



2015 Briefing Book



Putting Customers First





Pine Tree Wind Farm

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Introduction

The Los Angeles Department of Water and Power (LADWP) is the nation's largest municipal utility, having provided water and power service to Los Angeles residents and businesses for over 100 years. More than 8,800 employees serve the City of Los Angeles with water and power in a cost effective and environmentally responsible manner. LADWP is guided by a five-member Board of Water and Power Commissioners, appointed by the Mayor and confirmed by the City Council. LADWP is a proprietary agency of the City, with full responsibility for meeting the electric and water requirements of 3.9 million people in Los Angeles.

LADWP continues a major transition of its water and power supplies while working to maintain and improve reliability. Working together with the Mayor and City Council, LADWP is creating a clean energy future for Los Angeles and planning for a sustainable water future — one that addresses drought conditions by reducing reliance on

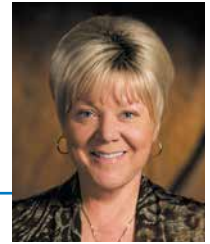
expensive imported purchased water and increasing the local water supply as well as conservation. Throughout this major transition, LADWP's objectives are to continue providing reliable water and power service to Los Angeles residents and businesses, while maintaining competitive rates that remain among the lowest in California.

Renewed focus has been placed on reliability, environmental responsibility, cost efficiency, and improving the customer experience. LADWP has also become much more transparent and expanded public outreach and awareness. LADWP strives to ensure Angelenos' voices and views are heard on major issues that affect all of its customers as well as issues of concern to specific communities and customer segments.

This document is designed to help frame the key initiatives and issues that drive the Department's operations, programs and policies.

LADWP Leadership

Marcie L. Edwards
General Manager



Marcie L. Edwards, General Manager

Marcie L. Edwards was confirmed by the City Council on February 21, 2014 to serve as LADWP General Manager, becoming the first woman to hold the LADWP's top job.

Coming home to the utility where she previously worked for 24 years, Ms. Edwards brings decades of experience in the utility industry to the post. Among her top priorities are improving customer service, resolving billing issues related to the conversion of LADWP's customer information system, overseeing LADWP's transition to a clean energy future through further development of renewable energy and local solar expansion, increased energy efficiency, water conservation, and developing more local water resources to combat climate change and drought. She is also strongly committed to increased transparency and outreach to LADWP's "customer-owners."

She came to work for the Department in 1976 as a 19-year-old clerk typist. She gained experience in a variety of

Power System positions, including steam plant assistant, a plant equipment operator, a steam plant operator, a load dispatcher, and a senior load dispatcher. She worked her way up to become superintendent of load dispatching, energy control center manager, manager of bulk power operations/maintenance, bulk power business unit director, and assistant general manager for the marketing and the customer service business units.

Prior to returning to LADWP, Ms. Edwards ran Anaheim's Public Utilities for 13 years, and was tapped to serve as Anaheim City Manager in July 2013.

A past Governor on the California Independent System Operator Board, Ms. Edwards also served as interim CEO of that agency in 2004, and, in that role, assisted in avoiding statewide power outages during the energy crisis.

Board of Water and Power Commissioners



Board President Mel Levine was appointed to the Board of Water and Power Commissioners by Mayor Eric Garcetti and was confirmed by the Los Angeles City Council on September 11, 2013. He was elected President of the Board on October 1, 2013. Mr. Levine joined the international law firm of

Gibson, Dunn & Crutcher as a partner in 1993. He retired as a partner in the firm in 2012 but continues to act as Counsel. He served as a member of the United States Congress from 1983 until 1993 and as a member of the California Assembly from 1977 to 1982.



William W. Funderburk Jr., Vice President, was appointed to the Board of Water and Power Commissioners by Mayor Eric Garcetti and was confirmed by the Los Angeles City Council on September 11, 2013. He was elected as Vice President on October 1, 2013. Mr. Funderburk is a founding partner

of Castellón & Funderburk LLP, a business litigation boutique.



Jill Banks Barad was appointed to the Board of Water and Power Commissioners by Mayor Eric Garcetti and was confirmed by the Los Angeles City Council on September 11, 2013. She is a recognized civic leader and businesswoman.



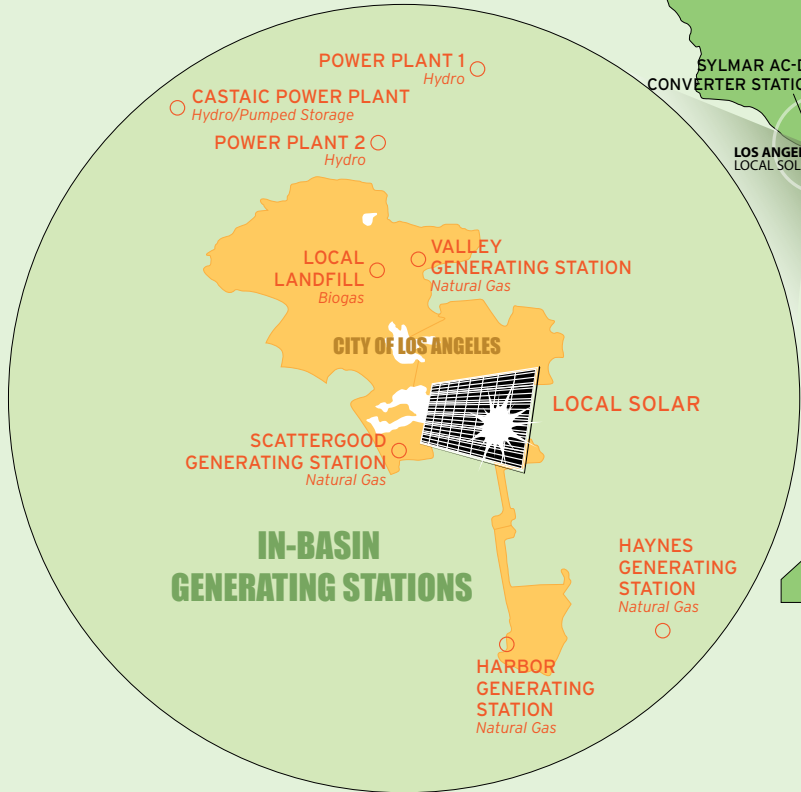
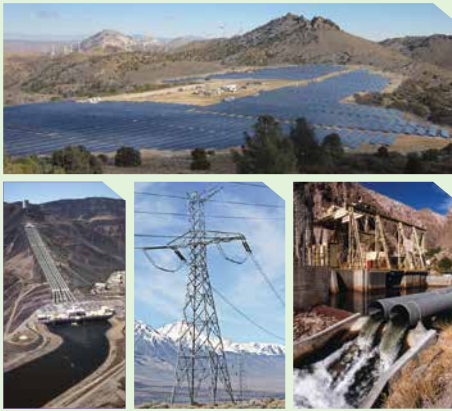
Michael F. Fleming was appointed to the Board of Water and Power Commissioners by Mayor Eric Garcetti and was confirmed by the Los Angeles City Council on September 11, 2013. Mr. Fleming is the Executive Director of the David Bohnett Foundation.



Christina Noonan was appointed to the Board of Water and Power Commissioners by Mayor Antonio R. Villaraigosa and confirmed by the Los Angeles City Council on August 10, 2010. She was re-appointed by the Mayor and then re-confirmed by City Council on August 12, 2011. She is a Senior Vice President of Jones Lang LaSalle's Los Angeles office.

Power System

Los Angeles' Power Generation and Transmission



“ If stretched end to end, LADWP’s 15,000 miles of power lines and cable are farther than the distance from Los Angeles to Australia and back. ”

Power System

David H. Wright
Senior Assistant General Manager - Power System



LADWP's Power System is the nation's largest municipal electric utility, and serves a 465-square-mile area in Los Angeles and much of the Owens Valley. LADWP began delivering electricity in Los Angeles in 1916.

Power Facts and Figures

LADWP's Power System supplies more than 25 million megawatt-hours (MWh) of electricity a year for the City of Los Angeles' 1.4 million residential and business customers as well as over 5,000 customers in the Owens Valley.

Revenues & Expenditures

For Fiscal Year 2014-15, the Power System budget is \$3.9 billion. This includes \$962 million for operations and maintenance, \$1.48 billion for capital projects, and \$1.5 billion for fuel and purchased power.

City Transfer

The Power System transfers 8% of its gross operating revenue (estimated at \$265.6 million in FY 2014-15) to the City's General Fund each year to provide critical City services such as public safety.

Electric Capacity

LADWP has over 7,640 megawatts (MW) of generation capacity from a diverse mix of energy sources.

Power Resources (2013)

(As reported to CEC)

| | |
|--------------------------|-----|
| Renewable energy..... | 23% |
| Biomass & Biowaste..... | 6% |
| Geothermal..... | 1% |
| Small hydroelectric..... | 1% |
| Solar..... | 1% |
| Wind..... | 14% |
| Natural gas..... | 17% |
| Nuclear..... | 10% |
| Large hydro..... | 4% |
| Coal..... | 42% |
| Other/Unspecified..... | 0% |

Power Use

Typical residential energy use per customer is about 500 kilowatt-hours (kWh) per month. Business and industry consume about 70% of the electricity in Los Angeles, but residents constitute the largest number of customers. The record instantaneous peak demand is 6,396 MW reached on September 16, 2014.

Power Infrastructure

The Power System is responsible for inspecting, maintaining/replacing, and operating the following:

Generation

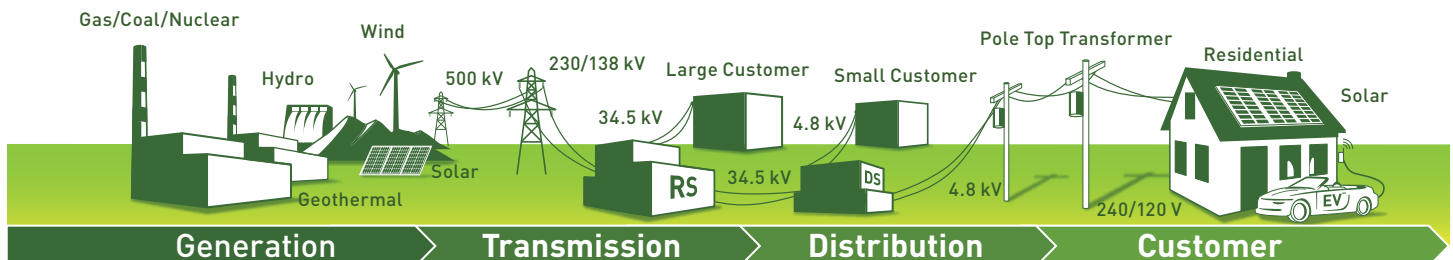
- 4 in-basin thermal plants
- 14 small hydroelectric plants
- 1 large hydroelectric plant

Transmission

- 3,507 miles of overhead transmission circuits (AC and DC) spanning five Western states
- 124 miles of underground transmission circuits
- 15,452 transmission towers

Distribution

- 6,800 miles of overhead distribution lines
- 3,597 miles of underground distribution cables
- 162 distributing stations
- 21 receiving stations
- 50,636 substructures
- 321,516 distribution utility poles
- 3,166 pole mounted capacity banks
- 1.3 million distribution crossarms
- 31,728 utilitarian streetlights
- 126,000 distribution transformers





Power Supply Transformation

Over the next 15 years, LADWP will replace over 70% of its existing power supply as well as rebuild and modernize much of its aging power grid infrastructure used to reliably deliver power to its customers.

LA's clean energy future – a future with more efficient use of energy, greater reliance on renewable energy, and zero coal – is being built right now through a complete transformation of LADWP's power supply.

To transition to a clean energy future, LADWP is making unprecedented investments in:

- Coal Transition
- Energy Efficiency
- Renewable Energy
- Rebuilding Local Power Plants
- Power Reliability

All of these elements are essential to replacing coal power and creating a clean energy future for LA.

Integrated Resource Plan

The Power Supply Transformation is guided by LADWP's Integrated Resource Plan – a roadmap for transitioning out of coal while maintaining a reliable power supply, and doing so in a cost-effective manner. The IRP has been developed through a collaborative process and is updated each year with input from customers and stakeholders.

The IRP balances key objectives of:

- Maintaining high level of service reliability
- Maintaining competitive rates
- Exercising environmental stewardship, including a reduced carbon footprint

➔ Go to www.ladwp.com/lapowerplan to learn more about the IRP.

Coal Transition

Legislative Requirement

The California Greenhouse Gas Emissions Performance Standard (SB 1368) sets a cap on the level of greenhouse gas emissions from power imported into the state. LADWP is required to stop receiving coal power from two coal-fired generating stations when their current contracts and agreements expire.

Coal Transition Strategy

The Power System Integrated Resource Plan calls for replacing the portion of coal that LADWP receives each year from Navajo Generating Station in Arizona and Intermountain Power Plant (IPP) in Utah by increasing energy efficiency to at least 15% by 2020, expanding renewable energy to 33% by 2020 while integrating and balancing this power with efficient and cleaner burning combined-cycle natural gas as a “bridge fuel” to ensure reliability.

Recent Accomplishment

Coal Transition Progress

In March 2013, the LADWP Board approved a contract that will enable LADWP to completely transition out of coal power. In collaboration with participating power utilities, LADWP will convert IPP to a smaller natural gas generating station by 2025 at the latest, with efforts to begin that transition by 2020. Reducing the size of IPP will also free up transmission capacity to bring more renewable energy into Los Angeles.

In addition, LADWP will stop receiving coal power from Navajo Generating Station by 2016, while continuing to negotiate the final disposition of the plant. The Navajo and IPP actions are major steps toward the transformation of the LADWP’s power supply to create a cleaner and more sustainable energy future for Los Angeles.

Through these actions, the City of Los Angeles became the first major city in the United States to commit to becoming coal free.

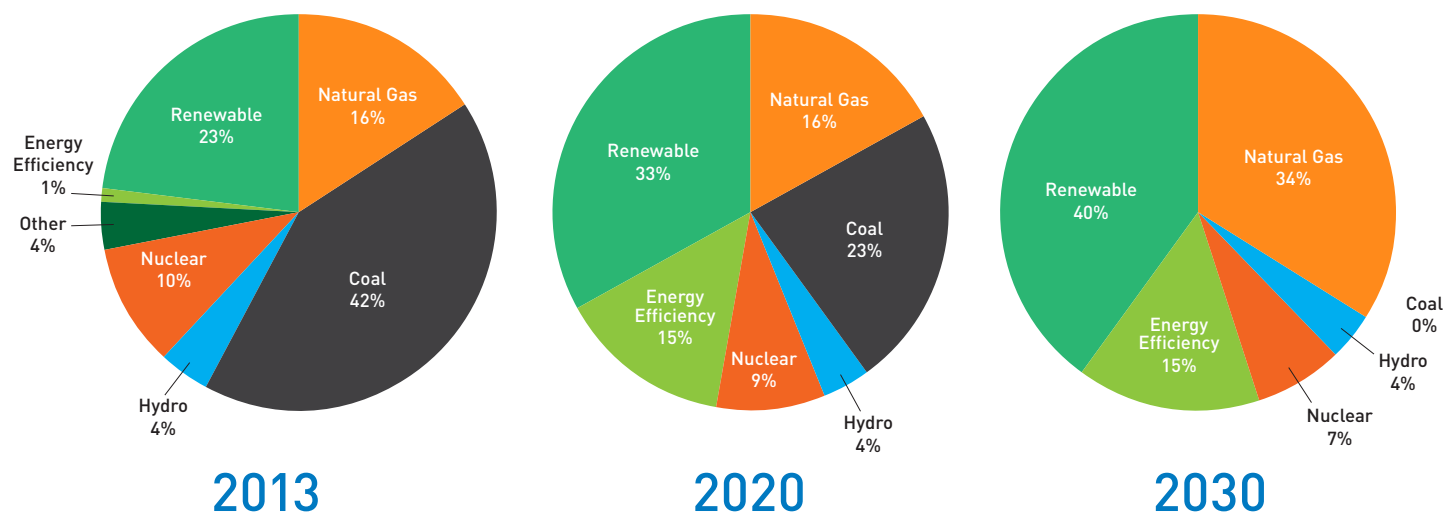
Reliability Through Integration

Completely eliminating coal from LA’s power supply is a monumental step for LADWP. It is vital that policymakers, customers and stakeholders understand that this transition poses many challenges, and requires careful resource planning to maintain a steady flow of power to LA.

Coal power provided a reliable and steady flow of continuous baseload power, 24/7, while renewables such as wind and solar vary every day, throughout the day. Renewables alone cannot replace coal as “baseload” power. For this reason, using clean and efficient combined-cycle natural gas is an important part of the coal replacement strategy. Cleaner burning natural gas provides a critical bridge fuel to ensure reliability.

All elements of LADWP’s power supply transformation—energy efficiency, increased renewable energy, rebuilding its coastal power plants and securing new, cleaner burning natural gas—are needed to maintain reliability and ensure a successful and cost-effective transition out of coal.

LA’s Future Power Supply Is Coal-Free



*Estimated percentages will differ from CEC reporting requirements (e.g. accounting for energy efficiency as a resource).

Road To Renewables

Legislative Requirement

State law (SB 2 (1x)), as recently interpreted by the California Energy Commission (CEC), requires that California utilities meet the following Renewable Portfolio Standard (RPS) levels:

- Maintain average of 20% between 2011 and 2013
- 25% by 2016
- 27% by 2017
- 29% by 2018
- 31% by 2019
- 33% by 2020 and thereafter

Recent Accomplishment

LADWP achieved 20% renewable energy delivered to customers in 2010, and is on track to meet 25% by 2016 and 33% by 2020.

RPS Expansion Policy

As LADWP expands its renewable resource portfolio, it is important that it do so in a cost-effective manner to minimize the impact on ratepayers. Some of the key considerations in selecting these resources include:

- Costs and operational impact of integrating renewables
- Technologies that deliver more energy during peak hours
- Preference for local projects
- Locating projects near existing transmission and other existing LADWP assets such as land and power infrastructure.

Recent Accomplishment

Recent Renewable Energy Projects

The following list includes the clean energy projects approved and/or completed in the past two years.

Recent Accomplishment

Milford II Wind Project

The Milford II Wind Project began delivering renewable energy to the LADWP in May 2011. This 102 MW project is a key part of LADWP's ramp-up to 33% renewable energy by 2020. Located in Milford, Utah, the wind farm is adjacent to the previously developed 200 MW Milford I Project that provides renewable energy to LADWP. The energy is delivered through the IPP switchyard and delivered to Los Angeles via the recently upgraded Southern Transmission System.

Recent Accomplishment

Adelanto Solar Power Project

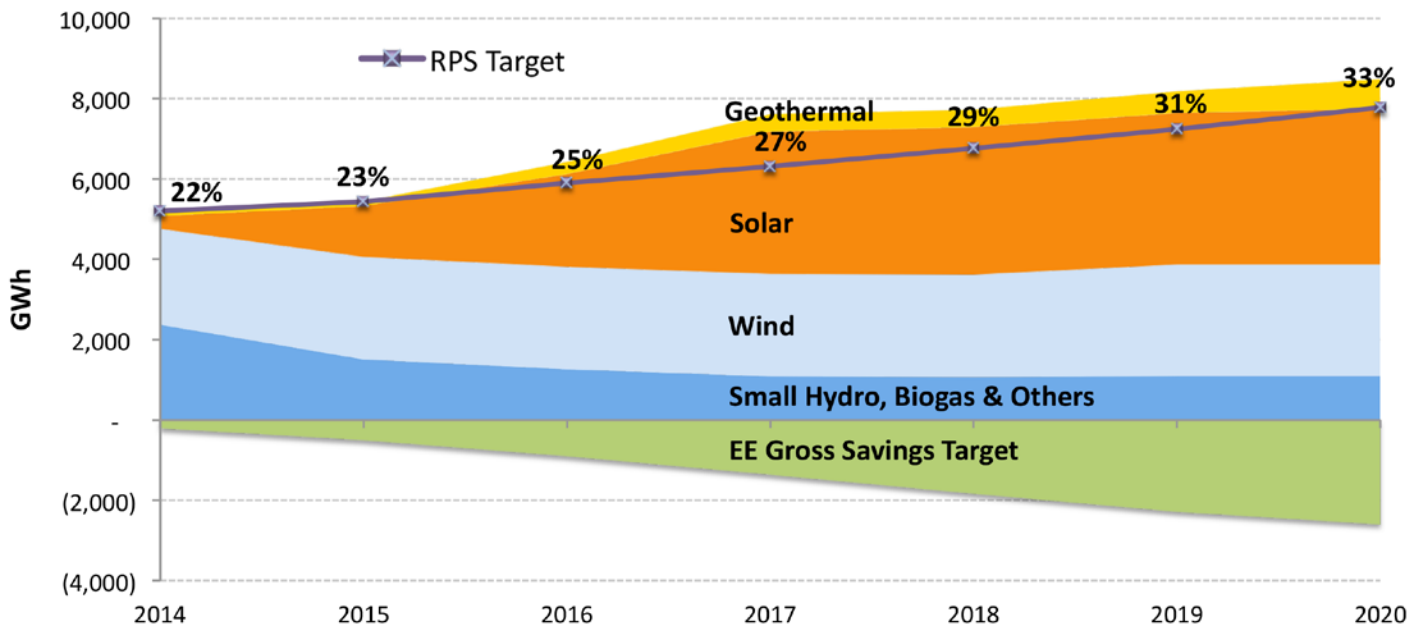
In July 2012, Los Angeles began receiving 10 MW of renewable energy from the Adelanto Solar Power Project. Located at the Adelanto Switching Station near Victorville, California, the solar array was LADWP's first utility-scale solar power plant built by its own employees and the nation's largest solar installation built and owned by a municipal utility.

Recent Accomplishment

Pine Tree Solar Power Project

LADWP's second utility-scale solar array—the 8.5 MW Pine Tree Solar Project, began generating power on March 15, 2013. The solar plant is located at LADWP's Pine Tree Wind Farm in the Tehachapi Mountains.

Increasing Renewable Energy and Energy Efficiency





Adelanto Solar Project

Recent Accomplishment

Barren Ridge Renewable Transmission Project

In 2014, initial construction work began on a critical power transmission line that will enable LADWP to deliver additional renewable energy resources from the Tehachapi Mountains and Mojave Desert areas to Los Angeles. Crossing Kern and Los Angeles Counties, the Barren Ridge line will provide up to 2,000 MW of additional power transmission capacity to access vital wind and solar resources that are necessary to meet the RPS goals.

Recent Accomplishment

K Road Moapa and Copper Mountain 3 Solar Projects

In October 2012, two long-term power purchase agreements were approved that will provide a combined 460 MW of clean solar power from two new utility-scale solar facilities. LADWP entered a contract with K Road Moapa Solar for up to 250 MW of solar power from a new plant located to be on Moapa Band of Paiute Indians tribal land north of Las Vegas. The second contract is for 210 MW from the Copper Mountain Solar Project being developed by an affiliate of Sempra U.S. Gas and Power near Boulder City, Nevada. Both projects will be among the largest solar arrays in the country when completed by 2016.

Recent Accomplishment

Beacon Solar Project

In 2014, LADWP broke ground on the Beacon Solar Project, which will provide 250 MW of solar power. The Beacon solar project, which was already permitted for building ground-mounted solar photovoltaic systems, is also situated adjacent to LADWP’s Barren Ridge Switching Station in Kern County as well as the Pine Tree Wind and Solar projects. It will also make use of the additional transmission capacity that will be available, making the area a renewable energy hub. The project is an excellent opportunity for large-scale solar and will create hundreds of green jobs in California.

Recent Accomplishment

Don A. Campbell Power Plant

In March 2013, LADWP received approval to enter into a power purchase agreement for 14 MW of reliable geothermal power from the Don A. Campbell Geothermal Power Plant in Mineral County, Nevada and began receiving the geothermal energy in January 2014. The project is the first of several new geothermal energy agreements LADWP is pursuing. Unlike wind or solar energy, geothermal produces continuous renewable power around the clock to meet the city’s baseload energy needs.

Recent Accomplishment

Manzana Wind Project

On May 24, 2013, the Board of Water and Power Commissioners approved the Manzanita Wind Project, which will provide 39 MW of renewable energy to LADWP over a 10-year term. The power will be generated by an existing 189 MW wind farm in Kern County. This project also provides a unique opportunity for LADWP to gain additional experience in working with the California Independent System Operator (CAISO), since the power will be delivered to a Southern California Edison substation and then scheduled into the CAISO-controlled transmission system. Utilizing CAISO opens up more potential renewable projects and continues the spirit of cooperation as all California utilities find ways to meet the state’s renewable energy requirements.

Recent Accomplishment

Heber-1 Geothermal Project

Through another power purchase agreement, LADWP will receive 34 MW of baseload, around-the-clock renewable geothermal energy from the existing Heber-1 Geothermal Project in Imperial County. The 10-year contract will begin in December 2016.



Solar panels atop Oxnard Plaza Apartments in North Hollywood - the first completed FIT installation.

Local Solar Programs

A key element of LADWP's renewable energy program is the development of local solar, particularly customer-based programs that tap into the city's abundant sunshine. Local solar projects help to meet LADWP's renewable energy targets and reduce the carbon footprint created by fossil fuel burning power plants. Solar is also expected to be a vital catalyst for creating jobs and stimulating the "green" economy in Los Angeles.

Local solar projects are also beneficial to Los Angeles because they are "distributed generation," functioning like mini power plants that generate energy right where it's being used.

LADWP offers two local solar programs: the long-standing Solar Incentive Program and a new Feed-in Tariff (FIT) Program.

Solar Incentive Program

Legislative Requirement

In September 2007, LADWP revised its earlier Solar Incentive Program (SIP) guidelines to comply with SB1, the California Solar Initiative. Under this requirement LADWP has committed to provide \$313 million to support solar photovoltaic (PV) projects through 2016, with a goal of achieving 280 MW of solar PV by the end of that period.

Early in the program, LADWP's customer incentives were set higher than the State-mandated minimums in order to encourage greater participation in solar given LADWP's lower electric rates as compared to other California utilities.

As participation grew dramatically in response to increased availability of tax credits and dropping solar

prices, the Board of Water and Power Commissioners lowered future incentive levels to be more in line with the State-mandated minimum levels. LADWP anticipates that by the end of the SB1 program in 2016, the Department will be very close to achieving its goal of 280 MW of customer solar generation.

Record Levels

Customer demand for solar incentives quadrupled in early 2009 as a result of changes in federal tax incentives that provided greater benefits to residential customers. Also around this time prices for solar equipment had been dropping.

In 2011, the program was placed on a five-month hiatus to catch up on a backlog of requests for solar incentives. LADWP relaunched SIP in September 2011 with a new incentive structure designed to increase customer participation while keeping the program at a manageable pace. Since then, LADWP has seen record levels of program participation; customers submitted an average of 330 applications per month, compared to 140 a month in early 2011 and 40 per month in 2007 and 2008.

Recent Accomplishment

Solar Achievement

As of December 31, 2014, LADWP has paid approximately \$255 million to customers in solar incentives. This amount includes \$55 million provided prior to implementing the SB1 required program, and \$200 million under SB1.

There are over 15,000 customer-installed solar systems connected to the grid. This represents 125 MW of solar capacity and generates 206,000 MWh per year.

➔ Go to www.ladwp.com/solar to learn more.

Feed-in Tariff Solar Program

Legislative Requirement

State legislation SB1332 (which superseded SB32) requires utilities to provide a Feed-in Tariff (FiT) program that enables third parties to develop solar, or other renewable energy, and sell the power to the utility. LADWP's share of the statewide program is 75 MW.

Recent Accomplishment

Program Launched

LADWP has initiated the nation's largest municipal solar FiT program for up to 150 MW to expand solar energy in Los Angeles and boost the local economy. The program, which evolved through external meetings and discussions with over 500 stakeholders, was launched in three segments: a 10 MW demonstration program; a 100 MW set-pricing program; and a 50 MW program that bundles small local solar installations with a large-scale solar project on LADWP-owned land in the Mojave Desert.

Recent Accomplishment

FiT Demonstration Program

Designed to test the pricing structure and refine other program elements, the Demonstration Program garnered 27 applications for 7 MW of solar power. Out of these applications, three projects for 1.6 MW have been installed. These three projects are expected to generate 3,100 MWh per year.

Recent Accomplishment

FiT100 Program

Since approving the 100 MW Feed-in Tariff (FiT) Set Pricing Program in 2013, LADWP has offered four allocations totaling 75 MW for solar and other eligible renewable energy. Through the FiT Program, LADWP purchases

power from third parties at a fixed price per kWh (based on a declining scale) under a standard offer power purchase agreement. LADWP expects to offer the 25 MW fifth allocation in March 2015.

Since the program began, 11 FiT solar projects have been placed in service with an energy capacity of 5.4 MW. An additional 8.2 MW of solar FiT projects have approved contracts and are pending construction. As of January 2015, a total of 174 MW of solar projects have been reviewed and 56 MW of those projects are being considered for final approval.

Recent Accomplishment

FiT50/Beacon Bundled Solar Project

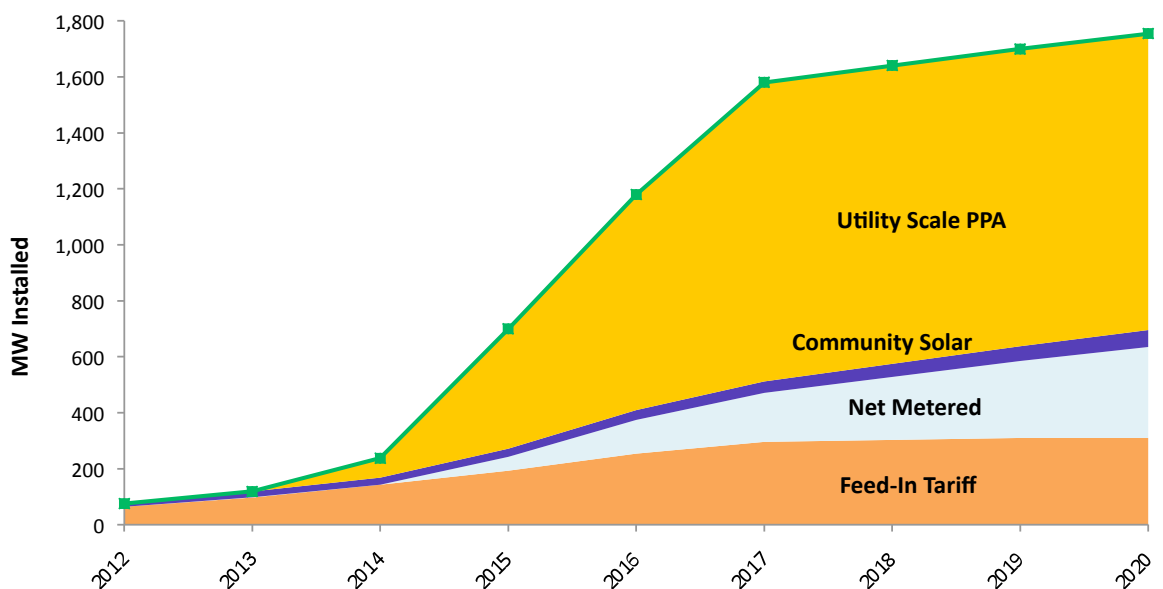
Approved in April 2013, this innovative program bundles 50 MW of local FiT solar projects as a requirement for bidding on the large-scale Beacon Solar Project, which has a total capacity of 200 MW available. This is a competitive pricing program aimed at developers interested in building large scale solar, and leveraging their resources to also expand rooftop solar projects within the City of Los Angeles. LADWP staff issued a request for proposals (RFP) for the Beacon Bundled Solar Project on July 1, 2013, and received 23 proposals. The LADWP Board awarded 22 MW to SunEdison and 28 MW to Hecate Energy.

Expanded FiT

In fall 2014, LADWP began developing an Expanded FiT program. Paced at 50 MW per year, the Expanded FiT program will be priced in a manner that is responsive to program participation. If approved by the LADWP Board and City Council, LADWP would launch the Expanded FiT Program by the end of 2015.

→ Go to www.ladwp.com/FIT to learn more.

LADWP Solar Program Forecast



Rebuilding Local Power Plants

Regulatory Issue

Once-Through Cooling (OTC) is the process of drawing ocean water and pumping it through a generating station's cooling system, then discharging it back into the ocean. The impact of OTC on ocean habitat is governed by the Federal Clean Water Act Section 316(b), administered by the State Water Resources Control Board, which developed a statewide policy in 2010 to reduce or minimize the impact of OTC on marine life.

Therefore, LADWP is eliminating the use of ocean water for cooling at its three coastal power plants – Scattergood, Haynes and Harbor Generating Stations – by 2029. This requires major capital projects, costing about \$2.2 billion, employing complex engineering and design, and building in tight quarters without disrupting neighbors.

Rebuilding Strategy

LADWP is pursuing a strategy to comply with the Statewide policy while also reconfiguring and modernizing its oldest generating units to increase reliability and to integrate renewable energy—a growing element of LADWP's power portfolio.

The repowering projects are especially challenging because they require concise timing in their planning and execution. No one generating unit can be removed from service before its replacement is online. As LADWP weans itself off of coal power, these in-basin generating units become even more critical in maintaining power reliability.

Recent Accomplishment

Haynes Generating Station

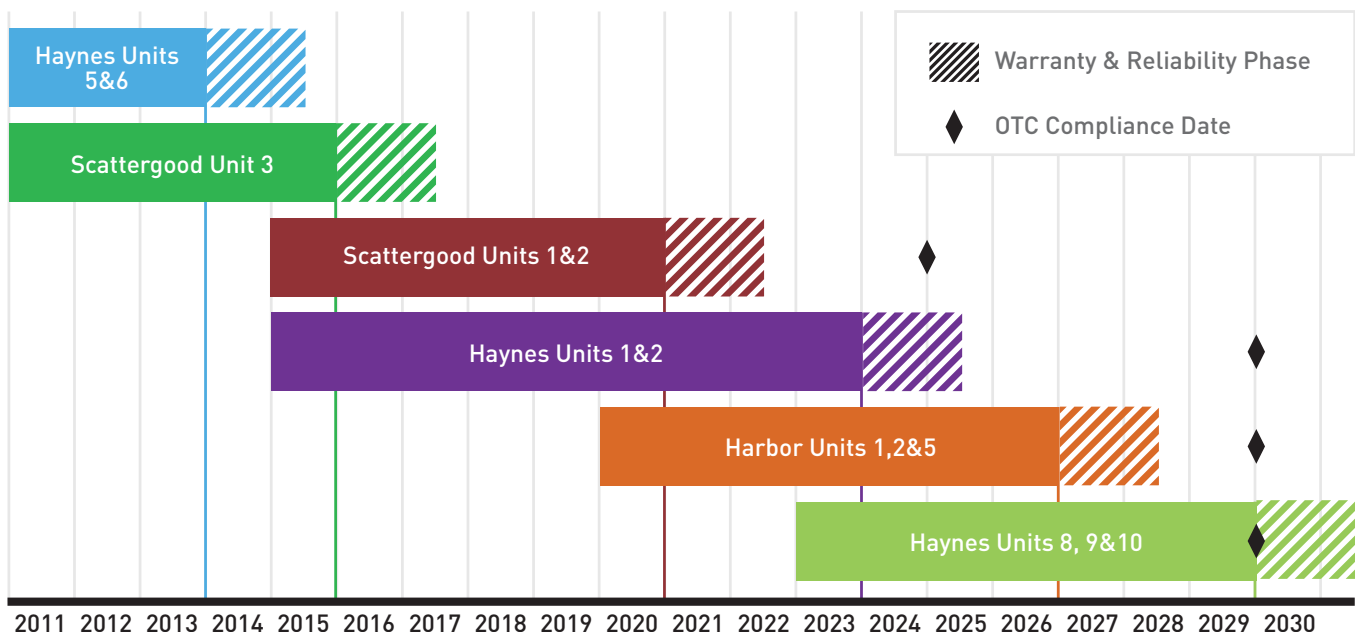
In the first project to eliminate ocean cooling at nine generating units at three coastal power plants, LADWP completed construction of six 100 MW generators at the Haynes Generating Station in Long Beach and removed them from ocean cooling. While meeting OTC requirements, LADWP replaced the aging generating units at Haynes to improve operational flexibility by using state-of-the-art, highly efficient quick-start turbines, similar to those of a jet engine. The use of these turbines, which can ramp up to full power within 10 minutes, will improve integration of renewable energy as LADWP brings more wind and solar power online. The Haynes Repowering Project, which created approximately 350 construction jobs, began commercial operation in June 2013.

Recent Accomplishment

Scattergood Generating Station

While Haynes was under construction, LADWP laid the groundwork for replacing Scattergood Unit 3 and its capacity with modern high-efficiency power generating units that will not use ocean water for cooling. The project broke ground in June 2013 and completion is expected by the end of 2015. Along with eliminating OTC, the Scattergood Unit 3 project will also increase generation reliability and efficiency, and reduce NOx emissions.

Timeline for Rebuilding Local Power Plants



LADWP's schedule for OTC compliance.



New quick-start generating units completed at Haynes Generating Station.

Investing in Energy Efficiency

Legislative Requirement

Under AB 2021, publicly-owned utilities such as LADWP, must identify, develop and implement programs for all potentially achievable, cost-effective Energy Efficiency savings and establish annual targets.

Transformation Element

Recognizing Energy Efficiency is a key element in the Power Supply Transformation and aligning with the State legislation, LADWP has increased its goal to 15% cumulative energy savings by 2020, based on the most recent potential study completed in 2014. The new cumulative energy savings target, covering a 10-year period through 2020, is equivalent to powering about 61,500 homes.

Increased Investment

To achieve the 15% energy reduction by 2020, LADWP has significantly increased investment in energy efficiency over the past three years.

Recent Accomplishment

Guiding Principles

Since August 2012, LADWP has applied guiding principles for launching new and redesigned energy efficiency programs, including:

- Promote energy efficiency programs for all customer sectors
- Target “hard-to-reach” customers (i.e. low-income residents, small businesses)
- Achieve tangible economic benefits for low-income customers
- Leverage programs to support jobs for local workforce
- Work collaboratively with partner agencies on outreach and education, and to reach broad and diverse customer base (i.e. Southern California Gas Co. partnership)
- Operate transparently and report results regularly

Recent Accomplishment

Efficiency Solutions

LADWP’s Efficiency Solutions Business Group continues to develop cutting-edge, beneficial programs that cover the gamut of residential and commercial consumer rebates, direct installations for hard-to-reach customers, technical assistance, and incentives for commercial lighting and refrigeration efficiency measures. Marketing materials consistent with this theme have been developed and deployed.

Recent Accomplishment

Southern California Gas MOU

LADWP and Southern California Gas Co. have formed a unique public-private partnership that has expanded the reach of efficiency programs for both LADWP and SoCalGas customers. To date, 11 joint programs have been launched and several others are under development, or being considered.

➔ Go to www.ladwp.com/energyefficiency for more detailed information about LADWP Efficiency Solutions programs.

Greenhouse Gas Reductions

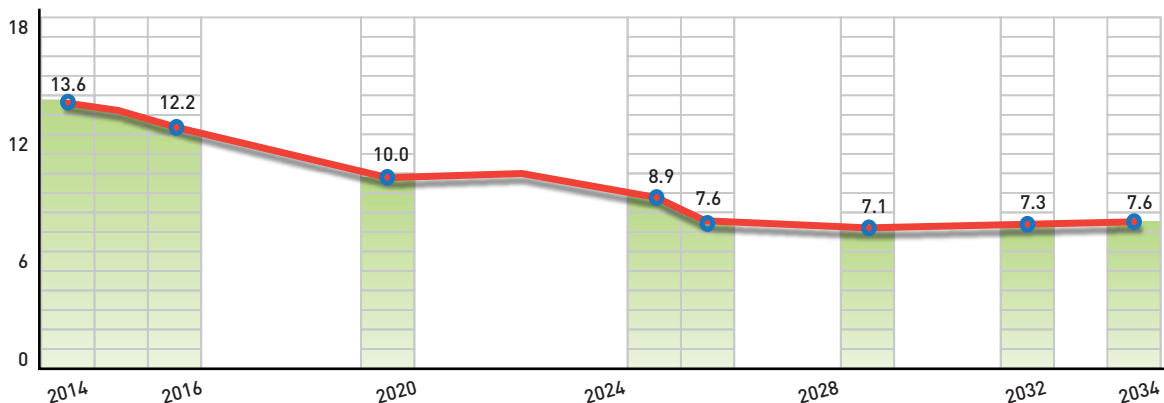
Legislative Requirements

As described earlier, SB 1368 establishes a greenhouse gas emission performance standard at the level of, or below, the emission rate of gas-fired combined cycle units. Another piece of legislation, AB 32, the California Global Warming Solutions Act of 2006, calls for reducing the state’s CO₂ emissions to 1990 levels by 2020.

Under the final regulations for the greenhouse gas emissions cap and trade program, LADWP receives allowances based on projected greenhouse gas emission reductions. This allows revenues generated through customer rates to be invested into renewable energy and energy efficiency projects that meet the RPS and energy efficiency goals.

The Result: Creating a Clean Energy Future for L.A.

LADWP’s CO₂ emissions are 23% below LADWP’s 1990 level, and expected to be 55% below the 1990 level in 2025. 1990 Emission Level: 17.9 mmt



In 2025, LADWP will have reduced CO₂ emissions by 9.8 million metric tons, compared to the 1990 baseline level, equivalent to removing 2.1 million cars from the highway.

Recent Accomplishment

Progress in GHG Emissions Reduction

LADWP has already reduced its greenhouse gas emissions to 23% below its 1990 level. This level, which exceeds the 2020 Kyoto Protocol target is due to the shutdown of the Mohave Coal Power Plant in 2005, ongoing repowering programs that began in the 1990s and increased development of renewable resources.

LADWP’s greenhouse gas emissions will decline dramatically as it progresses with plans to eliminate coal power, increase renewable energy and energy efficiency, and rebuild local power plants to be more efficient. Greenhouse gas emissions are expected to be 55% below the 1990 level by 2025—the equivalent of removing 2.1 million cars from the highway.

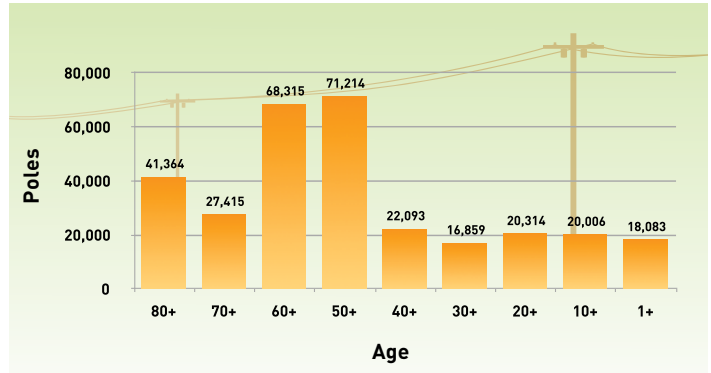
Power Reliability

A significant ongoing issue for LADWP’s Power System is the need to upgrade or replace critical aging power infrastructure to ensure continued reliability for its customers.

While a significant amount of work has been accomplished on LA’s generating facilities, the power distribution infrastructure, such as poles and underground cables, remains a major focus, since this equipment is aging rapidly and requires increased investments going forward.

The majority of LADWP’s power poles were installed during the city’s rapid growth – 1940s through 1960s. For example, if LADWP were to replace 5,000 poles a year, it would take over 25 years to replace all of the poles that are 60-plus years old (the average expected pole lifespan). During that time another 110,000 poles will become 60-plus years old, which would take another 22 years to

Power Poles are among the critically aging infrastructure that require replacement.



Note: approximately 3,917 poles do not have install dates.

replace. Of course, not all poles over 60 years of age will need to be replaced, whereas some poles only 40 years of age may need to be replaced due to other factors.

Another area of concern is the backlog of temporary repairs awaiting permanent repair. There are over 45,000 of these “Fix It Tickets” in the queue, and the number is growing by about 1,000 jobs per year.

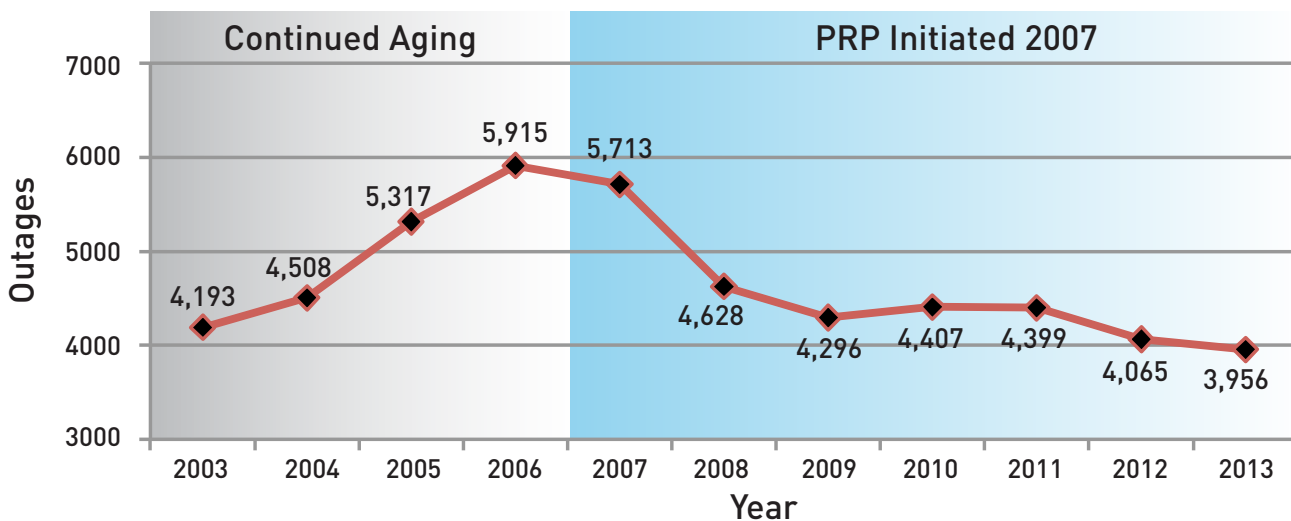
Recent Accomplishment

Power System Reliability Plan

To address the problem of aging infrastructure, LADWP has: 1) expanded the focus to encompass all major functions of the Power System, including generation, transmission, substation, and distribution; 2) assisted in cost effectively prioritizing reliability expenditures; 3) accelerated the replacement of aging Power System equipment; and 4) initiated a process to use contractors to assist in replacing its aging poles and cables.

➔ Go to www.ladwp.com/prp to learn more.

Power Outages Relative to Investment Level





Electric Vehicles

Recent Accomplishment

Charge Up LA! Rebate Program

To encourage Angelenos to buy or lease an electric vehicle, LADWP introduced a two-year Charge Up LA! EV Home Charger Rebate Program in April 2011. The program provided rebates of up to \$2,000 to customers for home chargers and installation costs. As of December 2014, the Department paid over \$2 million in EV home charger rebates for 1,300 chargers under the program.

With the initial program having ended in June 2013, LADWP developed a new charger rebate program that was approved by the Board of Water and Power Commissioners in July 2013. The new program, Charge-Up LA! - Home, Work and On The Go, expands charging infrastructure for businesses and all other customer sectors.

Recent Accomplishment

Public Charging Stations

LADWP has worked with customers to upgrade 249 older chargers located on City of Los Angeles property and at private, publicly accessible locations. LADWP has also installed 11 DC fast chargers at publicly accessible locations. LADWP has also received grant funds to upgrade an additional 115 chargers, and install 104 new chargers, all at publicly accessible locations.

New EV chargers have also been installed at the LA Convention Center and at LAX. Electrical infrastructure upgrades are also underway to reduce both the frequency and duration of power outages, and to support the increased power demand necessary for EV charging.

➔ Go to www.ladwp.com/ev to learn more.

Smart Grid LA

LADWP has installed 51,000 two-way digital meters (smart meters) as part of the Smart Grid Regional Demonstration Project, or Smart Grid LA.

LADWP along with USC, UCLA, and JPL, were awarded a 5-year, \$60 million grant by the U.S. Department of Energy, matched by LADWP, to develop the Smart Grid project. The grant is funded through the American Recovery and Reinvestment Act, and seeks to create a smarter, greener and more efficient electric grid.

Smart Grid LA will deploy and test a host of new technologies, such as switches, monitors, controllers, and meters that will relay information to each other through a near-real-time communications network.

The smart meters have been deployed in three communities of Los Angeles – the areas around UCLA and USC, and Chatsworth. Electric vehicle owners with digital meters are also participating in the Demonstration Project, which will assess customer behavior toward using the meters to save energy, and to test demand-response measures, such as “Save Power” events.

Other elements of the Demonstration Project include studying advancements in cyber security and the impact of electric vehicles on the power grid.

➔ Go to www.ladwp.com/smartgrid to learn more.

Jobs: Utility Pre-Craft Trainee Program

To create a path for young and new workers into real careers, LADWP, IBEW Local 18 and other local agencies, introduced the Utility Pre-Craft Trainee (UPCT) Program. The training program paves the way for career-path jobs while addressing the issue of a rapidly aging workforce and need for new skilled employees. An integral part of the green jobs pipeline for Los Angeles, the UPCT program provides pre-apprenticeship training for entry-level workers who are looking for long term positions in the water and power utility fields.

Among other jobs, UPCT employees are utilized to perform energy efficiency work through the Home Energy Improvement Program, which evolved from the federal grant funded residential weatherization improvement program for low income families. In fact, the UPCT program was initiated to provide support for the weatherization program. By offering these entry-level positions, LADWP is preparing new workers to fill critical vacant jobs throughout the Department.

Power Rates and Finance

In 2012, LADWP took the necessary steps to pay for investments needed to comply with legal mandates that are driving the power supply transformation. Increased investments were also critically needed to replace rapidly aging infrastructure to maintain reliability, and to expand customer opportunities through additional investment in money-saving energy efficiency programs that are in line with State legislation.

2012 Rate Change

LADWP ultimately received City Council approval on October 2, 2012 for a 2-year electric rate change. The first increase went into effect November 11, 2012 and the second year change became effective July 1, 2013.

The total 2-year rate change, based on the system-wide average rate, was 1.41 cents per kWh, an increase of 11%. The actual rates vary by customer type, consumption levels, and market fluctuations of fuel prices.

Future Rate Changes

The 2012 rate proposal was scaled back from five years to two years so that the newly appointed ratepayer advocate would have time to do further analysis. This also allowed LADWP to move forward with projects that were on a critical path and then revisit longer term needs and compliance deadlines.

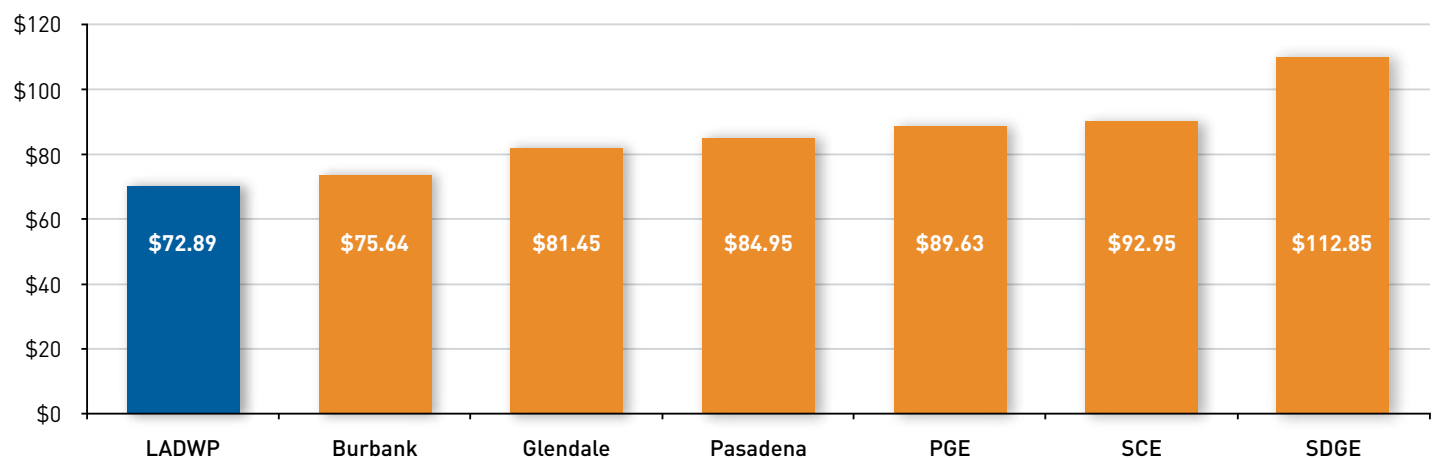
LADWP anticipates the need for further rate adjustments in 2015 to continue meeting the legal mandates requiring its power supply transformation and to continue upgrading its aging infrastructure to ensure reliability.

Comparison of Rates

While rate increases are never easy, LADWP rates still remain among the lowest in California. A typical customer in LADWP service area pays approximately 10% – 30% less than similar customers served by investor owned utilities in Southern California. While LADWP undertakes the largest capital investment program in its history, it is able to keep these competitive rates by maintaining favorable financial metrics.

➔ Go to www.ladwp.com/rates to learn more about LADWP rates.

Comparison of Typical Residential Monthly Bill*



*Based on using 500kWh/month, as of January 2015

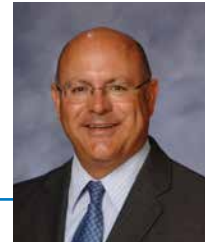
Water System

Los Angeles' Water Sources



Water System

Marty Adams
Senior Assistant General Manager - Water System



LADWP's Water System is the nation's second largest municipal water utility, and serves a population of 3.9 million people within 473 square miles. The Water System supplies approximately 191 billion gallons of water annually and an average of 524 million gallons per day for the 674,000 residential and business water service connections.

The availability of water has significantly contributed towards the tremendous growth and development of Los Angeles. Since 1902 when the population in Los Angeles was approximately 146,000 to today when the population is 3.9 million, the Water System has worked tirelessly to ensure that Angelenos receive a safe and reliable water supply.

In 2013, LADWP marked the 100th anniversary of the 233-mile, gravity fed Los Angeles Aqueduct. While the Department has celebrated this historic milestone, the Water System continues to lay the groundwork for a sustainable water supply for the next century.

The Water System has identified three areas as its top priorities: **Safety** of drinking water, **reliability** of water infrastructure, and **sustainability** of water supplies.

Water Facts and Figures

The Water System is responsible for supplying, treating, and distributing water to the City of Los Angeles.

Revenues & Expenditures

For fiscal year 2014-15, the Water System budget is \$1.5 billion, including \$422 million for operations and maintenance, \$722 million for capital projects, and \$343 million for purchased water.

Water Supply Sources (5-year average)

| | |
|--|-----|
| LA Aqueduct (Eastern Sierra Nevada): | 34% |
| Purchased water (MWD): | 53% |
| Bay Delta | 45% |
| Colorado River | 8% |
| Groundwater:..... | 12% |
| Recycled water: | 1% |

Water Use

Average Daily Use Per Capita: 131
Gallons Per Day (GPD)

Residential

378,800 acre-feet (467 million cubic-meters) per year, or 338 million GPD

Commercial/Industrial Customers

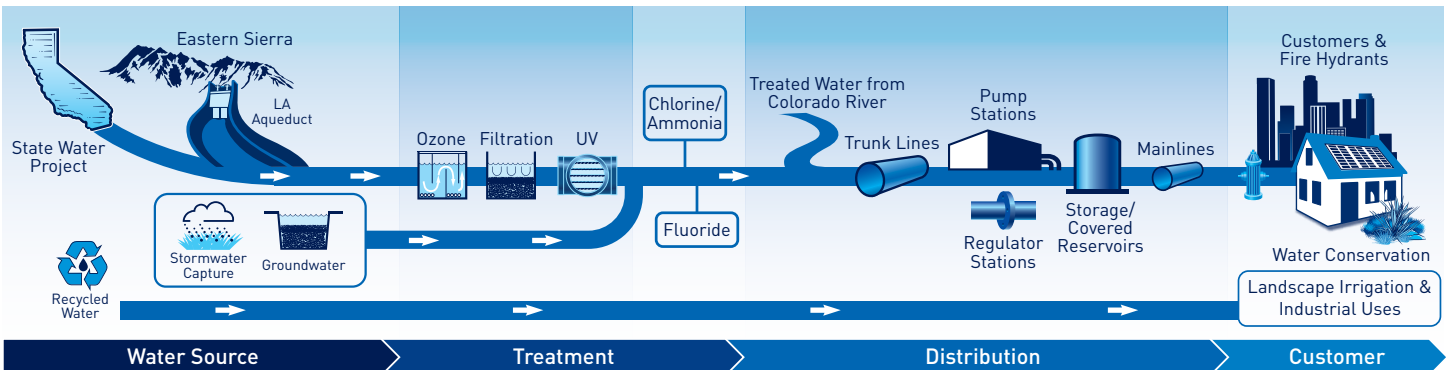
121,000 acre-feet (149 million cubic-meters) per year

Annual Water Sales

177 billion gallons (or 670 billion liters)
Water Service Connections (Active):..... 674,000

Water Infrastructure

| | |
|--|---------|
| Tanks and Reservoirs:..... | 114 |
| Pump Stations: | 78 |
| Ammoniation Stations:..... | 8 |
| Chlorination Stations: | 23 |
| Regulator Stations:..... | 421 |
| System Pressure Zones:..... | 124 |
| Distribution Mains (miles):..... | 7,263 |
| Fire Hydrants:..... | 60,428 |
| Total Storage Capacity (acre-feet):..... | 315,245 |



Sustainability

Recent Accomplishment

Urban Water Management Plan

LADWP's 5-year Urban Water Management Plan provides a framework for developing a sustainable water future. The plan analyzes the water supply resources and demand through 2035 with the goal of meeting new demand for water through conservation and local resource development. To meet this goal, the long-term water supply plan focuses on:

- Expanding water conservation
- Expanding water recycling
- Enhancing stormwater capture
- Cleaning up the San Fernando groundwater basin
- Expanding water transfers

With the projected significant increases in local water supplies, Los Angeles will be able to cut Metropolitan Water District (MWD) purchases of imported water in half by 2035.

➔ Go to www.ladwp.com/water to learn more about the city's water supply.

Recent Accomplishment

Mayor's Executive Directive No. 5

Amidst a record statewide drought, Mayor Eric Garcetti issued an executive directive on October 14, 2014 to dramatically reduce the use of fresh water and the purchase of costly imported water and to increase water conservation and the use of recycled water. Highlights of Executive Directive No. 5 include:

- Reduce water use per capita in the city by 20% by 2017
- Reduce the purchase of imported water by 50% by 2024

Through the directive, Mayor Garcetti ordered city departments to sharply cut water use by reducing watering and replacing lawns at city facilities, street medians and sidewalk parkways, in addition to increasing city incentives to help L.A. residents do the same. Since outdoor water use represents approximately 50% of residential consumption, the Mayor called on LADWP to increase its turf replacement incentive to \$3.75 per square foot.

LADWP implemented the higher rebate, and also increased efforts to replace lawns at its own facilities. As of December 2014, LADWP had retrofitted 32 facilities with water-wise landscape, totaling 292,112 square feet of turf removed and over 620,000 square feet of total California Friendly landscaping installed.

Recent Accomplishment

Water Conservation

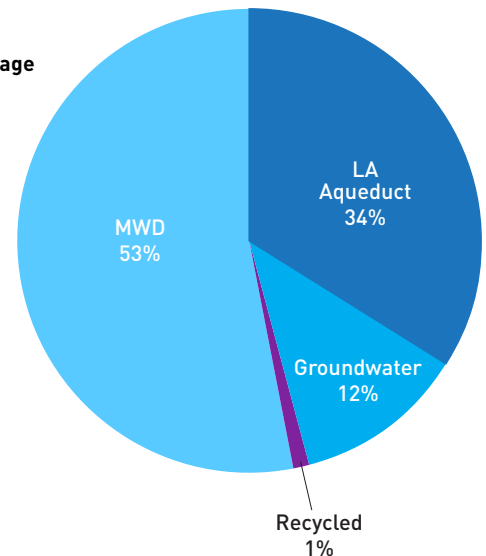
To meet the Mayor's directive and accelerate local water supply goals, LADWP stepped up its message to use water efficiently, prompting Los Angeles residents and businesses to continue using just as much water as they did in the 1970s, when the city's population had approximately one million fewer residents.

With this record-low water use, Los Angeles has one of the lowest water use per capita of any major U.S. city with a population of more than one million. The record conservation levels and continued efficiency ethic shown by Angelenos are critical to the city's long-term water supply. These savings also led the Sierra Club to rank the City of Los Angeles first in its water conservation scorecard for Los Angeles and Orange Counties.

Water Supply

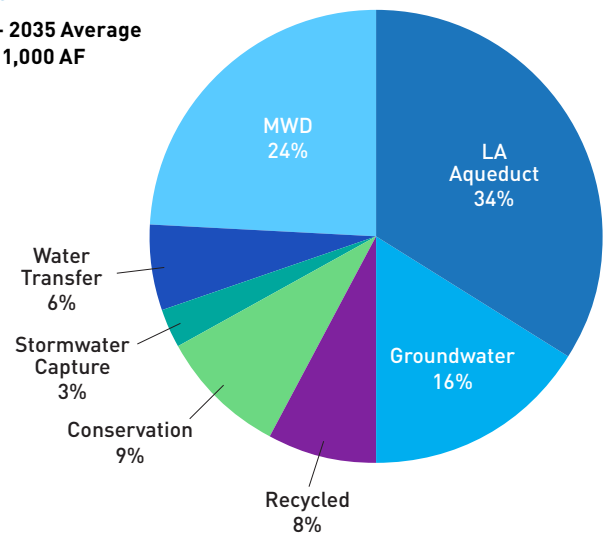
Present

FY 2010 - 2014 Average
Total - 553,900 AF



Future

FY 2034 - 2035 Average
Total - 711,000 AF



Recent Accomplishment

Incentive and Rebate Programs

During the past two years, LADWP increased public outreach efforts to raise awareness about using water more efficiently. LADWP implemented public information and social media campaigns to communicate monetary and water saving tips to customers, along with highlighting the various LADWP conservation rebate programs. In July 2012, LADWP relaunched its entire residential customer conservation rebate programs to assist customers with converting their indoor and outdoor hardware to water efficient devices.

Per the Mayor's directive the California Friendly Landscape Incentive Program rebate was increased to \$3.75 per square foot for residential customers and up to \$3 per square foot for business customers. The rebates cover turf removed and replaced with California Friendly plants, mulch, and permeable pathways.

Water Conservation Potential Study

Launched in 1977, LADWP's Water Conservation Program has saved over 110,000 acre-feet per year (AFY) of water. LADWP is now taking steps to develop a comprehensive Water Conservation Potential Study to properly assess the current hardware conservation saturation and determine additional potential conservation measures for various customer classes.

A cost analysis and financial projection for potential conservation strategies in each customer class will be performed. The results will enable LADWP to optimize

the most cost-effective water savings and perform more accurate long-term conservation program and budget planning.

Water Conservation Response Unit

LADWP's Water Conservation Response Unit (WCRU) has stepped up visibility by patrolling the city in bright blue cars that say "Keep Saving Water L.A.!" and actively responding to complaints about water waste. In 2014, the WCRU handled 6,351 complaints, mailed 5,289 educational warning letters, and conducted 1,523 in person inspections.

Water Recycling

Recycled water is a critical element of LADWP's local water supply strategy. Since 1960, the city has recognized the potential for water reuse and invested in recycled water treatment that meets Federal and State standards (Title 22) for non-potable water uses, including irrigation, industrial and environmental uses, and in infrastructure (commonly known as purple pipes) to convey recycled water to customers.

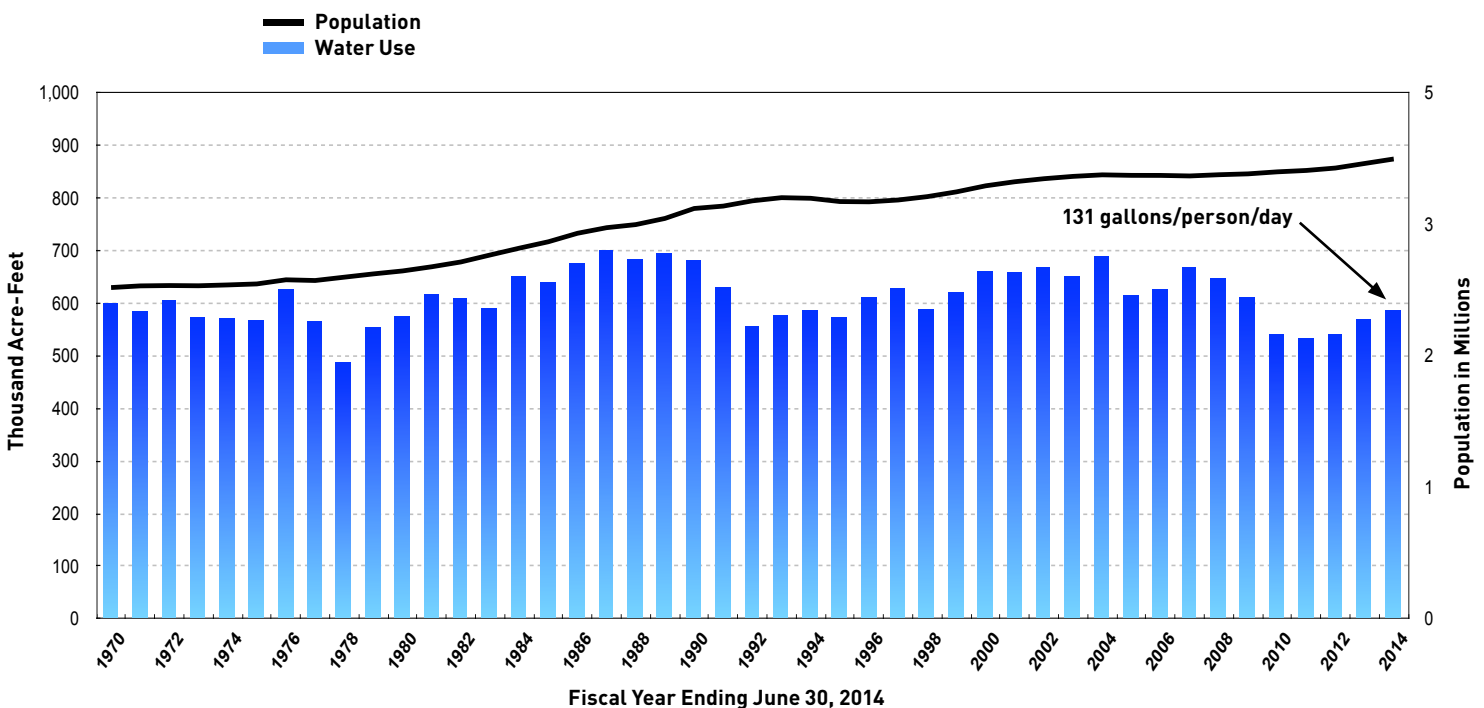
Under the 2010 Urban Water Management Plan, LADWP's goal is to use 59,000 AFY of recycled water by 2035.

Recent Accomplishment

Recycled Water Expansion

Recycled water was first used in the city in 1979 for park and landscape irrigation. LADWP currently uses approximately 11,000 AFY for irrigation, industrial and seawater barrier intrusion prevention. LADWP serves

Historic and Projected Water Use and Population



recycled water to 134 customers, including Griffith Park, seven City-own golf courses, Loyola Marymount University, Los Angeles World Airports, Valley Generating Station, Playa Vista Development, Forest Lawn Memorial Park, CalTrans, and NBC Universal. LADWP's newest customer is Hansen Dam Golf Course, which was brought online in January 2015 and will save 500 AFY of potable water.

LADWP also provides about 35,000 AFY of treated wastewater to West Basin Municipal Water District to further treat and provide recycled water to municipalities in west Los Angeles County. An additional 30,000 AFY of recycled water is used for environmental purposes at Lake Balboa, the Donald C. Tillman Japanese Garden, and the Wildlife Lake.

Implementation of LADWP's recycled water program continues to move forward with the addition of new purple pipe. Agreements recently approved will expand the Terminal Island Water Reclamation Plant in the Harbor, create new connections to Burbank's recycled water lines to provide recycled water to North Hollywood, and extend purple pipe from Las Virgenes to provide recycled water to Woodland Hills.

LADWP is also moving forward with the Recycled Water Consumer Capital Incentive Program. This program will provide funding assistance for customers who have on site costs associated with converting to recycled water.

Recent Accomplishment

Recycled Water Master Plan

In 2012, LADWP completed its Recycled Water Master Plan which details the Department's plans to increase the supply of recycled water to offset potable water demands. The Recycled Water Advisory Group, a caucus of engaged community members, was recognized jointly by the Board of Water and Power Commissioners and the Board of Public Works for advancing recycled water as a local, safe, and reliable supply for the city. December 2014 marked the 5-year anniversary of the launch of the Recycled Water Advisory Group. LADWP and the Bureau of Sanitation actively sought stakeholder involvement during the development of the Recycled Water Master Plan through ongoing outreach strategies since 2009. These strategies included public forums, elected official briefings, and presentations to Neighborhood Councils and community groups.

Groundwater Replenishment

LADWP is pursuing the Los Angeles Groundwater Replenishment Project to use up to 30,000 AFY of purified recycled water to recharge the San Fernando Groundwater Basin. This effort will help maintain the reliability of the City's local water supply and reduce the need for imported water. The Draft Environmental Impact Report for the GWR Project is being written and will be released for public review in early 2016.

Stormwater Capture

Stormwater is an underutilized resource in Los Angeles, and carries harmful pollution to marine ecosystems. Capturing and reusing more stormwater is a natural way to replenish local groundwater aquifers while improving water quality in our ocean, rivers and other water bodies.

Recent Accomplishment

Stormwater Capture Master Plan

In 2014, LADWP completed the draft Stormwater Capture Master Plan to guide efforts to enhance the beneficial uses of stormwater runoff as a supplemental water resource for Los Angeles. In early 2015, LADWP conducted two public outreach meetings to gather feedback on the plan. A final plan is expected to be completed by mid-2015.

Stormwater enhancement projects include larger, centralized projects that will increase groundwater pumping rights by 15,000 AFY in the San Fernando Groundwater Basin. Smaller, localized stormwater capture projects will provide an additional 10,000 AFY.

Stormwater Projects

In partnership with other governmental and non-governmental agencies, LADWP has completed several major stormwater enhancement projects while others are underway. A few of the major projects include:

Recent Accomplishment

Big Tujunga Dam

LADWP provided \$9 million to the Los Angeles Flood Control District (District) in September 2007 to seismically retrofit the existing dam and upgrade its spillway. Completed in 2012, the project is expected to increase stormwater capture by 4,000 AFY.

Recent Accomplishment

Hansen Spreading Grounds Enhancement Project

LADWP provided \$4.2 million to the District to reconstruct the basins to increase the capacity and efficiency of the spreading grounds. Improvements to the intake structure were completed in January 2013, and are expected to increase average stormwater capture by 2,000 AFY.

Recent Accomplishment

Tujunga Spreading Grounds Enhancement Project

A two-year construction project is expected to begin in 2015 to enhance the Tujunga Spreading Grounds, which is owned by LADWP and operated by the District. The enhancements will include relocating and automating the current intake structure on Tujunga Wash, installing a second automated intake to receive flows from the adjacent Pacoima Wash, and reconfiguring the existing spreading basins, among other upgrades. LADWP will provide \$27 million to the District for construction. Once complete, the project is expected to increase stormwater capture by 8,000 AFY.



Groundwater Cleanup

Man-made pollution – caused by industrial activities beginning in the 1940s—has severely impaired the quality of San Fernando Basin groundwater, forcing closure of half of LADWP’s production wells. LADWP is taking action to remove the contamination from the groundwater to restore the beneficial use of the aquifer which once provided adjudicated water rights of 87,000 AFY.

To begin the remediation and cleanup of the local groundwater resources, LADWP has completed the construction of 25 groundwater monitoring wells in various areas of the eastern San Fernando Basin where the city’s major wellfields are located.

These new wells, along with a network of 67 existing wells, are being used to characterize the basin’s groundwater quality in order to design and construct groundwater remediation facilities for removing contamination from the city’s major wellfields in the San Fernando Basin. The total cost of the wells and the characterization evaluation will be approximately \$22 million dollars.

Water samples collected from more than 90 groundwater production wells and monitoring wells were analyzed to determine the nature and extent of the pollution. The location of each well was selected in coordination with drinking water regulators to measure the water quality along specific groundwater flow paths which lead toward LADWP wellfields.

The groundwater sampling effort was completed in 2014, and the initial findings of the characterization study will be completed in early 2015. Preliminary findings have been reviewed with the State Water Resources Control Board, Division of Drinking Water (DDW), and LADWP expects to seek DDW approval to construct two major groundwater treatment facilities that will be operational by 2024-2025. These will be designed to remove contamination from the local groundwater to protect the environment and the public.

Proposition 1 – 2014 Water Bond

Proposition 1 – The Water Quality, Supply, and Infrastructure Improvement Act of 2014 – will inject a much-needed \$7.54 billion into water projects and programs statewide through the sale of general obligation bonds. LADWP will seek Prop 1 funding to support critical water supply projects and programs that will help expand the local water supply and support water quality projects while offsetting the cost to customers.

The city's water supply has been severely challenged by drought conditions, requiring the increased purchase

of expensive imported water from MWD. In the last five years, purchased water averaged about 53% of the city's water supply. In 2014, a record dry year, purchased water made up 75% of the city's water supply. The Prop 1 funds may be used for projects that support the city's goal of reducing purchased water and securing a more sustainable and cost-effective local water supply, including groundwater remediation, stormwater capture, recycled water projects, and water conservation programs.



Tujunga Spreading Grounds



Tujunga Spreading Grounds



Tujunga Spreading Grounds



Tujunga Spreading Grounds



Hansen Dam Golf Course



Use of reclaimed water at Central Park Playa Vista

A variety of local water supply projects could benefit from Prop 1 funding.

Owens Valley Issues

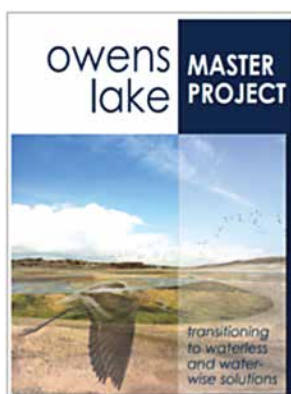
LADWP has maintained a significant presence in the Owens Valley for over 100 years. Since the early 1900s when the City of Los Angeles began purchasing land in the Owens Valley to secure water rights, the City has been the single largest landholder on the valley floor. Since construction of the First Los Angeles Aqueduct (LAA) in 1913, a major portion of the LA's water supply has come from the Owens Valley.

LADWP manages more than 314,000 acres of land in the Eastern Sierra to protect the City's watershed. Throughout the past century, LADWP has followed a consistent policy of making Owens Valley lands available for recreation, ranching, horse and mule packing, business use, schools, and public agencies.

The Water System operates and maintains water supply facilities in the Eastern Sierra, including the First and Second LAA, several reservoirs, and hundreds of miles of canals and ditches.

Owens Lake Rehabilitation

Since 2001, LADWP has devoted immense financial and water resources to live up to its obligations to mitigate dust emissions at Owens Lake related to its water diversions. LADWP customers have funded the largest dust control project in American history, covering more than 42 square miles of the lakebed with water, vegetation or gravel. The project has required massive construction, operation and maintenance efforts by LADWP - as well as over 80,000 acre-feet in 2013 alone - at a total cost of more than \$1.2 billion. This has resulted in substantial and enduring environmental progress, leading to an enormous reduction in dust emissions from Owens Lake and a historic reduction in air pollution in the Owens Valley.



Recent Accomplishment

Owens Lake Master Project

In collaboration with Owens Lake stakeholders, LADWP has been working to develop a win-win project that would continue to protect the air quality and environment of a designated area surrounding Owens Lake (the Owens Valley Planning Area) as well as preserve the quality of wildlife habitat at Owens Lake while

conserving water. The Owens Lake Master Project has advanced with recommendations from stakeholder groups, including the U.S. Forest Service, U.S. Bureau of Land Management, Great Basin Unified Air Pollution Control District, California Department of Fish and Wildlife, Inyo County, local tribes, and many local organizations and environmental advocacy groups.



LADWP is developing the project description in line with the stakeholder recommendations. An environmental review process is expected to be underway by June 2015 with the goal of implementing the project in late 2016.

Recent Accomplishment

Owens Lake Agreement

In November 2014, LADWP and the Great Basin Unified Air Pollution Control District (Great Basin) reached an historic agreement over the implementation of dust control measures on Owens Lake. The agreement allows LADWP to use waterless dust control methods, including tillage, at Owens Lake, resulting in significant water and monetary savings for Los Angeles while maintaining existing wildlife habitat. The agreement also provides Los Angeles with the certainty of knowing the full extent of its liability for dust mitigation at Owens Lake. Great Basin will also maintain its full regulatory authority with the assurance that LADWP will continue to meet its obligations to control dust on Owens Lake.

Most importantly, the agreement established for the first time an upper limit of 53.4 square miles that LADWP could be ordered to mitigate dust emissions from Owens Lake playa by Great Basin. Without the agreement, LADWP could have been responsible for mitigating dust emissions from up to 88 square miles of Owens Lake playa.

As a result, LADWP expects to save about 8,600 acre feet, or nearly 3 billion gallons, of water in 2015 – enough water to serve 43,000 people. Thanks to finding common ground, LADWP and Great Basin have forged the path to even more significant water savings in the future.

➔ Go to www.ladwp.com/owenslake to learn more.



Water System deploys shade balls into LA Reservoir.

Safety

Water Quality

Ensuring the city's water quality meets the highest Federal and State standards is paramount to LADWP's water operations.

LADWP is investing in major infrastructure projects to meet drinking water regulations, such as the Long Term 2 Enhanced Surface Water Treatment Rule (LT2) and the

Stage 2 Disinfectants/Disinfection By-Products Rule (DBP2). LADWP's major efforts to comply with these regulations include addressing its three remaining open reservoirs, changing the city's water supply disinfection system from ozone to UV treatment, and changing the distribution system disinfectant from chlorine to chloramine. Failure to comply with these drinking water requirements is not an option for LADWP.

➔ Go to www.ladwp.com/waterquality to learn more about water quality projects and issues.

Reservoir Projects

LADWP has determined the path forward for bringing the three remaining open reservoirs into compliance with the LT2 water regulation. Headworks East is now online to help replace storage at Silver Lake and Ivanhoe reservoirs; plans are in progress for Headworks West. Elysian and Upper Stone reservoirs will remain in service and receive floating covers. Los Angeles Reservoir will also remain in service with the new ultraviolet (UV) treatment plant to disinfect water leaving the reservoir, and more than 90 million shade balls to assist in controlling disinfection byproducts and algae.

Recent Accomplishment

Upper Stone Canyon and Elysian Reservoir Projects

In January 2012, the Board approved the Final Environmental Impact Report for a floating cover on Upper Stone Canyon Reservoir and followed with a similar action in April 2012 for the Elysian Reservoir. After much deliberation, the Board approved the most practical and cost-effective solutions for each reservoir— floating covers which will save the Department over \$100 million. Final design for Upper Stone Canyon is anticipated to be completed by March 2016, with complete design for Elysian expected by early 2015.

Recent Accomplishment

Los Angeles Reservoir Project

Another ultraviolet treatment facility is currently in development to disinfect water leaving the LA Reservoir and satisfy the LT2 water quality regulation. In addition, LADWP continues to deploy shade balls (about 90 million at the time of publication) to LA Reservoir to help meet the bromate drinking water standard and control algae in the reservoir.

Recent Accomplishment

Ivanhoe and Silver Lake Reservoirs

The Water System completed Headworks East, which is Phase 1 of the Silver Lake Complex Storage. Headworks East came online in November 2014. Plans for Headworks West continue to progress with a target construction date in mid-2015 and completion by December 2017.

The Headworks Reservoir Complex, including East and West, will completely replace Ivanhoe Reservoir's storage capacity.

Recent Accomplishment

Los Angeles Aqueduct Filtration Plant

In May 2014, LADWP commissioned the Dr. Pankaj Parekh Ultraviolet Disinfection Facility that treats 600 million gallons of water per day - enough water to fill the Rose Bowl 8 times daily. The UV facility is the largest such treatment facility west of the Mississippi and the second

largest in the United States. UV purification has been identified as one of the most effective methods of drinking water treatment by the U.S. Environmental Protection Agency. The facility is named for the late Dr. Parekh, former LADWP Water Quality Director, who helped initiate the UV Disinfection Facility, and is credited with championing the superiority of this disinfection method over others.

Recent Accomplishment

Citywide Chloramination

In May 2014, LADWP expanded the use of chloramine disinfection to most of our water distribution system to comply with the new DBP. Chloramine is formed by mixing chlorine and ammonia. Both chlorine and chloramine are approved disinfectants for use in drinking water by the United States Environmental Protection Agency and the California Department of Health. Due to the size and complexity of our system, the expansion was conducted in phases. Areas with the highest disinfection byproduct (DBP) levels were converted first. The last phase will be completed in 2017 with the conversion of the Green Meadows and Watts areas. These areas historically have lower DBP levels.

The advantages to the chloramine expansion include:

- Compatibility with purchased water from MWD,
- Improving system reliability,
- Providing water free of a chlorine taste or smell,
- Lower DBP formation,
- Longer lasting protection as the water moves through the pipes to your tap, because chloramine is more stable than chlorine.

Recent Accomplishment

Grants and Loans

To help fund these large-scale projects, LADWP has been awarded approximately \$848 million in grants and loans from the Safe Drinking Water State Revolving Fund, including \$45 million in grants through the American Recovery and Reinvestment Act. These awards have helped reduce the potential rate impacts to customers from these projects while improving water quality.

Water Quality Adjustment Factor

To provide sufficient revenues to ensure completion of the projects described above and meet Federal and State water quality regulations, LADWP sought, and received City Council approval for a 35-cent increase to the Water Quality Improvement Adjustment Factor. A component of the rate LADWP charges customers for water, the increased adjustment factor ensures that LADWP meets a compliance agreement entered with the California Department of Public Health and U.S. Environmental Protection Agency. The new adjustment factor went into effect in March 2012.

Reliability

Infrastructure Replacement and Upgrade

LADWP maintains a vast array of infrastructure that is critical for reliably delivering high-quality water to Angelenos. With a significant amount of pipe installed at the turn of the century, LADWP is facing challenges in keeping pace with the replacement and upgrade needs of these aging water mains and riveted-steel trunk lines.

The Water System has developed a Water Infrastructure Plan, which utilizes an Asset Management Program to prioritize efforts, develop strategies, and determine the resource needs. However, with a current pipeline replacement rate of 315 years, infrastructure reliability challenges are imminent, and LADWP must take additional actions to accelerate the replacement and upgrade of its aging infrastructure.

Financial Plan

Toward this end, the Water System’s financial plan calls for investing over \$2.2 billion in the next 10 years for infrastructure reliability. A significant amount of these expenses—about \$1 billion—will go toward replacing mainlines that have undergone a thorough assessment and have been prioritized as vulnerabilities within the water distribution system. Additional expenses will be

incurred to replace and rehabilitate the Los Angeles Aqueduct, tanks and reservoirs, pump stations, pressure regulating stations, system valves, water meters, as well as ancillary infrastructure required to deliver water to its customers.

Infrastructure Replacement Goals

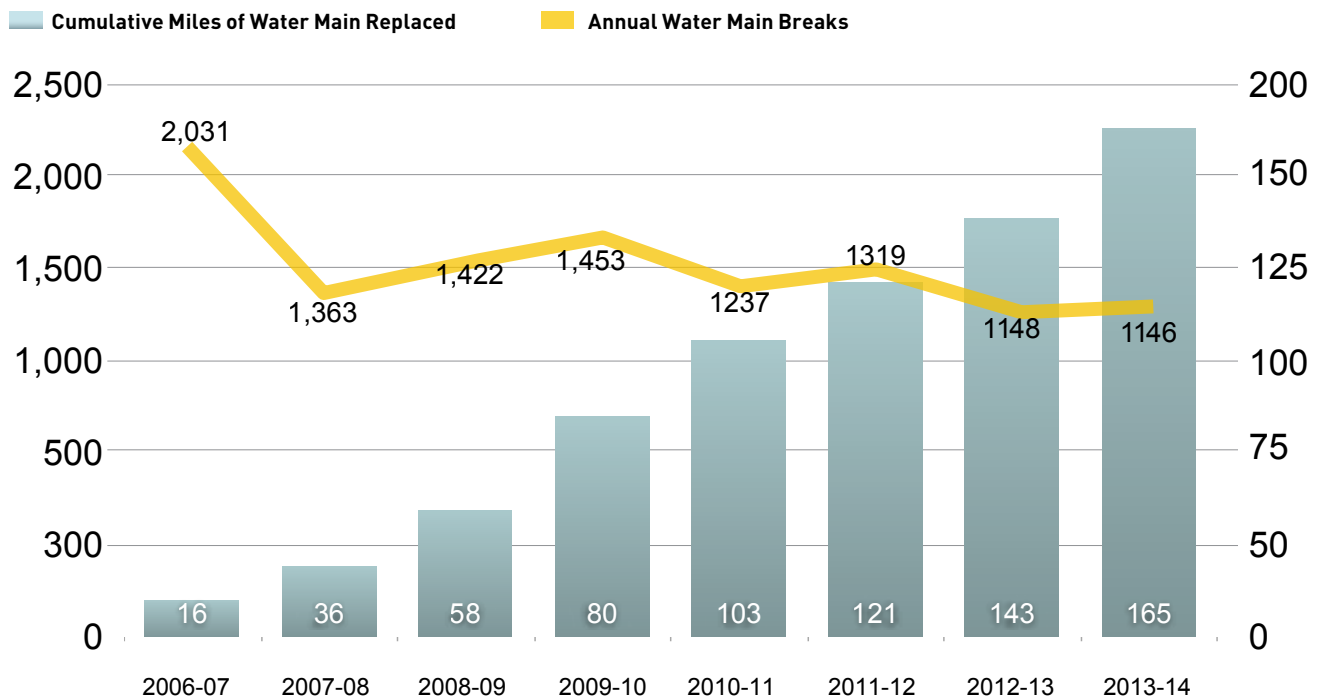
The Water System sets goals for infrastructure that are deemed critical for delivering reliable water supplies. These goals are tracked and reported on a monthly basis.

Infrastructure goals for FY 2014-15 include:

- Mainline Replacement: 150,000 feet
- Small Meter Replacement: 25,000 meters
- Large Valve Replacement: 5 valves
- Corrosion Protection Anode Stations Replacement: 200 stations
- L.A. Aqueduct Concrete Top Replacement: 15,000 feet
- Pressure Regulator Station Retrofit: 4 stations
- Pumps and/or Motor Replacement or Rehabilitation: 14 pumps/motors
- Water Tank Cleaning and Rehabilitation: 6 tanks

Significant challenges exist to replace and upgrade LADWP’s infrastructure. Despite these challenges, LADWP maintains a high level of reliability, and its pipeline leak rate is below the national average of 25 leaks per 100 miles of pipeline. Through the Asset Management Program, LADWP is working to prioritize its efforts on infrastructure asset replacement and upgrade to maximize benefits and minimize reliability risks to our customers.

Main Replacement Levels and Leaks





Crews work with Earthquake Resistant Pipe

Recent Accomplishment

Earthquake Resistant Pipe Pilot Project

LADWP has embarked on a pilot project to install approximately 6,500 feet of high-tech Earthquake Resistant Ductile Iron Pipe (ERDIP) on streets surrounding the Northridge Hospital Medical Facility. The ERDIP installation is part of an LADWP pilot project that adheres to the Mayor's Resilience Plan and only the third ERDIP project in the United States. The pipe's innovative, segmented design provides flexibility that allows up to one percent axial movement and up to eight degrees rotation to deal with the strains associated with earthquakes, landslides, and temperature changes. Forces exceeding one percent of the pipe length cause a locking mechanism

to activate to keep pipe joints from pulling apart.

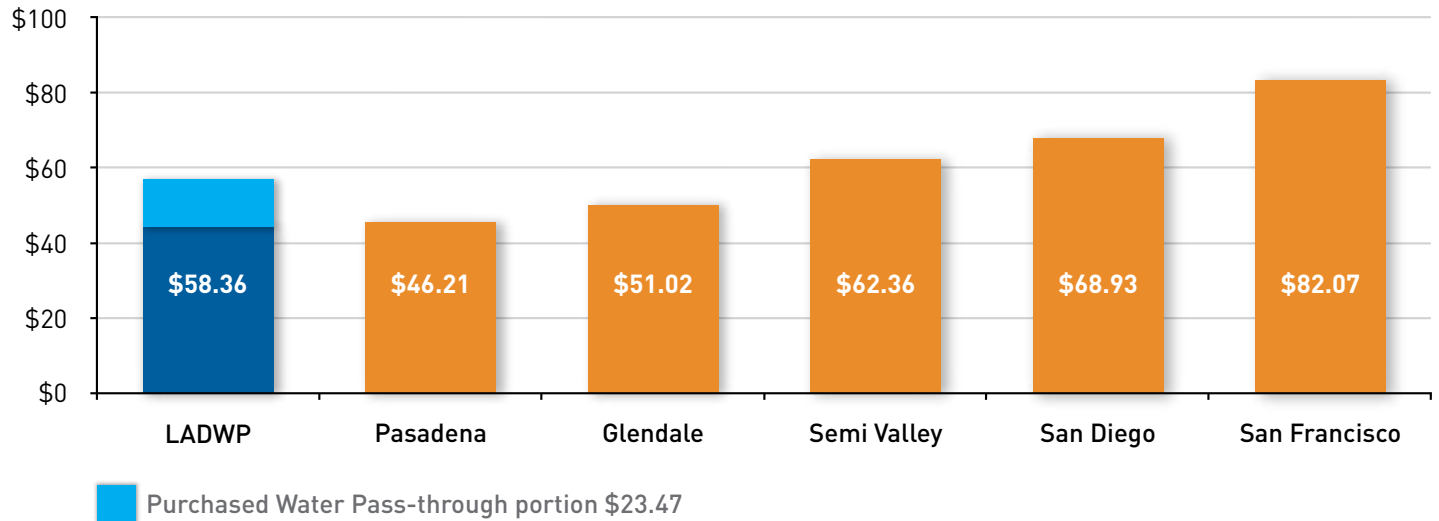
The water distribution mains in this area were already targeted for replacement, but the added enhancement of the ERDIP will greatly benefit the medical center and the surrounding neighborhood by providing a more reliable network for clean drinking water and firefighting capability in the event of another major earthquake.

One pilot project was completed in 2013 on Contour Drive in Sherman Oaks. Three additional pilot sites will break ground later in 2015 in three different Water System maintenance districts, Harbor, Central, and Western.

Water Rates and Finance

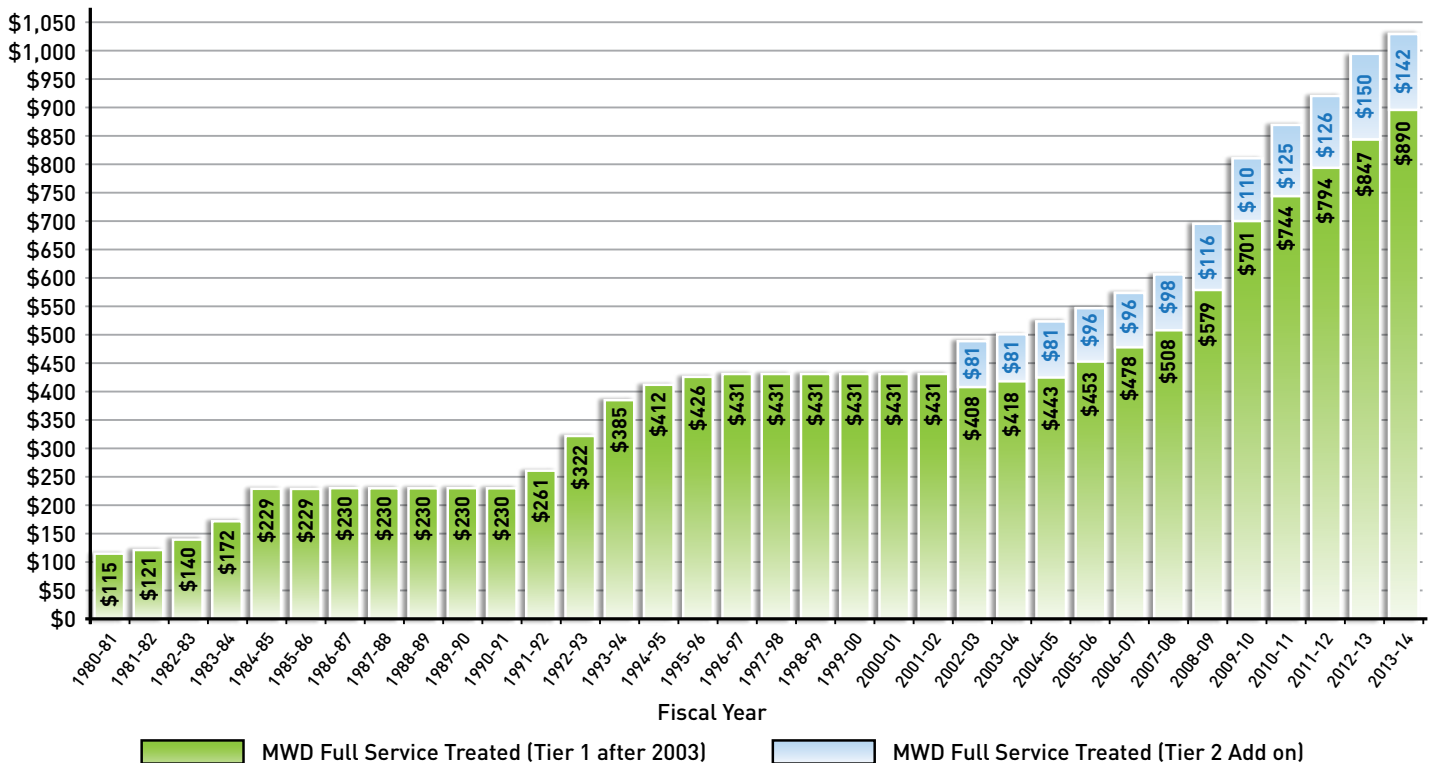
LADWP is working on obtaining necessary approvals to secure the funds and resources needed to undertake these major projects. While making significant efforts to continue with austerity measures and increase operational efficiency, the need for rate increases is inevitable and imminent. LADWP previously committed to the Board of Water and Power Commissioners and the City Council to present a simplified and easier to understand rate structure that incorporates a long-term rate increase strategy. In 2015, LADWP expects to begin the process for seeking a multi-year rate adjustment.

Comparison of Typical Residential Monthly Water Bill*



*Based on using 12 HCF/month as of January 2015

Escalating Cost of MWD Treated Water



As water supplies become less available, the price of purchased water escalates.



To augment L.A.'s local water supply, LADWP plans to increase the amount of recycled water delivered via purple pipes to 59,000 acre-feet per year by 2035.



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