

Amount: \$300,000

Grant End Date: December 31, 2019

Project Title: Clean Energy for Low Income Communities Accelerator (CELICA) in Chattanooga

Summary Statement: The City of Chattanooga joined the Department of Energy CELICA program in 2016 with the goal of taking steps to fulfill action items outlined in the 2009 Climate Action Plan. By participating in CELICA, the team will reduce green house gas emissions by lowering energy consumption in low-income communities through expanded installation of energy efficiency and distributed renewables. Over the past year, the team has been evaluating the availability and effectiveness of current energy efficiency programs and has identified a multipronged approach to make significant improvements by 2020. By leveraging the EPB Smart Grid, one of the most advanced electric utility and communications networks in the United States, the team will be able to collect real-time data to evaluate the effectiveness of new and enhanced program delivery and will work to inform policy options based upon energy data. Coupled with on-the-ground advice and feedback from residents serving on Empower Community Action and Advisory Groups, sponsored and administered by local non-profit green|spaces, the City will create innovative, scalable and replicable models for community-wide energy efficiency improvements.

Lead Applicant: City of Chattanooga, Erik Schmidt, Director of Sustainability, eschmidt@chattanooga.gov 423-643-7822

Funding Amounts: Year 1: \$150,000 Year 2: \$150,000 with green|spaces acting as the fiscal agent.

Partners:

City of Chattanooga Office of Economic & Community Development: Doug Smith, Manager, Neighborhood Services & Development, dssmith@chattanooga.gov 423-643-7336

Electric Power Board (EPB): Elizabeth Hammitt, Director of Environmental Stewardship & Community, hammittec@epb.net, 423-443-2474

green|spaces: Dawn Hjelseth, Director of Development, dawn@greenspaceschattanooga.org, 423-648-0963

East Chattanooga Community Action & Advisory Group: Evelena Holmes, emholmes@epbfi.com, 423-622-0974

Highland Park/Ridgedale Community Action & Advisory Group: Olivia Karavatakis, oliviak@energ3.us, 423-364-5224

East Lake Community Action & Advisory Group: Linda Richards, lgrichards5@gmail.com, 423.698.5408

Alton Park Community Action & Advisory Group: Josh Woodrow, info@bridgecitycommunity.com, 423-321-4364

Case for Support: According to the US Department of Energy, low-income households spend an average of 15% - 20% of their income on energy bills, whereas energy burdens above 6% are typically considered unaffordable. EPB conducted an analysis of energy consumption across Chattanooga in 2014. Residents in East Chattanooga (37406), Highland Park (37404), East Lake (37407) and Alton Park (37410) neighborhoods were found to be using 43% more energy per square foot during the winter months than the average home in Chattanooga, equating to \$500 - \$600 per month. A household may be able to afford the rent or home payment but have to take on a predatory loan or rely on a social service due to the

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inability to pay the high utility bill. The Chattanooga Area Food Bank released that 69% of their clients are actively choosing between buying food and paying for utility bills. Currently over \$1.4 million is provided to low-income residents in the EPB service territory in the form of direct energy assistance payments along with an additional \$550,000 invested in weatherization programs each year.

Census data of these neighborhoods show higher than average rates of poverty, 37406 – 33.7%, 37404 – 35.7%, 37407 – 50.6% and 37410 – 58.1%. These neighborhoods also have some of the oldest housing stock in the City, with the majority of homes being built before 1979, but in the 37404 zip code, over 60% of the homes were built before 1959. Layered with mapping performed by the Trust for Public Land, these neighborhoods were found to also have a lower rate of park access, a lack of connectivity to the downtown metro area, higher crime rates, less tree canopy, and higher rates of heat island effect. With these many issues facing the community, we recognized that we needed to work with the residents to gain further information on their priorities. Focus groups were held to provide insight on the best way to partner with existing programs and organizations. Out of those focus groups, community action and advisory groups were formed and now meet monthly to continue to provide feedback and share ideas and were instrumental in the development of our CELICA plan.

Results: By combining efforts, the CELICA programs will service over 3000 residences over the two-year period with an average of 20% reduction in electric utility bills, equating to reducing green house gas emissions by 3,706 metric tons.

Replicability: The CELICA team is documenting processes and procedures to create a replicable model for cities across the southeast. The City has a long history of implementing public/private partnerships and showing the many benefits to this type of approach. Additionally, as many communities do not have a Smart Grid, we will use the data collected in Chattanooga to identify trends and characteristics of those who could be high-energy consumers in other communities. Lastly, the model of implementing the Empower program including Energy Savings workshops and community action and advisory groups has already been taught to other communities.

Definition of Success & Measurements: The CELICA team has set the following goals for the project:

1. Average 20% reduction in energy consumption in residential homes served.
2. Of those families served, 75% reduction of repeat usage of energy assistance programs & cut-offs
3. 92% placement rate in employment or school enrollment of participants in SEEED program.
4. Feasibility study performed for Green & Healthy Homes Initiative
5. Startup of GreenFaith Program with at least 5 churches participating by end of Year 2.
6. Create a new city-wide policy that ensures landlords meet a minimum energy-efficiency standard in rental housing.

Project Design: Over the past year, the CELICA team has met bi-weekly to research and evaluate current programs addressing equity in energy conservation and weatherization programs. From this research, the CELICA Team has identified a multipronged approach to increase the effectiveness and implementation of new programs. The team will first work on identified low-hanging fruit to maximize the effects of current programming.

Year 1 Plans: \$150,000

Improve Existing Services:

- Add Energy-Efficiency Options to City of Chattanooga Home Repair Application
 1. Funds Needed from SSFC Grant: \$0 / Match: In-kind Contribution of 40 Hours = \$2000 by City of Chattanooga

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2. Implementation Responsibility: City of Chattanooga / Fiscal Responsibility: N/A
3. Completion Deadline: June 2018
- Encourage Participants of Rental Rehab to participate in EPB eScore Program
 1. Funds Needed for SSFC Grant: \$0 / Match: In-kind Contribution of 40 Hours = \$2000 by City of Chattanooga & In-kind Contribution of 40 Hours = \$2000 by EPB
 2. Implementation Responsibility: City of Chattanooga / Fiscal Responsibility: N/A
 3. Completion Deadline: June 2018
- Provide applications in Spanish along with developing intake-to-service process that accommodates English second language speakers.
 1. Funds Needed from SSCF Grant: \$0 / Match: In-Kind Contribution of 50 Hours = \$2500 by City of Chattanooga & 40 Hours = \$2000 by EPB
 2. Implementation Responsibility: City of Chattanooga & EPB / Fiscal Responsibility: N/A
 3. Completion Deadline: June 2018
- Require all Home Repair Program recipients to receive EPB eScore, as applicable
 1. Funds Needed from SSCF Grant: \$0 / Match: 20 Hours = \$1000 by City of Chattanooga & 200 Hours = \$10,000 by EPB
 2. Implementation Responsibility: City of Chattanooga & EPB / Fiscal Responsibility: N/A
 3. Completion Deadline: June 2018
- Increase visibility of programs to low-income residents through better marketing and communication tools including hosting community based events
 1. Funds Needed from SSCF Grant: \$10,000 / Match: Cash Contribution of \$10,000 & In-kind 216 Hours = \$10,800 by EPB and In-kind 400 Hours = \$20,000 by green|spaces
 2. Implementation Responsibility: EPB & green|spaces / Fiscal Responsibility: green|spaces
 3. Completion Deadline: Ongoing events over the 2 years
- Inform Social Service Agencies of Free Energy Savings Workshops to increase attendance
 1. Funds Needed from SSCF Grant: \$0 / Match: In-kind 50 Hours = \$2500 by green|spaces
 2. Implementation Responsibility: green|spaces / Fiscal Responsibility: N/A
 3. Completion Deadline: December 2017
- Add EPB Smart Build to judging criteria for HOME applications & audit new construction homes when applicable.
 1. Funds Needed from SSCF Grant: \$0 / Match: In-Kind Contribution 10 Hours = \$500 by City of Chattanooga & 50 Hours = \$2500 by EPB
 2. Implementation Responsibility: City of Chattanooga & EPB / Fiscal Responsibility: N/A
 3. Completion Deadline: June 2018
- Use EPB Data to evaluate renter vs. home owner energy consumption and inform on policy recommendations
 1. Funds Needed from SSCF Grant: \$0 / Match: In-Kind Contribution 80 Hours = \$4,000 by EPB
 2. Implementation Responsibility: EPB / Fiscal Responsibility: N/A
 3. Completion Deadline: June 2018

Implement New Solutions:

- Implement “Socially Equal Energy Efficiency Development” (SEED) based on Knoxville’s model to train at-risk, low-income youth adults for green collar careers.

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1. Funds Needed from SSCF Grant: \$80,000 / Match: In-Kind Contribution: 50 Hours = \$2500 by Chattanooga State College, 50 Hours = \$2500 by EPB, 50 Hours = \$2500 by Tribel
 2. Implementation Responsibility: green|spaces / Fiscal Responsibility: green|spaces
 3. Implementation Deadline: January 2018
- Perform a feasibility study for a “Green & Healthy Homes Initiative” to assess the potential for implementation of an integrated energy, housing and health services delivery model.
 1. Funds Needed from SSCF Grant: \$60,000 / Match: In-kind 50 Hours = \$2500 by green|spaces
 2. Implementation Responsibility: green|spaces, Erlanger Children’s Hospital & GHHI / Fiscal Responsibility: green|spaces
 3. Implementation Deadline: July 2018

Year 2 Plans: \$150,000

- Increase visibility of programs to low-income residents through better marketing and communication tools including hosting community based events
 1. Funds Needed from SSCF Grant: \$10,000 / Match: Cash Contribution of \$10,000 & In-kind 216 Hours = \$10,800 by EPB and In-kind 400 Hours = \$20,000 by green|spaces
 2. Implementation Responsibility: EPB & green|spaces / Fiscal Responsibility: green|spaces
 3. Completion Deadline: Ongoing events over the 2 years.
- Round 2 of “Socially Equal Energy Efficiency Development” (SEED) to train at-risk, low-income youth adults for green collar careers.
 1. Funds Needed from SSCF Grant: \$80,000 / Match: In-Kind Contribution: 50 Hours = \$2500 by Chattanooga State College, 50 Hours = \$2500 by EPB, 50 Hours = \$2500 by Tribel
 2. Implementation Responsibility: green|spaces / Fiscal Responsibility: green|spaces
 3. Implementation Deadline: January 2019
- Evaluate current code standards and viability to increase levels
 1. Funds Needed from SSCF Grant: \$0 / Match In-Kind Contribution: 25 Hours = \$1250 by City of Chattanooga, 25 Hours = \$1250 by EPB & 25 Hours = \$1250 by green|spaces
 2. Implementation Responsibility: green|spaces / Fiscal Responsibility: N/A
 3. Completion Deadline: June 2019
- Solidify sustainable financial model for Home Energy Upgrade (HEU)
 1. Funds Needed from SSCF Grant: \$0 / Match In-Kind Contribution: 50 Hours = \$2500 by EPB
 2. Implementation Responsibility: EPB / Fiscal Responsibility: N/A
 3. Completion Deadline: June 2019
- Establish a GreenFaith program – a 2 year environmental leadership program for houses of worship with the goal of achieving their own initiatives while educating their congregation ways to utilize the information in their own daily lives.
 1. Funds Needed from SSCF Grant: \$60,000 / Match In-Kind Contribution: 200 Hours = \$10,000 by green|spaces
 2. Implementation Responsibility: green|spaces / Fiscal Responsibility: green|spaces
 3. Implementation Deadline: January 2019

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Major Milestones	Success Metrics	Responsible Party	Timeline	Budget
Increase Energy Efficiency Improvements in Home Repair Program Recipients	Related Goal: Green House Gas Emission Reduction by reaching a new audience Measured by: Reduced utility consumption tracked by EPB Data	City of Chattanooga & EPB	Implementation starting in June 2018 with the first round completed by August 2018	\$19,500 based upon 390 hours @ \$50/hour
Perform eScore Energy Audits for Rental Rehab participants	Related Goal: Green House Gas Emission Reduction by reaching a new audience. Measured by: Reduced utility consumption tracked by EPB Data	City of Chattanooga/EPB	Implementation starting in June 2018 and offered continually after.	\$4,400 based upon 88 hours @ \$50/hour
Begin Accepting Applications in Spanish	Related Goal: Green House Gas Emission Reduction by reaching a new audience. Measured by: Number of Spanish speaking applications and homes included in programs.	City of Chattanooga, EPB & green spaces	Implementation starting in June 2018 and offered continually after.	\$4,500 based upon 90 hours @ \$50/hour
Hosting Community Based events	Related Goal: Green House Gas Emission Reduction by reaching a larger audience. Measured by: The number of people who attend a training and report they heard about the program from an event.	EPB & green spaces	Large scale events will be hosted in May & September of 2018 & 2019 with monthly movies and fairs hosted in between.	\$100,000 based upon \$40,000 needed for supplies & 1200 hours @ \$50/hour
Compile report on EPB Renter vs. Homeowner Utility Consumption Data	Related Goal: Rental Housing Policy Measured by: Report presented to City Administration & Council	City of Chattanooga, EPB & green spaces	Completed by March 2018	\$7750 based upon 155 hours @ 50/hour
Recruit 10 – 12 participants for first Round of SEED	Related Goal: Workforce Development Training Measured by: Number of participants who are	Green spaces & EPB	Rounds would be May – Aug. 2018, Sept. – Dec. 2018, Jan. – April	\$175,000 to fund development, admin, tools/supplies and

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	employed or in school after 6 months past completion.		2019 & May – Aug. 2019	materials. (cost breakdowns in budget sheet)
Complete the Feasibility Study of Green & Healthy Homes	Related Goal: GHHI study Measured by: Report provided by GHHI on ability to implement program in Chattanooga	green spaces	Completed report by December 2018	\$60,000 to fund the proposal by GHHI and staff time to manage the process (cost breakdowns in budget sheet)
Recruit at least 5 churches to participate in the GreenFaith Program	Related Goal: Green House Gas Emission Reduction Measured by: Energy consumption reduction at Church and members of congregation	Green spaces & EPB	The goal would to be recruit churches by June 2019 with progress measured by December 2019	\$70,000 to fund admin, outreach, education and improvements at Churches (cost breakdowns in budget sheet)

Project Impact:

Community Sustainability:

The outlined plan was developed over a year of studying current programs and organizations working in the Chattanooga on energy-efficiency. We are confident from those studies that we will be able to achieve a reduction of 3,706 tons of green house gas emissions over the next two years through energy conservation education and home improvements. We will be able to prove this by using the EPB Smart Grid, one of the most advance networks in North America, which can analyze home energy data on 15-minute intervals. Pilot energy upgrade programs administered by EPB have shown on up to 30% reduction in energy consumption along with Empower Energy Workshops attendees saving an average 15%. By improving existing services along with implementing the new programs, the City is projecting not only dramatic energy savings but also improved quality of life.

Equity & Inclusiveness: The largest stakeholders of this program, residents of the low-income communities, have been involved since day one. Residents are the leaders of our Community Action & Advisory groups and have set the work plan, created the ideas of communication and delivery methods and are now managing some of the day-to-day programing for us. The groups continue to meet monthly and will review and give input on recommendations by the CELICA Team.

Community Partnerships: Along with the CELICA core team, over a dozen other agencies will be working together using their strengths to implement the plan. Other agencies include the United Way 211 Help Center to assist with data analysis of calls coming in for assistance; Chattanooga State College will assist with the workforce development aspect of SEEED; University of Tennessee at Chattanooga will provide student groups for research and conducting interviews; Chattanooga Neighborhood Enterprise and Glass House Collective will assist with outreach and neighborhood based activities.

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Local Policy: Since the return of the Office of Sustainability to the City in 2014 through permanent operational budget funding, it has addressed many of the action items outlined in the Energy Efficiency section of the 2009 Climate Action Plan. Steps accomplished to date include: **Action Items A1 & A2:** *Increase the community's use of renewable energy and become a TVA Generation Partner by generating energy that can be bought back by TVA.* This was achieved with the recent opening of the first community solar program called "Solar Share" by EPB. The City of Chattanooga is also pursuing Sol Smart, which is designed to recognize communities that have taken key steps to address local barriers to solar energy and foster the growth of mature local solar markets. **Action Item A3:** *Encourage Individuals and Businesses to produce their own clean energy.* This is primarily accomplished through the partnership with green|spaces green|light and NextGen programs. green|light connects businesses to vendors and programs that can increase their participation in energy efficiency and renewable usage. The NextGen program is educating homebuyers on the advantage of requesting and buying net zero energy homes through the physical construction and sale of the homes. **Action Item B2:** *Reduce energy and monetary waste from lighting:* In 2015, Mayor Andy Berke signed on to the US Department of Energy's Better Buildings Challenge, committing to a minimum 20% energy use intensity (EUI) reduction by 2025. In order to identify and prioritize the most cost-effective and high-impact building upgrade projects to achieve this goal, the City partnered with EPB's engineering services staff to perform free energy assessments of existing facilities. As a result of the findings, the City is allocating \$1.1M over the next three years to retrofit lighting in core campus municipal buildings and in Youth and Family Development Centers with a goal of a 13% energy reduction across the entire 200 facility portfolio.

Until last year, the City had not taken many steps to achieve **Action Item B1:** *Reduce energy consumption per capita by engaging utilities.* Realizing the economic, social and environmental impact, the City of Chattanooga signed on to be part of the Department of Energy's Clean Energy for Low-Income Communities with EPB and green|spaces as strategic partners. The goal of CELICA is to lower energy bills in low-to-moderate income communities through expanded installation of energy efficiency and distributed renewables. Along with providing a structure for plan development, participating in CELICA provides resources and technical assistance to overcome local barriers, identifies funding options to implement action plans and provides opportunities for us to collaborate with peers across the nation. By following the steps outlined by CELICA and using their resources, the CELICA Team has created a plan that will take significant steps to achieve Action Item B1 by impacting over 3000 homes and reducing consumption by 20%.