

Amount: \$300,000

Grant End Date: December 31, 2019

**Huntsville's Residential Energy Assistance Program:
Continuous Assessment and Improvement**

Summary Statement: Huntsville Utilities' Residential Energy Assistance (REA) program offers up to 72 energy efficiency upgrades free each year for Huntsville residents that cannot afford or qualify for on-bill financing or conventional loans. REA will focus on providing low income HUD qualified homeowners with ductless HVAC systems, attic and floor insulation, and air sealing up to a maximum of \$5,000 per home. Data collected from previous home energy efficiency programs suggests that these upgrades are most effective in achieving appreciable reductions in energy use and costs. REA will achieve financial sustainability through three avenues: on-bill customer donations (Project Share), on-bill employee donations from the municipally-owned utility and the City of Huntsville (COH) employee base, and Operation Green Team Foundation's (OGTF) engagement to leverage community support to match those contributions one-to-one. Furthermore, the partnership with the Salvation Army of Huntsville and its partner organizations, Huntsville Utilities (HU) and its Qualified Contractor Network (QCN), will train and employ able-bodied members of the low-income community to work within its energy efficiency programs proposed.

Total Two-year Funding Request: \$300,000

Lead Applicant: City of Huntsville (COH)'s Operation Green Team(OGT) Foundation,
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Making the Case - The Need: Over 10,000 low income, elderly and disabled residents and families annually apply to one of 13 service organizations that provide one-time utility bill assistance. Most families apply for assistance on their highest bills, usually following peak electric heat and cooling weather events. Monthly hundreds of other low-income people find themselves unable to pay their bills due to unforeseen circumstances and lack of a financial safety net. In 2016, 13 agencies assisted 10,339 families with \$2,606,293 in total assistance. Project Share, HU's bill assistance program, was designed to support hardship cases, not extreme weather events and corresponding inefficiencies in home energy systems. The REA has emerged from community engagement in Huntsville's Extreme Energy Makeover (HEEM) project that performed assessments and deep retrofits in 1,138 low income homes aimed at achieving a minimum 25% energy reduction. While HEEM helped identify qualified homeowners and it did reduce the extent of need for energy efficiency upgrades in low-income homes, it was not enough nor was it sustainable. REA allows the work to be improved upon, expanded and sustained through local support. And while HU is prepared to spend its discretionary dollars to continue these programs, cultivating community support for its low-income program is long overdue. Through the partnership with OGTF, the goal of this project is to leverage existing utility dollars expended for energy efficiency programs one-to-one from within the community and to measure and evaluate both mid and low-income

Amount: \$300,000

Grant End Date: December 31, 2019

home energy efficiency projects to establish “deemed savings” data from specific combinations of upgrades.

The Solution: Through revising HU’s Project Share program where customers could help financially challenged customers with utility payments, HU will expand it to include supporting energy efficiency upgrades in qualified low income homes. HU has approved dedicating 30% of its Project Share funds to the REA low-income energy efficiency upgrades. Moreover, HU is launching a marketing program to increase Project Share participation within the community and its employee base. Funds for this project will support expanding that reach of the revised Project Share program to the entire municipal employee base and to 3-5 of Huntsville’s top employers including the community hospitals. In HEEM, evaluating true efficiency impacts in all circumstances proved challenging and in some cases, results were conflicted with established norms. This project will continue and refine that assessment and quantify ways to improve client experience while reducing ineffective energy upgrade cost expenditures

The Result: Project outcomes include:

- Leveraging the annual grant allocation on energy efficiency programing one-to-one (or @ \$12,500 monthly). HU and grant funds would then allow 6 very low-income HUD qualified homeowners per month to be assessed for upgrades initially targeting ductless HVAC, attic and floor insulation, and air sealing up to a maximum of \$5,000 each, (an increase of 5 monthly over the current utility resources)
- Systematically reduce number of residents that rely annually and repetitively on utility bill assistance program due to inefficiencies, (*Firm goals to be set with Salvation Army partners in Q1*)
- Provide more appropriate heating and cooling to families that resort to electric blankets and dangerous space heaters, in addition to those with operational units that are too costly to run and maintain due to auxiliary resistance heaters, (*Goal to be updated from HEEM final report and outcomes, now estimated at 57 of 1138 homes or 5%*)
- To quantify and report on efficiency upgrades that make the biggest positive impacts for extremely low-income families, in comparison to low and mid income homes, and to discuss observations made.
- Employ 8-16 low income residents in HU’s QCN (N=8) in the first year, (*Host job fair annually and set goals with the contractors/SA partners twice annually for training, interviewing, and evaluation*)

Regional Replicability: The Tennessee Valley Authority (TVA) is a federally owned utility that provides electricity for 54 business customers and 154 local power companies (LPC) serving 9 million people in parts of seven southeastern states. The HU market represents one of TVA’s big five LPCs that collectively distribute power to 30% of TVA’s electric meters. Developing a model that small rural electric coops and smaller LPCs could adapt is another possible avenue for replicating more effective and equitable low income energy efficiency programs like REA. Expanding these energy efficiency programs via community support for evolving bill assistance programs represents another option in transitioning energy services business models across the Southeast now.

Definition of Success: HU will measure the number of homes and the actual efficiency upgrade impacts over two years and evaluate a statistically significant number of homes from the low-income program and from average income/efficiency upgraded homes (HESP) to determine differences and which combinations of upgrades are most effective. This data will be applicable to all climate zone 3 utilities –

Amount: \$300,000

Grant End Date: December 31, 2019

both rural and urban. The REA low income program will produce 42 upgraded homes in Year 1 using grant and HU dollars and an additional 15 homes for a total of 57 using leveraged community dollars. In Year 2, success will be measured by attaining the one-to-one leverage goal that allows for a total of 72 low income residential homes annually to be upgraded with energy reduction goals met for the households evaluated during the project.

Measurement:

- Increase in dollar match from Project Share (above the proposed increase) via COH employees (\$1 per employee per month for a potential match of \$24,000 annually) and 3-5 business partners (\$1 per employee per month with a potential goal of \$14,000 monthly or \$168,000 annually. The annual one-to-one leverage “good” goal is \$60,000 (HU’s funding), the target “better” goal is \$150,000 (grant funds) and the stretch “best” goal is \$210,000 (HU, grant and leveraged local dollars)
- Standard energy consumption data on all upgraded homes pre-and post-project (in addition to existing data from HESP and HEEM in a database developed by HU to monitor HESP since its inception)
- Number of low income homes upgraded annually (Year One - increase from 12 to 42 with grant funds applied and up to 57 with leverage “better” target met: Year Two – from 12 to 42 with possible 72 homes completed when leverage “best” target met)
- Health impacts of upgrades (Year Two to include possible reporting of health-related outcomes)
- Number of jobs filled (8-16 estimated annually) by low income residents and others located in HUB zones. A HUBZone is a United States Small Business Administration (SBA) program for small companies that operate and employ people in Historically Underutilized Business Zones. These areas are recognizable as underserved.

Project Design:

Jan- Dec 2018 Year One will include completion of an analysis of 1,000 home efficiency retrofits from former programs (HESP and HEEM) to which the data from REA homes will be added over time. REA will be adjusted and revised as needed based on the results of the energy data analysis. The work plan tasks also include OGTF’s campaign launch with COH employees and 3-5 of its community businesses that partner. Those partnerships will be cultivated throughout the year to meet goals and any changing program dynamics. The goals will be monitored and reported: HU and its QCN will focus on completing between 42 and 57 low income household upgrades, employing low income and underserved residents in the work, while OGTF will focus on increasing the Project Share community dollars to support the programmatic activities. Other accomplishments will include continuous improvement through ongoing evaluative data collection, customer satisfaction surveys and starting discussions about reporting health outcomes. Other duties include reporting and participation in quarterly peer learning progress calls via SSCN and submission of a Year One Progress Report.

Jan – Dec 2019 Year Two accomplishments include:

- continuous improvement to program design,
- ongoing community engagement and data driven results shared via community engagement strategies,
- evaluation criteria for household selection processes refined, and the possibility for integration of health-related outcomes,
- continued peer learning exchange participation via SSCF network and

Amount: \$300,000

Grant End Date: December 31, 2019

- the final report and internal guidance document completed.

Timeline	Major Milestones	Success Metrics	Responsible Party	Budget
Aug/ Sept 2017	Project Share revision approvals (<i>achieved 8/29/2017</i>)	Achieves a 30% dedicated allocation for low income upgrades	HU/COH	\$0
In progress – Mar '18	REA Campaign Development & revised Project Share Kick-off	Hosts Kick-off and Marketing Event for community, COH employees and business partners	HU with partners input (dev); HU & OGTF (external)	\$5,000 cash in-kind
Jan – Dec '18 (Year 1)	REA low income upgrades begin Host job fair and trainings Promotional events & marketing	Leverages \$75,000 from community to allow 57 low income homes upgraded in 2018 (\approx 5/month)	SA/HU	\$285,000 cash for upgrades \$5,700 in-kind support (\approx \$100 per upgrade) & \$6,300 cash for marketing
Sept '17 – Jan '18	Interim Report of "Deemed Savings" Data Report and Evaluation - The Efficiency Impact Assessment	1,000 HESP homes data from existing homes audited and upgraded by HU in the past	HU	\$34,000 In-kind
Jan '18 – Dec '18	Completion of "Deemed Savings" Data Report and Evaluation - The Efficiency Impact Assessment	HEEM household efficiency data uploaded along with REA to date	HU	\$25,500 In-kind
Jan – Dec '19 (Year 2)	Continue REA low income efficiency upgrades Host job fair and trainings Promotional events & marketing	Leverage \$210,000 from the community to allow 72 low income homes upgraded in 2019 (\approx 6/month) Further program adjustments made as identified in report	ALL	\$360,000 cash for upgrades, \$7,200 in-kind (\approx \$100 per upgrade) & \$6,300 cash for marketing
Quarterly Throughout	Coordinated partner communication, trainings and events;	Continuous Improvement through evaluative data collection and	HU/QCN/SA /OGTF /community and business	\$27,000 in-kind



Amount: \$300,000

Grant End Date: December 31, 2019

	Peer Learning Calls via SSDN and reporting	customer satisfaction information gathering ongoing	partner organizations	
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Funding Requests: \$150,000 per year

Match and Sources: HU is matching its labor costs (\$59,500 for the Efficiency Impact Assessment) as in-kind and its marketing/events/training dollars (\$17,600) and low income home upgrade budget (\$60,000 annually) anticipated as 30% of its current Project Share budget. OGTF will support the project with in-kind staff support and fiscal oversight estimated at a value of \$13,500 in Year 1 and \$18,000 in Year 2 (6% of grant and leveraged funds). OGTF reserves the right to expend not more than 5% of grant funds (\$7,500 annually) to support marketing and communications with employees, business partners and the public, if needed and subject to HU team approval. This would reduce the annual home energy upgrades by 1.5. The Salvation Army’s staff time is also an in-kind match and provided at no cost to the utility. All grant funds will directly support home energy efficiency upgrades materials and contractor labor.

Implementation Responsibility: Larry Denman, HU Community Relations Manager is responsible for management and implementation of REA along with its partner, the Salvation Army. Project Share is a program of HU and coordinated with Larry’s department. Robin Cox, formerly of COH OGT and the Energy Chair for OGTF, will assist the utility with project coordination and the reporting to and participation with the SSCF and peer learning cities as needed.

Fiscal Responsibility: Operational Green Team Foundation (OGTF) – a 501 c3 established in 2014 to support the sustainable programs and activities of COH’s Operation Green Team (OGT), will serve as fiscal agent, providing administrative oversight including disbursements to agency and vendors at no charge. OGTF’s Executive Director is a Department Head for the City of Huntsville’s Landscape Management, Cemeteries and Green Team responsible for oversight of \$13.7M annual budgets.

Project Budget: (see template)

Project Description:

Community Sustainability: COH’s Department of Natural Resources has been calculating and reporting municipal and community greenhouse gas emissions every 5 years since 2000. Huntsville’s residential structures comprised 56% of Huntsville’s greenhouse gas (GHG) inventory by source in 2010. This project reduces GHG emissions by helping the community to improve the least efficient homes first while also achieving a greater quality of life improvement relative to higher income residents. In 2014 Huntsville’s Mayor and a sub-team of municipal staff and energy related community entities drafted a work plan supporting goals established in the TVA Integrated Resource Plan (IRP) to reduce GHG emissions by 50% from 2005 by 2033; to increase renewables to 20% of the generation mix by 2020; and to support an energy efficiency portfolio that achieves savings approaching 1% of annual sales. This project will further the first of these three goals and is helping to refine the last one. Mayor Battle’s letter of October 31st, 2014 is attached as Exhibit C in the June 2016 GHG & Energy Reduction Plan also included in the attachments.

Amount: \$300,000

Grant End Date: December 31, 2019

Equity and Inclusiveness: This project will continue the dialogue started with the 2014 HEEM partners through hosted community engagements, meetings, surveys, and ongoing outreach to the citizens about the benefits of energy efficiency for all residents. The partners are well-established non-profit organizations offering need based support to Huntsville's underserved residents. High impact stakeholders include the low-income residents they serve, the non-profits and local service organizations that serve their needs, and secondarily the utility, its partners, the municipality and the community at large. Priority stakeholders gain more efficient use of upgrade dollars, a better quality of life, better health outcomes, more spending power, possible jobs and input into the program design. The community benefits from improved efficiency spending, reduced health costs burdens, improved quality of life for its least affluent residents and reduction in greenhouse gases.

City of Huntsville has a history of jobs creation in the energy sector since its 2012 launch of the Energy Huntsville Initiative (<https://www.huntsvilleal.gov/government/mayors-office/mayors-initiatives/geo-cyber-energy/>) Through this grant, HU and its QCN will further that effort and implement an equity-focused energy efficiency economic development program to train and employ low income workers to work in the energy efficiency industry. This program will also give preference to those workers living in HUBZones. Several recommendations and potential actions highlighted in the City of Huntsville's 2010 Social Equity chapter of the Green 13 Report are addressed in this proposal. Most notably this proposal exemplifies the intent of

“RECOMMENDATION 4. Empower existing departments to address social equity collectively in-order-to meet the needs of a sustainable city and to engage the broader community in the social sustainability initiative.

Potential Action 1: Establish opportunities for joint-collaboration among key municipal departments and its community non-profit partners to collectively address social equity.”

http://www.southeastsdn.org/wpcontent/uploads/2016/11/HuntsvilleSustPlan_SocialEquity.pdf

Furthermore, since 2015 Huntsville has been active with its Southeastern Sustainability Director's Network sister cities in developing and sharing tools for southeastern cities to use for creating energy efficiency and energy equity programming. This project is a continuation of that effort.

<http://www.southeastsdn.org/portfolio/equity-and-energy-efficiency-in-the-southeast/>

Community Partnerships: Huntsville's REA Program will screen to identify its clients through the Salvation Army gateway that historically has operated the utility bill assistance program. Those recipients will now gain access to free audits, upgrades and inspections. There were 13 active partner organizations operating to support the HEEM network. REA will be introduced and transitioned into the following organizations in the fall 2017: United Way of Huntsville, Care Assurance Assistance for the Aging (CASA), Community Action Partnership (CAP), Huntsville Assistance Program, The Care Center, and 8 multi-denominational religious institutions. The partner organizations will be supported through directed trainings and resources where needed that allow staff to promote and educate the community about energy efficiency behaviors and the programs becoming available.

Other possible key partnerships in Year Two would include engaging the health community – public and private - to leverage the financing dollars the utility is investing to make energy efficiency assessments

Amount: \$300,000

Grant End Date: December 31, 2019

and upgrades available for all Huntsville households. It is possible that trainings for home health providers could establish those avenues as a resource to help identify the most health-wise needy and high impact quality of life, eligible residents into the program.

Local Impact: Huntsville has worked almost a decade developing policies and programs that are consistent with prudent energy planning. Mayor Tommy Battle's Green 13 Report developed in 2010 by appointed community volunteers included recommendations for social equity and energy efficiency programs not inconsistent with this proposal. In the following year, Huntsville and the northern third of the state were hit by a series of tornadoes resulting in a seven-day power outage. Leadership and the community were re-awakened to the need for local energy surety, resiliency and infrastructure hardening. In 2012, Huntsville participated in the U. S. Department of Energy's Community Energy Strategic Planning Academy that resulted in a municipal energy plan being developed and a request to create a community-based plan made by the OGT-led staff and municipal energy team. That request precipitated the municipal energy team recommending to City Council that COH agree to enter the Georgetown University Energy Prize Competition in 2014. It was approved and the Huntsville Energy Efficiency and Upgrade Program Plan Version 2.1 was submitted to enter the 2-year completion period that began in January 2015.¹

Finally, in June 2016 the team completed a COH Energy and Green House Gas Reduction Work Plan that includes 15 actions and 36 metrics in 3 goal areas. This project specifically addresses 2 actions and 4 metrics in the Building and Efficiency Goal Area. That work plan resulted from efforts began almost 6 years prior within the community and led within the municipality by OGT staff who have directly worked in a similar vein on behalf of city leadership since 1977. In 2017, through collective agreement and this proposal, OGT's energy efficiency work has shifted within the institution to its most sustainable place at HU. Both the work plan and a letter of support from City Council for the efforts described above are included in the attachments.

In addition to ongoing municipal plan and policy development, HU is drafting an internal policy guidance document for its energy efficiency programs that will be updated and improved upon as the project advances. Changes to the implementation strategy will be documented and compiled for future use, collaborations and sharing among the partners and externally. Summary results of the Efficiency Impact Assessment will be included in that guidance and used to inform the program's future direction and the final report for the SSCF grant.

¹ In the latest report from the Georgetown competition staff, Huntsville was leading the 52 competing cities in reducing energy use in municipal and residential buildings and is awaiting the final results as the competition period ended December 2016.