

City of Dallas Environmental Initiatives



Protecting the environment is one of the most important mandates given to the City of Dallas. As a provider of services to the 1.2 million residents of Dallas, the organization's focus is to meet those needs in an efficient and effective manner. Meeting that obligation, the City has become a major landowner, employer, building manager, fleet operator, utility owner and operator, and consumer of goods and services and can therefore lead the charge to promote significant improvements to environmental quality in North Texas through smart planning, coordination and careful application of resources.

As an organization, the City's Environmental Policy works to reduce operational impacts to the environment by focusing on the conservation of resources, compliance with policy and regulation, and continual improvement of processes. Through GreenDallas.net and the Annual Progress Report, particularly those sections on the Metropolitan Environment, the City provides the baseline from which to measure future performance, evaluate areas of concern, plan for future growth and publicize successes.

This effort is not new to Dallas. Going as far back as the early 1990s when air quality became a topic of concern, the City of Dallas began making changes to address environmental issues. Reacting to

problems as they presented themselves was part of the standard business model of the day and it left the City in a position of having to respond to challenges rather than planning ahead to strategically avoid them. In response, several long-range plans were developed to help guide the development of our community; these plans have been very effective in establishing expectations and growing our city. Then, in the early 2000s, the City began designing and implementing an Environmental Management System (EMS) to help reduce its internal environmental impact. The EMS was designed, implemented and certified to ISO 14001:2004, an internationally recognized standard. Using the ISO standard gives the City a consistent, internationally recognized framework for establishing expectations that manage environmental issues and improve operations.

In June 2008, after initial certification, Dallas became the first city in the nation to successfully implement a City-wide EMS across all major departments. In 2011, after multiple surveillance audits, third-party auditors again reviewed the EMS and the City was recertified to the ISO 14001:2004 standard for another three years.

This was a great beginning for a green future. Today, City staff are working to build a sustainable future for Dallas making sure that we are growing our economy, protecting our environment and ensuring everyone has access to all that makes Dallas the place we call home.

And the work continues.

Cooperative Programs

The City, in partnership with surrounding municipalities, the U.S. Environmental Protection Agency, the North Central Texas Council of Governments and a range of non-profit organizations, continues to promote environmental stewardship, awareness and long-range sustainability through voluntary programs, including:

- Energy efficiency and water conservation kits provided to Dallas residents
- Solar panels that produce 3,252 kWh annually at the Trinity River Audubon Center (TRAC). The project includes a display showing real time kW savings and associated emissions savings at TRAC
- Leadership in Energy Efficiency and Design (LEED) Silver homes completed with Habitat for Humanity at Frazier Courts

Earth Hour

Also in 2011, and for the third straight year, Dallas participated in EarthHour by turning off architectural and feature lighting at numerous City facilities and private sector buildings, including the downtown skyline signature buildings. This effort, sponsored by the World Wildlife Fund, is aimed at raising awareness about excess energy consumption.

Air Quality and Energy Efficiency

The City of Dallas has renewed its commitment to purchase energy from renewable sources, like wind, and has taken steps to use the energy more efficiently. This energy is purchased in the form of Renewable Energy Credits in an amount equivalent to approximately 40 percent of the City's annual usage.

The City also continues to explore new technologies that could reduce nitrogen oxide and other emissions which directly contribute to the formation of ozone or other pollutants. The Dallas City Marshal's Office also works to curb pollution by enforcing the Texas Clean Air Act. Violations include outdoor burning of insulation material in illegal metal scrapping operations and burning of rubbish.

The City has also been the beneficiary of multiple electric-vehicle charging stations. These stations will help promote the use of electric vehicles by providing drivers the confidence that they can venture from home and still be close to a charging station if their daily routine requires it.

Climate Change

To accomplish this, the City maintains a greenhouse gas emission inventory. The initial greenhouse gas inventory, released in 2008-2009, separated emissions associated with City operations from those associated with community-wide emissions. The results at that time show that municipal operations, at 656,816 metric tons per year, account for approximately 3.5 percent of the entire carbon footprint in Dallas at 18,265,713 metric tons per year. In 2011, work was begun on the next greenhouse gas inventory for City and communitywide emissions for the baseline year 2010. The Office of Environmental Quality is coordinating this effort and will release the report in early 2012.

In 2006, the Mayor of Dallas signed the U.S. Mayors Climate Change Agreement, a commitment by mayors to reduce greenhouse gas emissions in their own cities and communities to seven percent below 1990 levels by 2012. The City of Dallas is on track to meet this commitment, largely due to the City's purchase of 40 percent of its energy from renewable sources, resulting in a 225,000 ton per year reduction of carbon dioxide, the principal greenhouse gas pollutant (source: CDM report: City of Dallas Greenhouse Gas Reductions).

Overall objectives to address climate change caused by human activity

- Reduce greenhouse gas emission levels to meet the U.S. Mayor's Climate Protection Agreement by 2012
- Implement significant reduction strategies for energy consumption and greenhouse gas emissions
- Reduce daily vehicle miles traveled through promotion of alternative commute solutions
- Partner with other levels of government, businesses, non-profits and residents

Green Energy

Approximately 40 percent or nearly 303 M kWh of energy is provided by green energy providers. In 2008, the City was recognized by the EPA for leading municipal green power purchases. In 2011, the City remains among the top purchasers of green energy and is ranked No. 2 on the EPA's "Top 20 Local Government Partner List" and No. 9 on the "National Top 50 Partner List" which includes government agencies, Fortune 500 companies and more. In 2010, the City Council authorized the continued purchase of alternative energy for another three years, effectively keeping Dallas as one of the largest purchasers of renewable power in the nation and a prime selection for relocation.

Converting Landfill Gas to Energy

Sanitation Services has reduced landfill greenhouse gas emissions by capturing Landfill Gas (LFG) at McCommas Bluff. The LFG (methane and carbon dioxide) is used to produce a pipeline quality natural gas, which is distributed through Atmos pipelines to outside users. The system removes tons of potential carbon dioxide emission, and captures methane, which has 20 to 25 times the global warming potential of CO₂.

Sanitation Services' Disposal Division is constructing landfill cells with infrastructure to conduct Enhanced Leachate Recirculation (ELR). At a typical landfill, LFG generation can take 40 to 50 years or longer to realize the full production potential. In ELR wet cell landfills, accelerated organic decomposition allows for faster capture and resale of methane and produces results in as little as 10 years. This process can extend the life of the landfill indefinitely and save significantly on monitoring expenses.

Converting Wastewater Biogas into Electricity

In January 2011, Dallas Water Utilities began operating a Cogeneration Facility to burn methane produced during the wastewater treatment process for the production of electricity. The facility is expected to produce approximately 30 million kWh/yr of renewable energy for use at the wastewater plant, thereby reducing the City's grid derived electricity needs by four percent. This project will also reduce carbon dioxide emissions by approximately 40,000 tons/yr by offsetting power produced by coal power plants.

Dallas Water Utilities kicked off the design of a grease digestion project at the Southside Wastewater Treatment Plant. The project will look at the collection and digestion of restaurant grease trap waste to enhance biogas production and electricity generation at the Cogeneration Facility. The project has the potential to increase the Cogeneration Facility's renewable energy output by 50 percent and further reduce the City's carbon footprint.

Green Purchasing and Operations

As of 2011, approximately 12 percent of the City's total chemical purchases are classified as green products. The City's Green Procurement Committee continues to evaluate the use of hazardous chemical products with the intent of increasing the use of less hazardous green products. This activity supports the City's Green Procurement Policy adopted in 2004.

Lighting Retrofits

Since 2007, light bulbs and lamps in City buildings have been replaced with more efficient bulbs. The City continues to implement lighting upgrades in police, fire stations, recreation centers and libraries to continue reducing costs. In FY 2010-11, contractors removed older, high voltage lighting in the City Hall garage to energy-efficient LED fixtures. The fixtures, which adjust their lighting based on motion, are expected to have a 30 year useful life, and will result in substantial savings.

Energy Performance Contracting

Energy Performance Contracting results in the installation of more energy efficient equipment and improved building operations in existing City facilities. In addition to dollar savings on utilities, building users experience better lighting, improved air quality and more comfortable room temperatures and climates. Upgrades are paid for from future cost savings over a specified contract term.

Reducing Vehicle Emissions

The City's fleet remains one of the largest alternative fueled fleets in Texas and the nation with nearly 35 percent running on biodiesel or natural gas or a gas/electric hybrid. In FY 2010-11, the City continued to purchase biodiesel which is blended with diesel fuel. The mixture reduces emissions by about 16 percent per gallon compared with regular petroleum diesel. Biodiesel represents 12 percent of the City's total fuel purchases. The City also continued to purchase compressed natural gas (CNG) as another alternative fuel source representing 8.6 percent of the City's total fuel purchases.

The City introduced 25 zero-emission electric vehicles, 10 CNG dump trucks, 7 CNG compact sedans and 2 hybrid vehicles. The CNG vehicle engines produce 97 percent less carbon monoxide (CO) and 25 percent less carbon dioxide (CO₂) emissions compared with gasoline-powered vehicles. The hybrid cars generally produce 80 percent less harmful pollutants and greenhouse gases as compared to gasoline vehicles.

Reducing Idling Times for Heavy Vehicles

The Dallas City Council passed an ordinance prohibiting vehicle operations with a gross weight over 14,000 pounds with engines idling more than five minutes. The ordinance went into effect during Ozone Season (April 1 – October 31) in 2008 and is enforced by the Dallas City Marshal's Office. A total of 113 citations were issued during the 2008 Ozone Season, 159 during 2009, 209 in 2010, and 215 citations have been issued to date in 2011. Additionally, City staff is

required to shut down propulsion engines on City equipment, regardless of weight, if they are not essential to power the equipment during Ozone Season.

Encouraging City Employees to Reduce Emissions and to Drive Less

Dallas implements a Citywide Ozone Action Plan during each ozone season (April-October). Elements of the plan include flex schedules and restrictions on vehicle and equipment use. To reduce the number of City employees who commute to work alone, the City uses GreenRide, a Web based commuter matching system, to help people find carpools and other alternative forms of transportation. GreenRide tabulates emission reductions when employees report their commutes via carpool, mass-transit, walking, riding bicycles, driving hybrid or alternative-fueled vehicles or if they work a compressed work schedule. For the 2011 Ozone Season, City employees carpooled or alternatively commuted a total of 3,239,194 miles, saving 4.6 tons VOC, 2.6 tons NOx, and 1,383 tons CO2 from being released into the atmosphere.

Water Quality and Conservation

The City is committed to protecting the safety of its water and ensuring long-term sustainability of quality and supply. Sustainable management of our shared water resources is the driving force behind the City's initiatives to conserve water and reuse wastewater.

Five-Year Strategic Plan for Water Conservation

The 2010 Water Conservation Strategic Plan Update calls for reductions in gallons per capita by an average 1.5 percent per year through 2015. This goal will be met in part by a greater emphasis on industrial, commercial and institutional programming. Dallas' conservation efforts also include universal meter testing, leak detection, main repair, plumbing fixture replacements, education and outreach initiatives, and a water-wise landscape program. In FY 2010-11, the City launched a Hospitality Industry Program to encourage increased water use efficiency among its hotels, motels and restaurants. Thirty-seven hotels have signed up to date with a projected water savings of 57 million gallons annually.

Efforts to conserve water within the City have resulted in a 13 percent decrease in annual usage since FY 2001-02 when the City adopted stricter conservation measures. From FY 2001-02 through FY 2010-11, ongoing water conservation efforts and implementation of the Strategic Plan have helped Dallas save approximately 146 billion gallons of water.

Sanitary Sewer Overflow Initiative

Dallas Water Utilities entered into a voluntary Sanitary Sewer Overflow (SSO) Initiative Agreement with the Texas Commission on Environmental Quality (TCEQ) in order to reduce grease related SSOs. The 10-year agreement/program, which began in 2007 and is administered by TCEQ, requires DWU to meet annual infrastructure, education and proactive maintenance goals. Under the SSOI, the Grease Abatement Program, called Cease the Grease is required to attend 12 outreach events per year. In FY 2010-11, Cease the Grease attended 272 outreach events to educate the general public on proper disposal methods. In addition, the program is required to inspect 1,000 grease-generating facilities to help curb improper handling at facilities that generate large amounts of grease. In FY 2010-11, 1,691 grease-generating facilities were inspected.

A revamped Cease the Grease Web site (www.ceasethegrease.org) was launched and social media was expanded to include a Facebook page. In less than one year, DWU's Grease Abatement Program has given Dallas County Schools (DCS) over 5,000 gallons of used cooking oil that DCS converts into biodiesel for school buses in North Texas. One factor in the increased amount of used cooking oil collected is the addition of more recycling centers around Dallas bringing the total to 19. More information is available online or at www.facebook.com/CeaseTheGrease.

Clean Water Act/Texas Water Code Compliance

The Stormwater Management Section actively works to promote compliance with the Clean Water Act and the Texas Water Code. Activities include assessing local water quality by obtaining 3,300 water quality samples, performing 1,400 outfall inspections and participating in the North Central Texas Council of Governments' regional water quality monitoring program. Going the extra step, the team uses trip planning and paperless field documentation to save time, paper and resources.

The Stormwater Outreach team promotes stormwater pollution prevention by providing construction and industrial site consultations and training. Stormwater management also works with Dallas schools to develop partnerships for

environmental education and to promote individual and group volunteer opportunities like the Storm Drain Marking and Texas Stream Team monitoring programs.

Managing Disposal and Reducing Waste Yields Benefits Landfill and Waste Diversion

In Dallas, Sanitation Services department programs such as residential recycling, education, landfill reuse, gas production, and other waste diversion and reduction programs are decreasing the volume of waste added to McCommas Bluff Landfill each year. The value of this savings in FY 2010-11 was \$1.3M, 10 percent more than in FY 2009-10.

Through the advancement of biotechnology that aims to extend the life of the landfill by 20 to 30 percent, organic materials are broken down at an accelerated rate to yield an increase in the production of methane gas which is captured and resold for energy production.

Together, the items diverted from the landfill and those collected by the City at resident homes, during biannual Recycling Roundups, and in the City's other waste diversion programs saved 10.5 percent more landfill space than was saved in the previous fiscal year.

E-Cycling Programs

With the passing of SB 329, all manufacturers that sell computer and television equipment in Texas are now required to provide free and convenient recycling to consumers. The City of Dallas works closely with manufacturers like Samsung, Panasonic, and Sharp to responsibly collect and recycle end-of-life electronic equipment. Taking the environmental commitment even further, the City selected an electronics recycler that is certified to both the Responsible Recycling Practices (R2) and the e-Stewards® standards.

Planning for the Future

The City continues to utilize its long-range strategic plans, including "forwardDallas!" a comprehensive land use plan with a focus on sustainability, including air and water quality, to help guide growth. Other plans enhance walking and biking, conserve and protect our water resources, complement the Environmental Management System, help realize the Trinity River Balanced Vision Plan and help Dallas remain prepared for the future and remain a global leader economically, socially, and environmentally.

Green Buildings Infrastructure and Land Management

With a current population of 1.2 million, Dallas is expected to double its population by the year 2020. The City has been working closely with developers, communities, and individuals to ensure that new development occurs in a planned and orderly manner.

Building Green

The City's sustainable building target is to achieve at least a Silver LEED rating in all City construction projects of 10,000 square feet or more for municipal buildings. In FY 2010-11, the Dallas Convention Center was awarded the Association of Energy Engineers National Project of the Year for 2011 by reducing its energy consumption. The facility is also the first LEED EBOM Silver Certified Convention Center.

Dallas is among the first major cities in the U.S. to adopt a comprehensive green building standard for all residential and commercial construction. In April 2008, the City Council adopted a green building ordinance for new construction with the goal of improving air quality, reducing water use and improving transportation and land use.

Protecting the Urban Forest

The Urban Forest Advisory Committee continues to advise officials on tree and forest related issues and educate the public about the importance of trees. The Committee helped establish a City Forester position to manage Dallas' urban forest, created a Citizen Forester program for residents, implemented the City's first fall foliage tree planting and developed an adopt-a-median program to plant trees in street medians. The Committee will promote changes to the Dallas' tree ordinance that encourage tree preservation and promote sustainable construction practices.

The City of Dallas, through its efforts in the Great Trinity Forest, has the largest urban hardwood forest in the United States. At golf courses and parks, the City continues planting trees which create shade and lower ambient temperatures through transpiration. The additional trees also help absorb CO₂, a greenhouse gas.

Reversing Urban Heat Island

Urban Heat Islands increase temperatures and are created by the construction of heat retaining structures such as roads, dark colored roofs and clear-cut areas. Increasing green space and flat-surface reflectivity helps offset the Heat Island effect.

The Main Street Garden, opened in 2010, the Woodall Rodgers Park and Belo Garden all will help bring cooler temperatures to the urban core. All three parks are part of the 2004 Downtown Parks Master Plan.

Dallas CityDesign Studio

The Dallas CityDesign Studio is a public/private partnership between the City of Dallas and the Trinity Trust Foundation that leverages a \$2 million gift from Deedie and Rusty Rose over a five-year period. The Studio's primary charge is to elevate the design consciousness around the Trinity River Corridor Project and throughout the City of Dallas.

Park and Recreation Department

Parks, green spaces and trails play a key role in preserving water and air quality, reducing congestion and protecting wildlife in Dallas. Educating employees about the City's conservation efforts was part of the department's environmental efforts which conducted 99 programs totaling 1,875 annual training hours. The training led to a four percent reduction in non-conformances, 81 environmental assessments and 22 emergency drills.

It's My Park Day

Citizens rolled up their sleeves in March and in September to help make city parks cleaner and greener for the first-ever It's My Park Day. As a citywide community service initiative, It's My Park Day brought 900 families, friends, homeowners' associations, corporations, and civic groups to their favorite neighborhood parks to participate in beautification, recycling and clean-up projects that included litter and debris pickup, graffiti removal, weeding, mulching, and plantings. The idea to host It's My Park Day came about after park officials looked at how other cities mobilized volunteers to address specific park needs and create a sense of community among residents.

The Park Department launched its groundbreaking public education campaign as part of its efforts to address long-term safety goals along the more than 100 miles of the City's expansive trail system. The new Dallas Trail Safety Campaign, "Happy Trails," creates greater awareness of hike and bike trails and encourages sensitivity to proper trail etiquette. The integrated campaign features new trail signs, a new Web site - www.happytrailsdallas.com – and links on Facebook and Twitter, private-label apparel and Public Service Announcements (PSAs) in English and Spanish. The campaign asks users to take responsibility for trail etiquette and safety to ensure that Dallas hike and bike trails will be "Happy Trails." The PSAs spotlight well-known community leaders, entertainers and professional athletes dramatizing appropriate trail etiquette.

Dallas trail enthusiasts welcomed the completion of the Cottonwood Creek Trail, Coombs Creek Trail additions and renovations to the Bachman Lake Loop Trail. In an unprecedented partnership with Oncor, the Park Department developed a standard form for licensing Oncor property for City hike and bike trails. This agreement allows the Park Department to construct and maintain trails on licensed land and other properties.

Forestry and Maintenance

Forestry staff kept Dallas growing by planting 2,015 trees on parks and other city properties, joining with civic and corporate groups such as NFL and the Texas Trees Foundation in the "Super Grow" tree planting at Nash-Davis Park and with the Dallas Mavericks "Trees for Threes" planting at Lake Cliff and White Rock Lake/T & P Hill parks. Sharing their expertise for tree care, forestry staff provided 35 training sessions to City employees and citizen groups. The ever-popular Citizen Foresters program trained 21 new Foresters on basic tree skills. To date, 68 Citizen Foresters have completed the hands-on training and are advocates for the Dallas' urban forests.

2011 Dallas Bike Plan

The 2011 Dallas Bike Plan was unanimously adopted by City Council on June 8, 2011 supporting the use of bicycles and other forms of alternative transportation, and with subsequent benefits to public health, air quality, and overall quality of life. The Bike Plan update contains network and facility recommendations for implementation of the Dallas Bikeway System. This 1,296-mile network includes 456 miles of off-street multi-use pathways, 115 miles of which are already built; and 840 miles of on-street facilities including shared lane markings, bike lanes, buffered bike lanes and cycle tracks. The Plan's early implementation projects, representing approximately 60 miles of bicycle facilities, include City bond-funded roadway reconstruction projects and resurfacing projects in design and/or construction phases. Programs to promote bicycle use and to foster safety awareness and education are also called for in the Plan, including the implementation of an official "bike share" system and holding regular special events.

GreenDallas

GreenDallas continues to serve as the City's information portal for all matters environmental. This site serves to complement the environmental sections of other City Web sites by directing Web traffic to those sites from one large platform. In 2011, GreenDallas.net got a new look with easier to navigate pages and fresh content. The Office of Environmental Quality, as part of the Outreach effort for the Environmental Management System, updates GreenDallas regularly. Visitors can find information on water and air quality, energy, green building, land use, recycling and composting, transportation, green buildings and recycling. From January, when the site was re-launched, to September, GreenDallas.net saw a 116 percent increase in monthly hits. Residents of Dallas may request speakers for their events on the GreenDallas Web site, and may download any information including the monthly newsletter, The Green Times.

Municipal Setting Designations

The Municipal Setting Designation (MSD) is a land use tool which promotes redevelopment of contaminated properties but restricts certain land uses to protect human health and the environment. If there is a public water supply to the property and all properties within a half-mile radius, an MSD ordinance can be requested to prohibit the use of the groundwater as drinking water at that property, prohibiting installation of water wells. This prohibition of groundwater use in the MSD then allows otherwise underutilized land to be used and redeveloped.