



# In the Green: Sustainability & the City

Municipalities partner with businesses and universities

By Lori Tripoli

It may be true enough, as Jane Austen wrote, that, “We do not look in our great cities for our best morality,” but we just might look in them for our best sustainability. After all, more than 1,000 local leaders have signed on to the U.S. Conference of Mayors Climate Protection Agreement and promised to meet or beat targets for reducing global warming pollution established by the Kyoto Protocol. They’ve also agreed to encourage the federal government and state ones to enact programs to reduce greenhouse gas emissions. Moreover, a 2009 survey by New York City-based Living Cities, a collaborative of 21 of the world’s largest foundations and financial institutions, found that four out of five big cities identified sustainability among their top five priorities.

“I can’t think of very many cities that don’t have some type of sustainability program,” says Craig Moyer, chair of the land, environment, and energy division in the Los Angeles office of Manatt, Phelps & Phillips, a law firm. “There are even some that are spending money on it.” As in seemingly every other area, the Great Recession has also had an impact on municipal efforts to become more environmentally viable. “Coming up with upfront money even on projects where you can show a payout is a challenge,” Moyer acknowledges.

“We’re not in a capital expenditure mode anywhere in the world right now” adds Andy Spielman, chairman of Colorado’s Regional Air Quality Council, the air planning board for Metro Denver and Boulder. “One of the biggest constraints right now are the economic times we live in,” he continues. “But necessity is the mother of invention.”

*Sustainability: The Journal of Record* canvassed its readers about sustainability practices in their local communities. In big towns and small, in the East, in the West, and in between, in the United States and abroad, sustainability initiatives and innovative collaborations among citizens, businesses, students, and local government are taking place despite the economically challenging moment we live in. Highlights from some of the responses follow.

## Friendly Competition in Chicago

“Chicago is one of the most progressive cities in supporting sustainability,” says Greg Maher, senior vice president for lending at New York City-based Local Initiatives Support Corporation, a nonprofit that raises capital for foundations and then channels those funds, as well as technical assistance, to community-based nonprofits. Chicago, Maher says, is greening operations within the city itself.

Indeed, the city’s Department of Environment has sponsored Green Office Challenges ([www.chicago-greenofficechallenge.org](http://www.chicago-greenofficechallenge.org)) to encourage sustainable business practices, reports Angela Ford, president of T.A.G. Worldwide Inc. (The Absolute Green) in Chicago. “Businesses and private industry are competitive by nature,” Ford observes. They could compete through the Green Office Challenge and earn points for undertaking activities like setting copiers to default to double-side, installing sensors in common areas, and bringing coffee mugs to work to cut down on procurement of Styrofoam, explains Ford, whose company was hired by the city to run seminars for the Green Office Challenges program. The program turned out to be enormously successful. “There was a floodgate of people who wanted to sign up,” Ford reports.

Ford is also working with Chicago Public Schools to encourage high school students to pursue higher education in the area of sustainability. Through the SEA<sup>2</sup>D (sustainable education in architecture and agricultural design) program, which is essentially a science fair competition for sustainable urban planning, students form chapters at their schools and meet regularly to learn how to create sustainable communities. Next year, they will compete by selecting a city or a village from around the globe and using it to create a model sustainable community, Ford explains. Students will have to do some research on soil, sun, etc., and they’ll design what ends up looking like a Lionel train set town, depict-



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ing water and power sources. "To gain traction, we thought this year we'd spend time forming chapters, creating camaraderie, then we'll compete. The first big competition will be spring 2011," Ford says. "We've got to get the next generation in the right direction."

## Learning by Example in Vermont

Of course, a faltering economy isn't the only reason sustainability hasn't been sufficiently implemented at local levels. American cities aren't as sustainable as they could be "because U.S. society is based on sucking as much advantage without paying the consequences," observes Ralph Meima, program director for Marlboro College Graduate School's MBA in Managing for Sustainability. "Battles are going on at every level of government between business as usual and people who would like to see more of a long-term collective response" to environmental problems, Meima, based in Brattleboro, VT, says. He points to Växjö, Sweden, for its exemplary work in reducing reliance on fossil fuels by setting up a biomass district energy system for the city. Växjö's carbon dioxide emissions have decreased by 32 percent per person since 1993. (More information about Växjö and its move away from fossil fuels is available at [www.vaxjo.se](http://www.vaxjo.se).)

A similar effort is being undertaken in the Green Mountain State. "Here in Vermont, there are five communities actively working on biomass distribution systems: Burlington, Montpelier, Middlebury, Randolph, and Brattleboro," reports Meima, who is also the chairman of the Brattleboro Thermal Utility, which is seeking to bring district heating to southern Vermont. "We're collaborating in terms of sharing information and trying to lobby state politicians and so forth," Meima explains. "We are also quite aware of the north European standard for this kind of technology, and have fairly open channels of communication with Finland, Denmark, and Sweden to learn how these systems work." Not only does a biomass distribution system reduce an area's environmental footprint, it also stimulates local economies as regional trucking companies, loggers, and others involved with the wood supply chain become involved, Meima notes. "When you have a renewable energy source that's local, a lot of money circulates locally that would otherwise disappear into the global economy," he says.

## Planning in New York City

In New York, Mayor Mike Bloomberg "is looking to reduce greenhouse gas emissions by 2030 by around 30 percent," reports Michael English, founder and senior partner of Horizon Engineering Associates in New York City. "That's equivalent to all the



NY Times Headquarters

greenhouse emitted in Phoenix, Arizona." Bloomberg, who announced the city's sustainability goals in 2006, created an Office of Long Term Planning and Sustainability to help meet them. "Probably the hottest topic is energy consumption and looking at how the city is consuming energy, not only in public buildings but in private buildings as well," reports English, who has worked on projects like the New York Times Headquarters building, which opened in 2007 and includes sustainable elements such as a dimmable lighting system and shading from ceramic rods in the outer skin of the building that help save energy. "Approximately 80 percent of New York City's carbon footprint comes from energy use by buildings," Bloomberg said last year as he signed legislation aimed at reducing emissions from existing buildings. The city just passed a local law requiring all buildings larger than 50,000 square feet to be energy audited, English notes. Among other things, buildings must be benchmarked for their energy use and energy efficient maintenance practices must be implemented. New York City's sustainability plan, called PlaNYC, is available at [www.nyc.gov](http://www.nyc.gov).

## Harnessing the Wind in Massachusetts

On Nov. 11, 2009, the first municipally owned utility-scale wind turbine in Massachusetts was installed at a wastewater treatment facility in Falmouth, reports Megan Amsler, executive director





of Cape & Islands Self-Reliance Corp., a nonprofit that promotes environmentally sound technologies and sustainable practices that is based in North Falmouth. A second turbine is slated to be installed this spring. "The municipality of Falmouth uses 11,500,000 kilowatt hours of electricity annually and that represents only 35 of the energy consumed in the town. The first turbine will provide between 3 and 4 million kilowatt hours annually and offset over 2,500 metric tons of CO<sub>2</sub> annually. The second turbine should also be in that range, but the exact size has not yet been determined. The first turbine will enable the town to surpass its goal of 10 percent greenhouse gas emissions reduction by 2010," Amsler says.

Amsler, who chairs Falmouth's energy committee, says that the municipality embarked upon a comprehensive greenhouse gas emissions audit process after joining the ICLEI Cities for Climate Protection program in 2001. ICLEI Local Governments for Sustainability ([www.iclei.org](http://www.iclei.org)) is an international association of local governments and organizations. "Through the emissions inventory, we discovered that the wastewater treatment facility was one of the largest users of electricity in the municipality," Amsler explains. "We got out the topographical map and determined that it happened to also be one of the highest points in the town with a lot of property—the perfect place to explore the feasibility of a wind turbine. With some calls to the Massachusetts Renewable Energy Trust and bending the ears of a few decision-makers in town to see if they would support the exploration of the concept, we were able to get a met tower up at the wastewater treatment facility to measure the wind for a year. Before the tower went up, we reached out to all the neighbors in the area to let them know what we were doing and to ask them if they had any concerns pertaining to wind energy they wanted more information on. We got their surveys back and hosted a Wind 101 public forum to address questions with factual information. We then offered bus trips to the nearest wind installations and interested residents and decision-makers came along."

The feasibility study determined that the site was a good one for harnessing the wind's power and that there were no permitting barriers to speak of, Amsler notes. "The energy committee lobbied decision-makers on a number of fronts. We had to petition the state to allow the town of Falmouth to be a power generator. And finally we lobbied local officials to consider local, municipal ownership instead of third-party ownership. Once the numbers were crunched and town meeting members weighed in, the municipal ownership model was chosen as our preferred method of ownership," Amsler says.

"We also have been hammering away at the much bigger issue of energy efficiency in the town build-

## Spotlight on Europe: Basel, Switzerland

The 2000 Watt Society is a long-term program designed to move Switzerland from a per capita energy consumption of 6000 watts (its current level) to 2000 watts by the year 2050. For comparison, the figure is currently about 200 for India and 12,000 for the United States. While the concept has no enforcement power or legal basis, it was designed as a model to stimulate planning and discussion within Swiss society. The 2000 Watt Society is a policy initiative developed by Novatlantis, a Swiss think tank that formulates sustainable development projects directed toward improving the quality of life for future generations in urban centers. Novatlantis is supported by the Swiss Federal Institutes of Technology in Zurich.

Novatlantis' first pilot region is Basel, a community with a liberal political base and a strong commitment to sustainable technology. The city has in place a five percent steering tax, the proceeds of which are used for pilot and demonstration projects focusing on transportation and housing, the two most significant energy uses for the average consumer. Novatlantis's recycling program retrofits older residential structures with insulation and other energy efficient features.

"The fact that Switzerland is a small country without a domestic auto industry also has its advantages as we research a whole range of fuel-efficient transportation options," says Stephan Lienin, director for sustainability services at Novatlantis. Those options include vehicles run on alternative fuels such as biogas, fuel-cell powered vehicles, and electric cars.

—K. John Morrow Jr.

ings," Amsler continues. "In 2006, we underwent another emissions inventory to see if we were getting close to our 10 percent reduction goal. We were not. In fact, we were heading in the opposite direction, using more energy than we were five years before. It became evident that many people think endorsing an energy plan or reduction target will miraculously make it happen. However, we have some serious behavioral barriers to overcome with the way town employees use energy, as well as some major issues with insulation and air sealing in many of the buildings. These issues are being addressed through education and work with the local municipal electricity aggregator that manages and distributes the energy efficiency funds to ratepayers. We have a long way to go, but the pressure is on."

## Penn State Engages Pittsburgh

As a land grant university in Pennsylvania, Penn State is obligated to make research available to people within the commonwealth, explains Deno De Ciantis, the director of the Penn State Center: Engaging Pittsburgh. The center, since its launch in 2008, is providing support to county and city government on, among other things, stormwater runoff and energy consumption. Green roof technology is being shared with the county, which is installing a green roof on a county office building. The center is also working with the city of Pittsburgh on the issue of vacant lots—there are more than 15,000 in Pittsburgh—and how they can be transformed from a liability to an asset. Some are turned into gardens;



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Ronald Fry

others are used as green space where slow-growing grass is planted along with some low-maintenance trees and ornamentals. A lot of native plants are used, too, De Ciantis says.

"One of the biggest projects we have going is the green innovator project," De Ciantis reports. Initiated by a U.S. congressman and a state senator in Pittsburgh, the project brought together a stakeholder group of about 30 different entities from academia to labor to K-12 education to business to nonprofits to talk about promoting sustainability in the region. "We spent nine months going through the planning process," Di Ciantis recalls. The group decided it needed a facility, a building to demonstrate what sustainability is. It chose a former high school that will be turned into a sustainability center for the region. Academic collaborators on the project, which will try to better prepare young people for green jobs, include the University of Pittsburgh and Carnegie Mellon University. "The building itself will serve as an educational tool," De Ciantis says. The facility will be used to demonstrate various systems, such as green roofs and rain gardens. Reconstruction of the high school building is slated to begin later this year.

## Rails to Trails in South Carolina

Furman University in Greenville, SC, has partnered with Greenville County, the city of Travelers Rest, and some nonprofit organizations to convert a 13-mile rail line into a trail to be used by hikers, runners, and cyclists, reports Nancy Spitler, interim vice president for Marketing & Public Relations at the university. "The rail-trail, which extends from Linky Stone Park in downtown Greenville through the Furman campus to just north of Travelers Rest, connects to Furman's pre-existing trail system, providing an easy flow of walkers both on and off Furman's campus," Spitler says. "Furman provides lots of purely internal operations to increase sustainability," says professor of religion David Rutledge, "but this is different in that it also accesses the community."

## Sustainability Summit in Cleveland

Last summer, 700 stakeholders attended a three-day summit in Cleveland, OH. "What we're excited about here is what the city is trying to do is to imagine a sustainable economy in 10 years and to do it from a systems perspective and a total stakeholder perspective," says Ronald Fry, chair of the organizational behavior department at Case Western Reserve University in Cleveland. The local government is not just focusing on sustainability practices that the city is responsible for, but is broadening its emphasis to ensure a sustainable economy. "The approach was to create a summit using a process created here at Case

Western called appreciative inquiry," Fry explains. Appreciative inquiry is a method for bringing out the best in people and organizations. Invitees to the summit included representatives of businesses, communities, the arts and culture, the media, nonprofits, students, and labor unions.

The city is undertaking "a strength-based process for creating shared images of the future, then creating self organized groups to pursue different change ideas to move toward the future," Fry explains. At the summit, attendees talked about best practices and innovative trends and imagined where they wanted to be by 2019. Now, more specific action plans are being developed. Another summit is planned for this coming summer, Fry reports. Interim meetings of stakeholders are also taking place, he explains.

## Community Partnerships in Grand Rapids, MI

In August 2005, the city of Grand Rapids, MI, along with Aquinas College in Grand Rapids, Grand Rapids Community College, the Grand Rapids Public Schools, and Grand Valley State University in Allendale, formed the greater Grand Rapids Community Sustainability Partnership (CSP) ([www.grpartners.org](http://www.grpartners.org)), reports Norman Christopher, director of sustainability at Grand Valley State University. The purpose of the partnership "is to help transform the greater Grand Rapids area and region through the use of sustainability guiding principles, planning, and reporting. Stakeholder members represent the public, private, and academic sectors and help provide leadership through multi-stakeholder collaboration, share experiences and sustainable development best practices, and mobilize local resources in the development of sustainable neighborhoods and communities," Christopher says.

"A few highlights for the city of Grand Rapids include the use of 20 percent renewable energy and having the 4th highest number of LEED buildings in the United States," Christopher maintains. Additional information about the city of Grand Rapids' progress on sustainability is available at [www.sustainablegr.com](http://www.sustainablegr.com). "In west Michigan, purchasing managers of CSP stakeholder organizations recently helped form and establish the West Michigan Sustainable Purchasing Consortium ([www.wmspc.org](http://www.wmspc.org)) where member organizations can now purchase locally available green and sustainable products," Christopher notes.

"Today there are four other CSPs in west Michigan that also embrace sustainability guiding principles in their communities on a best efforts basis," Christopher says. Once a quarter, key stakeholder members of the various CSPs meet to discuss regional sustainability leadership issues, he adds.





## Saving Energy in Houston

"Houston has drastically reduced our energy consumption for both our municipal facilities and the homes of our residents," reports Ana Shah, operations analyst for the city of Houston. "The city of Houston has made it a priority to diversify its energyporfoliobypurchasingandbuildingrenewable energy. Currently, the city receives 32 percent of energy from renewable wind sources, 50 megawatts," Shah says.

Houston completed the installation of 100 kilowatts solar powered systems on the George R. Brown Convention Center, Shah reports. "This installation is in addition to a total of 60 kilowatt PV solar installations on the city's Code Enforcement Building, City Hall Annex, Discover Green Park, and the Houston Zoo. The city is also in negotiations to develop a 10 megawatt utility scale solar farm. Beyond solar installations, the city is currently trying to promote solar installation throughout the city by developing outreach and education programs," Shah says.

The city has also applied for a Distributed Renewable Generation Grant from the state's Energy Conservation Office to install backup solar generator systems to provide emergency power to city facilities. "These systems will operate off-grid to assist disabled populations and power local fire stations and other critical city facilities in the event of natural disaster or other emergency," Shah explains.

In partnership with the Clinton Climate Initiative, Houston has undertaken an energy efficiency building retrofit program for its city-owned facilities. "In this program, the city finances energy conservation upgrades with the money saved on utility costs. The city is in the process of assessing 5.3 million square feet of city facilities, and has already implemented energy efficiency measures in three million square feet of city facilities. In the first year of the program, for three million square feet of facilities, the city has saved \$2.6 million in energy savings, and expects to save a total of \$39 million in energy savings over the 15 year life of the program," Shah says.

Houston is also planning to establish a residential sustainable energy loan program. "This would allow the city to provide low interest loans to residents to fund energy efficiency and renewable energy improvements on their properties," Shah says. "These loans are paid back as a line item on property tax bills."

## Improving Air Quality in Denver

"Air quality is probably our biggest environmental challenge, particularly ground-level ozone, a sum-

meritime air pollutant that occurs when heat cooks a mixture of oxygen and nitrogen oxide or volatile organic chemicals, which are emitted from household deodorants to exhaust fumes when you fill your gas tank," explains Andy Spielman, chairman of Colorado's Regional Air Quality Council. To reduce ozone levels, "we're working with a lot of our local governments," explains Spielman, who is also a partner in law firm Hogan & Hartson's environmental practice in Denver and Washington, DC. Local governments are retrofitting old diesel buses to burn cleaner fuels. They're changing the times they cut grass at city parks and changing their lawn mower fleets to electric ones, Spielman says. Fleets of bicycles are available for city employees to use to go to meetings during the day, and expansion of the fleet to allow the general public to access it is being considered.

## Working on Main Street in Clackamas County, OR

Clackamas County, OR, is implementing a broad action plan called Sustainable Clackamas County, developed by a citizen task force, reports Eben Polk, senior sustainability analyst at Clackamas County Office of Sustainability in Oregon City. Highlights of the county's efforts include promoting energy efficiency on main streets and local agriculture.

"Clackamas County is a model in Oregon for promoting economic development in designated Main Street business districts," Polk explains. "Our county is both rural and urban and has 14 'Main Streets' in several towns. We are working with the Energy Trust of Oregon, the county's Economic Development Department, and others to direct new grants to business and building owners in Main Street areas for energy efficiency retrofits that will reduce costs. This initiative dovetails with our commitment to vibrant centers of activity and to promote more sustainable land uses such as urban and rural downtown areas."

The county has supported local farmers by piloting a farm-share program for county employees to purchase shares of community supported agriculture that are delivered weekly to county offices. "Our employees loved getting fresh produce at work," Polk says. "Each of our farmers was supported for the season, on average, by around 20 employees. With approximately 2,000 employees, Clackamas County has the potential to be a major supporter of our local farmers."

## Collaborating in California

Last fall brought the launch of a free website ([www.greencitiescalifornia.org](http://www.greencitiescalifornia.org)), created by 10 local governments in California to share information about



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best practices on sustainability. As anyone who has tried to research municipal ordinances knows, simply locating them can be a hassle. "Our Best Practices website provides a central repository of information with easily downloadable policy documents and staff reports," says Green Cities California Steering Committee member David Assmann, who is also the acting director of the San Francisco Department of the Environment. "Now any jurisdiction can benefit from the hard work completed by other jurisdictions, and simply modify the policy to suit their locale." Information on San Francisco's mandatory compost and recycling law is accessible, as is material about Los Angeles's million trees initiative and Santa Monica's ban of nonrecyclable food service containers.

Green Cities California started in 2007 as an outgrowth of a meeting of sustainability directors in Colorado, Assmann recalls. Quite a few attendees were from California, so they decided to meet there as well. The result? Green Cities California. Membership is open to any city in California that meets three criteria: The municipality must have adopted the United Nations Urban Environmental Accords, have a sustainability plan, and agree to take a common action with other group members every six months, Assmann explains. Collective actions taken include commitments by all members to buy only 100 percent post-consumer recycled office paper for their cities and agreements not to buy disposable plastic bottles of water for city operations, Assmann says.

After working together, "it became clear that we were duplicating efforts," Assmann says. The group then decided to create a one-stop location where cities could obtain information to draft and adopt ordinances. "Generally, in California, every city council that adopts an ordinance requires a staff report as justification," Assmann explains. "That's a lot of work"—that no longer needs to be duplicated. Assmann says that ordinances and best practices from outside the state of California will be added to the website.

## Outreach in Irvine, CA

"The city of Irvine is the first city in Orange county to have a climate action plan," reports Chandra Krout, environmental programs administrator in the Community Development Department at the city of Irvine, CA. The city always had the traditional recycling, waste management, and water quality programs, responsibility for which resided in its public works department. After the city council realized the significance of the climate change problem and recognized that the city's own buildings are expensive to run, it started a new division in community development to deal with the built environment. The department then put together

an energy plan and audited the city's own facilities before developing its climate action plan. The city is also writing a green purchasing policy, a green cleaning policy, and a solid waste policy about "how much stuff we use and what we're doing with it when we're done," Krout says.

"We also want to show and share this experience with the private sector," Krout continues. Her department plans to invite key members of the building sector who own and manage office buildings in the area to obtain free training to learn how they can improve the operations of their buildings. "It's going to be a community-wide effort," Krout says.

## Stopping Waste in Alameda County, CA

The San Francisco Bay Area's StopWaste Partnership ([www.StopWastePartnership.org](http://www.StopWastePartnership.org)) is a public agency program designed to help businesses in Alameda County, CA, reduce solid waste and be more sustainable, reports Justin Lehrer, program manager at StopWaste.org in Oakland. "Practices we have helped implement range from recycling programs that save thousands of dollars to paper-use reduction campaigns, to waste prevention projects that rethink entire manufacturing processes," Lehrer says.

"We take a B2B approach," Lehrer notes. "We are a government agency, but we work hard to understand businesses' needs, tailor our services accordingly and support them on their terms. For example, we know how important cost considerations are, so we present suggestions in the context of a cost-benefit analysis. Since educating and motivating staff is critical when implementing changes, we offer outreach materials and on-site employee training. The companies we have worked with see us as partners. We also foster sustainability related communications and networking among the businesses we work with, through events and a LinkedIn group." Consulting services, grants, low-cost loans and resources like how-to guides and green vendor lists are available.

## Triple-C Waste Reduction

Among the initiatives undertaken by the Central Contra Costa Solid Waste Authority (CCCSWA) in Walnut Creek, CA, is a partnership with East Bay Municipal Utility District (EBMUD) and Allied Waste Services (AWS). Together, they are implementing a pilot program where service areas' food wastes from producers—restaurants, groceries, etc.—are source separated, separately collected, and delivered to EBMUD's waste water treatment plant for digestion (a process usually associated with municipal sewage), reports Paul Morsen, executive director of CCCSWA.





"This produces a usable soil amendment, much like finished compost, for beneficial use, and captures the methane produced from this anaerobic process to be burned in a co-generation facility producing electricity for EBMUD's plant operation. The excess power not needed for plant operation is put into the grid. The capture of methane makes this diversion of our commercial food wastes much 'greener' than composting, which is the usual strategy employed for this organic fraction of the waste stream. We believe this approach is the only one in the USA at this time." Full rollout of the pilot program was recently approved, Morsen reports.

CCCSWA also runs a cleanup and reuse program, which is effective, popular with customers, and diverts materials from landfills, Morsen says. "On a scheduled basis twice each year, residences can put all their unwanted items out on the curb for pickup by our franchised hauler, AWS. What is unusual is that just prior to the AWS pickup, another recycling company goes through the materials at the curb and picks up any materials that can be reused and makes them available to St. Vincent De Paul and the East Bay Depot for Creative Reuse, where they are sorted, repaired, or repurposed and made available to area residents that can use them. While putting out unwanted items at curbside for pickup by garbage companies is not unusual, the collected materials are usually landfilled. In our program, the materials that can be reused are diverted from taking up space in the landfill and are provided to people whose economic circumstances would prevent them from being able to purchase clothes, bicycles, small appliances, etc."

CCCSWA has also teamed with the Central Contra Costa Sanitary District and the city of Walnut Creek "to implement an unused and stale-dated pharmaceutical dropoff and collection pilot program to keep drugs and medications from the current disposal method, which is usually flushing or placing in the trash," Morsen says. Flushing or chucking disposal methods deleteriously affect the receiving waters and groundwaters, Morsen explains. CCCSWA's program "places dropoff containers in or near city police facilities where, under supervision of law enforcement, all prescription and nonprescription medications, including controlled substances, can be safely collected and picked up for disposal by a licensed destruction facility without potential harm to the environment."

## Counting Sheep in Santa Clara Valley

The Santa Clara Valley Transportation Authority (VTA) in San Jose, CA, is taking an alternative approach to lawn maintenance, reports Keelikolani Lee, a staff member of the authority. "Since March 2009, invasive weeds and fire-prone grasses have been controlled at VTA's Cerone Division ... in north San Jose by a herd of hungry sheep and goats. The four-legged mowers are an alternative to machinery that burns up fossil fuels and herbicides that can seep into groundwater. In addition, the animals are estimated to reduce costs by \$12,000 per year."

Mixed or multi-species grazing techniques are used, Lee explains. "For instance, goats are great for controlling weeds. While grazing, they snap off the flower head and consume the leaves of weeds. Since the flower is eliminated, the weed cannot seed or reproduce and without leaves, it cannot photosynthesize and build a root system," Lee says. Some side benefits of the alternative lawncare have been realized. "Not only do the goats and sheep maintain the lawns at the 10-acre bus maintenance yard ... they also provide entertainment and bring a moment of tranquility to the local urban community. VTA's Cerone Division has attracted families, photographers and other visitors who enjoy observing the ewes, lambs, and kids at lunch," Lee reports.

### To Learn More

Of necessity, only a sample of municipalities with interesting sustainability initiatives could be covered here. To learn more about what other cities are doing, try visiting the following websites:

#### **Sustainable Atlanta**

A 501(c)(3) that serves as a catalyst, consultant, and facilitator for sustainable progress in Atlanta as well as across the nation.  
[www.sustainableatlanta.org](http://www.sustainableatlanta.org)

#### **Partners for a Sustainable Washington County Community**

An intergovernmental agency fostering collaboration and best practices in Washington County, OR. [www.pswcc.org](http://www.pswcc.org)

#### **Sustainable Jersey**

A certification and incentive program for municipalities in the Garden State.  
[www.sustainablejersey.com](http://www.sustainablejersey.com)

The four-legged mowers are an alternative to machinery that burns up fossil fuels and herbicides that can seep into groundwater.

