GOING GREENER
MINIMIZING AIRPORT ENVIRONMENTAL IMPACTS
**INTRODUCTION**

Airports are a critical component of the complex international aviation system that supports the movement of passengers and goods. In providing these essential services, airport operations and air travel have the potential to adversely affect the environment. As the demand for air travel continues to grow, without careful planning, those impacts are likely to increase. While airports are subject to an array of environmental regulations, airport operators across the United States and Canada are going above and beyond regulatory requirements to proactively reduce the negative effects that aviation can have on the environment.

Airports Council International-North America (ACI-NA), a trade association representing airports in the U.S. and Canada, and its members work collaboratively with international, federal and state/local/provincial entities, manufacturers and airlines to respond to environmental concerns. Even though much of aviation’s environmental impact occurs during flight and is outside an airport’s control, the industry is working to better understand and mitigate impacts to the natural environment and local communities. Airports have identified projects and programs that not only minimize the impact of those activities within their control, but also help to reduce the impact of other sources such as aircraft, ground support equipment, and ground access vehicles.
REGULATIONS AND INTERNATIONAL STANDARDS

Airports in the U.S. and Canada are subject to an array of environmental regulations established at the federal, state/provincial, and local levels. Those regulations govern airport activities with respect to such issues as air and water quality, management of waste and hazardous materials, and endangered species. The International Civil Aviation Organization (ICAO), an agency of the United Nations, sets the international standards for aircraft noise and emissions that are adopted by ICAO member countries such as the U.S. and Canada. ACI represents the global airport industry as an observer to ICAO, calling for more stringent noise and emission standards.

INDUSTRY INITIATIVES

Airports recognize that collaboration is needed across the entire aviation industry to effectively reduce adverse environmental impacts. ACI-NA and its members have participated in joint industry initiatives to encourage better understanding and reduction of those impacts. In 2008, ACI-NA, the Air Transport Association (ATA), the Air Line Pilots Association (ALPA), the Aerospace Industries Association (AIA) and other aviation trade groups sponsored a two-day seminar, Aviation and the Environment, as a primer for the aviation industry with a focus on aircraft noise and emissions.

Airports, airlines, engine and airframe manufacturers, and the Federal Aviation Administration (FAA) are also working jointly to identify and encourage alternative aviation fuel sources through the Commercial Aviation Alternative Fuels Initiative (CAAFI). CAAFI aims to enhance energy security and environmental sustainability for aviation through alternative fuels. Members of CAAFI exchange information about the current status of alternative aviation fuels and outline plans for their future development and introduction into service as supplements or substitutes for traditional petroleum-based Jet-A.

Several projects sponsored by the Airport Cooperative Research Program (ACRP) are providing valuable resources for airports as they work to further reduce their environmental impacts. For example, ACRP is developing guidebooks on reducing airport carbon footprints, improving environmental performance at small airports, and incorporating sustainable measures into airport construction projects. ACI-NA members and staff actively contribute to ACRP research concepts and project oversight.

ACI also participates in the Air Transport Action Group (ATAG), the global industry association that brings together airlines, airports, manufacturers, air navigation services providers and companies throughout air transportation that are committed to achieving infrastructure improvements and addressing the environmental challenges facing the industry. The ATAG website, www.enviro.aero, includes the latest news and information about how the aviation industry is working to offset negative environmental impacts. The website provides information on the many industry measures underway to limit the impact of aviation on the environment.

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DECLARATION ON COMMITMENT TO ACTION ON CLIMATE CHANGE

In April 2008, all sectors of commercial aviation – aircraft manufacturers, airlines, air traffic control, engine manufacturers and more than 300 airports signed the declaration, “Aviation Industry Commitment to Action on Climate Change”. The declaration outlines aviation’s concept of carbon neutral growth’ with an aspirational goal of carbon-free flight. The industry will achieve this through investment in new technology, increasing operational efficiency, air traffic and airport infrastructure improvements and appropriate economic measures.
U.S. AIRPORT POLICY GOALS

ACI-NA supports a number of recommendations in FAA reauthorization legislation (HR 915) to enhance environmental initiatives at airports, including:

- **Grant eligibility for assessment of flight procedures**: Directs the FAA to provide Airport Improvement Program (AIP) grant funds to assist in completing the environmental review necessary for the development of flight procedures as part of a noise compatibility study. This modification to the AIP would also allow FAA to accept funds from an airport to complete the necessary reviews.

- **CLEEN engine and airframe technology partnership**: Directs the FAA to enter into a 10-year cooperative agreement with an institution, entity, or eligible consortium to carry out a program for the development, maturing and ultimate certification of more efficient engine and airframe technology that would reduce energy consumption, emissions and noise.

- **Phase out all noisy stage II aircraft**: Requires, within five years, all civil subsonic jet aircraft under 75,000 pounds to meet stage 3 noise levels within the 48 contiguous states, with limited exceptions.

- **Environmental mitigation pilot program**: Authorizes the FAA to fund six airport projects to take promising environmental research concepts into the actual airport environment to demonstrate measurable reductions or mitigation of aviation impacts on noise, air quality or water quality.

- **Aircraft departure queue management pilot program**: Authorizes the FAA to establish a pilot program at five airports to design, develop, and test new air traffic flow management technologies to better manage the flow of aircraft on the ground and reduce aircraft idling times to decrease emissions and increase fuel savings.

ACI-NA staff and members will continue to push for these policies with the Administration and Congress.
ACI-NA ENVIRONMENTAL ACHIEVEMENT AWARDS

For more than 10 years, ACI-NA has granted annual Environmental Achievement Awards to recognize airports that strive to protect and preserve the environment through their programs, initiatives and projects. The award categories include environmental management, mitigation and outreach, education and community involvement.

Established by the ACI-NA Environmental Affairs Committee, the awards help to honor and promote awareness more broadly to the airport community, the general public and regulators, the many notable environmental efforts being undertaken by our member airports. Details on winning entries are available on ACI-NA’s website: www.aci-na.org.

ACI-NA’S 2008 ENVIRONMENTAL BENCHMARKING SURVEY

ACI-NA, with the assistance of its Environmental Affairs Committee, commissioned the 2008 Environmental Benchmarking Survey to collect information on the state of the industry’s current environmental programs and initiatives. Airports responded to questions addressing energy efficiency, air quality, noise, water conservation, waste management, and green buildings.

The survey results indicated extensive, often innovative, measures airports have undertaken to improve their environmental performance, often without regulatory mandate. The results also illustrated opportunities for improvement and information sharing as airports continuously strive to be environmental leaders. Survey respondents represent airports through which almost 60 percent of all traffic in North America travels.

AIRPORT INITIATIVES

Airports are increasingly embracing concepts of green building, sustainability, and environmental management into their construction projects and everyday operations.

Airports continue to enhance environmental conditions in their communities by increasing energy efficiency, reducing contributions to climate change, and mitigating impacts to local air quality, water resources, noise exposure, and waste generation.

The following case studies highlight many of the exemplary airport environmental programs across the U.S. and Canada.

ACI-NA, with the assistance of its Environmental Affairs Committee, commissioned the 2008 Environmental Benchmarking Survey to collect information on the state of the industry’s current environmental programs and initiatives.
Green Buildings, Sustainability and Environmental Management

Airports are implementing infrastructure enhancements such as new runways, taxiways, and terminals to improve the efficiency of the aviation system and overall passenger experience. Green building and sustainability concepts played a prominent role in the 2008 opening of new runways at Chicago’s O’Hare, Seattle-Tacoma and Washington Dulles International Airports and terminals at Indianapolis, Raleigh-Durham and Detroit International Airports. Green building initiatives help airports achieve improved environmental performance, energy conservation, emissions reductions and cost savings. Detroit, Toronto, San Jose, Phoenix, Boston, Honolulu, and Atlanta are among several airports that have achieved or are currently working toward Leadership in Energy and Environmental Design (LEED) certification by the U.S. and Canadian Green Building Councils for terminal and other airport building projects.

By focusing on green programs and initiatives that can be employed within airport buildings, either through new construction or retrofitting, airports can achieve energy savings, water conservation, and reductions in other environmental impacts. Airport green building initiatives include utilizing recycled building materials, relying on natural lighting and installing green roofs. Airports also take steps to conserve water by installing automatic shutoff and low-flow plumbing fixtures and using water-wise landscaping.

Building off the work of other industry leaders such as Denver, Los Angeles and San Francisco, many airports including Philadelphia, San Diego, and Columbus have adopted sustainability principles. According to ACI-NA’s recent environmental benchmarking survey, at least 24 airports have also implemented formal Environmental Management Systems - a set of processes and practices that enable an organization to reduce its environmental impacts and increase its operating efficiency.
Fresno Yosemite International Airport’s solar panel system will help the airport save $13 million over the next 25 years.

CASE STUDIES:

WINNIPEG
The Winnipeg Airports Authority will open a new terminal in 2010. The terminal will be the first in Canada to be certified by the Leadership in Energy and Environmental Design (LEED) rating system and the Canadian Green Building Council. Green initiatives incorporated into the project include extensive use of natural light, energy efficiency, recycled construction materials, and low-flow plumbing fixtures. [www.waa.ca](http://www.waa.ca)

FRESNO
The Fresno Yosemite International Airport has incorporated several environmental programs including a 2 megawatt solar system that will generate over 4.2 megawatt hours of power at zero cost to the airport with a projected energy cost savings of $13 million over the next 25 years; recycling 100 percent of removed material from airport projects; a rehabilitated terminal facility with a 20 percent projected reduction in energy consumption through passive solar design, redesigned energy efficient lighting and mechanical systems, use of cool roofs and recycled materials; an on-going residential noise mitigation program; and a consolidated rental car facility which reduces vehicle jockeying and eliminates the need for customer busing. [www.fresno.gov/DiscoverFresno/Airports/default.htm](http://www.fresno.gov/DiscoverFresno/Airports/default.htm)

Green building and sustainability concepts played a prominent role in the 2008 opening of new runways at Chicago’s O’Hare, Seattle-Tacoma and Washington Dulles International Airports and terminals at Indianapolis, Raleigh-Durham and Detroit International Airports.
Energy Conservation

Many airports are implementing technologies and building designs to increase their energy efficiency. Such programs include installing or upgrading to more efficient heating ventilation and air conditioning systems; converting to energy-efficient lighting, and utilizing energy-efficient entryways to reduce heat/cooling loss. Energy management systems help airports monitor and reduce overall energy use at Reno-Tahoe, Greensville-Spartanburg, Winnipeg, and other airports across the U.S. and Canada.

Airports are increasingly turning to renewable energy sources. At airports such as Denver, Oakland, and Boston, renewable energy is generated on-site through technologies such as solar photovoltaic panels or wind turbines. At Minneapolis-St. Paul International Airport, all municipal solid waste is hauled to a waste-to-energy facility where it is burned for energy recovery and turned into electricity, providing material sufficient to meet the power needs of up to 450 homes annually. Albany International Airport heats two buildings with methane generated from two large-scale anaerobic fluidized bed bio-treatment facilities. Many airports also purchase renewable energy including hydroelectric, wind-generated, solar-generated, and geothermal energy.

CASE STUDIES:

**VANCOUVER**

In 1999, the Vancouver Airport Authority created a cross-departmental Energy Reduction Team to identify and implement energy-reduction initiatives. Some of these energy conscious initiatives include installing an econo-mode setting on baggage conveyor belts to shut down conveyors when no bags are present; installing carbon dioxide sensors to control heating, ventilation and air conditioning (HVAC) according to number of people in area; and patenting a black box to regulate electrical power to the Flight Information Display monitors when no flights are scheduled. Since the Energy Reduction Team's creation, the Vancouver Airport Authority has saved more than 21.2 gigawatt hours of electricity and $4.6 million dollars CDN.

www.yvr.ca

**DALLAS-FORT WORTH**

The Dallas/Fort Worth (DFW) International Airport Board and the Energy Systems Laboratory (ESL) of Texas A&M University have partnered to implement a Continuous Commissioning® (CC®) Program to improve energy efficiency in Airport facilities. The program optimizes energy use based on actual building conditions and requirements and routinely achieves 10 – 25% whole building energy cost reductions. First applied to the Consolidated Rental Car facility at DFW in 2004 and subsequently to the Airport’s Administration Building, in 2007, the program has reduced energy consumption in those facilities by 18% and 33% respectively. Currently DFW and ESL are applying the CC® process to the Airport’s International Terminal D and central heating and cooling plant. Nine months into this two-year project, energy savings of more than two million kilowatt-hours have been achieved. Total cost savings from the program to date have exceeded $780,000. www dfwairport com
Climate Change

Aviation’s contribution to greenhouse gas emissions and the associated impact on climate change has become a priority issue for the industry. Aircraft operations — aviation’s primary source of greenhouse gas emissions — are outside the control of any individual airport. However, ACI-NA member airports are working to reduce emissions under their control through both operational and infrastructure improvements. Airports are also working with their industry partners to help reduce emissions from other sources such as aircraft and ground vehicles. In addition, Canadian airports are working with Transport Canada to inventory their greenhouse gas emissions.

Greenhouse gas emissions are being reduced through a wide range of initiatives within airport buildings, and on both the airside and landside. Airports in Burlington, Las Vegas, Dallas Love Field and Houston have largely converted to alternative-fueled airport vehicles. A majority of airports are equipping loading bridges with power and air to reduce aircraft engine usage. Other reductions are seen through programs to encourage the consolidation of hotel and rental car shuttles, and increasing the energy efficiency of the terminal. An expected 2009 ACRP report on methodologies to conduct airport greenhouse gas emissions inventories will provide a resource for airports to help identify and further reduce those greenhouse gas emissions.

CASE STUDIES:

JACKSONVILLE
The Jacksonville Aviation Authority is developing a Climate Change Program that will include performing a baseline greenhouse gas emissions inventory, setting a greenhouse gas emissions reduction goal, and developing strategies to permanently reduce those emissions. Such strategies will focus on reduced electricity usage and fuel consumption, and other benefits that will directly result in lower operational costs.

MINNEAPOLIS
The Metropolitan Airports Commission has implemented a number of programs that reduce greenhouse gas emissions at the Minneapolis-St. Paul International Airport. The Commission helped construct a free, electric-powered light rail line to replace conventional buses connecting terminals, eliminating an estimated 385 tons of carbon dioxide emissions annually.

The MAC also reconstructed inbound and outbound roadways at the airport to ease traffic flow, added more than 11,000 new parking spaces, and implemented epark, an electronic payment method that helps speed customers through the parking exit plaza. These improvements help eliminate vehicular traffic congestion at the airport, add parking capacity that reduces the need for curbside drop-offs and pick-ups, and reduce exit plaza processing time by more than 80%, helping to eliminate over 138 tons of carbon dioxide annually.
www.mspairport.com/msp/default.aspx
Local Air Quality

One of the most critical environmental challenges airports face is addressing the impacts of aviation on local air quality. Although airports cannot directly control many aviation-related emissions such as those from aircraft and vehicles, they recognize that emission sources within airports’ responsibility and influence contribute to local air quality. As a result, airports have taken steps to reduce those emissions.

To reduce airside emissions, many airports provide alternative fuel infrastructure such as compressed natural gas (CNG) fueling stations or electric vehicle charging stations to encourage conversion to lower emission vehicles and equipment. Fuel hydrant systems at airports like Sacramento, Pittsburgh, Edmonton, Tampa and Detroit also minimize the need for trucks to transport fuel to aircraft.

To reduce landside emissions, airports are offering employee trip reduction programs, bicycle parking, cell phone waiting lots, and pay-on-foot parking. Working with local communities to provide public transportation access also reduces passenger vehicle trips. Airports are also working to help reduce commercial vehicle trips and encourage low-emission rental cars, taxis, shuttles, or other ground access vehicles.

ACI-NA ENVIRONMENTAL BENCHMARKING SURVEY

Based on 74 airports responding to the ACI-NA Environmental Benchmarking Survey:

- 34 provide alternative fuel infrastructure.
- 25 have a fuel hydrant system.
- 52 have public transportation access.
- 21 have employee trip reduction programs.
- 16 have pay-on-foot parking.
- 34 provide bicycle parking.
- 32 have cell phone waiting lots.
- 28 encourage or require low emission ground access vehicles.
- 25 have programs to reduce commercial vehicle trips.
CASE STUDIES:

BOSTON
The Massachusetts Port Authority, owner and operator of Boston Logan International Airport, has carefully tracked Logan’s environmental profile, starting with a first-in-the-nation on and off-airport nitrogen dioxide monitoring program unveiled in 1982. In 2001, Massport developed an innovative Air Quality Initiative (AQI) designed to maintain Logan’s annual emissions of nitrogen oxides at or below a 1999 benchmark. Upon completion in 2009, the new centerfield taxiway will reduce airfield emissions by getting aircraft to and from the terminals more efficiently. Additional AQI projects include an aggressive high occupancy vehicle ground access program, a fuel hydrant system, and power and air hook-ups provided at all contact gates.

www.massport.com/default.aspx

DETROIT
To support Detroit Metropolitan Wayne County Airport’s proactive commitment to environmental excellence, it was awarded a Voluntary Airport Low Emissions (VALE) grant, totaling nearly $5.1 million, by the Federal Aviation Administration (FAA). The grant supports the airport’s plan to reduce operational emissions at its new North Terminal. Funding from the grant will be used to support the construction of infrastructure to deliver fuel, temperature-controlled air and auxiliary electrical power directly to aircraft parked at each new boarding gate. Together, these three systems will eliminate the need for, and emissions associated with, mobile fuel trucks, while the preconditioned air and 400 hertz electrical power units will reduce the reliance on on-board auxiliary power units (APUs) and diesel-powered portable ground power units—thus reducing fuel consumption and associated emissions. Altogether, the North Terminal infrastructure supported by the VALE grant is expected to spare the environment from more than 418 tons of carbon monoxide, 409 tons of ozone precursors, 366 tons of nitrogen oxides, 66 tons of sulfur dioxide, 42 tons of volatile organic compounds and 6.4 tons of particulate matter. www.metroairport.com
Water Quality and Conservation

Airports make substantial efforts to both protect water quality and conserve water. The discharges associated with ongoing industrial activities such as fueling, washing, maintenance, construction and deicing can adversely impact water quality. Airports are reducing those impacts by managing runoff from deicing activities; detaining runoff and reducing pollutant discharges from construction projects; and establishing dedicated washing facilities that drain to sanitary sewers and otherwise reducing adverse stormwater impacts.

Airports can be significant consumers of water, a scarce resource in many areas. To conserve water, airports have implemented such measures as installing automatic shutoff and low-flow plumbing fixtures in restrooms, incorporating water reuse programs, and utilizing water-saving landscaping.

ACI-NA ENVIRONMENTAL BENCHMARKING SURVEY

Of the 74 airports responding to the ACI-NA 2008 Environmental Benchmarking Report:

■ 56 have automatic shutoff fixtures.
■ 48 have low-flow plumbing fixtures.
■ 23 use water-saving landscaping.
Case studies:

OAKLAND
The Port of Oakland, operator of Oakland International Airport, has been a leader in the area of stormwater management and treatment for the past 15 years. The Port’s Environmental Programs and Planning Division works closely with staff and consultant engineers to design projects with post construction controls or long-term best management practices in mind. Runoff from roadways, parking lots and buildings is diverted to grassy swales, detention basins, and landscape areas to allow for infiltration and treatment prior to discharging off site. One of the airport’s recent projects was the bio-swale and detention basin constructed as part of the new roadway and civil work project. The best management practice captures stormwater runoff from 89.99 acres of impervious land and diverts it to the drainage swale. During an average rainfall, over 4.8 million gallons of water is treated from this area before being discharged into San Francisco Bay. [www.flyoakland.com/index2.cfm](http://www.flyoakland.com/index2.cfm)

CINCINNATI
The Cincinnati-Northern Kentucky International Airport has used a multi-faceted approach to managing deicing fluid runoff. These include source reduction through the use of best management practices; source separation using 21 deicing pads in conjunction with 8 million gallons of storage for the high concentrate glycols; and collection and treatment of the fugitive deicing fluids (glycol and pavement deicers). The system is capable of collecting up to 6 million gallons/day and can treat up to 36,000 pounds of biological oxygen demand per day. The airport also converted dry stormwater detention basins into permanent wet basins which utilize aeration to add a final polishing to the treated stormwater prior to discharge into the streams. Online dissolved oxygen meters control the aerators to achieve optimum aeration while also controlling energy costs. [www.cvgairport.com](http://www.cvgairport.com)

To conserve water, airports have implemented such measures as installing automatic shutoff and low-flow plumbing fixtures in restrooms, incorporating water reuse programs, and utilizing water-saving landscaping.
Noise and Land Use

While aircraft have become significantly quieter over the last 30 years, noise and compatible land use continue to be important issues in airport communities. Although the federal government controls aircraft noise certification standards and flight tracks, airport operators have taken steps to help reduce the noise impacts to nearby communities through programs tailored to the unique noise concerns at each airport. These programs often focus on community outreach and education to provide a better understanding of aircraft activities and receive feedback to help improve programs airports implemented with the help of airlines, pilots, and air traffic controllers.

ACI-NA ENVIRONMENTAL BENCHMARKING SURVEY

Of the 74 airports responding to the ACI-NA Environmental Benchmarking Survey:

- 58 track noise complaints.
- 37 have a noise monitoring system.
- 48 have a flight tracking system.
- 51 have a noise abatement runway use program.
- 52 have ground run-up procedures or enclosures.
- 32 have programs with airlines encouraging noise abatement procedures.

CASE STUDIES:

PHOENIX

The Phoenix Sky Harbor International Airport Community Noise Reduction Program (CNRP) was created in 2002 to offer services to residents living in neighborhoods bordering the airport. The aviation department voluntarily developed this program to assist residents most impacted by noise from aircraft using Sky Harbor.

The program includes outreach and counseling services in adjacent neighborhoods in both Phoenix and Tempe, offering either home sound mitigation services or a home acquisition and relocation packet to eligible residents in the 7-square-mile program area. The airport has also expanded the program to include soundproofing of schools, community centers and other institutional buildings within the eligibility area. [www.phoenix.gov/skyharborairport/index.html](http://www.phoenix.gov/skyharborairport/index.html)

PORTLAND

The Port of Portland, in collaboration with FAA and airline partners, enhanced Portland International Airport’s noise abatement procedures using advanced satellite-based navigation technologies. New arrival and departure procedures route jets over the Columbia River with increased precision as compared to older ground-based navigation technologies. In addition to reducing community noise impacts, the new procedures have the potential to improve airspace efficiency, while reducing fuel use and aircraft emissions and air traffic controller workload. [www.portofportland.com](http://www.portofportland.com)
Recycling and Waste Management

Over the last few years, many airports have implemented and expanded their waste management and recycling programs to include additional materials and physical spaces. Airports such as Montréal, Salt Lake City, Denver, Los Angeles, and Nashville have extensive recycling programs that eliminate the need to dispose of everything from glass to restaurant grease. Airports are also working with airlines to ensure proper handling of recyclable materials coming off aircraft, including cups, cans, and newspapers.

Materials included in ACI-NA member airport waste management and recycling programs:

- Aluminum
- Glass
- Plastic
- Paper
- Cardboard
- Wood
- Metal
- Food and Coffee Grinds
- Construction Debris
- Light Bulbs
- Toner Cartridges
- Used Oil
- Batteries
- Used Oil
- Deicing Fluid

Physical areas included in ACI-NA member airport waste management and recycling programs:

- Public Spaces
- Concessions
- Administrative Offices
- Cargo Areas
- Construction and Demolition Sites
- Parking Areas
- Maintenance and Operation Facilities
- Airline/Aircraft Areas

CASE STUDY:

SEATTLE

The extensive recycling program in place at Seattle-Tacoma International Airport covers everything from glass to coffee grounds to runway rubber. The airport even sends restaurant fryer grease to be recycled into biodiesel fuel. An innovative “pay-as-you-throw” program encourages tenant recycling by charging for waste disposal while allowing disposal of recyclables for free. By recycling more than 1,200 tons of waste per year, the airport is estimated to have saved $120,000 per year in disposal costs. The program will continue to grow as the airport works with airlines to expand recycling trash from aircraft. [www.portseattle.org](http://www.portseattle.org)
THE INDUSTRY’S NEXT STEPS

While this brochure highlights many of the programs in place at individual airports across the U.S. and Canada, as an industry, ACI-NA members have committed to going even further to advance the implementation of environmental initiatives. In February 2009, the ACI-NA Board of Directors adopted a slate of goals aimed at continued actions to reduce both airports’ own environmental impacts and those impacts associated with sources outside an airport’s ownership and control.

ACI-NA Environmental Goals:
The Environmental Goals are a reflection of programs proven successful at reducing environmental impacts at many airports and seen as an opportunity to mirror those achievements across the industry.

ACI-NA will work to help its member airports achieve these ambitious environmental goals through increased education and information sharing, identification of funding needs, and support for necessary research. By working with their communities, regulators, Congress and industry partners, airports can move toward a cleaner, quieter aviation industry.

General Environmental Goals

1. Environmental Policies: Every ACI-NA member airport will strive to have an environmental policy statement by 2010.

2. Environmental Management Systems: Every ACI-NA member airport will strive to have an Environmental Management System in place by:
   - 2014 at large airports.
   - 2016 at medium airports.
   - 2019 at small airports.
Air Quality, Climate, and Energy Goals

1. **Low Emission Airport Vehicles and Ground Support Equipment (GSE):** ACI-NA member airports will strive to convert airport-owned and operated ground vehicles and GSE to low emission vehicles with an industry-wide average goal of 50% of vehicle conversion by 2019.

2. **Low Emission Access Vehicles:** By 2010, every ACI-NA member airports will strive to implement an incentive program to encourage taxi, shuttle, limo, and rental car companies to use low emission vehicles.

3. **Low Emission Vehicle Infrastructure:** Half of ACI-NA member airports will strive to provide low emission vehicle support infrastructure by 2019.

4. **Energy Conservation:** By 2014, every ACI-NA member airport will strive to implement an energy conservation program that includes adoption of an airport-specific goal to reduce non-renewable energy consumption.

5. **Loading Bridges Equipped with Pre-conditioned Air and Power:** Every ACI-NA member airports will strive to have at least 25% of their loading bridges equipped with pre-conditioned air and 400 Hz electrification by 2019.

6. **Reduced Fee and/or Parking Incentives for Low Emission Passenger Vehicles:** Half of ACI-NA member airports will strive to provide incentives and/or reduced fee parking for low emission passenger vehicles by 2011.

7. **Greenhouse Gas Emissions Inventories:** Half of ACI-NA member airports will strive to conduct greenhouse gas emissions inventories by 2015.

Noise Goals

1. **Noise and Land Use Compatibility Policies:** Every ACI-NA member airport will strive to develop a noise and land use compatibility policy by 2019.

Waste Management Goals

1. **Recycling Programs:** Every ACI-NA member airport will strive to have a basic recycling program in place by 2011. Half of airports will have more extensive recycling programs by 2014.

Water Quality Goals

1. **Water Conservation:** By 2014, every ACI-NA member airport will strive to implement a water conservation program that includes adoption of an airport-specific goal to reduce water consumption.

2. **Spill Reduction Training:** ACI-NA member airports will facilitate awareness and training with a goal of reducing spills by 25% from 2005 levels by 2015. ACI-NA airports will strive to have no releases of petroleum-based spills.
For More Information

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Background on ACI-NA’s website:
http://www.aci-na.org/index/airportsyou_enviro
http://www.aci-na.org/index/issues_enviro_main

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