RIVARD REPORT

The Greening of San Antonio

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By Bill Barker

San Antonio is emerging as one of the "greenest" large American cities. In addition to our already-famous reputation for hospitality, San Antonio is getting recognized for its advances in energy and water efficiencies, alternative transportation programs and solid waste management.

San Antonio is one of only 25 "Solar America Cities" selected by the U.S. Department of Energy (Houston and Austin are the others in Texas). The City's energy utility CPS Energy has the largest solar power capacity of any city in Texas, including the largest single solar facility (Blue Wing) in the state. The Tessman Road landfill facility has the nation's first "solar cap" – a landfill cover with solar panels.

The 10 kW solar array at Lake/Flato. Photo courtesy of Brantley Hightower.

CPS Energy is keeping costs low as well as reducing carbon and criteria pollutant emissions. In addition to the solar program, a few other examples of CPS Energy's work include:

- The largest wind power portfolio of any municipal utility in the U.S.;
- The first public utility to purchase power (200 megawatts) from the Texas Clean Energy Project with 99% carbon dioxide capture;
- Significant progress toward reducing projected electricity consumption by 771 megawatts – the equivalent of a small power plant – by 2020; and
- Generating 9.6 megawatts of electric power from landfill gas.

Complementing CPS Energy's conservation and renewable energy efforts are a variety of programs to reduce the energy consumption of buildings and facilities.

The City Council has adopted a policy that all new City buildings should achieve at least a Silver rating in the Leadership in Energy and Environmental Design (LEED) program of the U.S. Green Building Council. The Council also adopted a City building code revision in 2009 that included a goal of "net zero" carbon buildings by 2030. The City may well be the first in Texas to institutionalize a program of energy and water efficiency improvements in City facilities which are paid for from a fund based on utility savings.

Incidentally, the San Antonio region has 147 buildings, totaling approximately twenty million square feet, which are either certified or registered under the LEED rating system. The 1937 Hipolito F. Garcia Federal Building and U.S. Courthouse renovation project is the first LEED Platinum Certification for any General Service Administration building. This Beaux-Arts building on Alamo Plaza is also an architectural gem.

An aerial view of the Hipolito F. Garcia Federal Building and U.S. Courthouse. Its LEED Platinum features include a green (landscaped) roof, 50 KW solar array, and energy efficient AC mechanisms. Photo by Mark Menjivar, courtesy of Ford, Powell & Carson architects.

In 2008, Alamo Colleges signed the American College and University Presidents Climate Commitment to build all new construction to LEED Silver standards, adopt an Energy Star purchasing policy, encourage the use of public transportation, purchase at least 15% of their electricity from renewable sources, and adopt measures to reduce waste.

Reaching beyond the walls of the City government, the City has "weatherized" 3,320 low-income homes which now save an average of $600 per year in utilities. The City won a competitive grant for the Better Buildings program of the U.S. Department of Energy which is currently investing $10 million to make over 2,000 homes and businesses in San Antonio more energy efficient.

The local, award-winning Build San Antonio Green program has taken off with nearly 1,800 projects certified to date. Many of these buildings are shaded through tree programs that have planted 5,700 trees which can reduce surrounding air temperatures by as much as 9° F.

More energy efficient lighting is one of the most cost-effective ways to reduce energy use. The City's "City Lights" program recently retrofitted the lighting in 843 small businesses using U.S. Department of Energy stimulus funds.

Implementing Mayor Castro's clean energy economy strategy has resulted in the CPS Energy contract with Greenstar to provide 25,000 LED street lights converted as just the first phase of a contract that also moves the firm's headquarters and manufacturing to San Antonio and provides $10 for every street light to a locally-focused education fund. The City is currently upgrading 3,200 lighting fixtures on the River Walk and downtown parks to cut energy use by 55%. Part of this upgrade includes the use of highly efficient induction lighting technology.

SAWS' purple recycled water pipes. Courtesy photo.

San Antonio Water System (SAWS), has gained an international reputation in water conservation and has accommodated a 67% increase in population over the last 25 years without an increase in overall water consumption. SAWS has built the nation's largest (110 miles) direct recycled water delivery system in the nation. This water is used by golf courses, parks, commercial and industrial customers, as well as San Antonio's famous River Walk.

San Antonio is the only U.S. city in which all three products of wastewater treatment (gas, solids and water) are commercially sold or recycled. SAWS has built the nation's second largest Aquifer Storage and Recovery Facility.

As part of water stewardship, the largest urban river restoration in the U.S. has been completed with the eight-mile Mission Reach Ecosystem Restoration and Recreation. This is truly a "world class" project.

In the transportation arena, San Antonio is making progress in alternative forms of transportation and in alternative fuels. The City encouraged local taxi firms to use hybrid vehicles in 2007, and the fleet has been growing ever since. San Antonio is one of the few cities with a program to permit free parking at metered spaces for hybrid and electric cars.

We're one of three Texas cities with an all-electric 11,500 pound gross vehicle weight delivery truck as part of a State demonstration program. The City, CPS Energy and private businesses have installed a network of over 130 electric vehicle charging stations, many with multiple chargers.

Because of VIA Metropolitan Transit's foresight, no other Texas city, and only about ten U.S. cities have 100% battery-powered buses. The San Antonio Missions is the first National Park with an electric vehicle charger for public use.

The City has the State's largest fleet of compressed natural gas (CNG) powered refuse trucks. VIA's new Primo Bus Rapid Transit (BRT) line also uses CNG for fuel.

One of three Proterra busses in VIA's fleet, 100% electric. Courtesy photo.

An emphasis on alternative transportation modes by the City has resulted in the State's largest bike sharing system B-Cycle with 35 stations and more than a dozen more in the next few months. The City has also partnered with Hertz to create a car-share program with an all-electric Nissan Leaf in the fleet. Hertz is expanding its 24/7 technology to retail locations in San Antonio that include kiosks for instantly joining the program.

The various power generation, energy and water conservation, tree planting, center city development incentives, and alternative transportation programs have permitted San Antonio to be the largest U.S. metropolitan area that meets federal ozone standards.

With a long-term goal of zero waste, the City currently has a 2025 goal of 60% recycling. San Antonio was the first city in Texas to extend recycling to multifamily residences and to offer curbside organics (food scraps, grass clippings, etc.) recycling by subscription. Separate brush and bulk pickups increased brush recycling from 19% to 28%. The City uses "single stream" recycling to encourage greater participation by residents.

Most people are surprised to learn about all the activity making San Antonio a more sustainable city. Much remains to be done, but it looks like we are on our way.

Bill Barker, AICP is a Senior Management Analyst in the City of San Antonio's Office of Sustainability. Bill joined the City in May of 2009 after serving as the Executive Director of Solar San Antonio. He came to San Antonio in 1997 to be the Director of Planning for VIA Metropolitan Transit. He now serves on the board of imagineSanAntonio, the Hill Country Alliance advisory board, the Hemisfair Sustainability Task Force, VIA's Long Range Citizens Advisory Council, the Quality of Life Workgroup with Centro Partnership, UTSA's Urban and Regional Planning Advisory Council, as well as the Institute of Transportation Engineers' Sustainability Task Force. Bill has a bachelor's degree in physics and a master's degree in urban affairs.