



American Mayors and Businesses: Building Partnerships for a Low-Carbon Future

ALLIANCE FOR A SUSTAINABLE FUTURE

**a joint effort by The U.S. Conference of Mayors and the Center for Climate
and Energy Solutions (C2ES)**

September 2017

**THE UNITED STATES CONFERENCE OF MAYORS & THE CENTER FOR
CLIMATE AND ENERGY SOLUTIONS**



THE UNITED STATES CONFERENCE OF MAYORS

Mitchell J. Landrieu

Mayor of New Orleans
President

Stephen K. Benjamin

Mayor of Columbia, SC
Vice President

Brian K. Barnett

Mayor of Rochester Hills, MI
Second Vice President

Mayor Javier Gonzales

Mayor of Santa Fe
Chair, Alliance for a Sustainable Future

Mayor Jackie Biskupski

Mayor of Salt Lake City
Vice Chair, Alliance for a Sustainable Future

Tom Cochran

CEO and Executive Director
The U.S. Conference of Mayors

Bob Perciasepe

President
The Center for Climate and Energy Solutions



About The U.S. Conference of Mayors: The U.S. Conference of Mayors is the official nonpartisan organization of cities with populations of 30,000 or more. There are nearly 1,400 such cities in the country today, and each city is represented in the Conference by its chief elected official, the mayor. Learn more at www.usmayors.org.



About C2ES: The Center for Climate and Energy Solutions (C2ES) is an independent, nonpartisan, nonprofit organization working to forge practical solutions to climate change. Our mission is to advance strong policy and action to reduce greenhouse gas emissions, promote clean energy, and strengthen resilience to climate impacts. Learn more at www.c2es.org.

We would like to thank JPMorgan Chase & Co., Duke Energy, and AECOM for their sponsorship of the Alliance for a Sustainable Future. Please note that the views expressed by the authors of this report do not necessarily reflect the views of our sponsors. In addition, the case studies presented in this report illustrate the potential to bring together stakeholders and advance positive environmental outcomes. Each case is unique and though the projects are meant to be replicable, outcomes are never guaranteed. Their inclusion should not be considered endorsements by the sponsors of the Alliance.



Printed on Recycled Paper.

do your part! please recycle!



American Mayors and Businesses: Building Partnerships for a Low-Carbon Future

ALLIANCE FOR A SUSTAINABLE FUTURE

**a joint effort by The U.S. Conference of Mayors and the Center for Climate
and Energy Solutions (C2ES)**

September 2017

TABLE OF CONTENTS

FOREWORD 1

RENEW BOSTON TRUST3

“HERO”: A RESIDENTIAL PACE PROGRAM IN KANSAS CITY.....9

100 PERCENT RENEWABLE ENERGY FOR LAS VEGAS CITY GOVERNMENT..... 15

DUKE ENERGY COLLABORATIONS IN CHARLOTTE AND ASHEVILLE..... 21

SALT LAKE CITY’S CLIMATE POSITIVE 2040 PLAN27

SANTA FE VERDE FUND.....33

FOREWORD

Never have the stakes been higher to advance the cause of carbon reduction and climate protection. For more than a decade, cities have promoted climate protection strategies at all levels of government, and businesses have made great strides in their commitment to reduce greenhouse gases and to develop new, more cost-effective renewable energy technologies. But the recent intensity and destruction of Hurricanes Harvey and Irma, coupled with wildfires that consume our Western forests and threaten cities, make us all realize that the time for talking is over and time for greater climate action is now.

To respond to the need to expedite climate protection programs, The U.S. Conference of Mayors and the Center for Climate and Energy Solutions formed last year the Alliance for a Sustainable Future. The purpose of the Alliance is to promote greater partnerships between the public and private sectors in advancing climate solutions.

Expediting clean energy technologies almost always involves cooperation between the public and private sectors. According to the Alliance's recent 100 city survey on sustainability, about one-third of cities already partner with the private sector and another half are taking steps to do so. But the most important finding of the survey is that cities are poised to make even greater strides in the near future, and are looking to their peers and businesses to help make that happen.

The summary case studies contained in this document are meant to illustrate how cities can partner to achieve their clean energy goals. Whether it is Santa Fe Mayor Javier Gonazales' Verde Fund, Salt Lake City Mayor Jackie Biskupski's Climate Positive 2040, Boston Mayor Marty Walsh's Renew Boston Trust, Las Vegas Mayor Carolyn Goodman's "100 Percent Renewable Energy", Kansas City Mayor Sly James' HERO Residential PACE program, or Duke Energy's Utility Collaborations with the cities of Charlotte and Asheville, North Carolina - all these model programs show that informed cooperation is the key to our mounting a sustained clean energy strategy from the local level up.

The Alliance will continue to promote such programs and others. Whether you are from the public or private sector, we hope you join us for this important work.



Tom Cochran
CEO and Executive Director
United States Conference of Mayors



Bob Perciasepe
President
Center for Climate and Energy Solutions

RENEW BOSTON TRUST

MAYOR MARTIN J. WALSH

CITY OF BOSTON

OVERVIEW

Mayor Martin J. Walsh created the Renew Boston Trust, a comprehensive program to make as many as 256 municipal facilities more energy and water efficient. An energy service company (ESCO) is performing an investment-grade audit of buildings owned by the City of Boston to identify work that can be funded by guaranteed savings and will by the end of FY17 start upgrade work under a performance contract of up to 20 years. More efficient municipal facilities are an important component of the city's Climate Action Plan and its goal to reduce Boston's greenhouse gas (GHG) emissions 25 percent by 2020 and for carbon neutrality by 2050.

Renew Boston Trust aims to address the general challenge of deferred maintenance at public facilities and the particular challenge of connecting energy efficiency expertise to comprehensive, public facilities upgrade work. Previous energy efficiency work focused mainly on measure-level improvements within facilities, and financed with the city's capital budget and utility rebates - that resulted in \$3 million in energy efficiency work annually. With ESCO expertise and a long-term performance contract, the city can pursue building-level energy improvements where the cash flow of energy conservation measures with short-term paybacks cross-subsidize measures with longer-term paybacks. Renew Boston Trust is planning the first phase to accomplish \$10 million self-funded improvements with funding that does not compete with the city's capital budget. Preliminary assessment of the program's potential has identified the opportunity to undertake over \$100 million of self-funded work.

LOCAL MARKET CONDITIONS

Under the design-build provision enacted by the Commonwealth of Massachusetts in 2008 (Massachusetts General Laws, Chapter 25A, Section 11i), a government entity can qualify an ESCO to assist in design and implementation of various energy conservation measures (ECMs) across a portfolio of buildings. Massachusetts is also ranked as the #1 most energy efficient state by the American Council for an Energy Efficiency Economy (ACEEE) and has the strongest ratepayer-funded, utility-administered energy efficiency programs in the nation (MassSave).

Boston's municipal building stock has a variety of vintages, ranging from one of the oldest fire stations in the United States (Charlestown's Engine 50 - built in 1853), to the newly constructed Boston Public School headquarters (the Bruce C. Bolling Municipal Building, opened 2015). Given this range within Boston's municipal building stock, energy performance varies widely across the portfolio. Many of the lowest energy-use-intensity buildings are the older pre-war schools that have heating but no cooling or mechanical ventilation. While these buildings consume relatively little energy, thermal comfort, air quality and other considerations can impact the learning environment provided to students. Alternatively, many of the schools constructed in the 1960s and 1970s, which do have cooling and mechanical ventilation, are among the least energy efficient properties in the portfolio. Each building type must be addressed to provide the ideal balance of occupant comfort and energy efficiency.

The first phase of the Renew Boston Trust will focus on Police and Fire Stations, Community Centers, Libraries, and the Public Works Central Maintenance Facility. These properties represent over 2.5 million square feet of building space, and \$1.4M in annual energy savings opportunity. Upon completion of this 38 building pilot program, the city plans to expand the program to include the remainder of the Boston's 250+ municipal buildings. Subsequent phases likely will include City Hall, Boston Public Schools, and the Parks Department's Franklin Park Maintenance Yard - all of which are currently undergoing facilities master planning studies that will help inform their inclusion with the Renew Boston Trust program.

IMPLEMENTATION

Mayor Walsh assumed office in 2014 with the specific intention of undertaking a performance contract for municipal facilities. Soon after his inauguration, Mayor Walsh used his first policy speech to announce the Renew Boston Trust as a key component of his innovation agenda:

“Innovation is about more than improving performance. It’s about shifting paradigms. In Boston, we are proving that you can grow greener as you grow bigger. Starting next year, we’ll take it a step further, with the Renew Boston Trust. Renew Boston will manage energy retrofits of public buildings that are self-financed by future savings. This step marks a historic turning point in municipal energy efficiency: from the era of incentives, to the age of true investments. Renew Boston will reduce costs, increase resilience, and create jobs. And it will set a standard for private property owners across the city. Environmental action is no longer a burden we accept. It is an opportunity we embrace.”

The Mayor’s knowledge was formed when he was Boston Building Trades Council President, and in 2011 negotiated the first-in-the-nation public housing Project Labor Agreement that governed the \$66.7 million energy performance contract between the Boston Housing Authority and its ESCO.

Administration of this program is managed by three cabinets: Environment, Energy and Open Space, particularly the Municipal Energy Unit within the Environment Department that directs the program; Finance, particularly the Alternative Finance Unit within the Office of Budget Management; and Operations, specifically the Public Facilities Department. The Alternative Finance Unit, newly created for the Renew Boston Trust, will serve as a third budget director, alongside the capital budget and operating budget directors, to oversee the self-funded work under the performance contract. This unit will ensure rigorous underwriting standards to ensure that the city’s credit rating agencies allow debt financing of this work to be supplemental to and not in competition with the city’s traditional capital budget.

USEFUL TOOLS

In order to guarantee energy savings, the ESCO needs to establish the city’s baseline energy cost and energy usage. To track and report this information, the city employs an Enterprise Energy Management System (EEMS). The current software tool in place is a second iteration of such a system for the City of Boston and in addition to tracking detailed energy use and cost information for the purpose of auditing and bill dispute resolution, this system feeds energy data to the US EPA’s Energy Star Portfolio Manager tool. Portfolio Manager, is the tool used for reporting under BERDO, as well as the method the City of Boston reports energy performance to the US DOE’s Better Buildings Challenge.

This system, in addition to tracking all historic energy billing information for city buildings, parks and streetlights - has allowed the city to identify anomalies and potential errors in our monthly bills. In just the first year of the contract with the current EEMS provider, the city has identified and recovered over \$1M in credits from utility billing errors

TIMELINE

Based on his experience with the Boston Housing Authority’s energy savings performance contract, Mayor Walsh entered office in 2014 determined to pursue a similar approach to retrofitting municipal buildings.

In May 2015, the Mayor’s Chief of Staff convened the Renew Boston Trust Working Group with representatives from the three cabinets directed to create the program: Environment, Energy and Open Space, Finance and Operations. The City of Boston Law Department was directed to assign an attorney to advise the Working Group on the 2008 law authorizing energy savings performance contracting and the qualification of ESCOs.

The City of Boston, pursuant to statutory direction governing the Request for Qualifications, ranked ESCOs in December, 2015, and in April, 2017, executed an Investment Grade Audit Agreement with the top-ranked ESCO.

After completing the Investment Grade Audit, the city will execute an energy savings performance contract (under Massachusetts law, an “Energy Management Services Agreement”) for the first phase of work. The three cabinet chiefs governing the program agreed on a list of 38 buildings constituting 2.5 million square feet for this first phase. The selected ESCO is evaluating potential energy conservation measures (ECMs) and will provide their recommendations and guaranteed savings per measure. In conjunction with the commencement of construction, the Renew Boston Trust will create the statutorily required annual monitoring and verification (M&V) program to monitor whether guaranteed savings materialize and, if guaranteed savings fail to materialize, determine the statutorily required shortfall payment amount. The Alternative Finance Unit in the Office of Budget Management will ensure that additional capital spending on retrofits is fully underwritten by these guaranteed savings. The three cabinet chiefs governing the program decided on a \$10 million first phase. Massachusetts law does not limit the number of times the energy savings performance contract can be amended for subsequent phases of work.

COSTS AND FINANCING

The Renew Boston Trust program was created with existing staff. The Working Group required a significant allocation of time to learn the fundamental changes implicated by the new process. Until Massachusetts enacted design/build provisions (authorizing requests for proposals for specific design/build projects under MGL c. 25A, Section 11C in 2003 and authorizing the qualifications of ESCOs for energy savings performance contracts under MGL c. 25A, Section 11i in 2008), public facilities construction procured design services and construction work separately. Moreover, energy savings performance contracting involves a new approach to budgeting and underwriting to ensure that contractually guaranteed savings are acceptable to the city’s credit rating agencies.

This extensive learning process was guided by a subject matter expert placed by the City Energy Project (funded by the Bloomberg, Doris Duke and Kresge Foundations) in the Environment, Energy and Open Space cabinet for three years - from February 2014 to February 2017. This expert guided the procurement and ranking of respondents and provided extensive training -- dubbed “ESCO 101” -- to the eight city departments that own and/or operate public facilities.

To implement the program, the city recently created two new positions, Director of the Municipal Energy Unit within the Environment Department, who is charged with directing the Renew Boston Trust, and a project manager with performance contracting experience within the Public Facilities Department.

RELEVANT POLICIES

As discussed above, municipal energy savings performance contracting was not authorized under state law until enactment of MGL. c. 25A, Section 11i in 2008. The Renew Boston Trust coordinates with various state and local laws and programs, including:

- State Energy Efficiency Resource Standard (EERS) - aka the MassSave Program
 - The MassSave Program is a rate-payer funded public benefit fund collected via small surcharge on each customer utility bill (\$0.0025/kWh). These funds are aggregated and administered by the local electric and gas distribution companies for the purpose of energy efficiency retrofits in residential, commercial and public sector buildings. Utilities must meet certain energy savings goals (currently 2.4 percent of sales) each year and report their program results to the Massachusetts Department of Public Utilities each year.

- Boston's Building Energy Reporting and Disclosure Ordinance (BERDO)
 - In 2013, the City of Boston enacted the Building Energy Reporting and Disclosure Ordinance (BERDO), which requires all buildings over 50k square feet (and in more recent years over 35k square feet) report their annual energy consumption data to the City of Boston via Energy Star Portfolio Manager. Buildings subject to BERDO are also required to, after 5 years, complete an energy audit or perform an energy action - details of which are stipulated in the regulations governing the BERDO program.
 - Leading by example, the City of Boston reports all 315 city-owned buildings energy consumption data every year. The city is also leading by example by providing a framework for how to comply with the energy audit/energy action component of the ordinance (though technically legally exempt) by performing audits on city-owned properties and making efforts to reduce our energy consumption and GHG emissions along the same reduction schedule required of private entities subject to BERDO.
- MA Stretch Energy Code / Green Communities Act
 - Under the Massachusetts Green Communities Act - municipalities may voluntarily apply to become a designated Green Community. This designation requires annual reporting on key energy and environmental statistics, and comes with the stipulation that communities adopt the stretch energy code, which is usually 1 version of the International Energy Conservation Code ahead of the base code in the Commonwealth. As a designated Green Community, the City of Boston is subject to incredibly stringent energy codes, which helps drive further energy performance out of all new construction and major renovations subject to code compliance.

KEY COLLABORATORS AND STAKEHOLDERS

Honeywell International, Inc. - Energy Service Company (ESCO)

- The City of Boston, pursuant to Request for Qualifications, selected Honeywell, as its energy service company (ESCO) for the Renew Boston Trust energy savings performance contract.

Eversource Energy - Electric Distribution Company

National Grid - Gas Distribution Company

- Under the MassSave program discussed above, utilities in Massachusetts provide rebates to qualifying energy efficiency projects. For the Renew Boston Trust, the ESCO is responsible for securing all available utility rebates. These rebates supplement the funding from guaranteed energy savings identified in the energy savings performance contract.

WSP USA Corp. - Owner's Agent

- The City of Boston has hired an owner's agent to serve as an independent, objective resource. The owner's agent is monitoring the development of the Investment Grade Audit and will ensure that the measurement and verification of guaranteed energy savings, commissioning, training, and energy savings performance contract language are all developed with the best interests of the City of Boston. Hiring an owner's agent at the outset of forming an energy performance contracting program to assist with the development of the Request for Qualifications (RFQ) and selection of the ESCO is recommended. In Boston's case, the philanthropically funded subject matter expert discussed above provided owner's agent services throughout the development of the RFQ and ESCO selection.

OPPORTUNITIES TO INCLUDE VULNERABLE COMMUNITIES

Although creation of the Renew Boston Trust involved internal reorganization of municipal departments, the example of the Boston Housing Authority's (BHA) \$66.7 million energy savings performance contract, completed in 2014, is guiding the city's intention to connect implementation of this work with disadvantaged and vulnerable communities in Boston. Beyond improving tenant comfort in 13 public housing properties, implementation of BHA's performance contract provided workforce development opportunities to BHA residents. Of the 600 jobs created by BHA's performance contract, 103 positions went to BHA residents, many (~25 percent) in skilled labor positions and apprenticeships.

From the outset, Renew Boston Trust program formation has coordinated with the Mayor's Office of Workforce Development to ensure that the city maximizes the opportunity to connect jobs created by the Renew Boston Trust with Boston residents. The current Director of the Workforce Development previously served as Chief of Staff to the Boston Housing Authority and negotiated the Project Labor Agreement for its project with, as discussed above, the then head of the Boston Building Trades who, in 2014, became Mayor of Boston.

OUTCOMES

Given Boston is in the first phase (investment grade audit), savings are yet to be realized. However, the 38 buildings included in this pilot round show savings potential of \$1.4M - which is comprised of over 5.5 million kWh electric savings potential, over 250,000 therms natural gas savings potential and over 10,000 hundred cubic feet (CCF) water savings potential.

The actual realized savings, given the \$10M budget for phase 1, is expected to be closer to 3 million kWh, 135k therms, and 5k CCF saved. This pilot phase alone has the potential to reduce municipal GHG emissions by an estimated 1,700 tCO_{2e} per year (1.1 percent reduction in total municipal GHGs).

As part of the ESPC program in the City of Boston, Honeywell plans to leverage the local workforce as much as possible. The company established a Memorandum of Understanding with Boston Architectural College, and recently hired their first intern to assist with the development of Energy Conservation Measures. Honeywell expects that the eventual construction phase of the Renew Boston Trust program will lead to many more work opportunities for local subcontractors in the buildings trades, and all of these subcontractors must follow the city's minority and women owned policies.

LESSONS LEARNED

The City of Boston has found that creating a performance contracting program takes time and commitment. Capacity building within affected municipal departments and the necessary learning to prepare for the changes to existing processes implicated by performance contracting proved to be a multi-year process. Any city undertaking performance contracting needs a subject matter expert to provide this necessary, extensive education. The City of Boston, as discussed above, benefitted from the three year placement of a philanthropically funded subject matter expert to provide these services. A municipal government that engages ESCOs without significant expertise in the business model and the structure and formation of guarantees will likely create a program that does not work as envisioned or provide the maximum financial and building improvement benefits. Absent philanthropic funding, any municipal government will need the political will to budget for and procure these necessary professional services.

Based on Boston's experience, private sector actors advocating for a municipal energy savings performance contract will not gain traction until there is the necessary internal capacity building discussed above. Soon after the 2008 enactment of authorizing legislation, the then Mayor of Boston was lobbied by multiple ESCOs and labor unions to undertake a performance contracting program. City staff intent upon creating an energy savings performance contracting program attempted to connect trainers from the Federal Energy Management Program, which administers performance contracting for all federally-owned facilities, with affected departments. These efforts did not take hold. The change from the paradigm of procuring design services separately from construction procurements is difficult.

Internal advocates for this change need to respect the reasons why municipal officials are wary. In Massachusetts, a 1977 corruption scandal resulted from the construction of a new University of Massachusetts campus. After two state senators were convicted for accepting payoffs from a construction management company, the Commonwealth enacted particularly strict laws, the highly regulated design and construction procurement processes that, until the 2003 and 2008 design/build enactments, governed all public construction. There is extraordinary scrutiny of these processes: Massachusetts also created the first-in-the-nation state inspector general's office. Advocates need to respect internal resistance to having public construction result from the single qualification of an ESCO and the formation of an energy savings performance contract of up to 20 years duration.

KEY COMPONENTS FOR REPLICATION

- Mayoral commitment is essential.
- Strong executive sponsorship that establishes clear governance of the multiple affected internal municipal functions is essential.
- A task force with dedicated legal support involving the budget and public facilities and energy management offices needs to meet regularly.
- Boston needed multiple years of internal education led by a subject matter expert and is confident other cities will need similar time and expertise to replicate this comprehensive energy program.

Boston included over 300 public facilities in the initial request for qualifications, a list which legally governs which facilities can be included in the investment grade audit and thus the energy savings performance contract. Boston's Investment Grade Audit Agreement reduced this list to 266 facilities. Under Massachusetts law, Boston needed to include all 266 facilities in preliminary audit work, but chose to limit the pilot phase final investment grade audit to 38 facilities and to limit the first phase of the energy savings performance contract to \$10 million. Boston's comprehensive approach is not the only way to proceed. Other cities have energy savings performance contracts limited to a small number of high energy using facilities. When a small number of facilities are involved, the city may lose some of the benefits that come from scale, particularly maximizing the opportunity of cash flow from energy conservation measures with short-term paybacks cross-subsidizing measures with longer-term paybacks.

ADDITIONAL RESOURCES

Contact Name: Brad Swing ; Adam Jacobs

Phone: 617-635-1210 ; 617-635-2518

Email: brad.swing@boston.gov; adam.jacobs@boston.gov

“HERO”: A RESIDENTIAL PACE PROGRAM IN KANSAS CITY

MAYOR SYLVESTER “SLY” JAMES

KANSAS CITY, MISSOURI

OVERVIEW

Since Kansas City affiliated with the Missouri Clean Energy District, Missouri’s statewide PACE (Property-Assessed Clean Energy) program, Kansas City homeowners now have access to the “HERO” program, which makes residential PACE loans to homeowners to improve the energy efficiency of their homes and install solar energy systems to generate clean energy. Since its launch the HERO program has seen significant uptake in Kansas City; in the first nine months of the program, there has been citywide participation in all six council districts.

IMPLEMENTATION

Mayor James and the City Council provided policy guidance in support of making energy efficiency and renewable energy projects more viable in the city and they authorized the city’s participation in PACE programs. On Oct 17, 2013 the City unanimously voted to join and participate in the statewide Missouri Clean Energy District (MCED) (the link to the ordinance is provided in the Additional Resources section). On Oct 29, 2015 Mayor James signed another ordinance authorizing the City to participate in another newly-created statewide Show Me PACE program.

To ensure the city’s stakeholders were represented in the MCED, the City nominated Shomari Benton as a representative to serve on the MCED Board of Directors and he has been serving for approximately 3 years. The Missouri Clean Energy District initially offered only commercial PACE loans, but in 2016, MCED entered into a partnership with Renovate America to offer residential PACE loans in Missouri. Renovate America is a residential PACE loan provider who had operated successfully in California for several years. By virtue of the city’s affiliation with MCED, residential PACE loans became available in Kansas City in September 2016 with the launch of Renovate America’s HERO program.

Mayor Pro Tem Scott Wagner has been featured in a video promoting MCED’s PACE program. City staff have made multiple presentations to various groups regarding the benefits of PACE loans for commercial and residential building owners.

As a result, commercial and residential building owners across Kansas City have taken advantage of PACE loans to finance installation of solar energy systems and to make significant energy efficiency improvements to their buildings.

The local investor-owned electrical utility, Kansas City Power & Light, provides extensive energy efficiency rebates that reduce the amount of



funding homeowners need to implement energy efficiency measures through the HERO program. The utility also works with solar installers to provide interconnection of residential solar energy systems to the local power grid.

Through the HERO program, local contractors (including women-owned and minority-owned businesses) install solar energy systems and make various energy efficiency improvements to participating homes.

In its first year of operation, the HERO program has funded and implemented hundreds of projects, across all six council districts in the city.

WHAT IS PACE?

Local governments use Property Assessed Clean Energy (PACE) programs to help property owners finance renewable energy and energy efficiency improvements on residential and commercial properties. Commercial properties may include multi-family residential, industrial and agricultural properties. The PACE concept began as a pilot project in Berkeley, California, in 2008. Since then, the vast majority of states with legislation authorizing PACE programs (31 states and D.C.) have authorized both residential and commercial PACE programs, but a few states authorized only one or the other.

PACE programs enable property owners to avoid high upfront costs related to installing clean energy technology, such as solar panels, or energy-saving retrofits. A local government will generally implement a state-authorized PACE program by designating an improvement district and issuing a bond secured by the real property within the district to raise capital. The PACE financing program enables access to low interest, long-term loans. Property owners may also see reduced energy bills. PACE programs allow property owners to pay for these improvements over time through assessments on their property tax bills. Once a property owner opts into a PACE financing program, the property remains subject to the PACE arrangement even if it is sold, transferred or foreclosed upon. The remainder of the assessment is a lien on the property.

The Federal Housing Finance Agency raised concerns in a July 2010 statement regarding the seniority of PACE liens over existing mortgages and called for a pause in residential PACE program implementation involving the establishment of first liens. In July 2016, the Federal Housing Administration (FHA) issued guidance that the FHA would approve, purchase, and refinance mortgage applications in states that do not give PACE obligations priority status over FHA mortgage liens and where the PACE assessment transfers from one property owner to the next, including through foreclosure sale. Today, residential PACE programs are one of multiple financing options available to homeowners, including home equity lines of credit. There are active residential PACE programs in California, Missouri, and Florida.

TIMELINE

- October 2013 – Mayor James signs the ordinance for the City to join the statewide Missouri Clean Energy District (MCED)
- 2013- 2015 – Program research
- 2016 – Renovate America and Kansas City collaborate on program development
- September 2016 – Renovate America launches its HERO program (as part of MCED) to offer residential PACE loan
- June 2017 – The HERO program has approved 545 residential loans and completed 426 projects valued at \$4 million in Kansas City

COSTS AND FINANCING

As a local government affiliate of the Missouri Clean Energy District (one of two statewide commercial PACE programs), homeowners have access to the HERO program at no cost to the City. The average home improvement through the HERO program is around \$10,000 in Missouri.

RELEVANT POLICIES

In 2013 the City adopted an ordinance that authorized its affiliation with the Missouri Clean Energy District (MCED), a statewide clean energy development board offering PACE loans in accordance with newly-adopted state legislation. There are currently 31 states and D.C. that have passed legislation to enable PACE programs.

KEY COLLABORATORS AND STAKEHOLDERS

Renovate America (who has operated residential PACE programs in California for many years) launched their HERO program with MCED in order to offer residential PACE loans to Kansas City homeowners. They operate a turn-key program where homeowners work directly with the HERO program to assess opportunities for energy efficiency and renewable energy projects, determine what is financially viable, identify specific projects to be implemented, secure financing, and connect with registered contractors to perform the work. MCED and Renovate America employ consumer protection measures to ensure homeowners are satisfied with the work performed prior to payments being made to the contractors. Renovate America trains qualified contractors on PACE, registers them and tracks the quality of their work to ensure customer protections.

In discussions between city officials and Renovate America during the development of the HERO program in Kansas City, several items were discussed:

- The importance of using local contractors to do the work, as much as possible.
- Including qualified minority-owned businesses and women-owned businesses as HERO contractors to do the work in the city.
- Promoting the program across all neighborhoods in the city, and working with homeowners' and community associations.
- Incorporating sufficient energy consumer protection measures to protect the interests of local homeowners/borrowers.



OUTCOMES

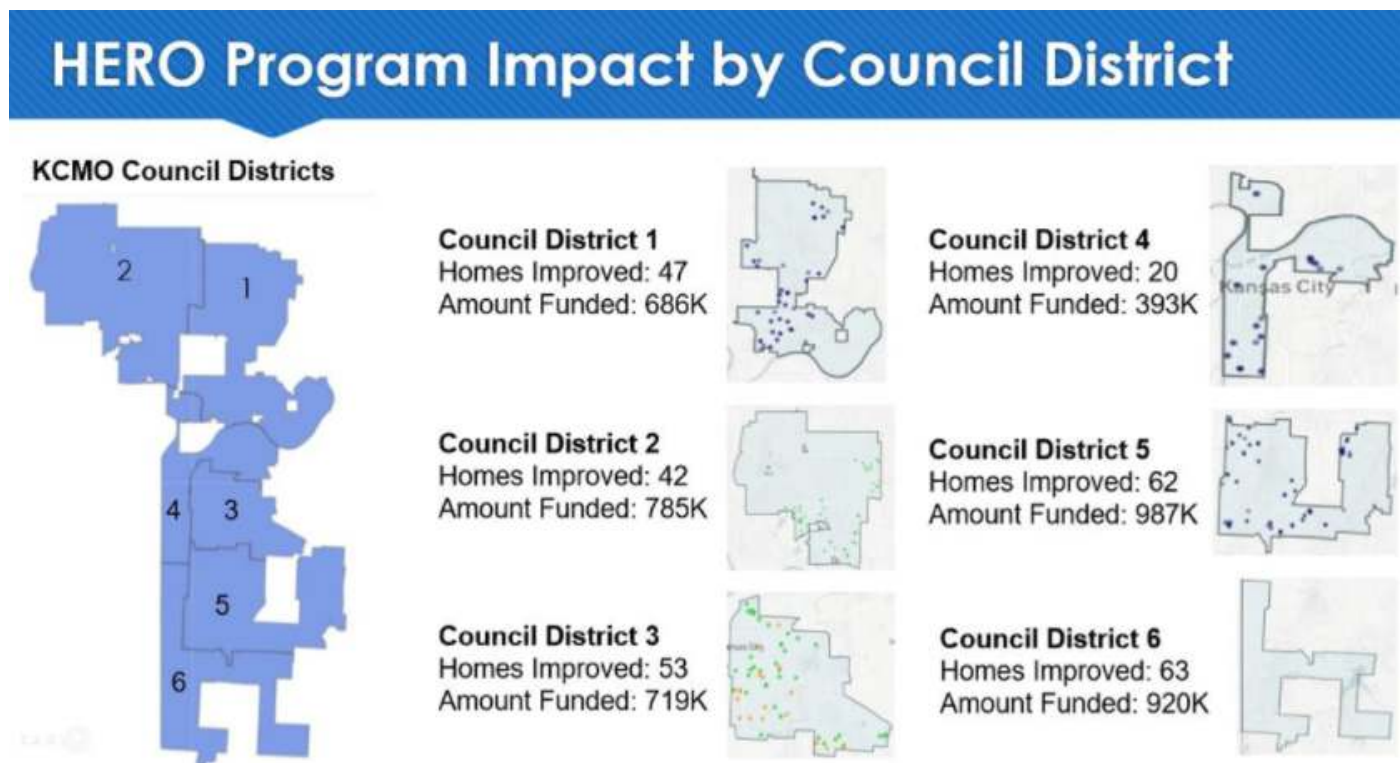
The HERO program has seen significant uptake. Results as of August 28, 2017 (9 months after its launch) are as follows:

- 1,080 residential assessment applications received
- 650 residential assessment applications approved
- 333 homes improved
- 538 improvement projects completed – 460 energy efficiency, 78 solar energy installations
- Total value of projects completed - \$5.2 million
- 21.5 million kWh projected energy savings over useful life of technologies
- 13,700 tons GHG reductions expected from these projects over useful life

LESSONS LEARNED

In the first nine months of the program, there has been citywide participation in all six council districts. Kansas City's participation in the HERO program has demonstrated that it is possible for cities to find good partners with shared interests, goals, and approaches to promote energy efficiency and renewable energy projects to benefit homeowners.

Figure 1, Demonstrated Results in Homes Improved and Financial Funding of the HERO Program in each Kansas City Council District as of July 24, 2017



ESSENTIAL COMPONENTS FOR REPLICATION IN OTHER CITIES

Residential PACE programs have been very limited to date (they are primarily in California and Boulder, Colorado) due to constraints imposed by Fannie Mae and Freddie Mac. Renovate America's first residential programs outside of California have been launched in 2016 in Missouri and Florida, so there are not a lot of similar programs the city could turn to. Kansas City officials spoke with representatives of several California cities including Santa Monica, San Francisco, Los Angeles, and Oakland, about their experience with residential PACE in general and Renovate America in particular.

Key steps for local governments:

- Create a foundation of shared objectives and expectations before program launch is critical.
- Perform due diligence regarding prior performance in other jurisdictions by the potential program's provider will increase the prospects for a good fit with your expectations and a greater likelihood of success.
- Prepare for skepticism by some folks and anticipate criticism (perhaps even unfounded negative rumors) about the program provider.

Key steps for private sector partners:

- Discuss program design in considerable detail with the local government partner to ensure there's a good match with what is offered and what consumers want.
- Include local business development and job creation opportunities in the program proposal.
- Ensure strong customer service as a key element in the proposed program.

ADDITIONAL RESOURCES

- The city ordinance that authorized the city's participation in the statewide MCED (Ordinance 130764) can be found online at: http://cityclerk.kcmo.org/LiveWeb/Documents/Document.aspx?q=fSXEiNhBfDemMJtttP6siK9RNLLDWsqmmQd7kB84G4fN3f7OJPyCwLC45b2bb5D9onzz9Ft9LikdRipheBijZg_percent3d_percent3d
- Renovate America, a residential PACE provider, offers a variety of options for building improvements to different consumer bases, including commercial and residential.
- Provided at the following link are several descriptive videos, including an overview titled "Municipal Partnerships" that covers the fundamental steps for city implementation of a successful PACE program: <http://www.mced.mo.gov/video-gallery/#close>. This link also provides information for other invested players, such as contractors and homeowners.
- For more on PACE financing and the states where PACE enabling legislation has been enacted, visit C2ES at: <https://www.c2es.org/us-states-regions/policy-maps/property-assessed-clean-energy>
- FHA/HUD/VA PACE guidance from July 2016: https://portal.hud.gov/hudportal/HUD?src=/press/press_releases_media_advisories/2016/HUDNo_16-110
- PACENation: <http://pacenation.us/>

100 PERCENT RENEWABLE ENERGY FOR LAS VEGAS CITY GOVERNMENT

MAYOR CAROLYN GOODMAN

CITY OF LAS VEGAS

EXECUTIVE SUMMARY

Through a Renewable Energy Agreement with the state's investor-owned utility NV Energy, the city of Las Vegas receives 100 percent of the electricity it needs from clean energy; every municipal building, park, and streetlight receives cleanly generated energy.

OVERVIEW

Globally, Las Vegas is known for its glitz and glamour, and may be perceived as a city of excess. Beginning in 2005, the Mayor and City Council challenged those perceptions by making sustainability an integral part of the city's initiatives, signing The U.S. Conference of Mayors Climate Protection Agreement, and later adopting a Sustainable Energy Strategy. Together, both policies set energy standards on new and renovated city facilities and set goals and targets for energy and water conservation, greenhouse emissions, recycling, and renewable energy capacity.

Through a Renewable Energy Agreement with the state's investor-owned utility NV Energy, the city of Las Vegas receives 100 percent of the electricity it needs from clean energy; every building, park, and streetlight receives cleanly generated energy. Most of the energy for city use is produced at Boulder Solar near Boulder City, Nevada. NV Energy has contracted SunPower to build and manage the solar facility. Under the agreement, NV Energy retires the Portfolio Energy Credits (renewable energy credits) on behalf of the city.

The city also has several other renewable sources contributing to the overall renewable energy strategy. These are: approximately 3 megawatts of net-metered solar covered parking on forty city buildings and facilities, parks, fire stations and community centers, and a three megawatt solar plant at the city's Water Pollution Control Facility provides power for wastewater treatment. Additional power that is provided by NV Energy satisfies Nevada's renewable portfolio standard. The City also applied for, and will receive, 5 megawatts of hydropower allocated to from Hoover Dam beginning in October 2017.

Renewable energy is just one component of a comprehensive sustainability program. The City of Las Vegas has added six LEED certified buildings, converted 40 acres of turf to water conserving landscaping, added more than 450 miles of bike lanes, and deployed recycling at all City facilities. These efforts have reduced the total energy costs, reduced annual water consumption, decreased emissions to mid-1990's levels and increased the recycling rate at City facilities to 55 percent.

The city's community partners have also helped improve quality of life and livability with sustainable actions. Nevada is leading in green building, with some of the largest green resorts and convention spaces in the world on the Las Vegas Strip. Nearly all major resorts have incorporated efficient lighting, green housekeeping, renewable energy and water saving technologies into their operations. The nation's largest recycling center just opened in 2015, allowing the city's waste franchisee to expand state-of-the-art single stream recycling.

The City of Las Vegas's Sustainability initiative has proven to be an essential component in the city's economic, social, and environmental stability, and in turn has led to numerous outstanding and innovative awards and recognitions, including the 2014 U.S. Conference of Mayors Climate Protection Award and the 4-STAR Community Certification in 2015. These awards and distinctions demonstrate community excellence and livability that will benefit Las Vegas for generations.

Las Vegas has seen tremendous investment directed at solar energy production in the last decade, taking advantage of Las Vegas' solar capacity. The City and region have been working on furthering economic diversification and specifically targeted the clean energy and renewable technology sector, both at the utility scale and for individual consumers, over the last two decades. Companies are seeing the advantage of building solar facilities across Southern Nevada, with multiple projects totaling over 2 GW that came online in 2014 and another 125 MW added in 2015. Currently, there are 1900 MW of renewables, and portfolio credits that meet state requirements include geothermal, solar, wind, hydro, and biomass/waste heat. The current Renewable Portfolio Standard is 21 percent in Southern Nevada and 24 percent statewide. Southern Nevada is over a 20.2 percent Renewable Portfolio Standard, well on its way of achieving the required 25 percent by 2025.

The GreenEnergy Rider program provided by NV Energy offers a means for eligible utility customers to have all or some portion of their load supported by new or existing renewable energy generation. Through the program, NV Energy and a customer may enter into a contract (in Las Vegas' case, the renewable energy agreement) under which the customer agrees to assume the costs of the renewable energy resource up to a specified energy amount that does not exceed the customer's total energy consumption. According to NV Energy, the program design incorporates many of the principles set forth in the Renewable Energy Buyers' Principles, which were established to facilitate the renewable procurement process for customers. In Nevada, a GreenEnergy Rider renewable energy agreement must be approved by the Public Utilities Commission of Nevada.

IMPLEMENTATION

The city's efforts are the result of foundational policy and continuous progress since 2006, when Mayor Oscar Goodman signed The U.S. Conference of Mayors Climate Protection Agreement. In 2008, the City Council set goals and targets to increase the city's renewable energy production and reduce emissions by adopting a Sustainable Energy Strategy.

Thanks in part to the Recovery Act, the City leveraged grants, bonds, and rebates, and invested \$60 million that have helped attain an initial reduction of emissions by about one third from mid-1990's levels.

In late 2015 the city announced its partnership with NV Energy through the GreenRider program. The city now receives energy produced by the Boulder One solar facility southeast of the city. The plant, owned by SunPower, and contracted by NV Energy, was dedicated on April 18, 2017.



Through the renewable energy agreement and other renewable resources, the city now receives 100 percent of its retail electricity load from renewable energy. Every public building, park, and streetlight is served by renewable energy, making the City of Las Vegas the first large municipality to do so.

TIMELINE

The journey to powering 100 percent of city operations with renewable energy has taken many years and started with bold commitments and thoughtful strategy:

- 2005 – Mayor Oscar Goodman signs The U.S. Conference of Mayors Climate Protection Agreement
- 2006 – Council adopts Climate Protection Resolution
- 2008 – Council adopts Sustainable Energy Strategy
- 2009 – American Recovery and Reinvestment Act funds City solar projects
- 2011 – Conservation Element of 2020 Las Vegas Master Plan
- 2015 – Renewable Energy Agreement with NV Energy
- 2016 – Completion of Boulder Solar by SunPower
- 2017 – Dedication of Boulder Solar

Given the renewable energy agreement has a term of 3 years, the city is continuing to evaluate future opportunities to sustain its commitment to net-zero energy into the future.

COSTS AND FINANCING

There were no initial costs to this agreement. The City participates in, and helped deploy, a special renewable energy rider rate (the “Green Rider”) in NV Energy’s Southern service territory. The premium is approximately \$228,500 per year for the term of the agreement, defined under the Renewable Resource Rate. At the same time, NV Energy provided experts and resources to find cost-saving energy efficiency improvements that were implemented by city staff. As a result, additional savings helped offset the premium for renewable energy. The city has reduced total electricity costs by over \$5 million annually since it first began implementing the Renewable Energy Strategy in 2008.



RELEVANT POLICIES

Nevada has been an early leader in renewable energy with the construction of Hoover Dam in the 1930's, generating hydropower from the Colorado River. Nevada is also fortunately located in the deserts of the Great Basin that have geothermal resources and receive more than 300 days of sun per year; these geographic factors have allowed for the implementation of foundational policy. Aside from the previously discussed City Council resolutions, the State's RPS, adopted in 1997, has been a foundational driver for renewable energy development in Nevada. The requirement of 25 percent of all retail sales from renewable resources by 2025, with incremental progressive goals and a solar requirement, has complimented solar installation incentive programs offered by NV Energy that have similarly been implemented over time. Due to many of the utility-scale solar projects that have been constructed, including Boulder Solar, Nevada has met or exceeded the RPS. Finally, another policy has helped changed the mindset of Nevadans: in 2013, with NV Energy's support, the Legislature adopted AB 123, the Emissions Reduction and Capacity Replacement Plan, that has led to the shutdown of coal-fired generation in Nevada.

KEY COLLABORATORS AND STAKEHOLDERS

Much of this effort was jointly conducted between the City and NV Energy. NV Energy's GreenEnergy Rider program has provided a straightforward way for the city to achieve its renewable energy goals. The announcement has been widely recognized and supported locally by other public sector, private and resort sector, and nonprofit entities. According to the utility, several other Nevada cities are now considering participation in the program.

OUTCOMES

As a result of its entire sustainability program, inclusive of all renewable energy and energy efficiency efforts, the city's load is approximately 20 MW (9 MW is wastewater treatment). In 2016-7, City of Las Vegas facilities used 117 million kilowatt-hours of electricity and 1 million therms of natural gas. The city's 6.1 megawatts of solar panels have generated more than 70 million kilowatt hours since they've been installed -- approximately 12 million kilowatt hours per year. Together with the city's energy efficiency projects, renewable energy has helped reducing the city's emissions by 90 percent, and costs from \$15 million annually in 2008 to \$9 million annually in 2017.

Overall, the economic development benefits have been widespread and have been driven by policy, whether at the federal, state, or local level; over the past decade, Nevada's renewable energy industry has grown exponentially facilitated by policy. As mentioned above, the State's Renewable Portfolio Standard made utility scale solar and other forms of renewable energy a reality; net metering and state incentive programs made solar accessible to municipalities, as well as to businesses and residents. Recovery Act grants allowed local governments to directly invest in renewable energy projects and programs. Together, this allowed the City and its residents to make investments that reduce costs and tangibly realize economic and environmental benefits. After initial momentum built, it allowed the City to look at the long-term goal – how to become a net-zero municipality, which was the impetus for the renewable energy agreement.

LESSONS LEARNED

Las Vegas has learned several lessons in the process of entering the renewable energy agreement. First, it is important to develop a plan or framework that begins with a vision and ends with implementation. The implementation phase is just as important as the visioning and goal-setting phase - and having realistic financing and agreements in place to meet those goals are keys to success. An assessment of existing conditions for the municipality is also essential, including current energy consumption, emissions, and costs, and addressing low-hanging fruit energy efficiency opportunities upfront. In addition, the city recommends involving stakeholders, whether utilities, private sector, or other jurisdictions to determine what the opportunities and costs are.

The city has also garnered insights for private sector partners that want to work with cities on similar agreements. It recommends looking for beneficial joint, public-private opportunities that can contribute to the achievement of shared social, economic, and environmental goals. With an appropriate foundation of policy, there may be opportunities to invest and reinvest in projects that yield benefits to all major stakeholders.

KEY COMPONENTS FOR REPLICATION

From the city's perspective, there are several essential components for a successful replication in other locations:

- Support from Mayor, City Council, and City Manager
- Public and the private sector recognition of the benefits of renewable energy
- Shared goals and alignment with relevant stakeholders, such as a developer, private power provider, investor owned utility, etc.
- Access to appropriate renewable resources, based on the region
- A framework or plan that translates into implementation

This type of agreement can be scaled up or down for application in other cities with a few considerations. Stakeholder dialogue with other entities, whether big or small, including the utilities, is a key to success for scaling up. The City made initial investments from Federal, state, and utility money and made reinvestments on savings. As the costs of renewables have dramatically decreased over the past decades, the economics of green power make it far easier to generate or acquire renewable energy, the savings of which can be applied to other parts of the municipality or into new projects. This built momentum and helps to forge partnerships moving forward.

The city is among the few municipalities nationwide that have been able to achieve its net-zero goal as quickly as it did. Other cities have set goals and have established plans to reach them decades away. We recommend taking immediate action by identifying stakeholders, partners, and resources in the near-term, whether they are investor-owned utilities, renewable energy developers, or some other entity to make the investments that meet goals.

ADDITIONAL RESOURCES

- City of Las Vegas' Sustainability Policies and Codes can be found online at: <https://www.lasvegasnevada.gov/cs/groups/public/documents/document/chjk/mdi4/~edisp/prdo28350.pdf>
- The city's Sustainability Page can be found online at: <http://www.lasvegasnevada.gov/sustainability>

DUKE ENERGY COLLABORATIONS IN CHARLOTTE AND ASHEVILLE

DUKE ENERGY

ENVISION CHARLOTTE and ASHEVILLE ENERGY

INNOVATION TASK FORCE

EXECUTIVE SUMMARY

Electric utilities have emerged as key players in local efforts to address climate change. Through their management of energy efficiency programs, fuel mix decisions, and infrastructure investments, utilities are uniquely positioned to be important partners to cities. This case study details how Duke Energy is working with local governments and communities, and the lessons the company has learned along the way. The first example describes how Duke is supporting Envision Charlotte in efforts to reduce building energy use in Charlotte, NC. The second example outlines the process and approach the utility is taking with Asheville, NC and Buncombe County to strategically plan for the area's future energy needs. Lessons and considerations for replicating this type of engagement and partnership follow.

ENVISION CHARLOTTE

OVERVIEW

Charlotte, North Carolina has been emerging as an energy hub and a collaborative effort by private and public sector leaders have helped the local non-profit Envision Charlotte become a leading player. Envision Charlotte was created in 2010, when a group of city leaders, led by then Duke CEO Jim Rogers, came together to form the non-profit focused on increasing sustainability in the city's urban core. Since then, Envision Charlotte has become a first-of-its-kind public-private collaboration that includes Duke Energy and others such as the City of Charlotte, Cisco, and Charlotte Center City Partners. Representatives from Duke Energy and the City sit on the Board of Envision Charlotte.

Envision Charlotte takes a pro-business approach to achieve environmental sustainability. The non-profit supports activities that benefit the regional economy through stewardship of energy, air, water, and waste. By reducing consumption in these areas, Envision Charlotte and its partners expect to reduce the cost of doing business in Charlotte and create greater economic development and environmental benefits.

IMPLEMENTATION OF ENVISION CHARLOTTE

Envision Charlotte's first initiative focused on making commercial buildings in Charlotte's urban core more energy efficient. In this endeavor, Envision Charlotte established a public-private-plus partnership with Duke Energy, the City of Charlotte, and University of North Carolina at Charlotte (UNCC). The effort started with a narrow focus – to reduce the energy use of large commercial buildings (greater than 10,000 square feet) in Charlotte's Uptown by 20 percent. At that time, 64 buildings met that criteria. The group secured agreements with 61 of those buildings to commit to reduce energy use, work with Duke Energy to install shadow meters, and place kiosks in building lobbies to engage building tenants.

Over the next several years, many actions were implemented to achieve this goal. Duke Energy launched the Smart Energy in Offices program with property managers to educate tenants about simple changes to their daily routine which can add up to big energy consumption savings.

In addition, Envision Charlotte partners have developed the Energy Roundtable to work with building operators and property engineers to identify the best path towards energy efficiency through equipment upgrades. As buildings are recruited into the Energy Roundtable, UNCC student teams pair with a building and its operator. Over the course of a semester, professors guide the students through a three-step process to develop third-party, vendor-neutral recommendations and final summary reports to reduce each building's energy use. This program drives energy efficiency in commercial buildings and trains students in practical applications, providing them opportunities to grow their network and gain real world learning experiences in the community.

Envision Charlotte has supported its partners in the development of a Building Re-tuning Training program to help drive energy efficiency efforts in buildings. Starting with the Carolinas HealthCare System's portfolio of buildings, UNCC is working closely with Carolinas HealthCare System leadership to train building operators on building performance and action steps. The training provides the building operators with in-depth information of how commercial buildings operate, and empowers them to identify and fix no- to low-cost operational problems that are endemic to commercial buildings.

COSTS AND FINANCING

Envision Charlotte is partially supported by a grant from the Department of Energy's Office of Energy Efficiency and Renewable Energy Building Technologies Office. The three-year grant funds the Energy Roundtables and Building Performance Training, the ECO Network, and helps expand the program enrollment to include an additional 200 buildings outside of the Uptown area. In addition to Envision Charlotte's original partners, the DOE grant allows for collaboration with additional partners including the City of Charlotte, UNC Charlotte's Center for Sustainably Integrated Buildings and Sites, the Center for Climate and Energy Solutions (C2ES), Charlotte Center City Partners, and Carolinas HealthCare System.

RELEVANT POLICIES

In February 2011, the North Carolina Utilities Commission approved Duke Energy's ability to recover a portion of Duke Energy's costs under the utility's energy efficiency framework. This policy helps support Duke Energy's energy efficiency work with Envision Charlotte.

OUTCOMES

Key results as of early 2017:

- 19 percent reduction in billed energy consumption
- This reduction of kWh represents \$26,000,000 in energy bill savings
- 19 percent reduction in CO₂ emissions, equivalent to removing 11,003 cars from the road

ASHEVILLE ENERGY INNOVATION TASK FORCE

OVERVIEW

The Asheville/Buncombe County community has an intentional focus on environmental awareness and protection. The region's only baseload energy source is the Asheville coal-fired power plant, located just south of Asheville in Arden, North Carolina

Calls for cleaner generation have intensified in recent years and Duke Energy has responded with the Western Carolinas Modernization Project. This project includes retiring coal generation and building new natural gas and solar generation, in addition to battery storage. The project also includes increased energy efficiency and demand-side management.

Duke Energy, the City of Asheville and Buncombe County co-convened the Energy Innovation Task Force (EITF), following the approval of Duke Energy's Western Carolinas Modernization Project. The task force consists of members from the governmental, environmental, business, low-income assistance, development, tourism and green building sectors. Each was appointed by the City of Asheville and Buncombe County through a joint resolution, passed during the spring of 2016.

This partnership grows out of both a long-standing effort for these partners to work more closely together and Duke Energy's Western Carolinas Modernization Project, announced in 2015. In that plan, the company announced the closure of the existing Asheville coal-fired power plant, the construction of two new 280-MW natural gas units, and the potential for a 190-MW peaking unit that might be built in the early 2020s. The local community called on Duke Energy to "give the community a chance" to demonstrate its ability to curb energy use – with the goal of avoiding, or significantly delaying, construction of the third generating unit (peaker).

IMPLEMENTATION

To launch this community-driven effort, a group of stakeholders attended the Rocky Mountain Institute's eLab Accelerator in April of 2016. During the accelerator session, the group began forming overarching objectives and strategies for the EITF to carry forward. Those objectives include:

- Avoid or delay the construction of the contingent combustion turbine (peaker).
- Transition Buncombe County and the City of Asheville to a smarter and cleaner energy future.

The partnership is a collaboration through which the City, County, and Duke Energy will study, prioritize, plan, coordinate, implement, market, track, and report progress on clean energy activities in Asheville and Buncombe County.

The EITF first convened in May 2016 and has met monthly since. The EITF leadership group created smaller working groups to focus attention in specific areas in support of the group's objectives, including:

1. Baseline and peak reduction working group – This group has identified the annual peak reduction target required to delay/avoid construction of the peaker unit. They've determined that, based on current available data, each 17 megawatts of peak demand mitigated will push the need for the peaking plant out by one year.
2. Programs working group – This group is focused on increasing participation in existing Duke Energy programs and proposing new and/or enhanced program offerings for the company to consider. The group is also doing a similar review and analysis of the portfolio of programs currently offered by Buncombe County and the City of Asheville that relate to weatherization, heating/cooling bill assistance and energy efficiency.
3. Technology working group – This group is focused on identifying cost-effective technologies that can have the greatest impact on reducing/minimizing peak demand. Some of the technologies being considered would be implemented by Duke Energy while others would be more applicable to individual customers.
4. Community engagement working group – The group is charged with helping customers understand the role they play in achieving the EITF's goals. This group will work with a branding and communications firm to develop a branded umbrella campaign, communications templates and communications strategies – leveraging significant public engagement in the process.

These four work groups have done an enormous amount of work over the last year, which will help inform a broader work plan for the EITF, being finalized in 2017. These work groups are open to any member of the public who wants to contribute in a more focused way.

In August 2016, the EITF leadership group enlisted the project management, process development and analytical support of the Rocky Mountain Institute (RMI). The RMI has brought structure and process to the ongoing effort. Going forward, RMI will continue to work closely with the Programs and Technology working groups to refine recommendations to help achieve the goals of the EITF in a cost-effective way. The participation of RMI in this process has been and will continue to be fundamental to its success.

The EITF has hired the Shelton Group to create a public outreach, communications and marketing plan to help drive customer participation in an overarching campaign. Local experts and other resources will partner with Shelton to create the campaign by the end of 2017. Implementation of the campaign will follow, beginning in late 2017 and continuing into 2018.

TIMELINE

- November 2015 – Duke Energy files revised plan for the Western Carolinas Modernization Project.
- March 2016 – State regulators approve the Western Carolinas Modernization Project, but defer the “peaker” plant. In the same month, the City of Asheville and Buncombe County pass a joint resolution, endorsed by Duke Energy, to establish the Energy Innovation Task Force.
- April 2016 – Duke Energy and a group of local stakeholders, including a member of Asheville City Council and the Buncombe County Commission attend Rocky Mountain Institute’s eLab accelerator. The intensive, four-day workshop provided the Asheville team the opportunity to work with and receive feedback from national experts in energy efficiency, renewable energy, new technologies, financing, and public engagement. The Asheville team developed the initial framework and direction for the EITF’s work at the workshop. The ideas that have been developed so far and that will be in the work plan come from that work as well as the joint resolution, the city’s Clean Energy Framework (adopted in 2015), and the additional work of the EITF and its work groups.
- May 2016 – The Energy Innovation Task Force is co-convened by City of Asheville, Buncombe County and Duke Energy. The group has met monthly since then.
- August 2016 – The co-conveners hire the Rocky Mountain Institute to help with program design, facilitation and analytics.
- September 2016 – Launch of targeted working groups.
- October 2016 – The target of 17 megawatts needed annually, beginning in 2023, to avoid more natural gas generation, is determined.
- March 2017 – First annual update to the North Carolina Utilities Commission filed. In the same month, Buncombe County announces \$7 million investment to convert all school lights to LED. This is made financially possible through Duke Energy incentives.
- April 2017 – City and County announce sizable investments in clean energy-related investments in their 2017-2018 budgets. In the same month, Duke Energy announces intent to surpass the 5 megawatt target with battery storage.
- September 2017 – Duke Energy’s energy efficiency project managers and the Programs working group meet to map out opportunities to grow program participation.

RELEVANT POLICIES

Several policies paved the way for the work of the EITF, including:

- Aggressive carbon reduction goals and other local governmental policies directed at lowering its operational environmental footprint

- The City of Asheville approved a Clean Energy Framework, in partnership with Duke Energy, to start steering clean energy conversations and actions
- Joint Resolution calling for the formation of the Energy Innovation Task Force
- Both the city and county have fully funded Sustainability offices with full time sustainability officers

OUTCOMES

It should be recognized that this first two-year period of the EITF will be a learning experience – for the City, the County, Duke Energy and the community.

KEY COLLABORATORS AND STAKEHOLDERS

Through Duke Energy’s work with Envision Charlotte and the Energy Innovation Task Force, the company has found important partners in local governments, UNCC, and RMI and the Shelton Group. As Duke Energy works to engage communities, a number of stakeholders have important roles and often engage in collaborative efforts, including, for example:

- Duke Energy serves as the utility partner
- Mayor serves as a champion
- City government supports efforts to improve sustainability
- Technical partners provide technical expertise to help enable solutions that are economically and environmentally sound
- Building owners help identify and better understand the best path towards energy efficiency
- Product manufacturers provide equipment to enable energy efficiency
- Representatives of vulnerable communities help ensure their interests are protected and / or advanced

OPPORTUNITIES TO INCLUDE VULNERABLE COMMUNITIES

In addition, the collaborations described here have allowed opportunities to include disadvantaged or vulnerable communities. For example, the work of the EITF has a deliberate focus on equity and representation of the community as a whole. There are active members who represent vulnerable communities, including Green Opportunities, Self Help Credit Union and Energy Savers Network. As a part of the brand formation work with the Shelton Group, focus groups and community listening sessions were held at the Eddington Center, a central gathering place for one of Asheville’s Public Housing communities.

LESSONS LEARNED

Duke Energy has seen societal and economic impacts from engaging the Asheville and Charlotte communities. In Charlotte, participating building owners have reduced their carbon footprint by 19 percent and saved \$26,000,000. And although work is just beginning in Asheville, one key societal impact is the ignited conversation about energy use, and ways to use less and protect the planet. Over time, this work will be measured by avoiding and delaying a peaker natural gas-fired power plant.

For cities wishing to engage their utilities, Duke Energy has found that it is important to develop a vision that is shared by all members of the collaboration. The most successful efforts have done an excellent job of engagement, not only with citizens but with experts as well. In addition, many utilities already offer a host of energy efficiency programs, and cities can help galvanize more support for these programs. Utilities think systematically, and the infrastructure they already have in place can be very helpful to cities as they strive to be more innovative and sustainable.

A few key lessons for strong collaboration:

- Find a neutral party to facilitate design and guide the process (Rocky Mountain Institute has been critical in this role for the Asheville effort)
- All partners must invest time and money to make it work
- Communications must be open and face tough questions and challenges
- Every viewpoint is important
- Take the time to get it right

For utilities wishing to engage cities, it is important to understand that every city is unique and a “one-size-fits-all” approach does not work. The appetite and level of interest will vary. In addition, there are budget limitations and the business case for emerging technologies will have varying economics.

KEY COMPONENTS FOR REPLICATION

While Duke Energy is still in the learning mode, it has been the company’s experience that collaborating with cities can produce innovative new ideas that otherwise would not be possible. The key is to have a shared vision, clear goals, strategic partners, good engagement strategies and mutual respect and understanding between all parties. A good approach is to pilot programs that have not been used before to gauge potential future success.

The efforts in Charlotte and Asheville are the utility’s most notable to date, however, discussions are getting started in other cities. In addition, the approaches taken by Duke Energy could be useful for cities working with utilities to increase low-carbon energy or electric vehicle infrastructure. As illustrated by Charlotte and Asheville, energy is a great place to start in the journey to becoming more sustainable.

ADDITIONAL RESOURCES

- To learn more about Envision Charlotte and its work in the Charlotte community, visit: <http://envisioncharlotte.com>
- Download the Envision Charlotte 2017 Energy Report at: http://envisioncharlotte.com/wp-content/uploads/2017/04/Energy-Guide_Web-Apr2017-1.pdf
- To learn more about the EITF, visit: http://www.ashevillenc.gov/departments/comm_public/projects_n_initiatives/energy_innovation.htm

SALT LAKE CITY'S CLIMATE POSITIVE 2040 PLAN

MAYOR JACKIE BISKUPSKI

SALT LAKE CITY

EXECUTIVE SUMMARY

For cities to maximize their carbon reduction potential, they must develop comprehensive plans that engage a broad set of stakeholders and establish realistic but aggressive goals that are supported by a broad array of programs. As cities begin implementation, they should take advantage of local assets, measure outcomes, and articulate benefits to the general public. In 2016 Salt Lake City developed such a plan that is already yielding new partnerships and concrete results. Included in this case study is an overview of Climate Positive 2040 along with details of two key initiatives--Salt Lake City/Rocky Mountain Utility Cooperation Statement and Salt Lake City's Skyline Project.

OVERVIEW

Climate Positive 2040 is a holistic plan that outlines the transformational changes needed for Salt Lake City to reach long-term climate and energy goals. Salt Lake City is prioritizing a near-term transition to clean, renewable energy to remove carbon pollution from electricity generation that makes up over half of the community carbon footprint. In 2016, Salt Lake City's Mayor Jackie Biskupski and the City Council signed a Joint Resolution to set rigorous carbon emissions goals, including 100 percent renewable energy and 80 percent emissions reductions goals (details following). Climate Positive 2040 is the platform through which the city will document its progress on its climate-related goals and programs.

IMPLEMENTATION

Part of Climate Positive 2040 is the need for Salt Lake City government to lead by example by embedding Climate Positive solutions in its own internal government operations. The city has prioritized carbon pollution reduction and enhanced resiliency to climate change. The following are a few key examples:

- **Comprehensive Energy Management:** The city adopted an Executive Order to enhance interdepartmental coordination, encourage energy waste reduction and spur the development of clean energy. This comprehensive Order requires measures such as energy benchmarking, efficiency investments, facility operator training and employee engagement.
- **Net Zero Construction:** New Salt Lake City government facilities above 10,000 square feet, with the exception of certain use types, must be constructed to Net Zero Energy standards unless an exception is granted due to extreme financial impacts. These projects must include on-site and/or off-site renewable energy projects that offset the anticipated annual carbon emissions of the facility. The city's Public Safety Building was the first such project developed to meet this requirement.
- **Renewable Energy Development:** By the end of 2017, Salt Lake City will have at least 16 separate government properties that include renewable energy generation. The City has also enrolled in the Rocky Mountain Power "Subscriber Solar" program and will receive the equivalent of three megawatts of solar power through this initiative. Salt Lake City is committed to achieving 50 percent renewable electricity for its government operations by 2020 and 100 percent by 2032.
- **Clean Vehicle Fleet:** Salt Lake City evaluates local air quality impacts, carbon pollution and financial viability when prioritizing fleet vehicle purchases and related operational strategies. Numerous departments and divisions at the City have developed Tailpipe Emissions Reduction Plans to inform their investments and operations. Over 130 hybrid-electric or all-electric vehicles were included in the City fleet at the end of 2016.

KEY COLLABORATORS AND STAKEHOLDERS

Climate Positive 2040 was developed by the Sustainability Department of Salt Lake City with input from several city departments and divisions. Private sector companies were not engaged for this effort.

Below are key participants to the successful implementation of Salt Lake City's comprehensive climate plan. They include, but are not limited to, the need for a broad array of technical partners, active participation from local utilities, engagement of vulnerable residents and communities, and cooperation with other governments within the metro area.

Technical partners:

- Salt Lake City prioritizes collaboration to enhance understanding of climate risks and foster joint opportunities to reduce carbon pollution. Working across sectors in non-partisan ways will create climate solutions that align with Utah values and priorities.
- Salt Lake City is a founding Convener of the Utah Climate Action Network, a collection of organizations across all sectors committed to addressing climate change in Utah. The Network has a formal mission to “Foster diverse conversation, leadership and coordinated action to ensure a collaborative response to climate change and its impacts on the people, economies and prosperity of Utah.”
- The Urban Sustainability Directors Network is a peer-to-peer network of local government professionals from cities across the United States and Canada dedicated to creating a healthier environment, economic prosperity and increased social equity. The City has been a member of USDN since its inception and Salt Lake City Sustainability Director Vicki Bennett is a current co-chair of the Network.
- The Western Adaptation Alliance is a network of local government agencies located in the American Southwest and Intermountain West which explores challenges caused by a changing climate such as drought, wildfires, extreme precipitation events and heat stress. Salt Lake City is one of 14 cities participating across five states in the region.

Utilities - Cooperation with the local electric utility Rocky Mountain Power is essential in making progress on the city's goals, given that more than 50 percent of community carbon pollution is associated with electricity generation. Salt Lake City Mayor



Jackie Biskupski and Rocky Mountain Power CEO Cindy Crane signed a Joint Clean Energy Cooperation Statement in August 2016 that details a vision to work together in good faith on energy goals. Energy efficiency, electric vehicle infrastructure, smart grid investments and pathways to net-100 percent renewable energy are all part of the vision.

Regional Cooperation - The City partnered with Summit County and Park City to commission a third-party study on pathways to 100 percent renewable energy for each individual community. This study will be published in 2017 and help inform ongoing priorities and investments.

OPPORTUNITIES TO INCLUDE VULNERABLE COMMUNITIES

Climate Positive 2040 addresses climate change at the local level by both reducing carbon pollution and enhancing resilience to negative social, environmental and economic impacts resulting from a warming world. Salt Lake City is collaborating with stakeholders statewide and regionally to mitigate risks locally by cataloguing vulnerability and climate resiliency measures across a variety of areas: Economy and Tourism, Forestry and Wildfire, Public Health, Transportation, Water and Weather-Related Disasters are example areas included in these assessments.

While Climate Positive does not specifically call out disadvantaged/vulnerable populations, it includes program details that work to increase equity in Salt Lake City. Sustainable food programing, public transportation, air quality solutions, and resiliency strategies work to provide all residents of Salt Lake City a pathway for clean, healthy and livable futures.

GOALS AND TIMELINES

Climate Positive was published in March 2017 and includes a high-level timeline with key target dates that compliment strategic steps for energy, food, and social systems:

100 X 2032: 100 percent Renewable Energy for Community Electricity Supply by 2032

- Goal includes 50 percent renewable electricity for municipal operations by 2020

80 X 2040: 80 percent Reduction in Community Greenhouse Gas Emissions by 2040, compared to 2009 baseline

- Goal includes at least 50 percent reduction in community footprint by 2030

Climate Positive is supported by more detailed, prescriptive action plans already created or in development for Salt Lake City.

COSTS AND FINANCING

Climate Positive was developed in-house; no special ongoing costs have been needed. Costs and financing for individual action plans are developed on a program-by-program basis.

RELEVANT POLICIES

Salt Lake City works locally and regionally with a multitude of stakeholders to accelerate the momentum of clean energy development. The Joint Resolution signed by the Mayor and City Council established renewable energy and carbon emission goals as a priority for Salt Lake City. Climate Positive is also supported by internal sustainability-related city policies that have laid the foundation for progress on climate goals; examples of such policies are the Net Zero Construction Executive Order, internal clean vehicle fleet goals via Tailpipe Emissions Reduction Plans, and the Comprehensive Energy Management Executive Order, among others.

KEY COMPONENTS FOR REPLICATION

- Support from the Mayor's Office and adjoining parties has been crucial to the success of Climate Positive 2040.
- From a design perspective, plans should remain clear and concise with messaging that is accessible to all residents.
- When creating a climate action plan, consider the sectors that will have the highest impact with an audience. Some climate action plans are 100+ pages in length and detail technical and highly specific program methodology. While lengthy plans can be useful to the trained audience, Salt Lake City has found that the brevity and holistic nature of Climate Positive 2040 makes the plan accessible and relatable to a wide audience.

TWO KEY INITIATIVES OF CLIMATE POSITIVE 2040

1) SALT LAKE CITY / ROCKY MOUNTAIN UTILITY COOPERATION STATEMENT

In August 2016 Salt Lake City Mayor Jackie Biskupski and Rocky Mountain Power President and CEO Cindy Cane signed a Clean Energy Cooperation Statement pledging the two entities to work together to meet the city's goal of 100 percent renewable by 2032. The "statement," as opposed to an agreement that would have required regulatory approval, was ironed out as a precursor to the city's consideration of a five-year renewal of Rocky Mountain's franchise agreement with the city.

According to the statement, the city and utility will seek to cooperate to promote and implement energy efficiency, demand response, energy storage and renewable energy projects including programs designed to provide Salt Lake City energy users the ability to purchase output of renewable energy facilities located in Utah.

In fact, the statement includes the city's intent to purchase 3 MW of solar energy for use in the city's facilities from Rocky Mountain's Subscriber Solar Program.

The two also pledged to jointly evaluate new technologies such as smart-grid and customer-side investments to allow efficient utilization of resources, reduce greenhouse gas emissions, and deployment of renewable energy and electric vehicle charging infrastructure. The city will work with the utility to identify infrastructure and property to build additional renewable energy projects, but pledged not to pursue implementation of Community Choice Aggregation as an option over the life of the agreement.

Annually the two will release a report outlining the progress of meeting renewable energy, energy efficiency, and carbon reduction goals.

LOCAL MARKET CONDITIONS

The solar market has created an opportunity to showcase how renewable energy projects are positively impacting Salt Lake City's local economy. Utah is second in the nation for solar capacity installed in 2016 and 6th overall for total capacity installed, an indication of the solar market exponential year-over-year growth. Utah is a good candidate for future utility-scale solar projects and large-scale solar farms due to an abundance of sunny days and large areas of open land. Solar represents a local climate protection asset that will be foundational in meeting Salt Lake City's goals and in developing cooperative projects with the region's utility.

LESSONS LEARNED

The cooperative statement is clearly a recognition by the city that meeting aggressive carbon reduction and renewable energy goals involves active participation by the regional utility. Leveraging local franchise agreements is one such strategy to bring utilities to the table in the context of finding a joint strategy based on mutual benefits and enlightened self-interest. Replacing the previous 25-year franchise agreement with a 5-year agreement keeps both parties focused on meeting the near-term obligations and spirit of the cooperative statement.

2) SALT LAKE CITY'S SKYLINE PROJECT AND ENERGY BENCHMARKING ORDINANCE

In May 2014 Salt Lake City created a voluntary Skyline Project to encourage individual building owners to implement energy efficiency and conservation retrofits to reduce carbon and clean the city's air. The city held over a three year period 13 workshops including 'Introduction to Building Energy Efficiency', 'Energy Action Plans', 'Automated Benchmarking', 'City and State Energy Finance Incentives', and 'Energy Efficiency in Corporate Policy' to name a few. The program was structured as a voluntary challenge to the Salt Lake City business community and culminated in an awards ceremony honoring exemplar participating businesses in 2015, 2016, and 2017.

The city partnered with six organizations to promote the voluntary Skyline Project, including Building Owners and Managers Association of Utah, Utah Clean Energy, United States Green Building Council Utah, the Salt Lake City Chamber of Commerce and the area's two utilities, Rocky Mountain Power and Dominion Power.

Over the course of the three years, 15 winners were selected for their work, out of 136 participants. While the program clearly increased interest in energy efficiency and conservation, it was clear that a completely voluntary program would garner insufficient participation to reach the city's carbon reduction and Clean Air goals.

Building on the Climate Positive 2040 platform and the recently signed cooperative statement between Rocky Mountain Power and Mayor Biskupski, the City Council and the Mayor adopted the Energy Benchmarking and Transparency Ordinance, which requires all commercial buildings above 25,000 square feet to benchmark and report their energy consumption to Salt Lake City on an annual basis using the free online ENERGY STAR Portfolio Manager software. Automation services for the benchmarking will be provided by Rocky Mountain Power and Dominion Energy.

Through this analysis, each qualifying building will be given an energy score from 1 to 100; 75 or over will be considered high-performing. The scores will provide buildings a standard measure to gauge their performance over time in comparison to other buildings of similar use and type. Armed with such scores and accompanying data, building owners and managers will be able to determine if voluntary efficiency improvements make sense for their buildings. In this way the city is requiring the comparative analysis which it expects will result in more voluntary investment in building energy retrofits and improvements.

The benchmarking requirements will be phased in over time, with city buildings completing their benchmarking process by 2018, followed by building over 50,000 square feet in 2019, and buildings over 25,000 square feet in 2020. Beginning in 2020, Salt Lake City will publish a list of all commercial buildings that received an above-average ENERGY STAR score of 50 or above. Those with a score of 75 and above will automatically be considered for a Skyline Challenge Award described above.

In addition to the energy efficiency resources available from our local utilities, the City will establish a resource center within Salt Lake City's Sustainability Department to educate building managers in tools and incentives available to assist them in their voluntary equipment upgrades.

OUTCOMES

In Salt Lake City, promoting energy efficient buildings not only saves money and energy—it's also important for improving air quality.

According to the Department of Environmental Quality, area sources which include homes, restaurants, small businesses and commercial buildings, currently contribute 39 percent of the air pollution in the Salt Lake valley on a given winter day. The state Department of Environmental Quality's Interactive Data Explorer shows that commercial buildings produce 10 percent of air pollution from buildings.

Analysis from Salt Lake City's Department of Sustainability and the non-profit City Energy Project show the Energy Benchmarking and Transparency Ordinance will cut an estimated 29 tons of nitrogen oxides—a key contributor to wintertime air pollution—from the air each year. Greater gains can be realized if building owners voluntarily tune-up their buildings or install new equipment.

The ordinance also helps Salt Lake City achieve its Climate Positive goals of transitioning the community to 100 percent clean electricity by 2032, followed by an overall greenhouse gas reduction of 80 percent by 2040. Energy efficiency is a key component of meeting those goals.

LESSONS LEARNED

By structuring the program in this manner, the City has kept the voluntary nature of private investment, while mandating that building owners perform the necessary analysis to determine the energy efficiency of their buildings. For those cities where policies mandating private sector energy efficiency investments are unachievable, this approach enables the community to advance such improvements through benchmarking and transparency, potentially appealing to “corporate responsibility” to spur action.



ADDITIONAL RESOURCES

- Climate Positive 2040 can be found at: www.slcgreen.com/climatepositive
- The Joint Resolution establishing renewable energy and carbon emissions goals for Salt Lake City can be found at: http://docs.wixstatic.com/ugd/26b4b3_38cc4033433641a18811f468efoecf95.pdf
- The Clean Energy Cooperation Statement between Salt Lake City and Rocky Mountain Power can be found at: http://docs.wixstatic.com/ugd/26b4b3_6397f7d4998548bd8c86bd6f6c768832.pdf
- The Clean Energy Implementation Plan developed by Salt Lake City and Rocky Mountain Power can be found at: <http://www.slcgreen.com/rmp-implementation-plan>
- The Utah Department of Environmental Quality's Interactive Data Explorer for Salt Lake County can be found at: <https://deq.utah.gov/Pollutants/P/pm/pm25/dataexplorer/part1.htm?fips=49035>
- Salt Lake City's press release for the Sierra Club's Ready for 100 Campaign can be found at: <http://www.slcgov.com/mayor-biskupski-leader-us-mayors%E2%80%99-new-national-drive-100-percent-clean-energy>
- Contact Name: Vicki Bennett. Phone: 801-535-6540. Email: vicki.bennett@slcgov.com

SANTA FE VERDE FUND

MAYOR JAVIER GONZALES

CITY OF SANTA FE

EXECUTIVE SUMMARY

In order to combat the effects of poverty, mitigate the impacts of climate change, and create economic and environmental resiliency, the city of Santa Fe has established a new program called the “Verde Fund,” which combines public and private sector resources to fund and develop community-focused programs that provide for net-zero carbon emission housing, residential and commercial energy-efficiency retrofits, environmental remediation, workforce training, and scale-up economic development. The fund is in its first year of operation and is providing support to two local non-profit partners.



OVERVIEW

Systemic poverty and climate change are two of the greatest threats to Santa Fe’s long-term sustainability and prosperity. As a high-desert community, Santa Fe is adversely impacted by climate change; it has seen prolonged drought, higher annual temperatures, more violent thunderstorms, and an increased number of often devastating forest fires.

New Mexico is also one of the poorest states in the country, and despite its relative prosperity as compared to other cities in the state, Santa Fe has numerous challenges: 38 percent of households in Santa Fe have been identified as “cost burdened,” paying more than 30 percent of their income on housing costs; within the city boundaries, there is a 17.9 percent poverty rate; 70.7 percent of students in public schools are income-eligible for free or reduced price meals; and 13.5 percent of Santa Fe County residents and 23.9 percent of Santa Fe County children have been identified as being food-insecure.

Given the United Nations Intergovernmental Panel on Climate Change has repeatedly stated in its climate reports that poor and underemployed populations feel, and will continue to feel, the impacts of climate change the most, Santa Fe’s Mayor Javier Gonzales and the City Council have taken steps to make fighting poverty and climate change a top priority. There are several commissions that help to guide the overall vision and deliverables of the Verde Fund through delivering programs or advocating for policy (or both). The city’s Children, Youth and Families Community Cabinet; the Children and Youth Commission; and the Sustainable Santa Fe Commission are composed of community members who are environmental and social services subject matter experts; city staff; education professionals; social services advocates; and private sector representatives whose responsibilities are to identify and develop a host of ideas to address poverty and climate change.

To further combat the effects of poverty, mitigate the impacts of climate change, and create economic and environmental resiliency, Mayor Gonzales proposed a new program called the “Verde Fund.” The fund would combine public and private sector resources to support community-focused programs providing for net-zero carbon emission housing, residential and commercial energy-efficiency retrofits, environmental remediation, workforce training, and economic development.

In 2016, Santa Fe’s governing body unanimously approved the Verde Fund program and subsequently selected two non-profit partners to deliver to Santa Fe’s low-income population a set of integrated, wrap-around social services and energy reduction programs (such as health and wellness related, job training, education, and housing related services).

“The Verde Fund makes sure taxpayer money is put to good use supporting local families who feel like they’ve been left behind – helping working Santa Feans deal with costs of food, water, electricity and other resources that are rising as a result of climate change. At the same time, these dollars can connect families who are out of work to the opportunities that come with an economy finally focusing on sustainability at a high level,” said Mayor Javier M. Gonzales. “What we do now will set us up for failure or success in future generations.”

IMPLEMENTATION

The Mayor was the primary sponsor of the legislation that created the Verde Fund.

The Verde Fund was developed in August 2016., and in December the city issued an RFP to solicit applications for the available funds. The RFP detailed the eligible partners, project guidelines, evaluation criteria, and other relevant information for applicants. The city also hosted a technical training and information session prior to the January 20th deadline for submissions. In June 2017, the Verde Fund selection committee announced that the non-profit partners Youthworks and Homewise were selected to receive the initial round of funding. The city government will oversee activities of the selected partners, which are expected to be underway in September 2017 and continue through June 2018. The city expects to renew the program in 2018.



TIMELINE

- May 2016 - Verde Fund resolution passed
- August 2016 - Verde Fund developed
- December 2016 - Public information session about RFP
- January 2017 - Application deadline
- June 2017 - Selection committee chooses initial project partners
- September 2017 - Projects underway (expected)
- July 2018 - Second round of Verde Fund (anticipated)

COSTS AND FINANCING

The initial investment into the Verde Fund by the City of Santa Fe was \$300,000 from the city’s general fund. To receive the funding, the selected partners agreed to match the city’s grant dollar for dollar either in cash or in-kind contribution. The awards made to Youthworks and Homewise are meant as one-time grants, but it is expected that the funded activities will be continued on by the partners.

RELEVANT POLICIES

This is the City of Santa Fe’s first such type of legislation. A copy of the Resolution can be found [here](#).

KEY COLLABORATORS AND STAKEHOLDERS

Members of the city's Sustainable Santa Fe Commission, a mayoral appointed commission of citizen volunteers, served as reviewers of proposals submitted by applicants.

The Verde Fund program is focused on moderate- to low-income populations in the City of Santa Fe. The non-profit partners selected to receive funding in the first year are Homewise, a local housing developer, and Youthworks, a youth-oriented workforce training organization.

OUTCOMES

With Verde Fund support, Homewise will expand its existing Solar Opportunity Loan (SOL) Fund, targeting households that earn 80 percent of area median income.

HOMEWISE: ANTICIPATED IMPACT IN YEAR 1	
Climate	- Solar PV: 20 houses x 4 kW x 0.21 x 8760hrs x 0.6 kgCO₂/kWh = 89 tCO₂/year (ongoing) - Energy Efficiency: 20 houses x 1,500 kWh x 0.6 kgCO₂/kWh = 18 tCO₂/year (ongoing)
Poverty	\$ Saving from EE: 20 houses x 1,500 kWh x \$0.12/kWh = \$3,600/year (ongoing) \$ Savings from installation of PV system: \$43/house in first year, escalating up to \$500/house/year in year 20 (life of PV system).

Youthworks will work with partners to develop programs that focus heavily on aspects of youth poverty.

YOUTHWORKS: ANTICIPATED IMPACT IN YEAR 1	
Climate	- Energy Efficiency: 40 houses x 1,500 kWh x 0.6 kgCO₂/kWh = 36 tCO₂/year - Reduction in potential for catastrophic fires and damage to homes at wilderness-urban interface.
Poverty	\$ Saving from energy efficiency: 40 houses x 1,500 kWh x \$0.12/kWh = \$7,200/year (ongoing) - Savings on food expenditures from 100 produce boxes/month x 40\$/box x 12 months = \$8,000 for low income families (1 year) \$350/month stipend for families hosting homeless youth (1 year) - Approximately 40-50 part-time jobs for youth in culinary, greenhouse, weatherization, forest management, and coordination (1 year) 8 months of housing for 6 homeless youth (8 months) - Generate revenue through sale of 1,000 tons of dead wood as firewood, mulch, or compost. This is approximately \$162,500 value, if sold as firewood for \$325/cord. (1 year)

KEY COMPONENTS FOR REPLICATION

- Creating a Verde Fund requires widespread support, but commitments from city and selected stakeholders to work together to deliver coordinated, integrated services and ensure the program not only starts, but continues to expand in the future, is central to its success.
- The roles and responsibilities of stakeholders should be clearly defined.
- A three-year project management calendar, with a set of goals and deliverables, should be developed to serve as a roadmap for project implementation and success. This should all be included in the RFP.

ADDITIONAL RESOURCES

- The City of Santa Fe's Request for Proposal for Climate and Poverty can be found online at the following link: https://www.santafenm.gov/media/rfps_docs/1727P.pdf
- A Memorandum Approving Service Contracts for the Verde Fund can be found online at the following link: www.santafenm.gov/document_center/document/6691





THE UNITED STATES CONFERENCE OF MAYORS

Tom Cochran

Tom Cochran, CEO and Executive Director

1620 Eye Street, NW
Washington, DC 20006
Tel: 202.293.7330

Email: tcochran@usmayors.org
usmayors.org