Los Angeles World Airports

MEMORANDUM

Los Angeles World Airports
Preliminary Greenhouse Gas Inventory for
Los Angeles International Airport (LAX) - 2014

1. PRELIMINARY ACCOUNTING OF SCOPE 1 AND 2 EMISSIONS AT LAX

Los Angeles World Airports (LAWA) has prepared a preliminary greenhouse gas (GHG) emissions inventory for 2014 to describe LAWA's current emission inventory and LAWA's efforts to date to reduce GHG emissions at Los Angeles International Airport (LAX) and to respond to the Los Angeles City Council consideration of Council Motion No. 14-0907.

Greenhouse gases trap heat in the earth's atmosphere and are pushing the earth's temperature upward. The main greenhouse gases include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). LAWA's inventory focuses on CO_2 emissions, the predominant GHG emissions source from LAX operations. Under international standards, there are three types of GHG emissions groupings: Scope 1 emissions are defined as emissions from sources that are owned or controlled by the organization. Scope 2 emissions are defined as emissions from the consumption of purchased electricity, steam, or other sources of energy (e.g. chilled water) generated upstream from the organization. Scope 3 emissions are defined as emissions that are a consequence of the operations of an organization, but are not directly owned or controlled by the organization.

LAWA presents this GHG inventory as a preliminary accounting of LAWA's Scope 1 and Scope 2 GHG emissions – those emissions that LAWA owns or controls at LAX based on aggregated data. This report focuses on LAX, which is the largest greenhouse gas emitter of LAWA's three airports. Scope 1 emissions are those emissions from direct fuel consumption in LAX owned and operated buildings and vehicles. Scope 2 emissions are those from energy generated offsite, but consumed at the airport (e.g., grid supplied electricity and natural gas). This report will not cover Scope 3 indirect emissions associated with Airport related activities from sources owned and controlled by others (e.g., aircraft, ground support equipment, passenger travel, and more). LAWA will continue to update its inventory, providing further detail on LAWA's GHG emission forecast and reduction actions, and will also include emissions from Van Nuys Airport.

2. INVENTORY BOUNDARY, METHODOLOGY AND RESULTS

2.1 Emission Inventory Boundary

An essential step in preparing a greenhouse gas inventory is to identify the boundaries of the inventory. Identifying the boundaries aids users of the data with understanding the inventory and how it is structured. For this report, the inventory represents the organizational boundary of LAWA's property interest at LAX.

In addition to determining the organizational boundaries of an entity, reporting levels or scopes must also be considered in identifying operational boundaries. As stated above, this inventory only covers emission sources directly controlled by LAWA or Scope 1 and 2 emissions. LAWA is

working to gather Scope 3 data from tenant operations but such information is not currently readily available and therefore, Scope 3 emissions are not included in this report at this time. Additionally, it should be noted that LAWA has limited or no control over certain tenant operations, particularly aircraft. Nevertheless, LAWA, in a future update to this inventory, anticipates it will identify Scope 3 emissions and will capture the benefits of LAWA emission reduction actions over Scope 3 sources that are currently being implemented at LAX.

2.2 Emissions Inventory Methodology

LAWA used the Airport Carbon Emission Reporting Tool (ACERT) to quantify Scope 1 and 2 emissions for LAX. ACERT is an electronic spreadsheet developed for airports that uses information about energy use at the airport to calculate Scope 1 and 2 emissions. ACERT is part of an international program of carbon accounting and inventory accreditation called the Airport Carbon Accreditation (ACA) program. In 2014, the Airports Council International – North America (ACI-NA) enabled its members to participate in the ACA.

Emission factors for the various airport sources, except purchased electricity, are built into ACERT and are not changeable by the user to ensure consistency among airport inventories worldwide. For purchased electricity, the user can rely on a national default number, which is 535g of CO_{2e} per kWh for the United States. Because Los Angeles is located in an area with a much higher level of renewable energy than other parts of the United States, LAWA used the emission factor from the USEPA's eGrid model[1] specific to the Western Electrical Coordinating Council (WECC) California Subregion (CAMX). The current eGrid emission factor for CAMX is 652.72 lbs of CO_{2e} per MWh electricity and converts to the ACERT input (required as g/kWh) of 296, which is substantially lower than the national average.

2.3 Inventory Results - 2014

Using the ACERT Tool, Scope 1 and 2 emissions at LAX were approximately 88,698 metric tons of CO_{2e}. LAX's largest source of emissions is associated with purchased electricity, accounting for nearly three-quarters of the Scope 1 and 2 emissions. With the completion of the Central Utility Plant in 2015, LAWA expects reduced electrical consumption at LAX. **Table 2** lists 2014 Scope 1 and 2 emissions for LAX.

[1] As of November 2015, USEPA data is only available through 2012, and thus the 2012 emission factor was used as a surrogate for 2014 electrical use.

TABLE 2

Summary of 2014 Scope 1 and 2 Emissions at LAX

Source	Emissions (CO_{2e}, metric tons)	Percentage of Total Scope 1 and 2 Emissions
Scope 1		
Fleet Vehicles/Rolling Stock	11,175	12.6%
Buildings (natural gas)	14,123	15.9%
Emergency Generators	301	0.3%
Subtotal	25,599	28.9%
Scope 2		
Purchased Electricity	63,099	71.1%
Total Scope 1 and 2	88,698	100%
Annual Aircraft Operations	636,706	na
Annual Passengers	70,662,212	na

Source: Synergy Consultants, using ACERT, November 2015. Note percentages may not add to 100 due to rounding.

The inventory noted above focuses on Scope 1 and 2 emissions. Yet, it is important to note that for virtually all commercial service airports such as LAX, the single largest source of energy use and thus greenhouse gas emissions is associated with aircraft. Aircraft emissions are a Scope 3 source, as LAWA does not own aircraft, and pursuant to federal law, LAWA has no authority to control them. As a commercial service airport that has accepted public dollars from the aviation trust fund, LAWA's airports must remain open to any and all aircraft that can safely operate. In addition, FAA regulations prevent LAWA from establishing aircraft operating restrictions.

In 2014, 1,618,019,640 gallons of Jet A fuel were dispensed to aircraft at LAX[2] allowing those aircraft to fly to destinations in the United States and worldwide. This quantity of Jet A fuel would produce over 15.4 million metric tons of CO_{2e}, and thus, LAX's Scope 1 and 2 emissions likely represent less than 0.6% of total airport-related emissions.

While LAWA does not control aircraft, it can have an influence over some aircraft emissions through the operational efficiency of LAX's airfield and terminal space. As a result, many of the emission reduction actions that LAWA has implemented and continues to implement are anticipated to render emission reduction benefits to Scope 3 sources.

[2] Dennis Fong, LAX Fuels, 11-13-2015.

3. PAST EMISSIONS INVENTORIES FOR LAX

In 2008, LAWA prepared its first airport-wide greenhouse gas inventory, including estimating GHG emissions back to 1990. The 2008 inventory and analysis were not verified and remain unpublished. For purposes of considering the proposed ordinance, however, the data from the 2008 inventory is provided in **Table 3** to enable a comparison of how emissions have changed over time at LAX. **Table 3** below lists the 1990 and 2005 data from this earlier study.

TABLE 3
Past Emissions Inventory - LAX

Emission Source	Year and Emissions (CO2e, metric tons)	
	1990	2005
Scope 1		
Stationary Combustion	41,860	49,450
GSE	4,219	12,532
Subtotal	46,079	61,982
Scope 2		
Purchased Electricity	65,781	101,035
Subtotal	65,781	101,035
Total Scope 1 and 2	111,860	163,017
Scope 3		
Subtotal Scope 3	14,669,323	16,828,283
Grand Total Scope 1, 2, 3	**14,781,184**	**16,991,350**
Annual Aircraft Operations (TAF)	668,816	653,534
Annual Total Passengers (TAF)[3]	44.6 million	58.7 million

Source: Los Angeles World Airports, *Greenhouse Gas Inventory Report*, unpublished, March 27, 2009.

It is important to note that there are slight methodological differences between the calculation methodology used in the 2008 inventory, and this inventory, as ACERT was not available in 2008. However, any differences would likely be small.

[3] For the *2009 Greenhouse Gas Inventory Report*, Annual Aircraft Operations and Annual Total Passenger figures were taken from the FAA's Terminal Area Forecast (TAF).

4. FUTURE EMISSIONS AT LAX

The proposed policy contemplated in Council Motion No. 14-0907 calls for the reduction of GHG emissions in 2050 by 80% when compared to 1990 levels. 1990 Scope 1 and 2 emissions at LAX were approximately 111,860 metric tons of CO_{2e}. 2014 Scope 1 and 2 emissions at LAX were approximately 88,698 metric tons of CO_{2e}. **Accordingly, by 2014, CO_{2e} Scope 1 and 2 emissions at LAX had decreased by 21%.** As a result, LAWA has already made strides to reduce emissions. LAWA's estimates, however, indicate that given the expected growth in activity for LAX and the fact that LAWA cannot control aircraft emissions, that such a steep reduction in GHG emissions from all sources is not feasible. LAWA will continue to evaluate GHG emissions and emission reduction programs and update this preliminary GHG report accordingly.

A prediction of GHG emissions in 2050 will require the preparation of an aviation forecast for the 2050 time frame. At this time, the Federal Aviation Administration (FAA) and the Southern California Association of Governments (SCAG) do not have an aviation forecast for 2050. SCAG is the regional metropolitan planning organization responsible for developing the regional transportation plans in the Los Angeles metropolitan area. SCAG anticipates that by 2040, passenger activity levels at LAX will range from a low value of 82.9 million annual passengers (MAP) to a high value of 96.6 MAP.[4] Likewise, the FAA's current Terminal Area Forecast (TAF) only extends to 2040. Under the TAF, LAX is predicted to serve 1,020,037 annual aircraft operations and 114.2 MAP by 2040. While energy use and associated greenhouse gas emission are not linear to a growth in activity over time, such a comparison may be instructive relative to a business-as-usual (BAU) condition in a GHG emissions forecast.

5. LAWA ACTIONS TO REDUCE EMISSIONS

LAWA has been a leader in the development and implementation of programs to reduce its emissions. LAWA has a robust sustainability program that has evolved over many years and includes numerous initiatives to reduce emissions. LAWA's sustainability activities encompass environmental regulatory programs and voluntary programs, and include a variety of measures ranging from sustainable construction activities to habitat conservation. LAWA has made great progress in reducing emissions at LAX by providing alternatives to conventionally fueled trips and improving operational efficiency at the airport.

Today, LAWA's Environmental and Land Use Planning Division (ELUP) (successor to the Environmental Services Division) is in the midst of retooling LAWA's sustainability program and initiatives to elevate sustainability among the various LAWA divisions, to transform into a metrics-based and target driven program, and to prioritize key environmental resource areas over others. LAWA resumed annual reporting in January 2015 with its 2011-2013 Sustainability Report and recently completed a preliminary evaluation and prioritization of sustainability initiatives across the organization. Enhancing air quality and reducing emissions at LAX are among LAWA's top priorities.

The section below profiles LAWA's many emissions reduction actions.

[4] Southern California Association of Governments. 2015. "2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS)-Regional Aviation Forecasts Update," June 25.

LAX LAMP Program and Connecting to Metro's Regional Rail System

LAWA is moving forward with plans for a ground transportation overhaul at LAX, also known as the LAX Landside Access Modernization Program (LAMP). The LAMP provides for the first major new ground access facilities and improvements to the airport since 1984, and is being implemented to modernize the ground transportation system at LAX with an automated people mover system (APM), off-airport intermodal transportation facilities, a consolidated rental car facility (ConRAC), and a connection to the Los Angeles County Metrorail system.. A primary objective of LAMP is to reduce emissions and trips to the airport through improved access.

The APM system will be a driverless, elevated light-rail system that will transport passengers to and from the Central Terminal Area (CTA), the intermodal transportation facilities, the ConRAC, and Metro transit station. The intermodal transportation facilities will be multi-modal transportation hubs that will serve as LAX's new off-airport arrival and departure centers. The facilities will provide passengers with direct connection to the airline terminals via the APM and a variety of passenger amenities including direct access to parking and commercial transit services.

The ConRAC will relocate more than 12 rental car operations into a single off-airport location adjacent to the I-405 freeway. The ConRAC will eliminate the need for rental car shuttles to access the CTA by providing direct access to passenger terminals via the APM, resulting in an approximately 20 percent reduction in the number of vehicles entering the CTA.

The LAX Ground Transportation program is expected to decrease traffic congestion in the CTA by 30-40 percent, decrease vehicle recirculation, idle times, and related emissions. The ConRAC will also include charging infrastructure for rental and service of zero-emission vehicles, while the APM station connecting to the Metro transit system is expected to increase transit ridership for travelers and employees to LAX from 1.25 percent today to at least 3 percent at full system build out. Construction is expected to begin in 2017 and the first phase will be completed by 2024.

Trip Reduction

Congestion in and around LAWA's airports affects air quality and the quality of life of the millions of passengers, the tens of thousands of employees and the millions of community members who live around LAWA's airport properties. Therefore, LAWA has taken many specific actions to mitigate these impacts.

LAX FlyAway® Program

LAWA designed the FlyAway® Program to provide passengers with an alternate, yet convenient, way to reach LAX while reducing the number of single occupancy trips to and from LAWA airports. Passengers use dedicated high-occupancy buses to reach LAX from the FlyAway® locations, which aids in reducing ground traffic congestion. FlyAway® has delivered consistent air quality benefits.

In 2011, LAWA operated FlyAway® routes between LAX and remote boarding locations at the Van Nuys, Union Station, and Westwood/UCLA stations. In that same year, the network realized an average daily ridership of 3,790 passengers, reduced total vehicle emissions by almost 24 tons of

CO_{2e} per day, and eliminated the equivalent of 3,221 vehicle trips per day, traveling a combined total of 65,505 miles per day on roads approaching LAX.

Two new FlyAway® bus routes from Santa Monica and Hollywood were added in the second half of 2014. These two routes join four other FlyAway® locations already in operation at Expo/La Brea, Union Station, Van Nuys, and Westwood. In 2014, the entire network realized an average daily ridership of 4,320 passengers, reduced vehicle emissions by 38,758 pounds of CO_{2e} each day, and removed 3,377 vehicles trips per day, traveling a combined total of 68,371 miles per day on roads approaching LAX.

LAWA Employee Rideshare

Each year, LAWA's Rideshare Program saves over 8 million vehicle miles, over 500,000 gallons of gasoline, over 11.4 million pounds of CO_{2e}, meaningful vehicle depreciation costs, and countless hours spent driving on Southern California's over-burdened streets and freeways. LAWA's multi-faceted Rideshare Program includes 72 vanpools, 78 carpool program participants, 237 free monthly transit passes, and numerous marketing and advocacy activities to recruit and retain program participants. Currently, about 24 percent of LAWA's employees are participating in the Rideshare Program, saving nearly 1,000 vehicle trips to LAWA facilities every day.

LAWA is also part of the EPA's Best Workplaces for Commuters Program, an innovative, voluntary business-government program that distinguishes and provides national recognition to employers offering outstanding commuter benefits. To be part of this program, employers must meet the EPA's National Standard of Excellence in commuter benefits.

Over 48,000 employees work at LAX. LAWA is now aggressively exploring how to improve and expand its Rideshare Program to partner with LAX Airlines, tenants, and local Gateway to LAX Business Improvement District employers to reach even more employees traveling to LAX and craft an area-wide transportation management organization that delivers a menu of trip reduction, ride sharing, shuttle services, and also bicycle facilities to encourage employees to bike to work.

LAX Shuttles

Three types of clean-fuel shuttles transport LAX passengers to area hotels, rental car facilities, and parking lots. LAWA has been developing and implementing programs to reduce the number of each type of shuttle in the LAX central terminal area.

In June 2006, a mandatory Hotel Shuttle Trip Reduction Program began at LAX. The program planned to ultimately reduce shuttle trips to 35 percent below the 2004 baseline. Additionally, the program specified fines for hotels that exceeded their allowed number of trips per year. The Hotel Shuttle Trip Reduction Program has been tremendously successful, reducing the number of 2009 trips by 64 percent below 2004 levels.

Car Rental Services

In January 2003, the Board of Airport Commissioners (BOAC) approved on-airport concessions for ten rental car companies at LAX as the only firms permitted to provide curbside pickup and drop-off services at passenger terminals. The program requires on-airport rental car operators to reduce

courtesy vehicle trips by at least 20 percent below 2004 numbers. To achieve this goal, LAWA implemented the Rental Car Traffic Movement Plan in 2005. The plan allots each rental car company a certain number of courtesy trips to the airport in a year. Companies are fined if they exceed their allocated number of trips.

LAWA continues to promote the consolidation of shuttle services to reduce trips associated with these activities.

LAX Traffic Control Measures

Traffic control measures are efforts to reduce congestion by gathering real-time information, adjusting traffic controls, communicating road conditions and providing alternatives for drivers who have to recirculate while they are waiting to pick up arriving passengers.

LAWA operates an LAX Traffic Operations Center that uses closed circuit television cameras to view real-time traffic flows within the Central Terminal Area. The cameras allow staff to identify unusual incidents that are causing traffic delays and determine whether or not to adjust the traffic signals. LAWA utilizes portable and fixed electronic message boards at LAX to provide real-time information so that motorists can make knowledgeable driving decisions. Eight portable solar-powered "variable" message signs are available at LAX during peak travel times or for special occurrences. The quantity of traffic information on www.lawa.org has grown to include traffic alerts, a link to LADOT real-time traffic maps and airport specific maps showing the current lane closures and detours in the LAX area.

A 24-hour cell phone waiting lot is located near LAX, where motorists meeting arriving passengers can wait, for up to two hours, until passengers call to say that they are ready to be picked up in the CTA. Utilizing this lot for waiting minimizes impact from people circling the CTA waiting for their passengers to exit the terminal.

LAWA works cooperatively with the Los Angeles Department of Transportation (LADOT) and other transportation agencies to improve off-airport streets and intersections to mitigate traffic impacts created by LAWA projects. Traffic related to airport-specific construction projects is scheduled outside of peak airport traffic hours.

Alternative Fuel Vehicle and Equipment Programs

LAX Alternative Fuel Vehicle Fleet

LAX maintains a high proportion of alternatively powered vehicles with significant improvements over conventional fuel sources. LAWA's alternative fuel vehicle (AFV) program began in 1993. Alternative fuels currently in use by LAWA include LNG, CNG, fully electric, hybrid-electric and propane.

LAWA's AFV fleet is the largest of its kind in the nation, and includes over 680 AFVs utilized at LAX, VNY, and ONT. 100 percent of the LAX courtesy shuttle fleet is powered by natural gas as are LAX's Americans with Disability Act (ADA) shuttles. The LAX fleet, alone, includes over 590 AFVs which equate to nearly 59 percent of LAX's fleet vehicles and equipment.

CNG vehicles comprise nearly 70 percent of the AFV fleet at LAX. LAWA designed and built a state-of-the-art, high-technology LNG/CNG fueling station and acquired over $5 million in grant funding to offset the differential cost of AFVs. Two additional CNG stations are located adjacent to LAX.

LAX has a total of 52 electric vehicle chargers on its campus. LAWA has also partnered with the Department of Water and Power to install 30 additional "level 2" (fast-charging) public access electric vehicle charging stations at LAX.

Alternative Fuel Vehicle Requirement Program for Commercial Vehicles

LAWA has an Alternative Fuel Vehicle Requirement Program that applies to all on-road vehicles with a gross vehicle weight rating of 8,500 pounds or greater. This program is currently in effect and requires the conversion of rental car shuttles, trucks, and other large commercial vehicles in use at LAX.

In 2014, LAWA continued to work with operators of covered vehicles to meet program requirements. ELUP staff conducted meetings to inform the contract managers of improvements to the reporting process and to provide information to aid the operators to reach full compliance.

LAWA continues to work towards achieving compliance with the requirement and is in the midst of revising program requirements to better reflect improved emissions technology available in newer vehicles.

LAX Ground Support Equipment (GSE) Emissions Reduction Policy

In 2015, LAWA passed the Ground Support Equipment Emissions Reduction Policy to encourage the use of extremely low emission technology in GSE as a means to reduce GSE-related air emissions at the airport. Extremely low emission technology includes, but is not limited to, GSE powered by electricity, fuel cells, hydrogen, future technological developments, and the like. The LAX GSE goals include achieving a GSE fleet-wide average emission rate of no greater than 2.65 grams per brake-horsepower (gm/bhp-hr) for hydrocarbon emissions (HC) plus nitrogen oxide (NOx), per entity operating GSE at LAX by December 31, 2021. In contrast the estimated GSE fleet-wide average emission rate was 5.6 gm/bhp-hr in 2013. This blended emission rate will ensure that those vehicles for which there are lower emission options leave service at LAX, but allows those vehicles to continue to operate for which alternatives are not available.

The methodology and assumptions used to calculate or reach the goals are based on the California Air Resources Board's (CARB) existing fleet regulations for GSE statewide, which specifically includes the In-Use Off-Road Diesel (ORD) Vehicle Regulation, the Large Spark Ignition (LSI) Engine Fleet Regulation, and the Portable Engine Airborne Toxic Control Measures (ATCM). These existing statewide rules and programs require operators to achieve improved emissions performance through retirement, replacement, or retrofit of virtually all older, higher emitting GSE. As part of the development of the GSE Emissions Reduction Policy, in 2013 LAWA completed a comprehensive inventory and feasibility analysis for the increased use of extremely low emission GSE at LAX. The LAX GSE inventory provided an accurate update to a baseline inventory completed at LAX in 2006.

Based on the results of the 2013 LAX GSE inventory, LAWA determined that approximately 37 percent of the existing GSE fleet is zero-emission (electric) technology and another 16 percent is low emission (liquefied natural gas (LNG) or compressed natural gas (CNG)) technology. With the implementation of LAX's GSE Emissions Reduction Policy, LAWA expects to increase the number of zero and near-zero emission GSE at LAX.

Airfield Improvements

Airport Gate, Cargo and Hangar Electrification

LAWA has successfully reduced pollutants from the burning of jet fuel by providing electric power and pre-conditioned air to passenger gates. 100 percent of LAX's passenger gates are equipped to provide electric power and pre-conditioned air to waiting aircraft.

It is estimated that approximately 1 percent of aircraft jet fuel is burned in an aircraft's auxiliary power unit (APUs). If LAX eliminates ½ of each originating or destination aircraft's APU usage, the total energy savings and the emissions and fuel savings are significant. APU reduced greenhouse gas emission benefits from LAX gate electrification and pre-conditioned air were not estimated for this report.

In October 2013, LAWA consultants completed a comprehensive feasibility assessment study for the electrification of LAX cargo operations and other hangars. LAWA is currently defining the details of the projects to provide electrification to cargo operations and other hangars at the airport.

Runway Improvements

As noted earlier, LAWA does not own or control aircraft activity. However, a number of actions have been taken by LAWA that influence the emissions of aircraft. These actions have been implemented to increase efficiency and reduce delay and congestion experienced by aircraft.

The Crossfield Taxiway Project (Taxiway R) provides another taxiway connection between the north and south airfield complexes at LAX. Taxilane S opened on November 17, 2011. This project constructed a 3,785-foot long taxilane to connect Taxiway B on the south airfield and Taxiway E on the north airfield and provides ramp access to aircraft.

Other airfield efficiency improvements include construction of taxiway exits and connectors to facilitate efficient movement around the airfield, and relocation of taxiways E and D.

These runway improvements and new taxiways not only improve aircraft safety, but also make aircraft movement around the airfield more efficient and thereby reduce emissions from the burning of jet fuel.

Energy Use and Stationary Sources

Energy efficiency of its terminal and other facilities has been a priority for LAWA for decades.

Energy Efficiency

Over the years, LAWA's actions to reduce energy use for stationary sources include improvements to lighting, heating and cooling systems (HVAC), etc. In recent years, LAWA has continued to improve air handling equipment and conducted regular preventive maintenance to reduce energy use. Variable frequency drives and associated motors for the return air sections of the air handling units (AHU) were installed in the terminals. Exiting lighting systems have been and are being replaced with high efficiency fluorescent lighting fixtures and LEDs, while tinted skylights have reduced building heat loads and reduced air conditioning. Incandescent light bulbs have been replaced with compact florescent bulbs at LAX and Ontario International Airport. These actions, coupled with staff training on techniques to reduce energy use and purchase Energy Star equipment have substantially controlled growth in energy use.

Central Utility Plant

LAWA also completed construction of a new Central Utility Plant (CUP) that supplies power to the entire Central Terminal Area. The new CUP is a cogeneration facility (generating electrical power and steam) that generates power with 25% greater efficiency in fuel consumption than the 50-year old system it replaced.

Prior to completion of the new CUP, LAWA had entered into a 10-year purchase agreement to purchase excess power needs from LADWP. LAWA has also become a member of USEPA's Green Power Partnership program. In 2011, LAWA purchased 25% of its total electrical consumption through this agreement as green power. By 2013, while less power was needed, the green power purchases consisted of 16% of total power used.

Energy Efficient Buildings

In an effort to reduce energy use, LAWA also requires that all significant renovation or new construction of buildings at LAX comply with the City of Los Angeles Green Building Code.

Construction Emissions Control Strategies

LAWA has implemented a wide range of actions designed to reduce emissions from their ongoing construction program. LAWA mandates that contractors use the cleanest off-road construction equipment on the market, including 2010+ haul trucks and Tier IV diesel equipment. LAWA also requires the recycling of construction and demolition debris, and utilizes an on-site batch plant and on-site rock crusher for construction and demolition debris for projects at LAX, substantially eliminating the need for hauling. Additionally, LAWA requires contractors work with the Construction and Logistics Management team to reduce the number of trips to and from the site by strategic placement of laydown yards, onsite concrete mixers and other equipment, and requires compliance with mandatory construction vehicle haul routes.