



GOAA GREEN



*On the flightpath to a **greener** tomorrow*

Sustainability Management Report 2014



GREATER ORLANDO AVIATION AUTHORITY



Message from Phil Brown, Executive Director, Greater Orlando Aviation Authority

It is with pride and excitement that we share the Greater Orlando Aviation Authority's (GOAA) First Annual Sustainability Report. The report illustrates the efforts of our airport community to reduce operational waste, mitigate environmental impact and support our community through leadership in sustainability. This report also outlines our progress towards meeting the targeted goals established within GOAA's Sustainability Management Plan.

Within our 5-year Sustainability Management Plan, we commit to meeting our sustainability initiatives to protect both our working environment and living environment for our employees, our passengers and the communities we serve with best practices, outreach and education.

Highlights over the last year include:

- Established an award-winning volunteer Green Team
- Hosted fourteen educational outreach events with Sustainability Professionals
- Diverted 1,800 tons of waste from the landfill
- Saved more than \$330,000 in electricity costs
- Saved more than \$10,000 in potable water fees by reducing usage by over 20 millions gallons
- Registered the South Terminal Complex for 3rd party green building certification through the US Green Building Council, LEEDv4 for New Construction
- Received the Environmental Protection Agency's (EPA) Energy Star Label for the Purchasing and Material Control Building

I would like to extend a special thanks to our dedicated Green Team, which includes GOAA staff, contractors, members from the airport community and our airline partners. By working together as an airport community, Orlando International Airport and Orlando Executive Airport are truly becoming more sustainable points of entry to our City Beautiful™.

Sincerely,

Phil Brown

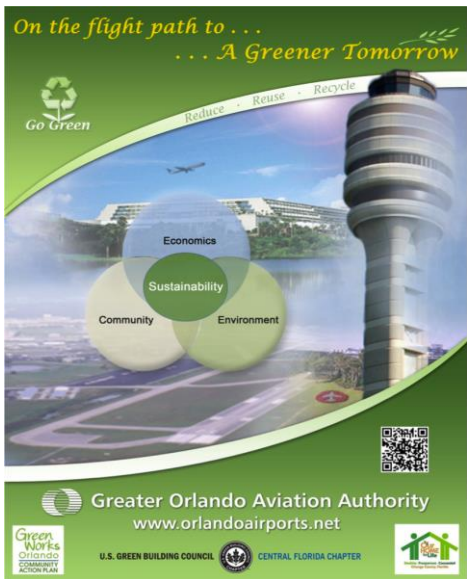
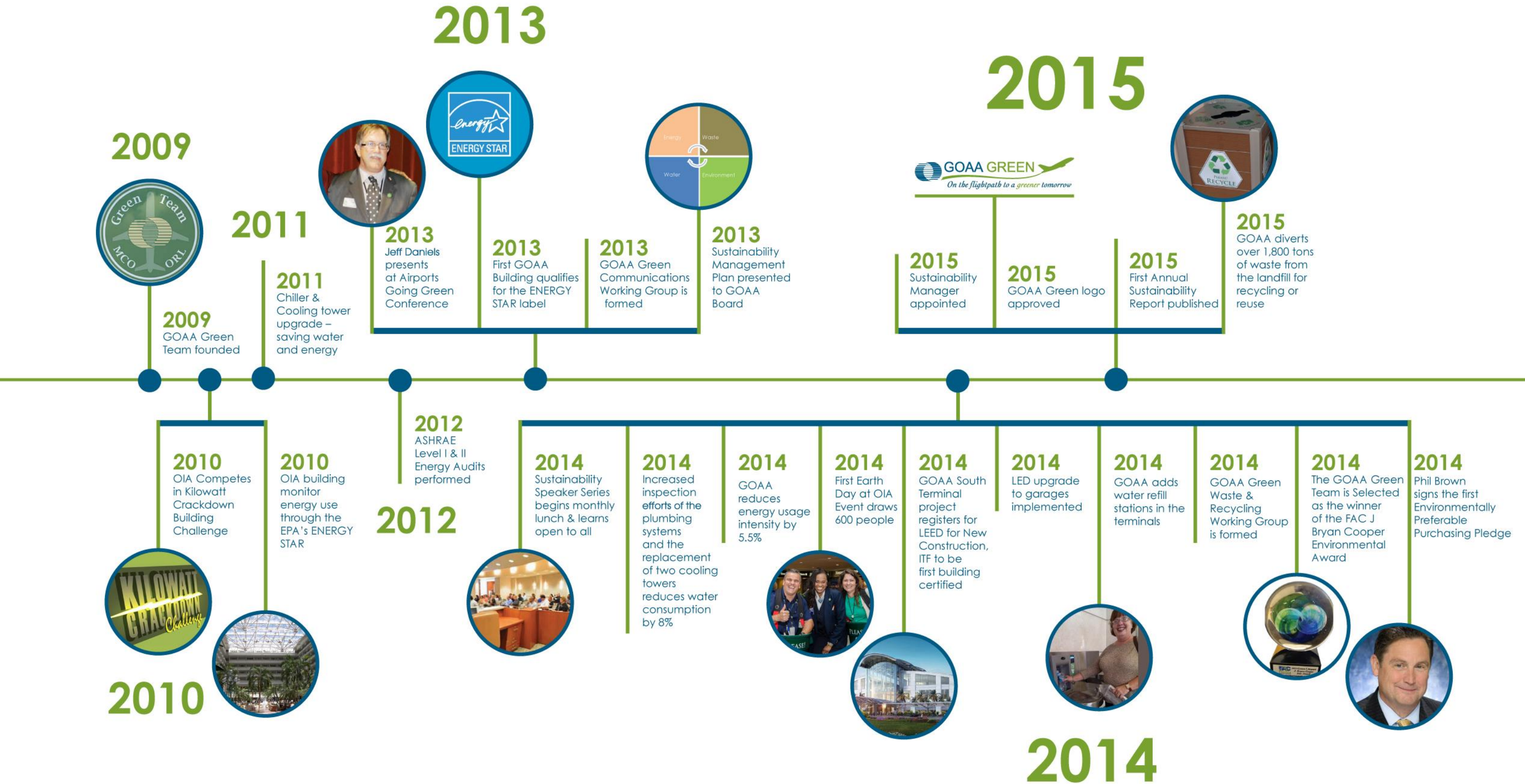


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GOAA Sustainability Timeline



Introduction

Orlando International Airport incorporated sustainable concepts into its original design at a time when environmental awareness was still in its infancy. To maintain the balance between a healthy environment and a healthy economy, GOAA formalized their longstanding initiatives through the development of a Sustainability Management Plan in 2013.

"The Objective of the Sustainability Management Plan (SMP) is continuous improvement in operations, maintenance, purchasing, engineering and construction at GOAA," says Phil Brown, GOAA Executive Director. The SMP serves as a central framework to reduce dependency on fossil fuels, lower the demand for potable water, preserve natural lands, divert landfill waste to better uses, and support alternative transportation.

GOAA's SMP supports the City of Orlando's aggressive GreenWorks Orlando™ program, and its goal to become the greenest city in the Southeast. GreenWorks Orlando™ promotes green business opportunities, green and efficient municipal operations, natural resource protection, environmentally-friendly lifestyles, local food production and locally-owned businesses¹.

The Plan also supports Orange County's Sustainability Plan, Our Home for Life, which provides a framework to work toward sustainability as well as goals and strategies that will integrate sustainability into culture, decision making, and governance².

The shared vision of sustainability between the City of Orlando, Orange County, and GOAA creates synergy and visibility among local leadership that energizes the community and resonates with residents and the traveling public.

¹City of Orlando. (n.d.). GreenWorks Orlando 2013 Community Action Plan. Retrieved from http://www.cityoforlando.net/greenworks/wp-content/uploads/sites/9/2014/03/gw_cap_plan2013.pdf

²Orange County Government. (2014). "Sustainable Orange County Plan". Retrieved from <http://www.orangecountyfl.net/Portals/0/resource%20library/all%20meeting%20minutes/sustainability%20committee/final%20plan/SustainabilityPlanFinal05152014.pdf>.

GOAA's Sustainability Mission

"The responsibility to construct and operate the airport facilities in a manner that ensures future generations will enjoy the same environment and vision that we experience today³."



GOAA GREEN Goals

"The Sustainability Management Plan provides a central framework for environmental sustainability by outlining broad goals to reduce operational impact and actively maintain the role of being a community leader in sustainable outreach and education" says Tom Draper, Director of Operations.

GOAA GREEN, the brand for GOAA's Sustainability efforts, includes eight goals:



GOAL 1: REDUCE SOLID WASTE TO THE LANDFILL



GOAL 2: REDUCE ENERGY USE



GOAL 3: INCREASE WATER CONSERVATION



GOAL 4: INTEGRATE SUSTAINABLE PRACTICES INTO BUSINESS PROCEDURES AND WRITTEN AGREEMENTS



GOAL 5: INCORPORATE SUSTAINABLE PLANNING, DESIGN, & CONSTRUCTION PRACTICES INTO ALL AIRPORT PROJECTS



GOAL 6: MINIMIZE ENVIRONMENTAL IMPACTS



GOAL 7: REDUCE SINGLE OCCUPANCY COMMUTING AND INCREASE ALTERNATIVE TRANSPORTATION



GOAL 8: CONTINUE BEING A COMMUNITY LEADER/PARTNER IN SUSTAINABILITY



GOAA Profile

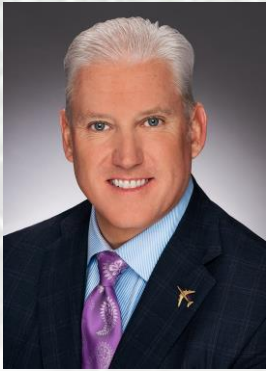
Orlando International Airport

Orlando International Airport, airport code MCO, is located in the City of Orlando in Orange County, and services all of Central Florida. It is the second largest airport in Florida, the 15th busiest airport in the United States, and the 43rd busiest airport in the world ranked by the number of passengers during calendar year 2014⁴.

MCO is managed by the Greater Orlando Aviation Authority, which is governed by a seven-member board; the Mayor of the City of Orlando, the Mayor of Orange County, and five other members who are appointed by the Governor of the State of Florida, subject to confirmation by the senate. The airport is operated by an Executive Director, who is appointed by the Authority Board, and his staff of nearly 650 full-time employees⁵.



Frank Kruppenbacher
Chairman



Dean Asher
Vice Chairman



Domingo Sanchez
Treasurer



**The Honorable
Buddy Dyer**
Mayor City of Orlando



**The Honorable
Teresa Jacobs**
Mayor Orange County



Jim Palmer



Ed Fouche

Currently, MCO averages approximately 830 flight operations (arrivals and departures) per day and accommodates over 35 million annual passengers. In total, MCO is responsible for approximately 18,000 jobs on airport, 267,800 direct and indirect jobs in the community and over \$31.4 billion a year in regional economic impact⁶.

With increased tourism, business, and industry in the Greater Orlando area, MCO has grown to keep pace with demands for passenger and air cargo service. With a forecast for continued growth, GOAA is expanding the Orlando International Airport facility to meet the demand, but also provide a world-class facility that embodies the Authority's commitment to the community and to the future.

Major areas of expansion currently underway include an Intermodal Transportation Facility, expansion of the Terminal's ticket counter areas, Federal Inspection and Customs facility, North Cell Phone Lot, and design of a future new terminal in the South Development.

Economic Impact

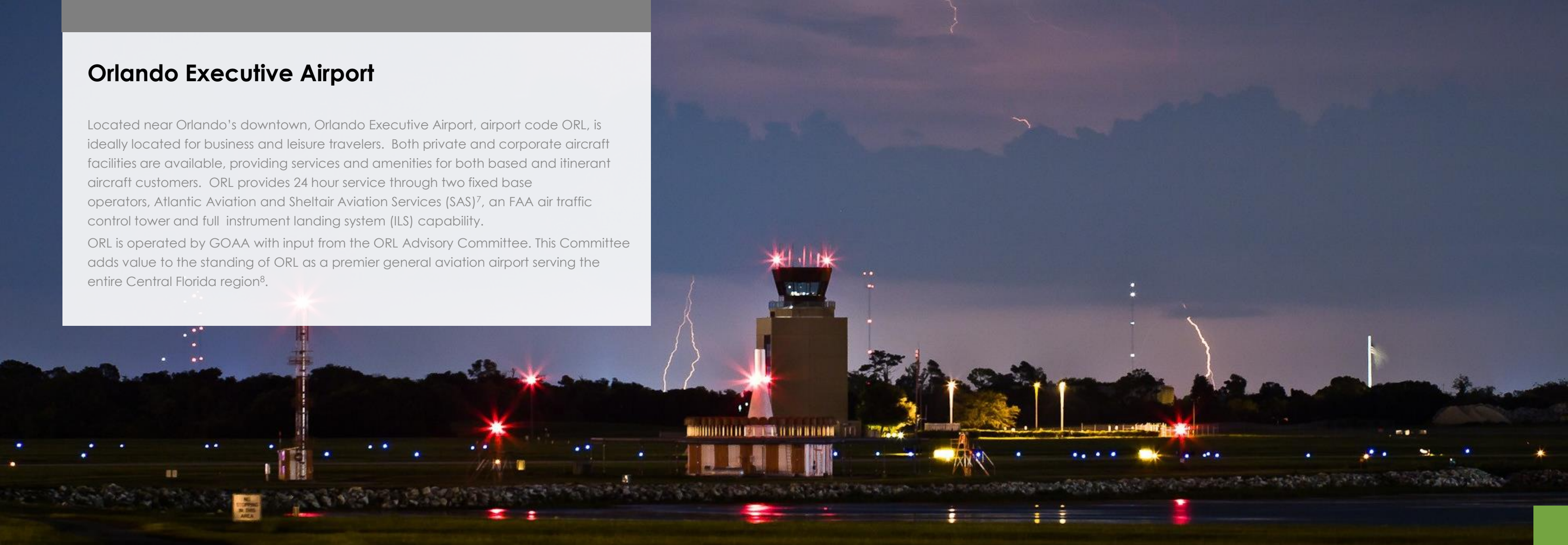
In total, OIA is responsible for approximately 18,000 jobs on airport, 267,800 direct and indirect jobs in the community and over \$31.4 billion a year in regional economic impact.

³Airports Council International-North America. (2014). 2014 North American Airport Traffic Summary (Passenger). Retrieved from <http://www.aci-na.org/content/airport-traffic-reports>.

Orlando Executive Airport

Located near Orlando's downtown, Orlando Executive Airport, airport code ORL, is ideally located for business and leisure travelers. Both private and corporate aircraft facilities are available, providing services and amenities for both based and itinerant aircraft customers. ORL provides 24 hour service through two fixed base operators, Atlantic Aviation and Sheltair Aviation Services (SAS)⁷, an FAA air traffic control tower and full instrument landing system (ILS) capability.

ORL is operated by GOAA with input from the ORL Advisory Committee. This Committee adds value to the standing of ORL as a premier general aviation airport serving the entire Central Florida region⁸.



Economic Conditions and Outlook

According to the U.S. Census Bureau, Orlando was the fastest growing major metropolitan area in the United States in 2013, and it was named by Forbes Magazine as the region with the most job growth in 2014. Area theme parks continue to invest in the community with the building and planning of new attractions.

In addition to the major attractions, Orlando and Orange County are the proud home of: a world-class cultural venue; the first NBA facility to earn LEED Certification; the largest LEED Gold Certified Convention Center in the world; and, soon to come, a LEED certified Major League Soccer stadium. All are expected to have a significant positive economic impact on the region and increase travel to Central Florida⁹.



- The Dr. Phillips Center for the Performing Arts will provide a unique destination to showcase regional and national performance groups. The Dr. Phillips Center was built to LEED certification standards including design and construction to reduce water use, save energy, and promote a sustainable environment.
- The Amway Center is the first NBA facility to earn LEED Certification from the U.S. Green Building Council. The arena uses 20% less energy and 40% less water than arenas of similar size.
- The Orange County Convention Center (OCCC) is the primary public convention center for the Central Florida region with 7,000,000 sq ft (650,000 m²) of total space, 2,100,000 sq ft (200,000 m²) of exhibit space. OCCC is the second largest convention center in the United States and the largest LEED Operations and Maintenance Gold Certified Convention Center in the world. OCCC hosts approximately one million delegates annually and provides a \$1.9 billion total economic impact annually to the Central Florida economy¹⁰.
- A new Major League Soccer stadium is being constructed in Downtown Orlando – it will be the future home of Orlando City Soccer Club and host to other major national events throughout the year. Scheduled to open in the 2016 MLS season, the stadium will have an initial capacity of approximately 19,500. It aims to be LEED-certified, and will reflect the character and culture of the community.

⁴Sheltair. (n.d.). Retrieved from <http://www.sheltairaviation.com/properties/orlando>.

⁵Orlando Executive Airport, FL (ORL). (2015). Retrieved from <https://www.atlanticaviation.com/location/ORL>

⁶Orange County Convention Center. (2015). In Wikipedia. Retrieved from https://en.wikipedia.org/wiki/Orange_County_Convention_Center.

GOAL 1:

REDUCE SOLID WASTE TO THE LANDFILL



Waste

2014 compared to 2010



weighing more than seven Boeing 747s



GOAA is working towards increasing its waste diversion rate to 50% by 2018 by reducing its landfill waste. In 2014, GOAA diverted more than 1,800 tons from the landfill with a diversion rate of 17.2%. This is an increase over the 2013 diversion rate of 16.5%.

Proactive planning, policy creation, and vendor communication provide a springboard toward sustainable waste management. Numerous efforts/programs are in place to assist with increasing the waste diversion rate at GOAA and among the airport community.

Diverted Materials include:

- Paper and cardboard
- Mixed metals
- Plastic
- Electronic waste
- Appliances
- Tires
- Ink cartridges
- Paper
- Aluminum
- Wooden pallets
- Construction waste
- Batteries

Cardboard accounts for **32%** of all diverted material at GOAA.

Expanding Recycling at GOAA

In 2014, GOAA expanded single stream recycling services to all major facilities, and some parking areas and garages.



Jeff Daniels, Assistant Director of Maintenance and Founder of the Green Team, and members of his staff show the newly repurposed recycling bins with customized pictorial instructions.

Educating the Airport Community



In 2014, the GOAA GREEN Team developed the Waste and Recycling Working Group to increase GOAA's diversion rate to achieve the sustainability waste diversion goal. The Working Group conducted waste audits throughout the airport and initiated an educational series to improve recycling behaviors.

GOAA hosted its first Annual America Recycles Day event in 2014. The event was led by the Green Team and was geared toward educating employees, business partners and the traveling public about waste reduction and recycling efforts within the airport community. During the event, the Green Team collected over 200 pounds of batteries, eyeglasses, shoes and cell phones from attendees and all items were recycled or repurposed.



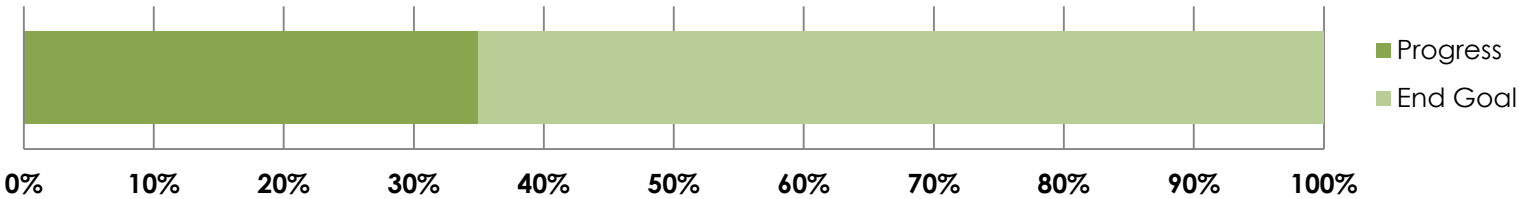
Waste audits provide an opportunity to observe recycling behaviors. Increased awareness is the cornerstone to a successful waste diversion program.

Solid Waste Management

In 2014, GOAA conducted an assessment of its solid waste management practices as the first step to consolidate interdepartmental efforts and establish an operational baseline. The assessment provided practical recommendations for implementation including the need for waste audits. Waste audits are used to identify the type and amount of solid waste a building or department is generating and how much can be avoided through source reduction, recycling, reuse or repurposing.

Implementing the recommendations from the assessment, GOAA, with its Green Team, conducted a waste audit of an administrative building. Using the data collected, GOAA identified opportunities to reduce waste, increase user awareness and reduce hauler fees resulting in cost savings. By designing a more efficient waste disposal program, GOAA will increase the diversity and quantity of materials that it recycles thus reducing air and water pollution and conserving natural resources¹¹.

GOAA's 2014 Progress towards Waste Diversion Goal



¹¹Natural Resource Defense Council. (n.d.). Smarter Business: Greening Advisor. Retrieved from <http://www.nrdc.org/enterprise/greeningadvisor/wm-audits.asp>.

Developing Successful Waste Diversion Programs

Southwest Airlines diverted **over six tons of recyclables** from the landfill in November and December.



GOAA supports its business partners in the development of innovative and successful waste diversion programs. Green Team member Sheila DiPace, from Southwest Airlines, collaborated with GOAA to develop a recycling program for Southwest Airlines that diverted over six tons of recyclables from the landfill in November and December. These recyclables included magazines, boxes, and plastic wrap. This new recycling effort is scheduled monthly and could keep over 42 tons of recyclables out of the landfill in just one year. Thanks to our Green Team members for keeping their eyes open to opportunities like this.



Food Composting at the Hyatt Regency at Orlando International Airport

The Hyatt Regency at Orlando International Airport recognizes the need to operate in an environmentally and socially responsible manner. Hyatt Thrive, Hyatt's corporate responsibility platform, includes environmental sustainability and sets goals for sustainability programs including recycling or diverting at least 40% of its waste from the landfill¹². The Hyatt, in collaboration with the City of Orlando and Waste Management, initiated a food-composting program in August 2014 and diverted over 45 tons of food waste from the landfill in 5 months.



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¹²Hyatt Thrive. (2015). Retrieved from <http://thrive.hyatt.com/en/thrive/our-planet/2020-vision.html>.

Enterprise Holdings Recycling Program

Green Team member, Cindy Sherrod, of Enterprise Rental Car, noticed a new recycling opportunity and asked the GOAA GREEN Team to get involved by assisting in a waste audit of Enterprise's Quick Turn Around Area. Green Team members and the City of Orlando conducted a waste audit and determined that over 80% of the waste removed from rental car returns is recyclable. Enterprise now provides employee training and easily accessible recycling bins in this service area.

This behavioral change reduced monthly hauling fees by \$500. The Enterprise Holdings recycling program is not only saving the environment, but also saving money.

The Enterprise Rental Car recycling program is not only **saving the environment**, but also **saving money**.



HMS Host Supports the Community and Reduces Landfill Waste



Sustainability is a core value at HMS Host. The company's "Start Somewhere" sustainability initiative includes three components: the environment, nutrition & wellness, and community partnerships¹³. In 2010, HMS Host partnered with Feeding America to implement a formal food rescue program.

HMS Host Orlando has donated over 46 thousand pounds of food annually to the Orlando Union Rescue Mission and 2.39 million pounds of food to community food banks across the country.

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¹³HMS Host (2015). Sustainability. Retrieved from <http://www.hmshost.com/about-us/sustainability/>.

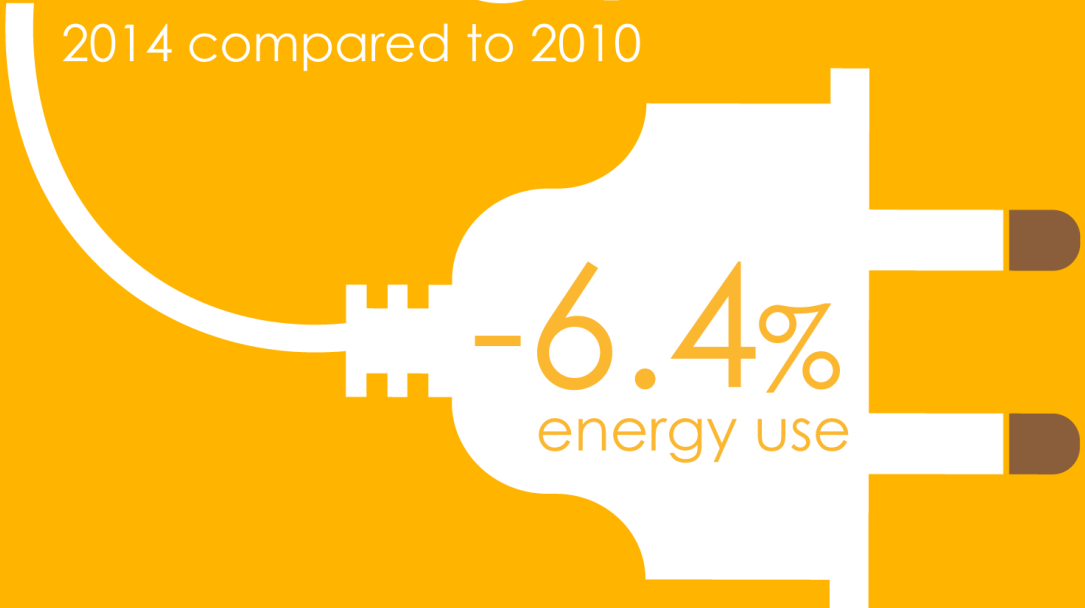
GOAL 2:

REDUCE ENERGY USE



Energy

2014 compared to 2010



= to powering 838 homes for 1 year

GOAA continually strives to reduce energy consumption through optimized energy efficiency. The Sustainability Management Plan goal of a 10% reduction in energy use intensity (EUI) by 2018 will likely be surpassed. Since 2010, GOAA has reduced its EUI by 6.4%, totaling an operational cost savings of \$330,000 between 2013 and 2014 alone.

Reduction in energy usage over the last year can be attributed to lighting, heating and cooling equipment retrofits, and improved utilization of the Building Automation System.

Reducing Energy Use

GOAA engaged in many efforts to reduce energy consumption, including but not limited to:

- Replacing chillers with high efficiency machines using variable frequency drives
- Installing energy efficient motors for air handling units
- Utilizing daylight harvesting and occupancy sensors
- Installing carbon dioxide controls to reduce the amount of outside air introduced into the facility
- Upgrading controls on baggage systems to shut systems off when no bags are detected

Assessing and Planning for Increased Efficiency

GOAA completed ASHRAE Level II audits for ten buildings in 2014. The audits evaluated the building energy systems in detail and defined a variety of energy efficiency improvement measures. The audits also provided a Life Cycle Cost Analysis of the proposed measures. GOAA has prioritized Energy Conservation Measures and developed capital funding plans for implementation.



Improving Alternative Energy Strategies

GOAA continues to explore opportunities to incorporate renewable energy sources, such as solar arrays, into its energy use portfolio. Clean Energy Fuels constructed a new Compressed Natural Gas (CNG) fueling station on GOAA property. With a fueling station nearby, GOAA will now be able to begin planning and purchasing natural gas-based vehicles for usage.



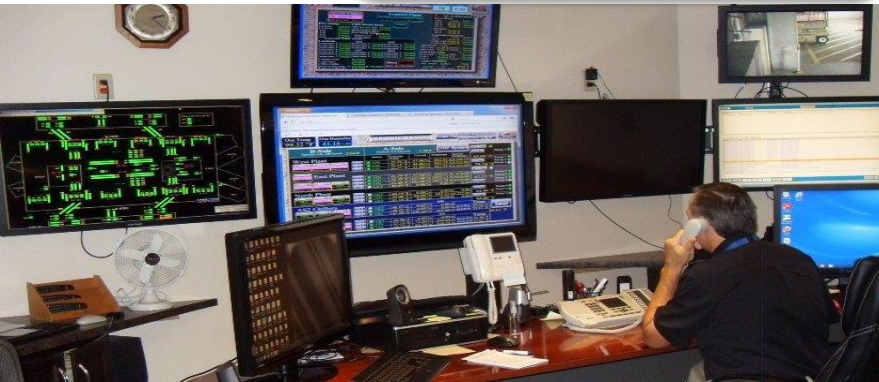
Upgrading the Building Automation System (BAS)

A Building Automation System (BAS) is a computer-based control system that optimizes the start-up and performance of mechanical and electrical equipment such as HVAC equipment, lighting, powered systems, and alarm systems. Over two years the airport has installed sensors in facilities, allowing the BAS to adjust lighting and HVAC controls based on the level of occupancy.



"Using a **BAS** increases the interaction between the mechanical subsystems of a building, improves occupant comfort, lowers energy use, allows off-site building control and ensures that equipment is running properly and efficiently at all times."

Jeff Daniels, Assistant Director of Maintenance & Facilities



Life Cycle Cost Analysis is a tool used to determine the most cost-effective option to purchase, operate, maintain and dispose of a process when multiple options are equally appropriate on technical grounds¹⁴.

¹⁰(2015). Life-cycle Cost Analysis. In Wikipedia. Retrieved from https://en.wikipedia.org/wiki/Life-cycle_cost_analysis.

Saving through the Lighting Upgrade Program

Lighting upgrades to high efficiency light emitting diodes (LED) have been completed in over 10 areas on the airport property. These new lighting sources are exceptionally efficient. The cost savings were realized in less than one year with a combined lifecycle cost savings of over \$500,000 within 10 years.



Tracking energy usage in **ENERGY STAR Portfolio Manager** allows organizations to compare their energy usage against similar facilities.

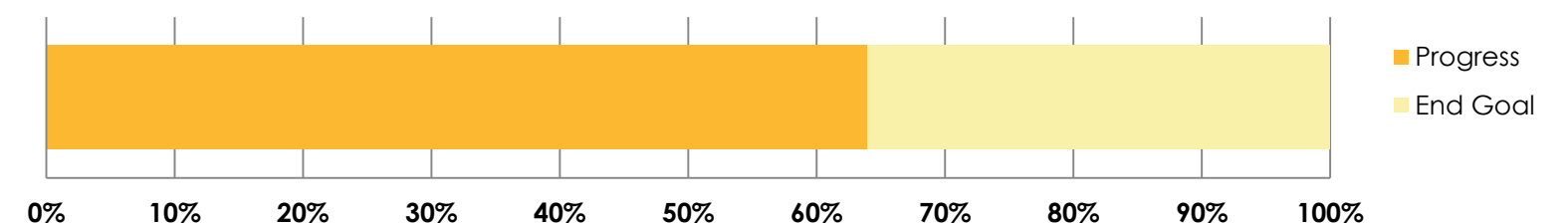
In 2014, GOAA completed loading energy usage data into Portfolio Manager for the 17 largest buildings.

IT purchases **ENERGY STAR Certified desktop and laptop computers** that use significantly less energy than standard models.

The **Purchasing and Material Control** building earned the **EPA's ENERGY STAR** label signifying that the building performs in the top 25% of similar facilities nationwide.

Buildings that are benchmarked in the **EPA's ENERGY STAR** Portfolio Manager **reduce energy use** by an average of 2.4% per year, for a **total savings of 7%¹⁵**.

GOAA's 2014 Progress Towards Energy Usage Goal



¹⁵U.S. Environmental Protection Agency. (n.d.) Learn About Benchmarking. Retrieved from <http://www.energystar.gov/buildings/about-us/how-can-we-help-you/benchmark-energy-use/benchmarking>.

GOAL 3:

INCREASE WATER CONSERVATION



Water 
2014 compared to 2010



= 1,092 residential pools



Water Conservation

GOAA aims to reduce its potable water usage by 10% by 2018. Since 2010, GOAA has reduced its water usage by 8%. GOAA also reduced its per passenger water consumption by 7.2% in 2014, saving \$10,000 despite a 3% increase in passenger traffic.

The reduction in potable water use can be attributed to:

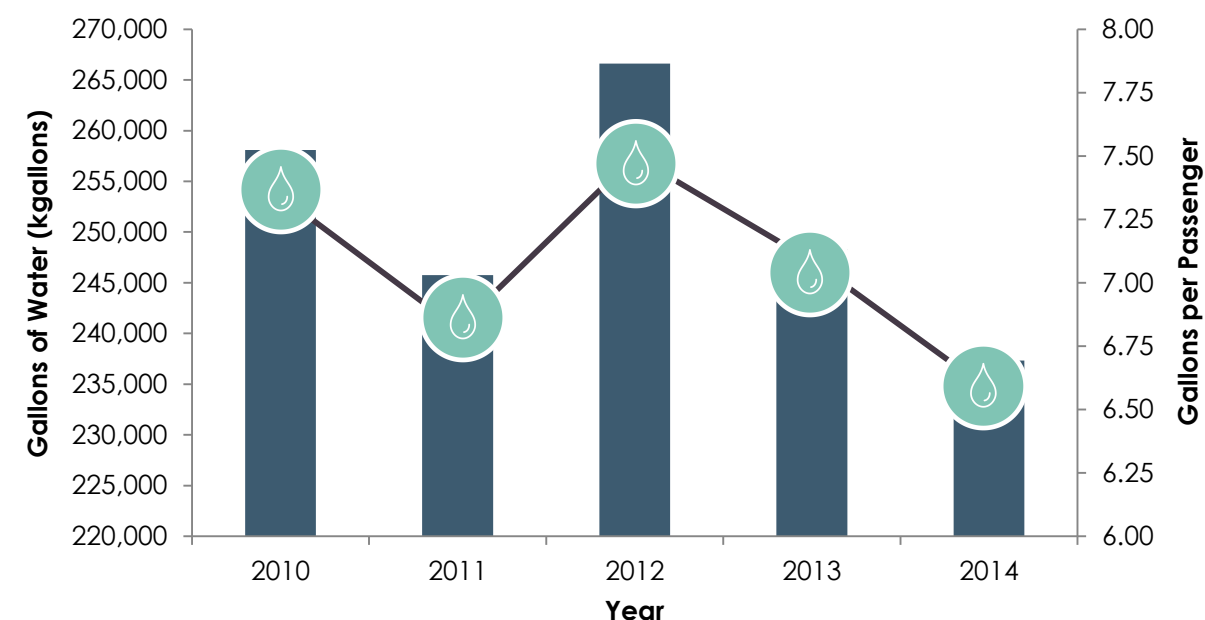
- Installing low flow sensors, and high efficiency toilets, urinals and faucets in restrooms
- Repairing leaking water pipes and replacing old fixtures
- Replacing wooden cooling towers with significantly more efficient composite cooling towers
- Using reclaimed water for landscape irrigation

Numerous plans are in place to continue water conservation and efficiency efforts such as:

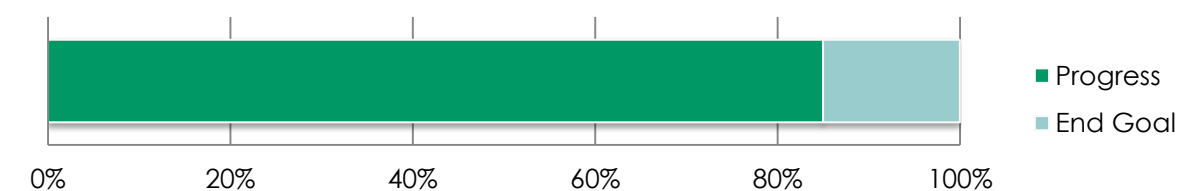
- Newly constructed facilities that utilize Florida-Friendly Landscaping™ techniques to keep irrigation demands to a minimum
- New construction standards specifying high efficiency plumbing fixtures

Florida-Friendly Landscaping™ (FFL) means using low-maintenance plants and environmentally sustainable practices¹⁶.

GOAA's Water Usage



GOAA's 2014 Progress towards Water Reduction Goal

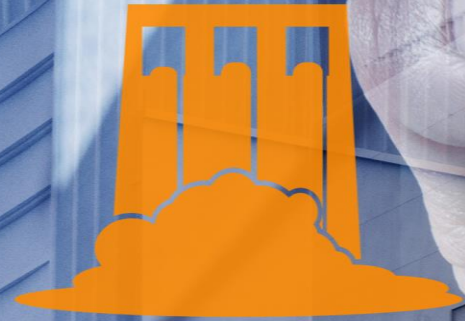


GOAL 4:

INTEGRATE SUSTAINABLE PRACTICES INTO BUSINESS PROCEDURES AND WRITTEN AGREEMENTS



Sustainability-focused language and practices shall be incorporated into all operational procedures and bid requests. GOAA's leadership continues to identify initiatives to advance this goal through the development of sustainable purchasing procedures, sustainable design guidelines, and sustainable operating practices.



"We purchase 'green and recycled' whenever we can and also require many of our contractors to use Green Seal approved cleaning products."

Denise Schneider, Assistant Director of Purchasing and Materials Control and NIGP Manager of the Year



"We are proud of the strong sense of environmental responsibility displayed by our strategic partners here at the airport."

Tracy Conner Harris, Manager of Airport Concessions



Purchasing Pledge in Action

Sustainable Concessionaires

Airports across the nation are being asked by consumers to provide healthful food options, environmentally friendly products and easily accessible recycling bins. GOAA encourages concessionaires to provide healthier and more sustainable products and disposal mechanisms. Within the next 10 years, all concession contracts will incorporate **sustainability criteria including:**

- banning Styrofoam and petroleum-based plastic for disposable consumer packaging;
- separating solid waste into recyclable, compostable and refuse;
- using green cleaning products approved by Green Seal;
- procuring 100% recycled paper for printer use;
- donating surplus food to the greatest extent possible allowed by food safety regulations; and
- using high efficiency lighting and water conservation efforts that meet or exceed Florida Building Energy Code conservation standards.



Signing the EPP Pledge

In 2014, Phil Brown, Executive Director of GOAA, signed the Environmentally Preferable Purchasing (EPP) Pledge. The EPP pledge encourages all airport departments, vendors, and service partners to adopt, practice and promote environmentally preferable purchasing practices. "The signing of this pledge marks a pivotal point for the Authority, showing our commitment to creating an environmentally conscious culture that inspires social responsibility and enhances customer service." says Phil Brown. See Appendix.

¹³Green Seal. (2015). Retrieved from <http://www.green seal.org>.

Green Seal is a nonprofit organization that uses science-based programs to empower consumers, purchasers, and companies to create a more sustainable world¹⁷.

GOAL 5:

INCORPORATE SUSTAINABLE PLANNING, DESIGN, & CONSTRUCTION PRACTICES INTO ALL AIRPORT PROJECTS



GOAA continues to seek opportunities to maximize efficiencies throughout its airport properties. Using sustainable planning, design and construction practices within its renovations and new construction projects is an integral part of these efforts. To accomplish this, GOAA will revisit its Design Guidelines Manual procedures and upgrade its content to include preference to integrated design methodology and building performance information. The U.S. Green Business Council's Leadership in Energy and Environmental Design (LEED) Certification will be used as a baseline on most new vertical construction projects and major renovations.



I'm excited to be a part of GOAA's first LEED Certification effort at the Intermodal Transit Facility, the first of its kind in Florida. The ITF is planned to accommodate four rail options including the privately funded intercity passenger rail, All Aboard Florida, and SunRail. This effort will provide new transportation options to the traveling public, staff and contractors.

Davin Ruohomaki
Senior Director of Planning, Engineering and Construction

The South Airport Project is registered for LEEDv4 for Campus Certification, making it one of the only airports in the country attempting this prestigious goal. The Intermodal Transit Facility is the first building in the process of LEEDv4 certification.

South Airport Automated People Mover (APM) Complex aiming for LEED Certification

Road traffic is synonymous with aviation environments and can place a strain on commuter traffic patterns and infrastructure costs. Providing mass transit and shared options can help alleviate these challenges. To this end, GOAA's new South Airport Automated People Mover (APM) Complex will support multi-modal travel connections, including All Aboard Florida, SunRail, multi-tiered bus lines, and other mass transit opportunities.

Additionally, GOAA is incorporating sustainable features into new building design and construction including: high efficiency lighting; daylight harvesting; occupancy controls; low volatile organic compounds (VOC) carpets, upholstery, and paints; interior plants; Florida Friendly Landscaping; and high efficiency motors.

The first of these projects began with the registration of the South Airport APM Complex and Intermodal Terminal Facility for the US Green Building Council's Leadership in Energy and Environmental Design (LEED) Certification.



"As a major economic engine for the region, Orlando International Airport is poised to meet the growth demands of our global community," says Frank Kruppenbacher, Chairman of the Greater Orlando Aviation Authority. "Over \$5 billion has been earmarked for investment into local industries, which creates jobs, and we must anticipate the demand these investments will create."

Frank Kruppenbacher
Chairman, GOAA Board Services

GOAL 6:

MINIMIZE ENVIRONMENTAL IMPACTS



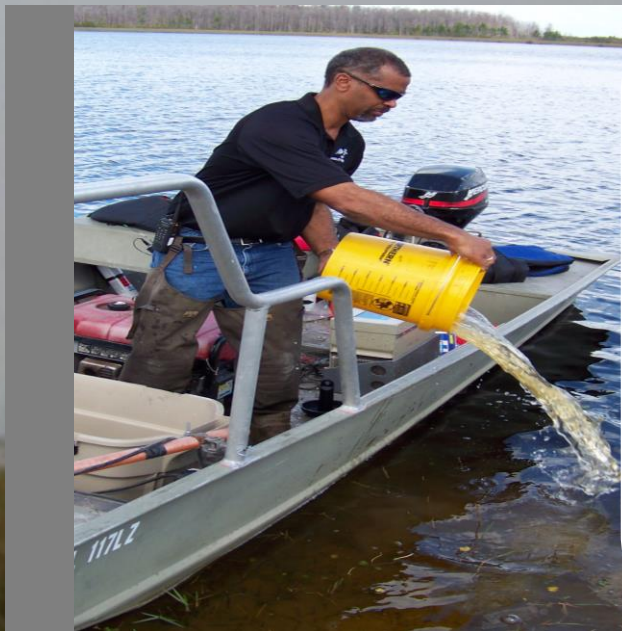
Environmental stewardship is the cornerstone of Orlando International Airport's and Orlando Executive Airport's continued development. GOAA strives to minimize the environmental impact of airport operations through the conservation of resources and the protection of water and habitat at and near the airports.

Although the Orlando International Airport contains over 13,000 acres of land, only 30% is developed. The remainder of the acreage has been preserved in its natural condition. This property is home to native wildlife, including deer, boar, fox, coyote, alligator, and many other species. The acreage is also diverse with wetlands, hardwood forests, and several lakes.

Conserving Wetlands and Habitats

GOAA is committed to balancing the expansion of its airports with the responsibility to protect and care for its natural resources. GOAA restored two conservation easements on property: the Mud Lake Conservation Easement and Poitras/Jim Branch Creek Conservation Easement, and has maintained them since the 1990s. These easements total over 1,000 acres of airport property.

In the late 1990s GOAA began to purchase offsite easements in partnership with Disney Wilderness Preserve and The Nature Conservancy. To date, over 10,000 acres off airport property have been acquired to preserve and restore conservation areas and land. These sites connect to wetlands and will enhance their size, quality, and ecological function, while mitigating potential wildlife hazards¹⁸.



“The overall goal of GOAA’s Wildlife Hazard Management Program is to reduce wildlife hazards and associated risks to aircraft operating at MCO.”

Johnny Metcalf, Wildlife Management Supervisor

Monitoring Water Quality

GOAA established a surface water quality-monitoring program in 1978 to detect any potential pollution problems resulting from on-site and off-site sources. Early detection of pollutants within the surface waters on-site provides a level of protection for the airport’s natural resources.

Wildlife Hazard and Mitigation Management

The Wildlife Hazard Management Program ensures the safety of both aircraft and wildlife. GOAA has had a formal wildlife hazard management program in place for over 17 years. In 1997, GOAA established the first operations staff position designated to wildlife hazard management. The Wildlife Hazard Management Program includes a dedicated GOAA Wildlife Biologist and Operations Specialists who conduct wildlife observations, implement active and passive management techniques, document strikes, and document wildlife deterrent and removals.



Pollution Prevention and Mitigation

GOAA inspects over 150 tenants for compliance with EPA’s National Pollutant Discharge Elimination System (NPDES) and the Resource Conservation and Recovery Act (RCRA). Tenant education is provided on an annual basis and is focused on preventing storm water runoff pollution from facilities or processes, and the proper management and disposal of regulated and hazardous wastes.

GOAL 7:

REDUCE SINGLE OCCUPANCY COMMUTING AND INCREASE ALTERNATIVE TRANSPORTATION



GOAA understands the impact that ground transportation has on the environment, with over 18,000 employees from hundreds of companies working in support of the Orlando aviation industry. As a result, it is taking steps to reduce the amount of emissions from ground transportation associated with the airport. Efforts include: operating low emission fleet vehicles, supporting public and alternative transportation usage, through subsidized bus passes, Electric Vehicle charging stations, and preferred parking spots for carpool vehicles.

City of Orlando Green Taxi Cabs

In 2014 the City of Orlando amended Ordinance Chapter 55, Vehicles for Hire. This amendment adds provisions for vehicles that are titled “green taxicabs,” which are defined as Inherently Low Emissions Vehicles or Hybrid Electric Vehicles. The provisions include reduced permitting fees and an increase in allowance of the number of vehicles a company can permit if using green taxicabs. With thousands of City permitted taxicabs at the airport annually, the impacts of this ordinance are visibly evident.

Employee Bus Pass Program

In support of reducing single occupancy commuting to the airport, GOAA provides a 50% subsidy on LYNX Monthly Passes to staff.



Electric Vehicle Charging Stations

GOAA opened nine publicly accessible electric vehicle-charging stations in its parking garages in 2013. Since the units became operational in 2013, there have been over 1,000 unique charges. With the growing availability of alternative fuel source vehicles, GOAA is taking the lead on supporting green initiatives and reaffirming a commitment to enhance customer service.



Fleet Efficiency

GOAA continues to improve its fleet by replacing older, larger vehicles with appropriately sized, fuel-efficient models. Currently, five hybrid vehicles are in use, and GOAA is investigating the transition of its bus fleet to CNG, bringing two on board in the near future.

In 2014, Clean Energy Fuels constructed a Compressed Natural Gas (CNG) fueling station at MCO. The station is open to the public 24/7 and can accommodate a variety of natural gas vehicles ranging in size from passenger cars and airport support vehicles to heavy-duty trucks. The use of natural gas fuel not only reduces operating costs for vehicles, but also reduces greenhouse gas emissions by up to 30% in light-duty vehicles and 23% in medium to heavy-duty vehicles. In addition, nearly all natural gas consumed in North America is produced domestically²⁰.

“Orlando International Airport is committed to pursuing and promoting green initiatives that reinforce our reputation as a conscientious community partner,” said Phil Brown, Executive Director of the Greater Orlando Aviation Authority. “This station is an important component of our sustainability effort and is an environmentally responsible way to ensure the natural beauty of Central Florida is protected for future generations.”

¹⁴Central Florida Clean Cities Coalition.(2013). Central Florida Clean Cities Coalition. Retrieved from <http://centralfloridacleancities.com/clean-energy-opens-newest-public-natural-gas-station-in-orlando/>.

GOAL 8:

CONTINUE BEING A COMMUNITY LEADER/PARTNER IN SUSTAINABILITY



The GOAA Green Team was selected by the Florida Airports Council for the J. Bryan Cooper Environmental Award for outstanding achievement in the advancement of environmental stewardship.



GOAA's comprehensive approach to the advancement of sustainability includes the social, environmental and economic components. Through active participation and collaboration with The City of Orlando's "Green Works" Initiative and Orange County's "Our Home for Life" Sustainability Program, the Authority maintains a leadership role of social responsibility in the community at large. GOAA also supports community leadership and educational outreach within the airport community.



GOAA GREEN Team

GOAA's Green Team consists of over 100 airport and community volunteer members. Their shared vision to become a leader in sustainability is evidenced through their commitment to community outreach and education of the airport staff, local community and the traveling public. The Green Team provides a model of community collaboration by uniting airport management and partners (airlines, tenants, concessionaires and contractors) and maintaining and advancing an understanding of the long-term benefits of a comprehensive approach to sustainability in Central Florida.



GOAA GREEN is GOAA's comprehensive initiative that combines volunteers and management in a unified effort toward the specific goals and strategies laid out in the SMP. These goals reduce the operational impact of the airport on the local environment and related operating costs.

Share the ART Program

Art is an integral part of the overall design of the Orlando International Airport. The airport's permanent art collection comprises works reflecting a variety of styles and media.

In collaboration with the National Arts Program, GOAA held its 9th Annual Share the ART exhibit. The program offers employees and their families the opportunity to exhibit their artistic talent. Seven GOAA employees and their relatives' artwork were among the top winners in 2014.



Continual Outreach and Engagement

Earth Day

The GOAA GREEN Team is known for active outreach and engagement. On April 22, 2014 the Green Team organized the 1st Annual Earth Day event at Orlando International Airport, attracting over 600 participants.

The Dirt

In order to promote the good works of the airport and its partners, the GOAA GREEN Team created a quarterly newsletter, called *The Dirt*, which highlights sustainability efforts of individuals and organizations within the airport community. *The Dirt* is designed and written entirely by Green Team members.

Sustainability Speaker Series

To support the GOAA GREEN focus on community engagement, the Green Team organizes a monthly Sustainability Speaker Series, featuring regionally or nationally recognized leaders in sustainability. These “lunch and learns” are held in GOAA’s Boardroom and are open to all staff, contractors and the public. In 2014 the Green Team hosted sustainability speakers from the City of Orlando, Orange County, JetBlue Airlines, World Centric and more. We look forward to more exciting topics in 2015 including a hands-on Home Efficiency Workshop and guest speakers from the Office Depot, Kennedy Space Center, and Whole Foods.



Innovative Leadership

The GOAA Green Team currently has two working groups that focus on advancing GOAA's sustainability goals.

The Waste and Recycling Working Group has helped increase the percentage of waste that is diverted from the landfill by 17%. Their efforts directly support the sustainable goal to divert 50% of total waste from the landfill by 2018. The Working Group's 2014 efforts include:

- Conducting waste audits of GOAA Administrative Buildings
- Conducting a waste audit with Enterprise Rental Car at the Quick Turn Around Area and implementing a recycling program in coordination with the City of Orlando
- Educating business partners in developing and improving their recycling programs



The Central Florida US Green Building Council donated 1,000 saplings to Earth Day attendees

Earth Day activities include trivia contests and a guest appearance from the “Bag Monster,” who is dressed in 500 plastic bags signifying the number of bags the average American uses in just one year.

The Communications Working Group has developed and managed popular educational events and materials for the airport community including:

- Earth Day
- “The Dirt” Newsletter
- The Sustainability Speaker Series
- America Recycles Day



The Bag Monster dressed in 500 plastic bags with Nilsa Reyes.

A Mobile Application to Make Travel Easier and More Pleasurable

GOAA is leading the way in demonstrating how airports can use mobile technology to make travel easier.

In December 2014, GOAA launched a mobile, indoor navigation application (app) which is the first in an airport to feature a “blue dot” experience, similar to GPS navigation, to indicate a traveler's position.

Within the first two weeks there were over 1,800 downloads. The app can direct users to 1,500 different “points of interest” in the airport. It allows travelers to easily locate their ticket counter, terminal or gate, check their flight information, find restaurants and shops and locate the correct baggage claim upon arrival.

The unique feature of the mobile app is the GPS-like indoor navigation using more than 1,000 Bluetooth beacons. These enable the application to determine the location of the mobile device in all terminals at all times.



“There is not another airport in the world that I am aware of that has such robust and comprehensive navigation features. You can find a “point of interest” on the map; you can find your location on the map (indicated by a blue dot); and you can select a “point of interest” and have the app display the path to the point on the map.”

John Newsome, Director of Information Technology



Customer Service

Customer Service Surveys

Creating a world-class experience requires obtaining honest feedback from passengers about their experience at the airport and making the necessary changes to improve that experience. Annual surveys are distributed to passengers traveling through MCO to determine overall customer satisfaction. Areas of evaluation include passenger experiences related to: airline ticket purchasing, wayfinding at the airport, baggage check-in and baggage claim, security and wait-time, shopping, and rental car drop-off and pick up.

Recognition programs

GOAA believes in recognizing employees and business partners who, through outstanding customer service, contribute to the success and enhance the image of MCO and ORL. In late 2014, GOAA developed the Airport Wide Customer Service Recognition Program. Over 300 employees and business partners were recognized in the categories of Life Safety, Above and Beyond and Caring at quarterly Customer Service meetings. Additionally, the GOAA Operations and Maintenance Departments have monthly employee appreciation programs that recognize exceptional service.



NEW EMPLOYEE AIRPORT WEBSITE

mcocares.com



Health and Wellness

The health and well-being of its employees is of utmost importance to GOAA. GOAA's Wellness Program is called "Passport to Wellness." The Program is an incentive-based program that promotes overall physical fitness, nutrition and health and wellness. Participants earn wellness points by participating in activities. GOAA's Passport to Wellness Program encourages employees towards healthier lifestyle choices through health related workshops and activities. Activities include:

- Lunch and Learn Sessions
- Exercise Classes
- Health Fairs
- On-Site Screenings
- Weight Loss Programs
- Preventive Health Incentives

GOAA also participates in the following community events: charity walks/runs, blood drives and local donation drives.

Small Business Development

GOAA is a strong supporter of programs that encourage the inclusion of women, minorities and small businesses in airport contracting.

The Authority has established three programs in support of these efforts: a Local Development Business Program, Minority/ Women-Owned Business Enterprise Program, and a Service Disabled Veteran Owned Business Enterprise Program²¹. During fiscal year 2014, businesses participating in GOAA's small business program generated over **\$104,000,000**. As a result of extensive recruitment efforts, over **16%** of GOAA's Construction and Professional Service contracts include DBE/MWBE/LDB participation.

Safety and Security

Safety of GOAA employees and the traveling public are of utmost importance to the airport. GOAA continuously engages in identifying and reducing exposure to hazards that could lead to accidents, injuries or sickness. In addition to operational policies to ensure compliance with federal and state regulations, GOAA has a Safety Committee, TEAMS (Teaching Employees Methods of Safety), whose purpose is to identify training needs of airport employees. TEAMS meets on a monthly basis and includes representatives from all airport departments.

The Orlando International Airport Fire Rescue (ARFF) provides quality customer service through the delivery of emergency and non-emergency services with dedication, commitment and integrity²². ARFF includes three fire stations at MCO and over 60 employees dedicated to health and safety of the employees and passengers. The Department was awarded the Outstanding Service Award from Aircraft Rescue & Fire Fighting Working Group. ARFF conducts Comprehensive Crisis preparedness training at GOAA and at the regional level.

Transportation Safety Administration (TSA) Officers at MCO screened more than 18 million passengers in 2014. TSA also implemented additional screening protocols such as the Passenger Screening Canine Program and Managed Inclusion that provided expedited screening to 2 out of 3 travelers at Orlando International Airport. Additionally, there were 4,850 new TSA PreP™ enrollments that resulted in average wait times of 5 minutes or less at our security checkpoints.

In 2013, ARFF conducted the largest full-scale exercise in the State of Florida history in conjunction with the County and City fire rescues and local hospitals.



MCO has partnered with various companies and agencies to provide options to expedite passenger travel through the airport. The SPEED Action Team is pilot testing “GO” lanes, which includes developing and implementing “Speed Lanes” that target business and streamlined travelers. The tests show a significant reduction in screening wait time for “Speed Travelers” and an increase in throughput of passengers compared to standard lanes.

Noise Abatement Program

GOAA's Noise Abatement Program aims to reduce the impact of aircraft noise in homes and businesses surrounding our airports. The Noise Abatement Officer and the Aviation Noise Abatement Committee actively seek a continuous dialog with community representatives and individuals regarding aircraft noise exposure.

GOAA operates a Noise and Operations Monitoring System (NOMS) that provides noise and flight tracking information. The system uses state of the art aircraft surveillance software and the Integrated Noise Model to evaluate noise complaints, document runway use and flight corridors, assist in the development of noise mitigation measures, identify trends in noise exposure and provide support for the development of noise contours.

LOOKING FORWARD

In 2015 the Authority’s GOAA GREEN sustainability initiatives will move forward with:

- The 2nd Annual Earth Day
- America Recycles Day
- An outstanding line-up of Speakers in our Sustainability Speaker Series
- Incorporation of sustainability language into contract and bids
- An ongoing focus on 3rd party green certification through the U.S. Green Building Council’s LEED Rating System

We will also focus on our next version of GOAA’s Sustainability Management Plan, which is due to be released in 2016. Part of this effort will consist of identifying which initiatives and metrics should be modified or added. Community stakeholders will continue to be engaged in our GOAA Green efforts.

Holding true to its initial Design Concept, MCO will remain committed to sustainability through active participation and collaboration with The City of Orlando’s Green Works Initiative and Orange County’s Sustainability Program. The Authority will continue to take on the role of social, economic and environmental responsibility and leadership in the community, the region, and the world.



Appendix: Environmental Preferable Purchasing Pledge



GREATER ORLANDO AVIATION AUTHORITY

Environmentally Preferable Purchasing (“EPP”) Pledge

WHEREAS, The Greater Orlando Aviation Authority (“Authority”) is committed to creating an environmentally conscious culture that engages and inspires social responsibility and enhances the customer experience. By incorporating environmental considerations into purchasing and procurement practices, Authority can serve its commitment by continuing to improve the work environment for those who work for the Authority and for those working for one of the many business partners of the Orlando International Airport and Orlando Executive Airport. This pledge will also serve to continue to improve the passenger’s experience and launches Authority’s continuous efforts in procuring environmentally preferable products and services.

WHEREAS, through this process, Authority encourages all departments, vendors, and service partners to adopt, practice and promote environmentally preferable purchasing practices. This pledge applies to the following types of products:

1. Consumable Items.
2. Durable Goods: Appliances, Electronics, Furniture, and Maintenance Equipment.
3. Mercury containing items.
4. Building Materials for Alterations and Additions.
5. Process and Cleaning Chemicals.

WHEREAS, This pledge supports Authority’s Sustainability Management Plan (SMP) by establishing criteria for the procurement of products and services that incorporate consideration to reduce the:

- Consumption of natural resources.
- Use of products that have unhealthy components or that are manufactured using processes that may be harmful to the manufacturer’s employees or the public near the manufacturing plants.
- Consumption of energy and water in the manufacturing or distribution process.

Appendix: Environmental Preferable Purchasing Pledge

- Waste generation through optimized packaging.
- Use of virgin material.

WHEREAS, The Authority's Purchasing Department encourages the practice of purchasing sustainable products and requests departments, vendors, and other service partners to support their commitment to the EPP guidelines whenever possible, as follows:

Vendor, Supplier and Service Partner Recommended Responsibilities:

- To notify, report and document new and existing sustainable products or features.
- To use environmentally preferable products and services.
- To provide sustainable product tracking to increase awareness of the environmental and public health benefits achieved through sustainable purchasing.
- To maximize the amount of material which can be recycled.

Authority's Responsibilities:

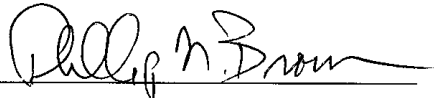
- To determine the sustainable criteria to be used for the categories listed in the scope above.
- To incorporate the sustainable criteria into bid solicitations and evaluations.
- To develop quantifiable sustainable goals.
- To develop a process to track and report progress toward the cited goals.
- To develop a corporate wide EPP policy for implementation.
- To maximize the amount of material which can be recycled.

Purchasing Responsibilities:

The Purchasing Department shall continue to strive to reduce the amount of solid waste generated, increase recycled materials recovered from Authority's operation and maximize the procurement of recycled, energy efficient and safe products. The Purchasing Department shall monitor compliance with this pledge.

Now, I, Phillip N. Brown, by virtue of the authority vested in me as the Executive Director of the Greater Orlando Aviation Authority in the State of Florida, do hereby proclaim, this "Environmentally Preferable Purchasing Pledge" shall take effect December 1, 2014 and continue until amended and/or replaced by subsequent sustainable purchasing policy at the Greater Orlando Aviation Authority; and encourage all departments, vendors, and service partners to adopt, practice and promote environmentally preferable purchasing practices.

Signed this 1st Day of December 2014



Phillip N. Brown, Executive Director
Greater Orlando Aviation Authority



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Building Sustainability, www.ecopreserve.net

