

# Clean Air Excellence Award Recipients: Year 2005

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## Clean Air Technology

### **Alternative Maritime Power — Port of Los Angeles**

The Port of Los Angeles Alternative Maritime Power Program is able to reduce the dangerous toxins that surround their port and communities by powering massive container ships with on-shore electricity. By eliminating the use of auxiliary engines during the practice of hotelling container vessels while docked, this technology has shown an average reduction of 95 percent in NO<sub>x</sub>, SO<sub>x</sub>, and PM<sub>10</sub> per vessel call. Reduction per vessel call in 2004 for NO<sub>x</sub>, SO<sub>x</sub>, and PM<sub>10</sub> were 0.92, 0.78, and 0.05 tons respectively. Through unique implementation of available technology and providing incentives such as up to \$810,000 toward the cost to install the necessary AMP equipment to steamship lines, the Port of Los Angeles's Alternative Maritime Power program greatly reduces air emissions in the area surrounding the port.

### **Hybrid Bus Program — King County Metro Transit**

King County Metro Transit in Seattle was facing the need to replace an aging bus fleet while ensuring adequate operation of the new vehicles in the transit tunnel under the downtown area. They enlisted a team of manufacturers to develop a prototype clean-air hybrid bus to meet its needs. The new hybrid bus operates on both ultra-low sulfur diesels and electricity generated by batteries stored on the roof. Metro Transit carry passengers on a fleet of 235 hybrid buses, making the environment cleaner and receiving immediate cost savings. Currently, there are over 400 hybrids with the same power package in service at transit agencies throughout the US. The hybrid fleet provides benefits such as savings from the purchase of dual mode buses for the tunnel, a reduction in maintenance staff, a 31 percent increase in fuel economy compared to conventional buses, and more service miles in the first year than the former tunnel fleet at a 37 percent lower cost.

### **ATmaP™'s Elimination of Solvent-Borne Adhesion Promoting Primers — FTS Technologies and DaimlerChrysler Body-on-Frame Engineering**

DaimlerChrysler and FTS Technologies have partnered to eliminate the use of adhesion promoting primers from the manufacturing of automobile exterior parts by implementing Accelerated Thermo Molecular Adhesion Process™. The ATmaP™ process has saved manufacturing costs, improved manufacturing flexibility, and decreased environmental impacts via reduction of emissions and the related contaminated sludge.

ATmaP™ does not produce any volatile organic compounds (VOCs) or hazardous air pollutants (HAPs), and the only byproducts are carbon dioxide, nitrogen, heat, and water vapor. The 100 percent elimination of adhesion promoters on the production of motor vehicle chassis components between February and August 2004 resulted in an estimated decrease in VOC and HAP emissions of between 50,000 and 80,000 lbs. DaimlerChrysler continues the conversion towards the use of ATmaP™ to expand VOC and HAP reductions across a greater cross-section of the supply base.

#### **PowerFrame™ Grid Technology** — Johnson Controls Battery Group, Inc.

Johnson Controls Battery Group, Inc. replaced an old technology while keeping environmental impact in mind. The Battery Group developed PowerFrame™ Grid Technology, a new positive battery cell grid manufacturing technology, which provides high quality battery cell grids. The battery cell grids can be produced in larger quantities while significantly reducing scrap, waste, and lead emissions. At the heart of this new technology is a system in which individual grids are “stamped” from continuous lead sheets in a highly efficient manner. The new technology does not require the pouring of molten lead into molds to make the major components of batteries and the inclusion of air pollution control equipment. Testing indicates that the controlled lead emissions from the PowerFrame™ process are extremely low. The net nationwide air quality benefit is a reduction of 550 lbs of lead emissions per year, an average of 79 lbs per plant. The Johnson Battery Group’s PowerFrame™ technology provides higher quality products at a lower impact to the environment.

## Community Action

#### **Transit Oriented Development Program** — Metropolitan Atlanta Rapid Transit Authority

The Metropolitan Atlanta Rapid Transit Authority (MARTA) is turning a number of its 38 rail stations into live, work, and play communities through its Transit Oriented Development (TOD) program. MARTA planned the TOD program in 1983 to reduce traffic congestion and improve air quality in metropolitan Atlanta. The program utilized surplus land to develop office, retail, and mixed-use residential, hotel, and restaurant space around MARTA rail stations. In 1999, MARTA developed an award-winning, nationally recognized, flagship TOD, Lindbergh City Center, which has become a model for transit systems throughout the nation. Lindbergh City Center is situated on 47 acres around the Lindbergh Center rail station and will ultimately include 4.8 million square feet of office, hotel, and mixed-use residential, retail, and restaurant space. Through these developments, MARTA has grown its operating revenues while improving air quality and reducing congestion in Atlanta.

#### **BikeTown** — Bicycling Magazine, Rodale, Inc.

BikeTown, an innovative program created by Bicycling Magazine, has been working to make cities more cycling friendly by giving away bikes and promoting clean transportation in cities throughout the nation. By giving away free bicycles to citizens in different communities chosen by the magazine, the program fosters the development of bicycle use in towns throughout the country. Through a partnership with Shimano and the League of American Bicyclists, BikeTown created ten Bike-to-Work cities. Participants in these cities agreed to use bikes as a replacement for cars during the majority of their transportation and a reduction of 626,048 lbs of greenhouse gas emissions over the course of six months resulted; as well as increased quality of health, community development, and other attributes. Now rapidly expanding throughout the nation and into parts of

the world, BikeTown is encouraging biking as an alternative form of transportation, and creating connections within communities while sharing participant's important stories through the magazine.

## Education/Outreach

### **ConocoPhillips Billings Citizen Advisory Council** — ConocoPhillips Billings Refinery

The ConocoPhillips Billings Refinery Citizen Advisory Council (CAC) highlights a special relationship between the refinery and surrounding community. The CAC is a group of citizens representing different sectors of the community charged with the task of establishing a dialogue between the refinery and the public. Through the CAC, the refinery is able to educate and inform the public about routine operations and special refinery activities, as well as receive public feedback on issues of mutual concern. The CAC addresses serious issues such as air quality, safety, aesthetics, and community enhancement. The persistent supervision from this group, coupled with the Refinery's commitment to reduce emissions, resulted in an overall reduction of SO<sub>2</sub> emissions from 2,400 tons in 1992 to 270 tons in 2005. The CAC simple formula to educate and inform is an important first step in addressing and solving problems of clean air.

### **Pioneering Full-scale Electric Vehicle Motor Sports to Promote Energy Efficient and Environmentally Friendly Automobiles** — Brent Singleton

High school student Brent Singleton is showing that youth can be environmentally friendly in a fast way. Mr. Singleton's passion for electric vehicles made him the first to bring Full-Electric, Hybrid, Tribid, and Quadbrid vehicles to the world's most famous land speed raceway, the Bonneville Salt Flats. He is the first-ever individual youth to receive a Clean Air Excellence Award. He will also be honored with the President's Environmental Youth Award later this month. Mr. Singleton hopes that alternative drive advancements initiated in race cars will lead to improved environmentally-friendly performance capabilities for highway vehicles. By driving his electric vehicle to school on a daily basis, he continues to demonstrate to his peers and the world that more energy efficient and environmentally friendly automobiles are a very realistic option.

### **Students Fueling the Future Fuel Cell Education Program** — Students Fueling the Future, Inc.

Students Fueling the Future is a unique, non-profit educational program. This program teaches educators and students about the environmental impact of using fossil fuels for energy and transportation, the benefits of renewable sources of energy, and fuel cells. The program provides participants with educational materials, supplies, and leadership as they become active in environmental issues within their community. The program includes workshops, school visits, and student activities including oral presentations, designing web sites, and designing and building model fuel cell cars competitions. Recognition for the program is generated through community involvement, information dissemination, and a statewide championship to showcase renewable energy and fuel cell projects.

## Regulatory/Policy Innovations

**Tippecanoe Laboratories Flexible Permit** — Eli Lilly and Company, Tippecanoe Laboratories and Indiana Department of Environmental Management, Office of Air Quality

In February 2004, the Indiana Department of Environmental Management Office of Air Quality issued an innovative permit to Eli Lilly and Company Tippecanoe Laboratories that combines the Title V and Prevention of Significant Deterioration permitting requirements. Three years in the making, this collaboration involved many diverse stakeholders creating a permit to provide Eli Lilly and Company with substantial flexibility to grow and upgrade its facilities with reduced administrative review and delay. This was accomplished through innovative permit terms that require state of the art emission controls and continuous emissions monitoring. The permit establishes annual emission caps of five pollutants at levels significantly below previously allowed rates. Since the issuance, Lilly has saved more than 1,000 hours of administrative time and IDEM estimates it has saved 250–300 staff hours. EPA is considering rule changes to promote flexible permits that have consistencies with the Lilly model.

#### **Port of Seattle Air Quality Program — Port of Seattle**

The Port of Seattle's Air Quality Program reduces emissions from cars, trucks, ships, and other vehicles at Seattle–Tacoma International Airport and seaport operations. At the Seattle–Tacoma International Airport air emission reduction is achieved through: requiring vehicles from off–site locations to use natural gas, installing new aircraft fueling systems, converting an entire airlines ground operation to electric vehicles, and requiring construction equipment to use newer engines and ultra low sulfur diesel. The Port is implementing a voluntary effort to reduce emissions from seaport operations through the use of emission reduction controls, cleaner fuels, and education and outreach. Other efforts include leading the Puget Sound Maritime Air Forum, a voluntary regional association that includes maritime organizations, air agencies, and other parties to improve the understanding of maritime–related emissions sources.

#### **The Kansas City Regional Clean Air Action Plan — Mid–America Regional Council**

The Mid–America Regional Council's Kansas City Clean Air Action Plan (CAAP) is a comprehensive voluntary plan to provide cleaner air for the region's residents and to maintain ground–level ozone attainment for the metropolitan area. The development of the CAAP began as a 12–member working group consisting of local elected officials and representatives from business, regulated industries, and advocacy groups. Through regularly held public meetings and a regional air quality workshop, the working group developed a variety of voluntary strategies to target multiple sources of emissions. The highest ranked strategies were modeled to determine their impact on air quality. The work group's selected strategies formed the CAAP. In March 2005, the CAAP was endorsed by the Board of Directors of the Mid–America Regional Council, Kansas City's designated metropolitan and air quality planning organization.

## **Transportation Efficiency Innovations**

#### **UPS Fuel Conservation, Technology and Alternative Fuel Vehicle Program — UPS**

The United Parcel Service (UPS) Fuel Conservation, Technology and Alternative Fuel Vehicle Program has implemented several strategies to minimize air quality impacts. By shifting packages from air to ground travel and using advanced route planning software, UPS has optimized its network of vehicles and airplanes to significantly reduce travel time, energy use, fuel consumption, and emissions. UPS drivers will reduce routes by 100 million miles using the new Package Flow Technology System, saving almost 14 million gallons of fuel and reducing CO<sub>2</sub> emissions by 130,000 metric tons when the system is fully implemented in 2007. UPS

Airlines has also put into operation a fuel conservation program, using the Lido flight planning system, which calculates the most efficient route between two points based on weather, winds, terrain and other factors.

### **Niagara Falls State Park – “Green Parks Program” — New York State Office of Parks, Recreation, and Historic Preservation**

The New York State Office of Parks, Recreation, and Historic Preservation has developed the Green Parks Program as part of its effort to adopt environmentally friendly practices in the procurement of state vehicles. Niagara Falls State Park has become a leader in the move towards alternate fuel vehicles, with a fleet of over 68 vehicles. Gasoline and diesel use in the park has been reduced by over 25,000 gallons annually and that number is expected to grow to over 30,000 gallons. This results in a reduction in nitrogen oxide of over 800 lbs, a reduction in carbon monoxide of over 11,700 lbs, and a reduction of over 195,000 lbs of carbon dioxide. The Green Parks Program has acquired over 740 clean fuel vehicles statewide, and the replacement of vehicles in the Park is part of the effort to change how people are transported, improve air quality, and ultimately establish the Park as a center for alternate fuel technology.

### **Transportation Demand Management Program — City of Aspen**

The City of Aspen’s Transportation Demand Management program showcases the positive impacts proper analysis and long term thinking can have on the environment. When faced with higher congestion levels and non-attainment status, the City of Aspen successfully applied big city transportation measures in a small town environment to create a balanced integrated program. Through the introduction of paid parking, increased bus services, business transportation alternatives and incentives, and internal employee incentives the City of Aspen has developed a comprehensive plan to combat environmental issues. The program reduces particulate pollution, prevents traffic congestion and offers a convenient and affordable alternative means of transportation. Traffic levels remain as they were in 1993 despite increased growth and tourism and the City and County are no longer a non-attainment area.

## [Thomas W. Zosel Outstanding Individual Achievement](#)

### **David G. Hawkins — Natural Resources Defense Council**

David G. Hawkins’ name has been synonymous with clean air and the Clean Air Act. Mr. Hawkins joined the Natural Resources Defense Council (NRDC) as an attorney in 1971 and was involved in intensive work with industrial air pollution control, transportation and indirect source controls, and attainment of air quality standards. He was directly involved in regulatory proceedings of the EPA and other Federal agencies and has testified frequently before Congress. Mr. Hawkins has served on two advisory committees of the Federal Energy Administration. In addition, Mr. Hawkins worked as resource group member to the National Research Council’s Committee on Nuclear and Alternative Energy Systems. He was appointed by President Carter to be Assistant Administrator for the Office of Air, Noise, and Radiation at EPA. In that position he was responsible for initiating major new programs under the 1977 Amendments to the Clean Air Act. On his return to NRDC in 1981, Mr. Hawkins worked primarily on reauthorizing the Clean Air Act, including the development of a national program to combat acid rain. The Clean Air Project, which Mr. Hawkins began with former NRDC attorney Dick Ayres, has monitored and shaped the design of the Clean Air Act since the law’s passage. Working with the Clean Air Coalition, NRDC was a major architect for provisions of a much-strengthened Clean Air Act Law in 1990. Mr. Hawkins also served on the Clean Air Act Advisory Committee providing EPA valuable

advice on how to proceed with the implementation of the 1990 Clean Air Act amendments. Mr. Hawkins currently serves as the Director of NRDC's Climate Center and continues his tireless dedication to improving air quality and informing the public on the importance of these issues.