

CITIES TAKE ACTION TO CURB GLOBAL WARMING

By Win Colwill

Greenhouse gas inventories conducted as a result of the 1992 United Nations Framework Convention on Climate Change revealed to the world that the United States, with only 5 percent of the world's population, was responsible for 25 percent of global warming emissions. Publicity surrounding the Earth Summit raised public awareness of the threat of global warming and the need for action to address the problem for the first time.

Cities for Climate Control Protection (CCP) Program

In 1993, the International Council for Local Environmental Initiatives (ICLEI) Local Governments for Sustainability launched its Cities for Climate Protection program, calling on local governments worldwide to reduce their greenhouse gas (GHG) emissions to improve air quality and enhance urban sustainability.ⁱ Cities are in a key position to affect climate change. They directly influence energy consumption through planning and zoning policies, building energy codes, municipal purchasing policies, operation of city facilities, and waste management and power supply decisions.

The ICLEI's Climate Action Handbook provided cities with a resource guide for planning and action that included five milestones:

1. Conduct a baseline inventory of greenhouse gas emissions.
2. Adopt an emissions reduction target for the forecast year.
3. Develop a Local Action Plan to achieve emission reductions.
4. Implement policies and measures in the Action Plan.
5. Monitor, verify and report results.

To date, more than 150 cities nationwide have utilized the CCP program to network with other cities, share innovative ideas and learn more effective measures to reduce local global warming emissions. ICLEI's resources for members now include computer software to simplify calculation of emission inventories.ⁱⁱ

U.S. Mayors Climate Protection Agreement (MCPA)

Public interest in global warming was boosted significantly on February 16, 2005, the day the Kyoto Protocol went into effect in the 141 countries that had ratified it. That same day Seattle Mayor Greg Nichols issued a "Kyoto Challenge" to mayors nationwide to sign the U. S. Mayors Climate Protection Agreement and take action to reduce local global warming pollution. By signing the Agreement, cities agreed to strive to make GHG reductions that meet or exceed Kyoto targets. Twelve recommended "Action Steps" include emission inventories, reduction targets, and development of specific action plans for city facilities and operations and the entire community.ⁱⁱⁱ

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Within 27 months, more than 500 cities, representing more than 65 million Americans, had signed the MCPA. This rapid growth, spurred by Seattle, has been aided markedly by the Sierra Club's national "Cool Cities Campaign" which encourages members to promote the MCPA locally. The Club's Web site highlights cities that have GHG reduction "success stories" and provides links to a "Cool City" contact in every city that has endorsed the Agreement.^{iv}

To begin the planning process, cities select a baseline year, and then calculate GHG emissions from municipal sources, motor vehicles, and residential, commercial and industrial sectors. A target year and reduction targets are adopted next. Following the signing of the Kyoto Protocol in 1997, and even after the U.S. government backed out of negotiations in 2001, many cities committed to targets that met or exceeded the target assigned to the United States: 7 percent below 1990 emission levels by 2012.

Emission inventories generally show that cities' primary global warming gases are carbon dioxide and nitrogen oxides from fossil fuel combustion and methane from landfills and waste treatment plants. Buildings (heating, cooling and lighting) and motor vehicles are the two major community sources; therefore action plans commonly focus on strategies that will produce reductions in those sectors. Public education is an important element in most action plans.

Cities also set emission targets for municipal facilities and operations. Energy saving measures not only provide examples for citizens, but also can produce substantial energy cost savings. The plans may be developed by a committee of municipal department heads or a combination of municipal employees and interested citizens. Experience has shown that successful implementation of the plans requires the commitment of city leaders who can inspire sustained, community-wide effort.

Cities Taking Action

Medford, MA, (pop. 55,000)^v joined the CCP program in 1999 and became the first city in Massachusetts to have an approved Climate Protection Plan. The installation of solar panels on the roof of city hall, combined with upgrading indoor fluorescent lighting with electronic ballasts, is saving \$7000 in electricity costs and reducing CO₂ emissions by 130 tons annually. The city has also converted its traffic lights to Light Emitting Diodes (LEDS), which are 90 percent more efficient, and last at least seven years longer than conventional incandescent signal lights. Medford encourages replacement of incandescent light bulbs with compact fluorescent bulbs by providing a link on its Web site that enables residents to consider different types that they can purchase online. The city is also raising funds to help build a 100 kilowatt wind turbine near a school to provide electricity and also to educate students about clean, alternative sources of energy.^{vi}

Burlington, VT, (pop. 39,000) also joined the Cities for Climate Protection program in 1999. The city created an Energy and Environment Office and adopted time-of-sale minimum standards for rental housing to improve energy efficiency in rental properties. Burlington's "Top Ten" program offers the city's largest electric customers a customized menu of energy reduction options that will provide "positive cash flow" financing. The "10 percent Challenge" program prompts individual efforts to calculate and reduce personal global warming emissions by 10

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percent. This program, which includes an interactive Web site, has spread to 80 other Vermont cities^{vii}.

Madison, WI, (pop. 208,000) developed a plan in 2002 that targets emissions from waste as well as electricity generation. Methane gas produced in the sewage treatment facility is used to heat hot water and run the anaerobic digester. Waste heat from the generators and blowers is captured and used to heat buildings. Madison has also installed generators at its landfills; using methane for electricity production reduces the amount of methane released to the atmosphere. (Though shorter-lived than CO₂, methane gas is a much more potent greenhouse gas.)^{viii} City outreach efforts have increased participation in the curbside recycling program to 97 percent.^{ix}

Seattle, WA, (pop. 563,000) began climate reduction efforts in 2000. Seattle City Light achieved climate-neutral status in 2005 by supplying GHG-free electricity from hydro and wind power and by purchasing “green” offsets. The city boasts a 60 percent reduction in GHG emissions from its green building programs and “Clean Green Fleet” policies, that include downsizing the fleet and switching to alternate fueled or fuel-efficient vehicles. To further reduce motor vehicle emissions, the city’s primary global warming source, Seattle has added more bus routes and streetcars. It has also adopted “smart growth” policies to reduce sprawl. To increase recycling, Seattle bans certain recyclables in garbage, e.g., cardboard, aluminum cans and plastic bottles.^x

Salt Lake City, UT, (pop. 182,000) launched its Climate Reduction Plan in 2002. Over the past five years, the city has reduced local GHG emissions by more than 20,000 tons of CO₂ equivalent. New and renovated public buildings owned or operated by the city are designed to meet LEED (Leadership in Energy and Environmental Design) Silver certification standards. Innovative programs include free limited parking at downtown meters for low emission, highly fuel efficient cars and a “Pedal Pass” program, which enables bicycle riders to receive merchandise discounts from cooperating merchants. In 2006, Mayor Rocky Anderson focused media attention on climate change by co-hosting with ICLEI a convention of mayors at Robert Redford’s Sundance resort.^{xi}

Albuquerque, NM, (pop. 449,000) completed its GHG inventory in 2005 and set reduction targets for each sector, ranging from 7 percent to 40 percent below 1990 levels. The city’s action plan includes the installation of solar heating and photovoltaic (PV) systems at five public swimming pools to heat the pools and power the pumps. Wind power already supplies 15 percent of the electricity in city facilities; 65 percent of city buses use alternative fuels and four city fueling stations dispense Compressed Natural Gas.^{xii} Recent expansion of an innovative ordinance requires 3 percent of city bond issues to be reserved^{xiii} for energy conservation and renewable energy projects.

Columbia, MO, (pop. 85,000) has a small coal-fired generating plant that supplies only a small part of the city’s electricity, but emits nearly 100,000 tons of CO₂ annually. In 2004, voters approved a mandatory Renewable Energy Standard (RES) by a 78 percent margin. (This appears to be the only municipal RES nationwide located within a state that has no state RES law.)^{xiv} The ordinance requires the city utility to begin using renewable power sources in gradually increasing amounts, from 2 percent of retail sales by 2008 to 15 percent by 2022. Contracts for

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power from a wind farm and two landfills (one city-owned) will enable the city to meet its 5 percent by 2013 goal during 2008.^{xv}

Cities with municipal power plants often use financial incentives to spur energy conservation and efficiency to slow rising peak demand and thus delay the need for costly, new generation. Columbia, for example, offers a low summer electric rate to customers who allow the utility to place on their central air conditioners a remote control switch that can shut off the condenser for brief periods during summer peak demand periods. During the past several years more than 14,000 customers have enrolled in this load management program, reducing peak demand by 6-8 megawatts as well as GHG emissions. Columbia also offers low interest loans for installation of approved levels of insulation, high efficiency heat pumps and air conditioners.

Columbia endorsed the MCPA in 2006 and completed an emissions inventory in May 2007. Recently, cash rebates for solar water heaters, high efficiency air conditioners and PV (photovoltaic) systems were approved. Also, in cooperation with the local housing authority, the city utility is funding replacement of old room air conditioners with more efficient models.

Boulder, CO, (pop. 95,000) voters in 2006 passed a Climate Action Plan Tax by a 60 percent margin. The monthly charge, averaging \$1.33 on household electric bills, will fund energy efficiency and renewable energy initiatives to help cut the city's CO₂ emissions 7 percent below 1990 levels. Boulder claims their "Carbon Tax" is the nation's only voter-approved energy tax.^{xvi}

Santa Cruz, CA, (pop. 55,000) joined Cities for Climate Protection in 1998. Local renewable energy systems, including PV panels on city buildings, supply 33 percent of energy used; renewable energy purchased from PG&E provides another 12 percent. LEDs installed in 95 percent of the city's traffic signals save an estimated \$65,000 annually. Santa Cruz pays for bus passes for city employees to commute to work. To comply with the state mandate to reduce landfill waste 50 percent, city refuse charges increase with volume collected; recycling service is free of charge.^{xvii}

These cities are examples of the many communities nationwide that are achieving significant reductions of greenhouse gas emissions through strong leadership, carefully designed local initiatives and citizen commitment.

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REFERENCES

- i ICLEI (International Council for Local Environmental Initiatives) provides technical, consulting, training and information services to assist local governments implement sustainable development. Founded in 1990, ICLEI is comprised of 475 local governments representing nearly 300 million people worldwide; see: <http://en.wikipedia.org/wiki/ICLEI>.
- ii <http://www.ICLEI.org/>
- iii <http://www.seattle.gov/mayor/climate>
- iv <http://coolcities.us/>
- v Population figures (rounded) for listed cities according to 2000 U. S. Census data
- vi <http://www.medfordcleanenergy.org/>
- vii <http://www.burlingtonelectric.com/>
- viii The Rough Guide to Climate Change The Symptoms The Science The Solutions, Robert Henson, Rough Guides Ltd. London, 2006, p.33
- ix http://www.ci.madison.wi.us/Environment/ccp_2002.pdf
- x <http://www.seattle.gov/environment/>
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- xiv <http://www.dsireusa.org/>; Renewable Energy Standard is also known as a Renewable Portfolio Standard (RPS)
- xv <http://www.gocolumbiamo.com/WaterandLight/Electric/ElectricSupplyInformation.php>
- xvi <http://www.bouldercolorado.gov/>
- xvii <http://www.ci.santa-cruz.ca.us/pw/ep/measures.html>