

A Green Approach

Being a better neighbor



LONG BEACH AIRPORT
ENVIRONMENTAL STATUS REPORT
GREEN AIRPORT PROGRAM

2012

Committed to Environmental Sustainability

Long Beach Airport (LGB) is committed to being a leader in aviation environmental sustainability.

The Airport employs a visionary approach to reducing emissions from planes and service vehicles, saving energy and water, and incorporating sustainability practices to reduce our carbon footprint. LGB utilizes the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED®) standards to save energy and reduce waste. The Airport's green improvements have resulted in measurable air quality, energy and water conservation, and sustainability benefits for the Long Beach community and our planet. This report details LGB's environmental improvements and results as part of a green approach to being a better neighbor to the communities we serve.

LGB'S GREEN IMPROVEMENTS AT A GLANCE

Air Quality

Our clean air efforts have reduced total air emissions by **4.58 million lbs.** - equivalent to removing more than **6.4 million car trips** from our roads.

AIR QUALITY IMPROVEMENTS

REDUCING AIR CARRIER RAMP EMISSIONS

The Airport has dramatically reduced ramp emissions by converting diesel carts, belt loaders, and tugs to electric power and providing planes with gate power and air conditioning.

Results:

- Reduced diesel particulate matter emissions by **3,000 lbs.** per year
- Reduced total air emissions by **3 million lbs.** per year
- That's equivalent to removing **5 million car trips** from our roads each year.

ON-SITE PARKING

Our new parking structure has consolidated all parking within walking distance of the terminal, reducing emissions from shuttles to remote lots.

Results:

- A reduction of **8,760 shuttle bus trips** per year
- Reduced total air emissions by **30,000 lbs.** per year
- That's equivalent to removing **500,000 car trips** from our roads each year.

CONSTRUCTION DEMOLITION/RECYCLING

LGB is committed to recycling 100 percent of the pavement and base material demolished during construction. For runway improvements, all nonhazardous material was pulverized in place and reinstalled for taxiways and ramps. This reduced vehicle emissions by eliminating two-thirds of haul-truck traffic. All other materials were processed and recycled locally.

Results:

- A reduction of **6,600 diesel haul-truck trips**
- Reduced construction air emissions by **1.1 million lbs.**
- That's equivalent to removing **900,000 car trips** from our roads.

SOLAR PANELS AND ENERGY CONSERVATION

Harnessing the sun's energy with solar panel arrays and conserving electricity with new LEDs inside the Airport had a measurable effect on energy usage.

Results:

- Eliminated more than **1.13 million kWh of energy use**
- Reduced Long Beach's total air emissions by **450,000 lbs.** per year
- That's the equivalent of removing **15,000 car trips** per year from our roads.



Photo: Long Beach Convention & Visitors Bureau

Energy Conservation

Our energy efficiency improvements have eliminated **1.13 million kilowatt hours** (kWh) of electricity use - enough to power **98 single-family homes** for a year.

Water Conservation

Our “water wise” initiatives will save **296,745 gallons** of water in 2012 and **1 million gallons** of water per year by 2013 - enough to fill Long Beach’s Aquarium of the Pacific.

ENERGY CONSERVATION MEASURES

AIRFIELD LIGHTING EFFICIENCY

The Airport has been upgrading its airfield lighting for several years, converting all taxiway lights, runway guard lights, and red obstruction lights to LEDs, and upgrading all airfield guidance lights to high efficiency models.

Results:

- Saving **343,000 kWh of energy use** per year
- Saving enough energy to power **29.5 single-family homes** per year
- That’s equivalent to saving **9,372 gallons of gasoline** per year.

PARKING STRUCTURE LIGHTING

The Airport’s new parking structure was designed to save energy with smart sensors, dual switching, and occupancy sensors to control lighting.

Results:

- Saving **548,000 kWh of energy use** per year
- Saving enough energy to power **47 single-family homes** per year
- That’s equivalent to saving **14,973 gallons of gasoline** per year.

GROUND-LOADING PASSENGERS

At LGB, all of our passengers enter and exit planes using mobile staircases and ramps rather than loading bridges. Besides being a fun way to travel, it saves energy too.

Results:

- Saving **127,200 kWh of energy use** per year
- Saving enough energy to power **11 single-family homes** per year
- That’s equivalent to saving **3,470 gallons of gasoline** per year.

SOLAR PANELS AND ENERGY CONSERVATION

The Airport is saving electricity by drawing on its 18 photovoltaic panel “trees”; installing a large solar array on the roof of the new passenger concourse; and converting interior lighting to LEDs.

Results:

- Saving more than **119,640 kWh of energy use** per year
- Saving enough energy to power **10.5 single-family homes** per year
- That’s equivalent to saving **9,249 gallons of gasoline** per year.



AIR QUALITY

LGB's green approach to air quality reduced emissions equal to taking more than 6.4 million car trips off our roads.



ENERGY CONSERVATION

Upgrading Airport and parking garage lighting, ground-loading passengers, and installing solar panels will save more than 1.13 million kWh of electricity every year - enough to power 98 single-family homes.



WATER CONSERVATION

Being water wise with irrigation and installing waterless urinals will save 296,745 gallons in 2012 and 1 million gallons per year by 2013. Dry washing planes keeps contaminants out of our water supply and oceans.

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ASPHALT RECYCLING

"Pulverizing in place" saved 6,600 diesel haul-truck trips and reduced construction-related air emissions by 1.1 million lbs.



SOLAR PANELS

By installing solar panels and using indoor LEDs, LGB will save 119,640 kWh in electricity - enough to power 10.5 single-family homes per year.



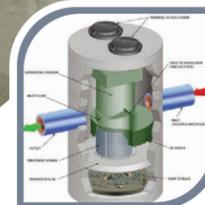
NEW LEED-DESIGNED CONCOURSE

Our new passenger concourse is designed to incorporate 10 to 20 percent post-consumer materials, divert 75 percent of construction waste from disposal, and take advantage of 75 percent day-lighting to save electricity.



GROUND-LOADING PASSENGERS

By allowing planes to load and unload from the ground, LGB is saving 127,200 kWh in energy every year - enough to power 11 single-family homes.



STORMWATER PROTECTION

Installing continuous deflective separation technology keeps pollutants out of stormwater runoff and protects our area's water supply.



ON-SITE PARKING

Our new parking structure is an easy walk to the terminal, eliminating the need for shuttles, and reducing emissions equal to taking 500,000 car trips per year off our roads.



DARK SKIES LIGHTING

Specially designed tall mast lighting with hoods shield our neighbors from light pollution, while keeping the same illumination for operations and security.



LED TAXIWAY LIGHTS

Changing taxiway lights, runway guard lights, and red obstruction lights to LEDs will save enough electricity to power nearly 30 single-family homes each year.



ELECTRIC GROUND SUPPORT

Converting ground support equipment from diesel to electric ground power reduced emissions equal to taking 5 million car trips per year off our roads.

GETTING GREENER BY THE MINUTE



CRUNCHING THE NUMBERS

By taking used taxiway asphalt and pulverizing it in place, the Airport saved 6,600 diesel haul-truck trips and reduced construction-related air emissions by 1.1 million lbs.



STOP THE FUELISHNESS

The Airport's new parking structure was designed to save electricity with smart sensors, dual switching, and high efficiency lighting equivalent to saving 14,973 gallons of gasoline per year.



REDUCE, REUSE, RECYCLE

Our new LEED-designed passenger concourse incorporates 10 to 20 percent post-consumer materials, diverts 75 percent of construction waste from disposal, and takes advantage of 75 percent day-lighting to save electricity.



WATER CONSERVATION

REDUCING WATER CONSUMPTION

Good environmental stewardship means reducing water use wherever possible, and the Airport has cut back on irrigating turf areas in the winter, planted drought resistant shrubs and trees, and installed a computerized irrigation system to reduce waste. Waterless urinals will be installed throughout our historic terminal and in the new passenger concourse.

Results:

- Saving **296,745 gallons of water** in 2012
- Saving **1 million gallons of water** per year by 2013



Photo: Long Beach Convention & Visitors Bureau



SUSTAINABILITY AND REUSE EFFORTS

DARK SKIES APRON LIGHTING

Reducing light pollution is another area where LGB is thinking green. Hooded high mast lights were recently installed, reducing glare and light pollution while providing the same illumination for operations and security.

STORMWATER POLLUTION MITIGATION

The Airport and its tenants employ dozens of stormwater pollution prevention “best practices,” including:

- Installing continuous deflective separation (CDS) technology, bio-filters and water clarifiers to remove oils, fuel, bacteria and sediments in high traffic storm drain areas
- Prohibiting aircraft washing where wash water can enter storm drains
- Promoting dry washing of aircraft and vehicles to eliminate contaminated runoff
- Performing stormwater sampling and testing
- Conducting over 90 percent of industrial activity indoors
- Requiring indoor or covered materials storage

RECYCLED MATERIALS AND DAY-LIGHTING

The Airport recycles pavement for reuse, and a temporary passenger canopy was built out of recycled steel. Energy efficient roofing material was installed on the historic terminal, and the new passenger concourse was designed to meet stringent LEED standards, incorporating 10 to 20 percent post-consumer materials.

During construction, 75 percent of waste will be diverted from disposal. Finally, 75 percent of the space in the new concourse will take advantage of day-lighting to save energy, while providing passengers with great views of a greener Long Beach Airport.

LOOKING AHEAD

As part of our ongoing commitment to sustainability, the Airport is planning a new walking-distance rental car facility, airfield electrical improvements, more high efficiency lighting in the terminal and parking lots, plus additional water saving measures. For more information about our green approach to being a better neighbor, please visit www.lgb.org.



LONG BEACH
AIRPORT

Building a Better Way to Fly

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