Clean Air Excellence Award Recipients: Year 2003

Contents: Award Categories

Clean Air Technology

Remote Smog Check Technology — Networkcar, a Reynolds and Reynolds Company; California

Networkcar's remote smog check technology continuously monitors vehicle emissions to detect problems immediately and minimize air pollution. The technology collects detailed information directly from a vehicle's engine computer and transmits it wirelessly to an information center, where it is available to car owners, auto dealerships, and fleets in the form of e-mail alerts, summary e-mail reports, and easy-to-read Web pages. Through remote monitoring, car owners are notified automatically if their vehicles fall out of compliance. If the system detects a problem, the owners are notified and have 45 days to repair the problem. Once the problem is repaired, there is no need for a follow-up inspection, as the system is able to detect whether the vehicle is back in compliance. Widespread use of the system would help control emissions of nitrogen oxides, hydrocarbons, and carbon monoxide from consumer and fleet vehicles.

Advanced Travel Center Electrification — IdleAire Technologies Corporation; Nationwide

IdleAire Technologies Corporation's Advanced Travel Center Electrification (ATE) technology reduces emissions from idling trucks by inducing truck drivers to turn off their engines while resting. IdleAire's ATE technology provides each driver with air conditioning, heating, shore power, high-speed Internet access, e-mail, satellite television, a telephone connection, and free local calls, all for one low hourly rate. The only truck retrofit required is a $10 window adapter, which drivers carry in the cab. IdleAire's ATE technology reduces truck idling and emissions and helps improve air quality wherever it is installed.

Ford "Fumes to Fuel" Process — Ford Motor Company; Dearborn, Michigan

Ford Motor Company and Detroit Edison have developed a process, known as the "Fumes to Fuel" process, to treat airborne solvent emissions created during automotive painting operations. The Fumes to Fuel process captures solvent-laden air, strips the solvent from the air, concentrates the solvent up to 2,000 times, and sends it to a fuel reformer. The fuel reformer uses the concentrate to generate hydrogen-rich fuel, which is directed into a fuel cell to generate electricity. The system currently generates about 5,000 watts of electricity

per hour—enough to power an average-sized home—and Ford soon will install a larger system that will be able to generate more than 20 times that amount per hour.

Using Innovative Technology to Minimize HAP Emissions — Packaging Corporation of America; Tomahawk, Wisconsin

Under a cooperative agreement established by the State of Wisconsin and U.S. EPA Region 5, the Packaging Corporation of America's Tomahawk Mill Plant implemented a new hazardous air pollutant (HAP) control strategy that involves collecting HAP-laden condensate, piping the condensate to an on-site anaerobic digester, and biodegrading the HAPs. Implementing this strategy has improved HAP control by 500 percent.

Refinery Flare Reduction — Flint Hill Resources; Pine Bend, Minnesota and Corpus Christi, Texas

Flint Hill Resources has decreased refinery flare use by 94 percent at two of its major refineries over the past five years and decreased the emissions released during flaring. To reduce flaring—a process that safely disposes of hydrocarbons and prevents equipment over pressuring during refining operations—Flint Hill Resources implemented operational controls and improved existing technology. Steps taken by Flint Hill Resources included increasing operator awareness of how to avoid triggering flaring, upgrading its refinery computer control centers, installing alarms that alert operators when flaring conditions occur and allows them ample time to adjust operations to avoid flaring, and upgrading the refineries' flare gas recovery systems.

Community Action

Sustainability Project becomes Sustainable Environment for Quality of Life (SEQL) — Centralina Council of Governments and the Catawba Regional Council of Governments; Charlotte-Gastonia-Rock Hill Metropolitan Area, North Carolina

This two-phase effort, which began as the Sustainability Project and evolved into the Sustainable Environment for Quality of Life program is an example of how jurisdictions can work together regionally to address environmental issues. With the leadership of a strong policy team and the support of interested local and state stakeholders, the Charlotte-Gastonia-Rock Hill region has been able to unite the region and adopt compatible environmental measures throughout the area.

Education/Outreach

A Public Awareness Health and Air Pollution Campaign — Ventura County Air Pollution Control District; Ventura County, California

From July through October 2002, the Ventura County Air Pollution Control District (APCD) ran the Public Awareness Health and Air Pollution Campaign. To market the campaign, the APCD partnered with local doctors, using their images and words to promote one main message: air pollution is harmful to health and individuals can make choices to benefit the air and their health. The APCD used a variety of media to reach the public, including: four posters distributed throughout the community (with one poster in Spanish); a six-week

radio campaign during which 660 one-minute spots were aired (with spots translated for Spanish radio); an eight-page brochure distributed to over 250,000 people; and a media launch at a regional medical center.

Air Victoria – Keep It Clean — City of Victoria and Victoria College; Victoria, Texas

The City of Victoria collaborated with Victoria College to create the Air Victoria — Keep It Clean program to educate the community about air quality issues and reduce emissions associated with urban growth. The campaign includes a number of different outreach strategies: free tune ups for older cars; a partnership with McDonalds to educate the public via tray liners; window displays on buses promoting public transit use; pro-environment billboards with messages in English and Spanish; radio and TV public service announcements; a gas can exchange initiative; and the creation of the Air Victoria Team, a voluntary partnership of small businesses and local government that promotes environmental best practices.

Gas Cap Wrench — Wisconsin Partners for Clean Air in cooperation with the Wisconsin Department of Natural Resources and R.A.M. Products Limited; Southeastern Wisconsin

The Gas Cap Wrench is a device that helps individuals with limited strength or flexibility in their hands tighten and loosen a vehicle gas cap more easily. A loose or missing gas cap can cause up to 30 gallons of gasoline to evaporate from a gas tank each year. In Wisconsin, use of the 30,000 Gas Cap Wrenches being distributed could translate into a savings of up to one million gallons of gasoline per year.

Regulatory/Policy Innovations

Clean Smokestacks Act — State of North Carolina and multiple partners; North Carolina

In 2002, the North Carolina General Assembly enacted legislation that requires power companies to reduce their emissions by three-fourths over the next decade. Under the Clean Smokestacks Act, coal-fired power plants must achieve a 77 percent cut in nitrogen oxide emissions by 2009, and a 73 percent cut in sulfur dioxide emissions by 2013. These cuts should lead to significant reductions in ozone, haze, acid rain, and fine particles. The bill also requires the North Carolina Division of Air Quality to conduct a study of mercury and carbon dioxide emissions and to recommend possible additional controls by September 2005. The Clean Smokestacks Act is the result of extensive negotiations spearheaded by North Carolina Governor Mike Easley and his staff. The final Act provides a positive example of what can be achieved when industry, environmental groups, state agencies, and public interest associations collaborate to improve air quality.

3M Investment in the Environment and Education — 3M; Areas Nationwide

3M has long been a leader in fostering environmentally beneficial programs. Through its work to reduce pollution, 3M generated emissions reductions credits (ERCs). 3M adopted a policy to either donate the company's ERCs to governmental agencies for air quality improvement or to sell the credits and donate the net proceeds to projects that worked to improve the environment. Before selling credits, 3M verified that the buyers were installing the latest environmental technology, that they had a good environmental record, and that they had an environmental management program in place. 3M then donated the funds to projects that aligned with 3M's core contribution areas, which include children's health, the environment, and education.

Transportation Efficiency Innovations

Island Explorer, Propane Shuttle Bus — Acadia National Park, Maine Department of Transportation, MDI League of Towns, Downeast Transportation Inc., Friends of Acadia, Tom Crikelair Associates, and L.L. Bean, Inc.; Acadia National Park, Mount Desert Island, Maine

The Island Explorer is a fare-free, seasonal public transportation system that provides service to Acadia National Park and the communities on Mount Desert Island, Maine. The system is designed to sustain the tourism industry while reducing the traffic congestion and air pollution associated with the area's three million annual visitors. The transportation system currently consists of 17 propane buses operating on six routes, but plans for expanding the project include the construction of an intermodal hub, which will combine parking, a visitor center, connections to various modes of public transportation, a bus maintenance facility, more shuttle buses, and bicycle and pedestrian links to the park and surrounding communities.

Thomas W. Zosel Outstanding Individual Achievement

James M. Lents, Ph.D.

James Lents has 27 years of experience directing air quality improvement and research programs nationwide. He is widely acknowledged as a leader in national and international air quality arenas, and has been responsible for numerous technical and policy breakthroughs in the air quality field. Over the course of his career, Dr. Lents has served as the Executive Director of the South Coast Air Quality Management District, and the Director of the Colorado air pollution control program and the Chattanooga, Tennessee air pollution control program. He also helped to develop the Clean Air Act Amendments of 1990 and the 1988 California Clean Act and served on four Presidential Commissions reviewing diesel standards, alternative fuels, automobile global warming emissions, and air quality standards. Dr. Lents currently serves as the Director of the Center for Sustainable Suburb Development at the University of California, Riverside and Director of the Atmospheric Processes, Modeling, and Environmental Policy Laboratory for the University of California Center for Environmental Research and Technology.