

Clean Air Excellence Award Recipients: Year 2009

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Clean Air Technology

The E-Pod — Clean Air Systems

In 2008, CleanAIR Systems introduced a new emissions control technology, the E-POD, with the successful installation of seven units on diesel engines powering drill rigs operating in Wyoming's Pinedale Anticline Project Area. It offers more than a 90% reduction of NOx and 85% particulate reduction. It also reduces hydrocarbons and carbon monoxide. It enables a Tier 4 final compliance for Tier 1 and Tier 2 diesel stationary engines, and some Tier 0 engines. It is the only integrated product of its kind currently available that enables this. The E-POD also allows New Source Performance Standards (NSPS) compliance for lean-burning natural gas engines. The E-PODs were installed on seven diesel generators between September 2008 and January 2009, and onsite emissions testing show NOx reductions of 95%. Its unique design allows the E-POD to be transported along with the generator, without the added expense or hassle that are typical of other selective catalytic reduction (SCR) systems.

The Road to Hydrogen — SunLine Transit Agency

SunLine Transit Agency was the first transit agency to own and operate a hydrogen generation and dispensing station. Located in Coachella Valley, California, the station is part of Governor Schwarzenegger's proposed California Hydrogen Highway. The transit agency operates five generations of hydrogen buses that utilize the fuel station, but also wanted to make the fuel available for commercial use. With the support of state and federal agencies, SunLine upgraded the hydrogen station to include both a dedicated hydrogen bus hose and a commercial third party card reader system, allowing the public and outside fleets to purchase hydrogen 24 hours a day. SunLine received its "first in the nation" Hydrogen Hybrid Internal Combustion New Flyer bus in December 2004 and received a hydrogen fuel cell bus the next year. Their new generation of Advanced Technology Fuel Cell buses will be delivered to the agency in November 2009. The hydrogen buses in SunLine's fleet have logged over 174,000 miles to date.

RailPower Hybrid Rubber Tire Gantry Crane — RJ Corman RailPower

The Eco-crane product is the first hybrid Rubber Tire Gantry (RTG) crane and the only battery assisted hybrid cranes that are installed in North America. RTGs are cranes used to lift and move shipping containers within a port facility. The system can be installed on new equipment or retrofitted on old systems. The installation of the Eco-Crane (hybrid- battery/diesel power plants) has been completed on three Rubber Tire Gantry (RTG) cranes at Vanterm and Delta Port in the Port of Vancouver. The system demonstrated 70% fuel reduction measured in operation and an emission reduction between 65% and 80%, depending on the crane. They are now installing a new prototype Eco-Crane design for DC motor RTG applications in the Long Beach container terminal. Also, the company has signed a contract with an OEM of cranes used in rail yards. Now, they are in the process to be installed on the first hybrid crane that will be used in a rail yard.

HearthCAT™ Fire Place Technology — Clear Skies Unlimited Inc.

Clear Skies Unlimited Inc. is a small business specializing in innovative catalytic solutions for the most challenging air quality problems. Clear Skies has successfully developed and tested a wood burning fireplace emission control retrofit technology that has the potential to reduce emissions in wood burning fireplaces by as much as 70 to 90 percent in some cases. The HearthCAT™ System Reduces PM2.5 from one modular masonry fireplace to 2.9 g/kg, well below the EPA voluntary program Phase 2 emissions level of 5.1 g/kg. The HearthCAT™-equipped Isokern Fireplace is the cleanest burning open hearth fireplace currently qualified under EPA's voluntary program. The HearthCAT™ has also been successfully tested and qualified in a factory-built fireplace. The technology has application potential in millions of fireplaces nationwide, since it can be used in new or retrofit fireplaces, and in both open hearth masonry and low mass fireplaces. The HearthCAT™ is a passive catalytic device that employs a smoke capture hood to isolate and destroy the offensive pollutants and wood smoke. The system is easily installed, requires little or no maintenance, and is affordable to the consumer. For four consecutive years, *Hearth & Home* Magazine had issued the Vesta Challenge to hearth product manufacturers for the creation of a wood burning fireplace retrofit technology that would dramatically reduce particulate emissions without creating any smoke spillage or adversely affecting indoor air quality. In March of 2009, Clear Skies Unlimited won this prestigious award.

Community Action

Santa Barbara Car Free Project — Santa Barbara Air Pollution Control District

Santa Barbara Car Free is a community project founded and led by Santa Barbara County Air Pollution Control District to encourage car free travel to and around Santa Barbara. More than 100 businesses, organizations, and individuals participate. The website (SantaBarbaraCarFree.org EXIT Disclaimer), how to be Car Free and Care Free map and publications, Amtrak specials, year-long discount packages with more than 40 partners (hotels, attractions, activities, restaurants), publicity efforts, and community outreach, all reduce pollution and establish Santa Barbara as a sustainable tourist destination and community. The project started in 1998 to address the peaking ozone levels during visitor season after the county was designated a "serious" ozone nonattainment area. In 2008, the website had more than 1.5 million hits; up to 25 percent of website visitors are from outside the US. More than 65,000 maps and brochures are distributed every year. The project is one of the few organizations in the country that has its own savings code with Amtrak. They launched a new promotion in 2008, "Take a Vacation from the Gas Pump", when gas prices were high. Other regions are looking to models their success.

City of Aspen ZGreen Certification Program — City of Aspen

The City of Aspen ZGreen program recognizes businesses and citizens for their environmental efforts through a credible third-party certification. Started in 2007, the program is a collaborative effort between the City of Aspen Environmental Health Department and the Canary Initiative. To become ZGreen certified, businesses and citizens must make changes to their operations or lifestyles in a variety of ways, including taking actions to improve air quality. Citizens must commit to five new actions out of a possible 100 and then they receive a summary of how selected actions will shrink their carbon footprint, conserve energy, and reduce PM-10 emissions, one of Aspen's priority air quality concerns. The business certification requires businesses to get at least 50 points out of a possible 140 on the checklist (five specific items are required of every ZGreen business). Each business must complete an Energy Tracker, which records its gas, electricity, and water use, and calculates its yearly carbon footprint and air emissions. The ZGreen program indirectly reduces air pollution and emissions by rewarding businesses and citizens for using alternative transportation, using low-emission vehicles, prohibiting vehicle idling for more than five minutes, and encouraging energy-efficiency measures. The program now has 18 certified ZGreen businesses, more than 200 certified citizens, 130 have agreed to make a change to reduce air pollution, and their commitment will reduce PM-10 levels in Aspen by an average of 173,435 grams over 2 years.

Education/Outreach

Powerful Choices for the Environment — Puget Sound Energy


Powerful Choices is an environmental education program that is changing the way middle school students in western Washington think about air quality in their ecosystem. Environmental educators from Puget Sound Energy partner with 18 local agencies to deliver this dynamic four-day program that works with students through a series of hands-on, inquiry-based activities that focus on local air quality, waste reduction, and energy and water use. Students develop a greater understanding of how their individual decisions affect their local ecosystem as well as the global challenges facing the environment. Now in its 16th year, the Powerful Choices program reaches over 17,000 6th-8th grade students in more than 90 schools throughout the Puget Sound region. One focus of the four-hour program is air quality as one non-living component of the students' ecosystem. Students discover how daily decisions affect air quality by examining their own transportation options, how they choose to acquire everyday items like clothes and shoes, and how they use electricity. They use a "transportation game," and an "adventure book" to better understand their impact and ways to improve air quality.

5 Green Things — Bridging the Gap

Bridging the Gap is a nonprofit that manages dozens of environmental programs that include recycling centers, biking programs, city tree planning, and more. In April 2008, they created and launched an outreach program called Five Green Things to address the daily calls from citizens who want to "go green" but do not know what to do first. The campaign features four major elements. One is a flipchart presentation that highlights the top environmental problems in a simple, concise presentation. The second is volunteer speakers. More than 110 speakers have been trained by Bridging the Gap to give the presentation. In 18 months they have presented to over 8,000 people. Third, the website and a software program prioritize and track actions, which allows people to pledge to do at least five and up to 40, green things. The prioritization of

actions allows for each participant to click the box indicating that they completed the Green Thing and the CO2 emissions savings are totaled and added to the grand total on the home page. The last is the symbol of the program which is a small, plain, bright green label button given to audience members and participants. It serves as a word of mouth/conversation starter and builds a sense of belonging to the movement. Over 1,700 people have pledged online.

America's Greenest Campus — SmartPower

SmartPower launched the campaign America's Greenest Campus to encourage college students and young adults to reduce their personal energy use. AGC launched in April 2009, and the first year's competition ends October 5th. It has now become the nation's largest college student energy reduction campaign in just 5 short months. Results to Date include over 15,000 student participants, 461 campuses, over 16 million lbs of CO2 reductions, 142,000 tons of paper reduction, 6,768 MW electricity reductions, 152,271 gallons of gasoline conserved, 35,327 gallons of fuel oil reduced, and PSA viewership by over 500,000. As part of AGC, SmartPower also launched the \$10,000 Energy Smart Ad Challenge, inviting participants to create 30-second ads promoting energy smart habits. Each submitted video is circulated on YouTube to promote the energy smart message. This combined America's Greenest Campus contest incorporates online social media, competition and rewards to create a dynamic campaign, offers \$20,000 in cash prizes. SmartPower launched AGC with the music video, "Save your Energy". The video now has more than 500,000 views on YouTube: <http://www.youtube.com/watch?v=N5w9AmtUVnY>  . SmartPower also recruited Russell Simmons, the legendary hip-hop mogul, who now brings the environmental message to young people of color and the world of hip-hop. SmartPower also partners with environmental groups including National Wildlife Federation, which promoted AGC to their 30,000 members in an August, 2009 mailing.

Regulatory/Policy Innovations

Go Green Tallahassee — City of Tallahassee Florida

The Environmental Policy and Energy Resource Department has successfully structured and implemented air quality enhancement goals through overall sound environmental practices in numerous diverse programs. Some specific programs that were implemented were: the achievement of Silver and Gold Florida Green Building Coalition Certification in a single year (first City in Florida-Gold status), the repowering of Hopkins Electric Plant, Fleet's Biodiesel Production, Fleet's Electric Vehicle Conversions, Implementation of Environmental Management System (ISO 14001), Tallahassee Neighborhood Energy Challenge support, Greening the Government grant implementation through Florida's Department of Environmental Protection, Think About Personal Pollution (TAPP) Program. They are working on a StarMetro transit program, and Kill-A-Watt Device Loan Program for employee work and home. They have initiated Municipal Anti-idling and Fuel Conservation Policy, and Waste Reduction Policy and Environmentally Preferred Purchasing Practices. All of these have direct and indirect reduction of emissions and focus on sustainable environmental stewardship.

Solar Renewable Energy Credit — New Jersey Board of Public Utilities

New Jersey Board of Public utilities (BPU) established a model program and integrated approach to solar development that includes a strong renewable portfolio standard (RPS) with a solar set-aside that has helped

to create sustainable demand and investor confidence, an interconnection and net metering standards that have made it easier for systems to connect to distribution system, and a Solar Renewable Energy Certificate (SREC) financing model that facilitates long term financing. The RPS requires that 2.12 percent of electricity come from solar by 2021. In August 2004, NJ BPU developed an Internet-based system designed to track SRECs and facilitate compliance with the RPS. In September 2007, NJBPU unanimously approved the transition of New Jersey's solar program to a fiscally responsible, market-based system that will foster the continued growth of solar. Under this program, system owners earn SRECs for electricity production, which are traded among electricity suppliers and other buyers. In June 2009 they announced the 100th solar energy system installed under the SREC program bringing total capacity installed in New Jersey without the benefit of an upfront rebate to over 22 MW. Total New Jersey based installations exceeds 4,000, and the State ranks second in the nation for both number of installations and installed capacity. New Jersey's SREC program is the first in the nation to successfully begin to transition away from up-front incentives to a market-based system for project finance. They are avoiding more than 71,098 metric tons of carbon dioxide emissions each year.

Transportation Efficiency Innovations

District Bike Sharing Program – Smart Bike — District Department of Transportation

In August of 2008, the District Department of Transportation launched SmartBikeDC, a bike sharing program. This was the first program of its kind in North America. It has attracted world-wide attention to the District. The program currently consists of 100 bicycles at 10 automated rental racks located throughout greater downtown DC. People can register online as a SmartBikeDC member and pay a \$40 annual fee, and receive a card in the mail, which is used to retrieve bikes from the rack. Bikes can be dropped at any of the 10 racks. The program, at its current size, was provided to the District at no cost through the Bus Shelter Franchise Agreement with ClearChannel Outdoor, Inc. Over the first year of operation, over 1400 people have registered as SmartBikeDC members, with an average of 150 trips per day. Commuters and residents are excited about future expansion of the program. The estimates for emissions reductions are 0.40 pounds/day of NOx, 0.60pounds/day of VOCs, and 300 pounds/day CO2. They have obligated funding for an expansion with Congestion Mitigation and Air Quality Improvement Program funding and plan to start the expansion in 2010 for 1000 bikes. At the same time, they are working with the surrounding jurisdictions to create a regional system with seamless cross-border service for members.

Car2Go — Car2Go North America and the City of Austin

The car2go is a carsharing model, used alongside existing public transit, which serves to substantially reduce emissions and traffic congestion common in dense urban centers. The shared car2go will provide on-demand fuel efficient transportation by closing gaps commonly associated with public transit commuting. It is a practical, affordable alternative to the rising costs associated with vehicle ownership. This is essentially a fleet of free-floating, low-emissions, fuel efficient (41 mpg), self-service smart cars that will be distributed all over the city. It is the most fuel-efficient non-hybrid vehicle in the United States and the 3rd most fuel-efficient vehicle in the United States. They can be located by internet, a mobile device, or the car2go call center. Reservations can be spontaneous, or reserved up to 24-hrs in advance. To get in you simply swipe your membership card against the windshield of the vehicle. Car2go and the City of Austin have teamed up to address alleviating congestion, reducing emissions, and facilitating innovative transportation solutions and increasing the use of public transport. The launch date is November 2009, with 200 cars in place.

Thomas W. Zosel Outstanding Individual Achievement

Dan Greenbaum — Health Effects Institute

Over the past thirty years, Daniel Greenbaum has become a well-known and respected leader in innovative environmental and public health policy. His ability to build consensus among a broad range of diverse interests has made him a sought-after spokesperson in Congress and other national forums. For nearly 15 years Dan has served as President of the Health Effects Institute, where he led the effort to reanalyze two key studies that were central to evaluation and setting of the national air quality standard, the Harvard Six Cities and the American Cancer Society Studies. This work helped restore broader trust in science-based decision making.

Dan has often been called upon to lead experts in the review of difficult questions at the center of environmental and public health policy. In 1999 he chaired a National Blue Ribbon Panel on the use of oxygenates in gasoline, where he provided key policy recommendations adopted by congress, leading to a dramatic reduction in the use of oxygenates and increasing the protection of ground and surface waters. During his six year tenure on the National Academy of Sciences (NAS) National Research Council, Dan co-chaired the NAS Committee on Air Quality Management, which reviewed the effectiveness of the Clean Air Act and identified ways to improve its implementation for Congress. Dan served as Commissioner of the Massachusetts Department of Environmental Protection from 1988 to 1994, when the agency received national recognition for the Commonwealth's innovative approach of accelerating the cleanup of state superfund sites, efforts on pollution prevention, and multi-media inspection and permitting.

Gregg Cooke Visionary Program

Kohls — Sustainability Strategy

In 2009, Kohl's decided to take its energy efficiency strategy to the next level by pursuing three specific energy strategies: renewable energy certificates, solar power installations as a solar host, and lighting upgrades. In 2009, their purchase of 600,990,000 kWh of renewable energy certificates placed Kohl's at the number two position for all of retail and 4th overall in the United States. This purchase "greens" 50% of Kohl's energy used in all locations. This purchase of renewable energy has an environmental impact of removing 480 million pounds of carbon dioxide from the earth's atmosphere, or removing more than 75,000 cars off the road annually. In 2009, 78 locations have activated solar power arrays on store rooftops. These will generate 35 million kilowatt hours annually. The arrays provide 20-50% of the stores power needs. 138,000 solar panels will be in use when the project is completed. In 2009, over 700 stores will be retrofitted with metal halide spotlights which use a third of the energy of the former incandescent spotlight, and also installed other energy saving fixtures.

In 2009, 99% of all domestic transportation miles were moved by EPA SmartWay Transport carriers. Every newly constructed store will be a United States Green Building Council LEED certified store, and 46 locations have already been certified. Four vegetable gardens will be installed at the Kohl's corporate campus as teachings tool for the on-site corporate day care locations, and will support Milwaukee's Hunger Task Force.