide an assessment of actual energy savings achieved after efficiency upgrades were completed for another Better Buildings Neighborhood Program grantee in Denver metro Colorado. Although not identical, Denver represents a similar climate region to University Park, MD in terms of heating and cooling degree days. For informational purposes, the energy savings results were compared between these two programs and the natural gas and electricity energy savings results to-date benchmarked well.

Conclusions

Utility billing data for about 140 STEP program participants was collected and analyzed via a pre/post normalized annual consumption (NAC) process to determine the energy savings realized by these customers in the first 12 months following the completion of their efficiency upgrades. Out of these 140 participants, a limited number had sufficient utility data to complete the pre/post NAC assessment at the time of this analysis, namely 20 and 35 participants had sufficient natural gas and electricity usage data, respectively. Given the small sample of participants with sufficient billing data to use for this analysis, all results should be considered preliminary – from a program performance perspective – and represent the best energy savings estimates across the participants to-date. A larger dataset is required to make statistically valid inferences from this data and savings estimates may shift as more participants are analyzed.

The energy savings trends analyzed to-date highlight that a majority of pariticipants are realizing a reduction in natural gas and electicity use in the year after completing efficiency upgrades compared to the year prior (although it is important to note that the sample size included in this analysis is too small to speak in terms of statistical significance and shouldn't be applied as representative of overall program savings). In addition, the natural gas and electricity energy savings results to-date benchmarched well with another Better Buildings Neighborhood Program grantee in Denver metro Colorado, which represents a similar climate region in terms of heating and cooling degree days.

Finally, the sample size of program participants included in this assessment was insufficient to attempt a meaningful benchmarking comparison of measured energy savings to deemed savings for a few applicable measures. However, the measured energy savings for each individual participant included in this analysis are being provided to STEP staff to facilitate any future research (such as an assessment of deemed savings compared to actual savings) or customer outreach that the STEP program wishes to pursue.

Appendix - A

Table A-1 Tabular data used to produce the box-and-whisker plot in Figure 1, namely the monthly average, median, 5th, 25th, 75th and 95th percentiles of natural gas use among program participants in 2012

			Percentiles (therms)				
Date	**Sample Size (mtr)**	**Average Consumption (therms/mtr)**	**5th**	**25th**	**Median**	**75th**	**95th**
Jan 12	337	153	37	112	145	176	264
Feb 12	337	121	33	89	115	141	212
Mar 12	337	64	19	45	59	74	113
Apr 12	338	46	13	30	42	55	87
May 12	339	18	5	12	16	20	32
Jun 12	329	14	4	9	12	15	25
Jul 12	334	12	4	7	10	14	24
Aug 12	339	12	3	8	10	13	24
Sep 12	334	13	5	8	12	15	25
Oct 12	348	42	13	27	38	50	83
Nov 12	350	117	30	83	111	140	208
Dec 12	358	130	35	96	124	154	222

Table A-2 Tabular data used to produce the box-and-whisker plot in Figure 2, namely the monthly average, median, 5th, 25th, 75th and 95th percentiles of electricity use among program participants in 2012

			Percentiles (kWh)				
Date	**Sample Size (mtr)**	**Average Consumption (kWh/mtr)**	**5th**	**25th**	**Median**	**75th**	**95th**
Jan 12	364	842	254	456	683	981	1,794
Feb 12	364	796	237	428	652	938	1,744
Mar 12	367	658	218	373	563	794	1,386
Apr 12	367	646	229	375	564	773	1,351
May 12	372	851	275	497	757	1,051	1,692
Jun 12	376	1,078	319	635	980	1,322	1,978
Jul 12	379	1,444	510	896	1,317	1,803	2,697
Aug 12	382	1,201	404	728	1,070	1,467	2,360
Sep 12	378	851	246	496	769	1,029	1,691
Oct 12	380	653	217	384	584	821	1,287
Nov 12	380	806	266	462	691	952	1,636
Dec 12	378	847	245	455	713	1,043	1,768

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