



Taking Local Action

Mayors and Climate Protection Best Practices

June 2015





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DO YOUR PART! PLEASE RECYCLE!

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First Place Award Winners

LARGE CITY

Phoenix, AZ Mayor Greg Stanton

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Blacksburg, VA Mayor Ron Rordam



Phoenix, AZ Mayor Greg Stanton

Energize Phoenix Program

Phoenix's *Energize Phoenix Program* (EPHX), a large-scale, three-year energy efficiency program, has catalyzed \$56 million in energy upgrades along a 10-square-mile urban corridor of Phoenix surrounding the newly-constructed Metro light rail. Phoenix partnered with Arizona State University and APS (Arizona's largest electricity provider) to leverage \$25 million in program funding from the U.S. Department of Energy (DOE) and \$31 million in utility funding to transform the downtown core into a green corridor. It focused on a diverse mix of single- and multi-family residential buildings and small commercial buildings offering significant rebates and financing for energy efficient upgrades.

In 2008, Phoenix had just completed a light rail project which ran through the city's downtown core, connecting it with other valley cities. This was a unique opportunity to enhance the region with energy upgrades to buildings, adding to the new green transportation corridor and reducing the region's carbon footprint. Achieving high participation rates in energy efficiency programs is a known challenge. As such, Phoenix created a high-level awareness campaign, with unique program branding and direct outreach to homes and businesses, bringing together a robust utility contractor network and training more than 100 contracting firms on the special limited-time offer of incentives and financing.

EPHX reduced annual GHG emissions by over 95,000 metric tons of carbon dioxide equivalent (CO₂e) and exceeded its goals with energy upgrades to over 33 million square feet of commercial space and 2,014 residential units, achieving 17 percent and 12 percent annual energy savings, respectively, for a total annual savings of \$12.5 million (135 million kWh).

The unique EPHX partnership – city, university, utility and more than 100 contractors – yielded widespread interest and excitement in a very short timeframe in a challenged residential market. The Energize Phoenix program was financed with \$25 million in program funding provided by DOE American Recovery and Reinvestment Act (ARRA) of 2009, \$31.8 million by the local utility incentive program, and \$438,000 in loan financing through National Bank of Arizona.

Blacksburg, VA Mayor Ron Rordam

Solarize Blacksburg Program

Solarize Blacksburg, the first initiative of its kind in Virginia, launched just over a year ago in March of 2014. This program became a game-changer for clean energy in their community, and rapidly spread across the state. Key town leaders, staff and community partners came together in the fall of 2013 to create a program that would make solar much more affordable and far less complex for the average homeowner. This involved negotiating a substantial time-limited discount from the community's solar installers in exchange for the Solarize leadership team managing all other logistics: engaging the community, marketing the program, performing satellite roof assessments, lining up favorable financing options, streamlining the permitting process, helping homeowners and HOA associations work together, and other aspects of client management. This reduced the overall cost of solar by 16% which resulted in an average savings of \$3,256 per installed solar array.

The program was enormously successful and revealed just how much pent-up demand there was for solar in their community; residential solar use quadrupled in just six months, with town residents investing more than \$1.1 million dollars of their own money to go solar. Other communities throughout Virginia took notice and sought guidance from the Blacksburg team on how to launch Solarize initiatives of their own. To-date, 21 other Virginia communities have followed Blacksburg's lead and created Solarize programs in their own communities, resulting in more than \$5.4 million dollars in renewable energy investment across the state; a number that continues to climb by the day.

Other than the staff time dedicated to this initiative, Blacksburg's Solarize process paid for itself, with a partner non-profit organization covering the up-front administrative costs associated with the program, which was then repaid to them by a \$0.15/watt administrative fee paid by the solar installers at the close of the program. This was a very attractive deal for Blacksburg's local solar installers since the cost of customer acquisition in the solar industry consistently averages \$0.49/watt.

Large City Honorable Mentions

POPULATION OVER 100,000

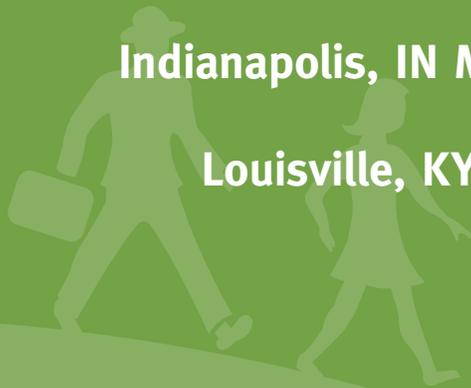
Austin, TX Mayor Steve Adler

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Indianapolis, IN Mayor Gregory A. Ballard

Louisville, KY Mayor Greg Fischer



Austin, TX Mayor Steve Adler

2050 Community-Wide Net Zero Emissions Goal

In 2007, Austin's Mayor and Council approved a resolution to make Austin a leading city in the fight against climate change. Building upon the 2007 goals that were updated in 2013 and 2014, the Austin Community Climate Plan was created to meet the goal of Community-Wide Net-Zero greenhouse gas emissions by 2050. It was developed through a collaborative process involving city staff as well as community leaders and public input; 65 individuals contributed thousands of hours as steering committee or technical advisory group participants and more than 1,200 public comments were received through various survey and online tools. The final plan contains more than 130 actions that will reduce emissions from energy, transportation, and materials and waste sources. Meeting the Community-Wide Net-Zero goal will require participation from residents and businesses; however, the City of Austin does not have the ability to mandate reductions. This challenge was addressed by: 1) engaging community stakeholders and including them in the planning process; and 2) analyzing the needs of different groups of residents to identify specific actions they could take to reduce emissions. For its own operations, municipal emissions have already been reduced 68 percent since 2007. These occurred through an integrated approach involving reduction strategies for each city department, as well as the city's switch to 100 percent renewable energy for municipal operations in 2012.

Cape Coral, FL Mayor Marni L. Sawicki

Municipal Energy Management Program

By using proven energy management methods, the City of Cape Coral cut electricity usage at 38 city facilities by an average of 38 percent in 2014, as compared to 2008. This resulted in an annual reduction of 4,638 MWh of electricity. At 36 of these buildings, the energy reduction was completed without the use of energy project funds. Air conditioning was set to higher temperatures during unoccupied times. Outside air ventilation was reduced to code standards. Uniform lighting was modified to provide good lighting where actually needed and less lighting where it was not. More than 1,000 bulbs were removed. Maintenance focused on cleaning A/C condensers and replacing filters. Systems' control also was enhanced. Sports lighting at city athletic facilities was carefully controlled to meet the varying needs of sports events. Building users became more engaged in using energy to meet needs and shutting down when there is no benefit. When taxable value of property in Cape Coral fell by 53 percent from 2008 to 2010, the city's primary revenue source for the General Fund fell by nearly \$20 million annually. Capital budgets were non-existent. The energy management program was initiated in 2009 to create immediate cost savings to offset revenue losses and help sustain services. General Fund maintenance budgets were used for any minor improvements made at 36 of the 38 facilities, with two significant capital improvements funded by undesignated reserves and an EECBG grant from the Department of Energy. The cost savings exceeds \$388,000 per year, allowing the city to sustain public safety, parks, recreation and public works services.

Columbus, OH Mayor Michael B. Coleman

Columbus Green Fleet

The *Columbus Green Fleet* program began in 2008 under the leadership of Mayor Michael Coleman. This ongoing effort uses a number of strategies to reduce fuel usage in vehicles and develop alternatives to gasoline to fuel vehicles for city vehicles, while assisting regional entities to do the same through shared resources. Automatic vehicle location (AVL) devices were installed on approximately 85 percent of on-road fleet, reducing fuel usage as drivers became more aware of route planning, idling time, and driving practices. Anti-idling technology was installed on 90 police cruisers, with an additional 90 scheduled for installation this year, allowing computer and radio devices to operate without idling. Each cruiser generates approximately \$3000/year in fuel savings with this technology. Alternative fuels such as Compressed Natural Gas (CNG) to power 140 CNG vehicles and electric vehicles were also part of the broader strategy. Behavior change was also targeted, with the city developing training to help drivers understand their impact on fuel efficiency; participants drive a route before and after training to see personalized results. Finally, reducing and right-sizing the city fleet, with requests for vehicles reviewed to ensure need and the appropriate size for the job. The city's fleet of more than 6300 vehicles consumed 3,473,865 gallons of fuel in 2014; without utilizing best management practices in addition to the use of leading edge technology, these vehicles could significantly and adversely impact air quality and contribute to climate change.

Indianapolis, IN Mayor Gregory A. Ballard

Energy Secure Cities Initiative

The City of Indianapolis is the first city in the country to pledge to convert its entire vehicle fleet to post-oil technology, as part of an overall *Energy Secure Cities Initiative*. In 2014, the city contracted with Vision Fleet Capital to provide 425 electric vehicles that will result in Indianapolis having the largest municipal fleet of electric vehicles in the U.S. The city took delivery of the first plug-in hybrid sedans that year, seeing 100 such vehicles by year's end. Prior to 2014, the city switched fuel for its heavy-duty trucks to B-20 biodiesel. Also, the city began shifting the city's fleet to hybrid and plug-in electric vehicles and oversaw installation of 80 electric vehicle charging stations. Mayor Ballard has long indicated that America's dependence on oil ties national and economic security to highly unpredictable global oil markets. Revitalizing an aging city fleet by switching from internal combustion engines to electric technology reduces dependence on foreign oil while also making good fiscal sense. Replacing 500 non-emergency-responding city sedans with electric vehicles saves about \$16,000 per vehicle over ten years.

Louisville, KY Mayor Greg Fischer

Green Living Neighborhood Certification Program

The *Green Living Neighborhood Certification Program* (Green Living), launched in December 2014, teaches individuals and households how to live more sustainably and reduce their greenhouse gas (GHG) emissions through a competition-based incentive – by recognizing neighborhoods achieving predetermined criteria with a Green (50-120 points), Silver (121-140 points), Gold (141-160 points) or Platinum (>160 points) certification. Points are obtained based on the percentage of neighborhood households that accomplish program criteria. Green Living is a component of the new One Bright City initiative of Brightside, the city’s Keep America Beautiful affiliate. Neighborhoods interested in participation select a “Green Captain” and register through the website. The program accommodates different types of neighborhoods and households, including single-family, multi-family and rental units. Neighborhoods are self-defined, with a 10-house minimum. After registration, Green Captains survey neighborhood households about their green living habits, using the criteria checklist. Each criterion encourages residents to improve their health and the health of the community and surrounding environment. Criteria topics cover: air quality, alternative transportation, energy, health and wellness, healthy and local food, stormwater management, waste reduction, water conservation and neighborhood engagement. Green Living, a program that was specifically developed to accommodate low-income citizens, incentivizes GHG reductions through behavior change at the household level. Engaging with individuals at the neighborhood level represents our greatest opportunity for impact at the lowest cost.

Small City Honorable Mentions

POPULATION UNDER 100,000

Fayetteville, AR Mayor Lioneld Jordan

New Bedford Jonathan F. Mitchell

Newton, MA Mayor Setti Warren

Santa Monica, CA Mayor Kevin McKeown

Urbana, IL Mayor Laurel Lunt Prussing



Fayetteville, AR Mayor Lioneld Jordan

Beneficial Reuse of Biosolids

The City of Fayetteville, Arkansas, looked beyond the normal way of doing business and implemented a new idea by drying its biosolids, becoming one of the first cities to pair solar and thermal drying. The city and its service contractor (CH2M HILL) researched options to meet three primary goals: 1) Reduce operating costs, including hauling and landfill fees; 2) Provide a stable, long-term disposal method; and 3) Make a long-term, positive environmental impact. After considering a variety of options, the city determined that a combination of solar and thermal drying of the wet biosolids would be the best course of action. Benefits of drying biosolids include fewer trips to landfills and a final dried biosolids product available for beneficial reuse through land application or fertilizer production, creating a biosolids fertilizer for sale – bringing in revenue to the city and reducing the quantity and weight of biosolids going to landfills, saving in transportation and landfill fees. On a typical day, 100,000 wet pounds of biosolids are generated from the city’s wastewater treatment plants, requiring more than two trips to the landfills, at a cost of nearly \$1 million per year in fuel, labor, landfill fees and equipment costs. To compare, in the first six months of 2010, the wastewater plants sent 499 semi-trailer loads filled with 1,906 tons of wet biosolids to landfills. With the dryers, that number dropped by more than 50 percent in the first half of 2012 – only 233 loads going to landfills with a total of 889 tons, and since then the program has improved and further reduced greenhouse gas emissions. The beneficial reuse product available to farmers and residents helps improve soil nutrients and enriches soil on a long-term basis.

New Bedford, MA Mayor Jonathan F. Mitchell

Renewable Energy Power Purchasing Initiative

The City of New Bedford’s *Renewable Energy Power Purchasing Initiative* is a comprehensive approach to achieving the city’s key goals across several areas, including: taxpayer savings, reduction of its carbon footprint and climate change, “green” job-creation, and clean-up of contaminated brownfields. As a result of this initiative, New Bedford has received widespread national recognition as it now has the most installed solar capacity on a per capita basis in the continental U.S. What was once a modest local effort to install small-scale rooftop solar facilities on city schools has turned into one of the most ambitious moves to adopt solar in the nation. The flagship project in the city’s program is the Sullivan’s Ledge Solar Project, which was once the site of one of the country’s most high-profile “Superfund” hazardous waste sites, has been converted to a 1.8 megawatt solar farm with more than 5,000 solar panels spread across ten acres, producing enough electricity for 226 homes. Sullivan’s Ledge alone is projected to save New Bedford city government \$2.7 million over the next twenty years in utility costs, and represents just one of ten solar projects (and 1 wind project) installed as part of the city’s Renewable Energy Power Purchasing Initiative. The projects, accounting for 16.25 megawatts of solar power, have all been privately financed at a combined cost of \$60+ million, which has freed up local government capital spending for other municipal priorities.

Newton, MA Mayor Setti Warren

Energy Efficiency and Solar Initiatives

The City of Newton is increasing the energy efficiency of city and other public buildings, as well as accelerating its use of solar energy. With its lighting retrofits in schools, classrooms, offices, public buildings and maintenance garages, the city has already reduced its use of lighting energy use in 10 schools and six public buildings by an average of 43 percent per lighting fixture, by converting from fluorescent lights to LED. Newton's Integrated Design Program is another example of its efforts, whereby the city's Department of Public Buildings has developed a new process to oversee the design and construction of all new schools and public buildings to maximize the efficiency of its new buildings. With improved building design and the installation of solar systems, the city is moving toward net zero energy buildings. By establishing an Energy Conservation Stabilization Fund for financing various energy efficiency projects, the city seeks to stabilize its energy costs by reducing energy usage through various energy projects. More emphasis is being placed on energy efficiency in the city's capital plan, with its planned construction and/or major renovation of nine schools and two fire stations over the next ten years, including preparing the buildings for rooftop solar systems. Finally, under Newton's Purchase Power Agreement, 680 kW of solar pv (photo voltaic) panels have already been installed on the roofs of four schools without the use of any city money, whereby the projects are completely funded by solar developers who are also responsible for the operation and maintenance of these systems.

Santa Monica, CA Mayor Kevin McKeown

Solar Santa Monica

Solar Santa Monica was created in 2006 to accelerate the uptake of solar energy in the community, coupled with robust energy efficiency. The program offers technical assistance to prospective residents and businesses by evaluating solar potential, navigating regulatory and rate changes, identifying financial mechanisms, vetting contractors and evaluating bids. Since the program's inception, Santa Monica has seen solar increase twelve-fold – from 376 kW to 4.6 MW – by the end of the first quarter of 2015. The city in 2005 created the Community Energy Independence Initiative, calling for net zero electricity imports by 2020. With less than one percent of the city's solar potential realized, the city established this program to stimulate installations, to help home and business owners, as well as the college, schools, and all other to invest in solar. In its first year, Solar Santa Monica doubled solar capacity in the city. To date, community-installed solar has reduced emissions by 2,584 MTCO_{2e}, helping the City of Santa Monica achieve its 2015 target of reducing citywide emissions by 15 percent below 1990 baseline levels.

Urbana, IL Mayor Laurel Lunt Prussing

Urbana-Champaign ENERGY STAR Challenge

The *Urbana-Champaign ENERGY STAR Challenge* engaged building owners and managers to benchmark, track, and improve their building energy performance in 2014, as compared to a 2013 benchmark with the U.S.EPA's free ENERGY STAR Portfolio Manager. High performing buildings were recognized with awards in March 2015 in the categories of Best ENERGY STAR Score, Best Energy Use Intensity, Best ENERGY STAR Score Improvement, and Best Energy Use Intensity Improvement. The goals were to successfully engage 50 buildings to register for the Challenge, 25 buildings to submit an energy benchmark, 10 buildings to reduce energy consumption, and 5 new buildings to achieve ENERGY STAR Certification. The Urbana-Champaign ENERGY STAR Challenge has achieved 68 Participants and 43 Building Benchmarks, with 15 buildings reducing energy consumption and four qualified for ENERGY STAR Certification. (Similar programs in cities with larger populations and many more commercial buildings have produced comparable results). Based on participants' ENERGY STAR Portfolio Manager accounts, 15 buildings improved energy performance reducing greenhouse emissions by 2,801 metric tons CO₂ equivalent. This equals the carbon sequestered by 71,744 tree seedlings grown for 10 years, or the annual greenhouse gas emissions from 593 passenger cars



THE UNITED STATES CONFERENCE OF MAYORS

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