

Clean Air Excellence Award Recipients: Year 2004

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Clean Air Technology

Getting in Gear: Transforming Truck Technology in America — Environmental Defense, FedEx Express, and Eaton Corporation

Environmental Defense, FedEx Express, and Eaton Corporation partnered to bring a cleaner hybrid truck to the market. As of March 2005, 18 low-emission pre-production hybrid electric powered delivery trucks, provided by Eaton Corporation, have been placed into service. Assessed against the standard delivery vehicle in the FedEx fleet, the hybrid truck will reduce smog-causing nitrogen oxide (NOx) emissions by 65%, decrease particulate emissions with the aid of a diesel particulate trap by 96%, reduce emissions of greenhouse gases by 37%, and achieve a fuel economy gain of 57%. FedEx hopes to introduce more of these vehicles into its fleet over time and make this a standard replacement vehicle in its weight class of 30,000 medium-duty trucks. By doing this, smog-causing NOx pollution will be reduced by 2,000 tons a year for every 10,000 conventional FedEx trucks that are replaced by new hybrids.

Evinrude® E-TEC™ Clean Air Technology — Bombardier Recreational Products Inc.

In 2003, Bombardier Recreational Products Inc. (BRP) introduced Evinrude E-TEC, an outboard engine for marine recreational products, which is based on a two-stroke engine technology. Compared to a similar 2004 four-stroke engine, carbon monoxide emissions with Evinrude E-TEC are typically 30 to 50 percent lower; and at idle are lower by a factor of 50 to 100 times. In addition, Evinrude E-TEC emits 30 to 40 percent less total particulate matter on a weight basis than a similar “ultra-low emissions” four-stroke outboard. Furthermore, oxides of nitrogen and hydrocarbon emissions for Evinrude E-TEC are similar, if not lower, than a four-stroke outboard. There are no oil changes with this engine, as well as no belts, and no valve or throttle linkage adjustments. This makes Evinrude E-TEC engines easier to own than comparable four-stroke engines. In addition, numerous advancements combine to create the Evinrude E-TEC quiet signature sound including an exclusive idle air bypass circuit.

Purifil OnGuard Monitors and Enersave — Purifil, Inc.

Purafil, Inc. has been working for over 30 years to provide superior clean air solutions and has made significant advances in the research and development of gas-phase air filtration technology in order to

safeguard people and the environment from airborne pollution hazards. Purafil recently developed Enersave, an energy-savings program that reduces the need for outside air by 75% in commercial buildings offering significant savings on energy and operational costs. The Enersave program offers a direct method of eliminating pollutants while also saving money. Companies worldwide now turn to Purafil to conserve energy and maintain a healthy indoor environment. Purafil has also developed monitoring systems that go above and beyond human health standards to protect museums, libraries, archives, and other sensitive conservation environments from permanent damage. The OnGuard Monitors are the world's first and only instrument capable of providing continuous, real-time measurements of airborne corrosion levels.

Water Dispersible Chemical Agent Resistant Coating — Pennsylvania Army National Guard

The Combined Support & Maintenance Shop (CSMS) East of the Pennsylvania Army National Guard has become the model for pollution prevention in the Army National Guard by replacing its solvent-borne coating with new water dispersible Chemical Agent Resistant Coatings (CARC) for routine surface coating operations. The water dispersible CARC emits virtually no hazardous air pollutants (HAP) and the VOC content is lower than the standard solvent based CARC used throughout the Army, dramatically reducing emissions of these pollutants. It is estimated that switching to water dispersible CARC will reduce VOC emissions by 2.6 tons in the first year. Using water dispersible CARC reduces overspray during the coating process which decreases the volume of paint used and the particulates emitted. Reduced overspray along with less frequent repainting means a reduction in human exposure to the paint.

Community Action

The Cherry Creek Bike Rack — Transportation Solutions & The Nichols Partnership; Colorado

Transportation Solutions and Nichols Partnership joined together to develop The Cherry Creek Bike Rack, the first of its kind "urban transportation center" in the state of Colorado. The Bike Rack, which opened in June 2004 in a 1,000 square foot storefront space, uniquely offers secure, indoor bicycle parking free of charge. It also provides bicycle and other transportation information for employees, residents, and visitors; and serves the needs of the neighborhood's growing bicycle community. The Bike Rack project is estimated to generate a reduction of 6,505 vehicle miles traveled (VMT) daily; a total of over two million VMT saved every year. This VMT savings will correspond to a reduction of 245 pounds of pollution every day, almost 100,000 pounds of pollutants eliminated annually.

Education/Outreach

AirShare.info: Linking the Nation's Air Quality Communicators — Sacramento Metropolitan Air Quality Management District

[AirShare.info](#)  is an air quality "supersite" specifically targeted to air quality communicators. AirShare brings the nation's air quality communicators together by providing an unprecedented mix of resources and allows them to easily share information about public outreach and education programs. AirShare is an excellent way to multiply the impact of EPA-funded public education grant projects. AirShare contributors can easily submit air quality projects and items to the database. Search capabilities allow all

communicators to quickly identify information, products and items that may be useful in developing their local outreach programs. Extensive lists of key words and search criteria enable communicators to efficiently find and download information from AirShare.

Clean Air Counts — Metropolitan Mayors Caucus

Clean Air Counts is a non-profit campaign that offers a voluntary approach for significantly reducing smog-causing pollutants in the Chicago metropolitan area from sources not traditionally subject to air regulations such as non-industrial businesses, institutions, and households. Clean Air Counts is designed to remove 5 tons of volatile organic compounds (VOCs) and nitrogen oxides (NOx) per day. Through outreach and education Clean Air Counts focuses on demonstrating the relationship between individual behavior and regional air quality. Participants in the Campaign are asked to pledge their commitment to cleaning the air by selecting, implementing, and reporting on recommended emission strategies. The Campaign also has a website, www.cleanaircounts.org EXIT Disclaimer, which averages 200 visits a day with 45,000 hits per month. Through the efforts of the nearly 200 businesses and governing bodies that have joined the Campaign, Clean Air Counts is well on its way to meeting its 5 tpd goal.

Tulsa Air Quality Enhancement and Education Program — Indian Nations Council of Governments

The Indian Nations Council of Governments (INCOG) implemented an educational program designed to improve air quality in the Tulsa region by teaching Tulsa high school students the air quality benefits that result from reducing Vehicle Miles Traveled (VMT). At the same time, INCOG hosted carpool competitions among the area high school driver education programs. During the carpool competition, students were challenged to carpool, bike, walk, or ride the bus to school for six weeks in order to reduce VMT and thus improve air quality in the area. As a result of the program and competition, 600 new drivers were educated about ways to reduce air pollution and more than 1,987 gallons of fuel were saved by reducing 33,792 VMT. These savings resulted in the displacement of 47 lbs of volatile organic compounds (VOCs), 742 lbs of carbon dioxide (CO₂), and 49 lbs of nitrogen oxides (NOx).

Regulatory/Policy Innovations

Clean Energy & Clean Transportation in Medford, Massachusetts — City of Medford

In 1999, Mayor McGlynn committed the City to reducing greenhouse gas emissions by joining ICLEI's Cities for Climate Protection Campaign, which led to the development of Medford's Municipal Climate Action Plan in 2001. The city has made great strides in implementing several of the plan's challenging recommendations, including: significantly increasing the energy efficiency of its municipal buildings; integrating Biodiesel (B20) and electric cars into the fleet; converting traffic signals to Energy Star light emitting diodes (LEDs); and installing photovoltaic panels at City Hall and Hormel Stadium. More recently, the City has retrofitted the school buses with diesel particulate filters and converted to ultra low sulfur diesel to achieve up to a 90% reduction in criteria air pollutants. The City has also recently kicked off a campaign, Medford Leads with Clean Energy, with the goal of encouraging residents and local businesses to support clean energy.

Mohegan Integrated Emission Reductions — The Mohegan Environmental Protection Department

The Mohegan Environmental Protection Department collaborated with the Mohegan Sun Resort and Casino to develop a comprehensive environmental policy to reduce pollution and increase energy efficiency. This program has implemented a myriad of pollution reduction strategies which span the areas of building energy, transportation, and materials management in a holistic systems approach to environmental management. Building energy systems employ co-generation, fuel cells, electrolytic hydrogen generators, solar panels and a ground-source heat pump HVAC. Transportation efficiencies are enhanced by: replacing Reservation Security Department vehicles with gas-electric hybrid automobiles and bicycles and assisting with financing for a school bus retrofit program in the nearby City of Norwich. Waste management is guided by a pollution prevention (P2) policy that eliminates emissions from the combustion of solid waste; low VOC paints; green purchasing; and infrared scanning of buildings to detect and remedy heat loss.

Transportation Efficiency Innovations

EZ Bus — Fairfax County Government, Virginia Railway Express & CONNEX North America, Inc.

EZ Bus is a free shuttle bus service that was launched in December 2003 as part of the Virginia Governor's Congestion Relief Initiative. EZ Bus serves the Burke Center Virginia Railway Express (VRE) Station as an alternative form of transportation to the station. Passengers subscribe in advance via the web or telephone; passengers without subscriptions are accepted on a "space available" basis. The bus arrives 5 minutes before the morning train departs and leaves the Burke station 5 minutes after the evening train arrives. Over 100 Burke residents have subscribed to the EZ Bus program, reducing the amount of single occupant vehicles on the road. Approximately 182 vehicle trips per day have been eliminated, reducing cold start emissions, and there has been a reduction of 5,915 vehicle miles traveled (VMT) as a result of this service.

Redmond Trip Reduction Incentive Program (R-TRIP) — City of Redmond, WA; King County Metro Transit; & The Greater Redmond Transportation Management Association

The City of Redmond, WA, King County Metro Transit and The Greater Redmond Transportation Management Association have come together to create the Redmond Trip Reduction Incentive Program (R-TRIP). This program provides outreach, financial incentives, and grant funding in a comprehensive package for employers and their employees. R-TRIP's personalized commuter assistance substantially increases commuters' opportunities to walk, bicycle, or use public transit and other high occupancy commuting modes. R-TRIP also provides incentives such as a \$50 Visa Gift Card to commuters who carpool, bicycle, and walk to work along with transit and vanpool fare subsidies for new riders. R-TRIP has eliminated over two million vehicle trips and reduced approximately 58 tons of air emissions since the program was first launched. In addition, 2,200 commuters from more than 165 Redmond businesses have signed up to participate in the program since 2003.