

# Clean Air Excellence Award Recipients: Year 2011

## Contents: Award Categories

Clean Air Technology .....	1
Community Action .....	1
Education/Outreach.....	3
Regulatory/Policy Innovations.....	3
Transportation Efficiency Innovations.....	4
Gregg Cooke Visionary Program .....	5

## Clean Air Technology

### **Diversey Incorporated Renew Air Scrubber Technology**

*Diversey Incorporated*

ReNew Air Scrubber technology is a pollution control program designed to reduce emissions of unwanted volatile organic compounds from rendering plants. It is an enzymatic technology that works in the rendering facility's existing wet air scrubber systems, but replaces harsher air scrubber treatments. Conventional systems are based on oxidizers such as sodium hypochlorite, chlorine dioxide, chlorine gas, and ozone, frequently used in combination with strong mineral acids such as sulfuric acid and or hydrochloric acid.

In addition to reducing worker exposure to hazardous chemicals, ReNew uses significantly less water than other conventional treatments, requires no off-line operations because it does not produce EPA-regulated pollutants in effluent water and delivers air quality that is equal to or better than conventional systems. These product advantages provide facility operators with a lower total cost in use than conventional treatments while reducing the facility's environmental impact.

Since its commercialization in late 2007, ReNew Air Scrubber has resulted in the conservation of more than 54.5 million gallons of water at U.S. rendering facilities and has removed over 5 million pounds of oxidizers and mineral acids from commerce, with subsequent reductions in freight-related carbon dioxide emissions.

## Community Action

### **Frazier Courtyard Homes**

*Dallas Area Habitat for Humanity*

As part of the Fair Park Partnership with Inner-city Community Development Corporation, Dallas Area Habitat for Humanity worked in conjunction with the Dallas Housing Authority, the City of Dallas, the Dallas Sustainable Skyline Initiative, and many other public and private partners to redevelop 55 acres of public housing into a sustainable, healthy community. Forty affordable single-family homes now stand where there

was once a crime-ridden, decayed public housing project. These forty homes, all certified as LEED™ Silver and purchased by low-income homeowners, are part of a larger effort to build sustainable neighborhoods that improve the community's quality of life.

These collaborative and visionary efforts paid off. A Texas A&M University study found that the average energy savings of a three-bedroom Habitat home in Frazier Courtyards is 10 –12 percent and from 21 –22 percent for two-bedroom homes, when compared to the standard building code in effect at the time of construction. This translates into a savings of approximately 1 ton of carbon dioxide air pollution per year, per home.

Because of its experience at Frazier Courtyard Homes, since 2010, Dallas Habitat has built all of its new homes to LEED standards. As the largest builder of single-family homes in the City of Dallas, and the largest builder of LEED-certified homes in Dallas, the commitment to green building drastically improves the air quality not only for homeowners, but for the surrounding community as well.

### **Electric Vehicle Ecosystem Pilot Project**

*City and County of Greenville, South Carolina*

The Electric Vehicle (EV) Ecosystem Pilot Project was created to provide area companies and residents with access to electric vehicles and charging stations throughout the region. With the help of Enterprise Rental Car, Duke Energy, General Electric, and other partners, the City and County of Greenville were able to implement the EV Ecosystem Program. The program also seeks to improve the quality of life and air quality by cutting fuel use and tailpipe emissions. The goal is being accomplished by combining two models to access EVs: public pods and dedicated use. There are two public pods, one at the GSP Airport and another one in Downtown Greenville. Both pods have EVs available for rent. At the airport, people may rent EVs from Enterprise through its regular car rental program. Enterprise launched its car sharing WeCar Program with EVs, which allows people to use alternative fuel vehicles while reducing emissions and the number of vehicles on the road. Members of the WeCar Program pay for the hours they use the EVs (the rate includes all maintenance and insurance). There are WeCar EVs conveniently available at a public parking garage just across the GreenLink and Greyhound bus terminal in Downtown Greenville. The dedicated use model allows private businesses to have EVs as company vehicles thru a six-month lease with Enterprise. Companies have an option to extend the lease on a monthly basis or leasing them longer. There are more than 45 charging stations for public and private use in the Greenville area. The program has made Greenville one of the most EV friendly areas in the world.

### **Free Zoo & Trolley Too!**

*Rhode Island Public Transit Authority*

The Rhode Island Public Transit Authority (RIPTA) offered Rhode Islanders a free and environmentally-friendly way to travel to the local Roger Williams Park Zoo. From May to September 2011, the "Free Zoo and Trolley Too!" program offered passengers a complimentary bus ride on the Route 6 (Prairie/R. W. Zoo) line every first Saturday of the month to the Roger Williams Park Zoo in Providence, RI on a new hybrid/diesel red trolley. These new vehicles run quieter and cleaner and are expected to help RIPTA save approximately 20 percent on fuel costs. This partnership with the Roger Williams Park Zoo encouraged city residents to leave their cars at home and try transit at no cost. Astonishingly, ridership doubled on the first day of this promotion. Other forms of encouragement were flyers that were distributed throughout the local Providence school system and

at local community events. In addition to online advertising, bus shelters ads, in both English and Spanish, were utilized to spread the message. "Free Zoo and Trolley Too!" is an innovative program which provided passengers with a positive transit experience—all while reducing air pollution.

## Education/Outreach

### **Conservation and Climate Change Challenge for Schools**

*Broward County Pollution Prevention, Remediation, and Air Quality Division*

Broward County's Conservation and Climate Change Challenge (C3 Challenge) is an educational competition intended to engage students, teachers, school administrators, staff, and parents in practical strategies to reduce greenhouse gas emissions and improve air quality. The main goal of the C3 Challenge is to facilitate educators and students in engaging their parents, peers, and community to reduce their carbon footprint and improve air quality. The project includes the C3 Toolkit which is a collection of hands on classroom activities for grades K–12 designed to promote the project in the classroom, at home and in the community. The activities provide teachers with real-life examples that can be implemented in their classrooms and used to foster education and awareness of climate change and air quality. Aside from the school environment, the kit also includes a take home pledge which prompts students and parents to commit to actions they can implement in their community. The Broward County Air Quality Program and Board of County Commissioners teamed up with multiple organizations to make the C3 Challenge successful – most notably Broward County Public Schools, Broward County Solid Waste and Recycling Services, Broward County Naturescape, Gold Coast Clean Cities Coalition, and the Broward County MPO. In 2009 and 2010, 1,158 teachers and 116,705 students from 80 schools participated in the C3 Challenge. The actions pledged during this campaign reduced an estimated 19 million pounds of carbon dioxide. The C3 Challenge has now become an annual competition amongst the Broward County public, private, and charter schools with three schools receiving awards each year (elementary, middle, and high).

### **Tribal Air Quality Education and Outreach on "InnerTribal Beat"**

*Spokane Tribal Air Quality Program and KYRS Thin Air Community Radio*

InnerTribal Beat is the only locally produced Native radio show in Spokane, Washington. The radio show is a successful media venue through which a wider number of community members can access information about the importance of clean air, best practices, and community resources. The weekly radio show highlights stories and interviews with Tribal Partners about air quality and other environmental issues in Tribal communities, showcasing a variety of Tribal music. Jeff Ferguson, one of the hosts of InnerTribal Beat, says the point of the show is to "bridge the gap between Natives and non-Natives, rural and urban Natives and the youth and the elders." KYRS, a community radio station airing the show, currently covers a listening area of some 300,000 people; a success that has resulted from a full power license and signal upgrade in November 2011. InnerTribal Beat can now reach additional communities and tribal members living and working on Indian reservations and both urban and rural areas.

## Regulatory/Policy Innovations

## **Rapid Response Notification System**

*Maricopa County Air Quality Department*

Maricopa County's Rapid Response Notification System is designed to provide real-time air monitoring information and an immediate notification of and response to a pollution problem within the county. The notification system was developed to provide an alert the moment Maricopa County air monitoring sites detected elevated levels of PM-10 pollution. The first step in this process was to outfit the department's air monitoring sites with updated equipment. The technology would allow for sites to report real-time monitoring data. Thirteen air monitoring sites were outfitted with the improved communication technology. The second step was getting the data from the monitors to the public. Maricopa County's Information Technology group established a notification system to automatically send an email, text message, and Twitter and Facebook post when a Rapid Response Notification was enabled.

## **GHG Emission Reduction Projects**

*Frito-Lay, Incorporated-Beloit*

The Frito Lay Beloit, Wisconsin facility developed a five year sustainability strategy that focuses on resource conservation and the reduction of greenhouse gas emissions, through the use of innovative technology and employee engagement. From 2000 through 2010, the site reduced natural gas by 40 percent, water by 50 percent, and electricity by 20 percent per pound of finished product reducing greenhouse gas emissions by 25 percent in manufacturing. The facility also averages less than 1% of its waste stream going to landfill, demonstrating the site's commitment to recycling. The employees are highly engaged in community events and sustainability conferences, where they share best practices with school and environmental organizations, as well as other industries.

A key focus of the facility's strategy included the implementation of heat recovery technologies, which generate free heat for the facility, hot water for cooking/cleaning applications and significant natural gas usage reduction on multiple manufacturing platforms. Electrical savings were driven through the use of variable frequency drives on large horsepower motors, LED lighting conversions, lean six sigma exercises on compressed air and nitrogen usage, and the optimization of energy consumption with the facility's production schedule. Likewise, employees delivered water improvements through more efficient cleaning practices. On the fleet side, the Frito Lay Beloit, Wisconsin Traffic center reduced idle miles an average of 8 percent annually, through the use of Wabasto idle free technology and a driver MPG recognition challenge.

In 2010, it became the State of Wisconsin's first food manufacturing site to be awarded LEED' for Existing Buildings Gold certification from the U.S. Green Building Council (USGBC). The Frito Lay Beloit, Wisconsin facility continues to focus on projects to reduce the gas, water, electricity, diesel fuel more efficiently and reduce GHG emissions.

## **Transportation Efficiency Innovations**

### **Leadership in Reducing Ocean-going Vessel Emissions**

*Maersk Line/Maersk Agency USA*

Maersk Line was the first global shipping company to voluntarily use low sulfur fuels at select US ports as part of their "Drive Towards Zero SOx" strategy. The program has been executed in over 2,000 port calls to date, achieving a reduction of over 8 million pounds of criteria air pollutants in port cities. This translates to a 95 percent reduction of SOx and an 86 percent reduction in particulate matter. They have spread this practice to several other global locations, including Hong Kong and Singapore, with reductions of 80–95%.

Looking beyond fuel type, Maersk Line implements energy efficient technologies that have reduced their fuel consumption and related emissions. These technologies include Waste Heat Recovery systems (installed on over 30 vessels), improved hull/propeller maintenance to reduce drag, Voyage Efficiency Systems and improved control systems for refrigerated containers that reduce energy consumption by 47% for chilled cargo.

In an effort to promote transparency, Maersk Line was the first shipping line to publish emissions factors for every owned vessel, and to have these factors verified by a third party.

Additionally, Maersk Line has 20 new vessels on order, designed to optimize economies of scale, energy efficiency and environmental improvements – designated as their "Triple E class." These vessels will reduce emissions by more than 50 percent per container moved, compared to the industry average.

### **Climate Initiatives Program**

#### *Metropolitan Transportation Commission of San Francisco Bay Area*

In December 2009, the Metropolitan Transportation Commission, in partnership with the Bay Area Air Quality Management District, approved the Climate Initiatives Program, a program aimed at making short-term investments that reduce transportation-related emissions and vehicle miles traveled, while also building a knowledge base through evaluation. The program includes an innovative grant program, public education and outreach activities, a regional Safe Routes to School program and program evaluation. The program's inaugural effort, the distribution of \$33 million in grants to 17 innovative projects, served to test transportation-related, GHG emission reduction projects throughout the Bay Area. The grant activities include support of electric vehicle fleets, dynamic ridesharing and parking pricing, creation of the Bay Area's first bicycle sharing program, and installation of signals at intersections to detect and count bicycles. The biggest grant is a nearly \$7 million award to demonstrate electric taxis in San Jose and San Francisco. Another notable electric vehicle grant includes the purchase of 90 electric vehicles and accompanying level two chargers for use by public agencies in Alameda County. Last, four grants encourage biking or walking to school; key projects include a branded bike repair truck ("Bikemobile") that visits schools to repair bikes and provide safety education, the use of social media to increase carpooling to school, and the creation of a series of safety routes maps for students.

Additional Climate Initiatives Program efforts currently underway include smart driving pilots, which will test driver behavior and vehicle maintenance and their effect on a vehicle's miles per gallon, creation of an electric vehicle promotional campaign and a regional school youth program to support new and existing transportation alternatives for youth and their families.

### **Gregg Cooke Visionary Program**

## SC Johnson Global Sustainability Program

SC Johnson is a family-owned and managed business based in the USA. The company is one of the world's leading manufacturers of household cleaning products and products for home storage, air care, and pest control.

The company has a long-standing commitment to the environment. From its early adoption of initiatives such as Climate Leaders and the Scope 3 Greenhouse Gas protocols, to its innovative use of renewable energy, SC Johnson has been committed to clean air for decades.

The company's largest manufacturing facility, Waxdale, is powered by two cogeneration turbines, annually reducing emissions by 52,000 tons of carbon dioxide. Since 2005, the 2.2 million-square-foot facility has been powered by waste methane and natural gas, generating the daily base load of electricity and between half and all the steam needed for the plant's operation.

Also contributing to the company's greenhouse gas reduction is its commitment to wind power. SC Johnson is currently constructing two wind turbines at Waxdale that will reduce carbon emissions associated with powering the facility by 6000 metric tons annually. Also, since 2008, the company has sourced nearly half of the electricity for its Michigan factory from wind energy, replacing almost half the factory's annual purchase of electricity with a clean, renewable source.

Finally, the company extends its air quality achievements throughout its entire product line. Its patented Greenlist process is designed to improve ingredients and packaging used in its household products, and has eliminated nearly 48 million pounds of VOCs from SC Johnson products in the last 5 years.