2014 Briefing Book

LA DWP

NEXTCENTURY

BUILDING LA's WATER & POWER FUTURE


Pine Tree Wind Farm

Introduction

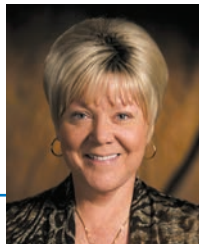
The Los Angeles Department of Water and Power (LADWP) is the nation's largest municipal utility, having provided water and power service to Los Angeles residents and businesses for over 100 years. More than 8,800 employees serve the City of Los Angeles with water and power in a cost effective and environmentally 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 3.8 million people in Los Angeles.

Over the past several years, LADWP has laid the groundwork for a major transformation 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 and coal-free energy future for Los Angeles and planning for its water future — one that reduces reliance on expensive imported water by increasing local water supplies. Throughout this major transformation, 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, 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. She served "double duty" for two years for the City of Anaheim as both the Public Utilities General Manager and also as Deputy and Assistant City Manager.

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.

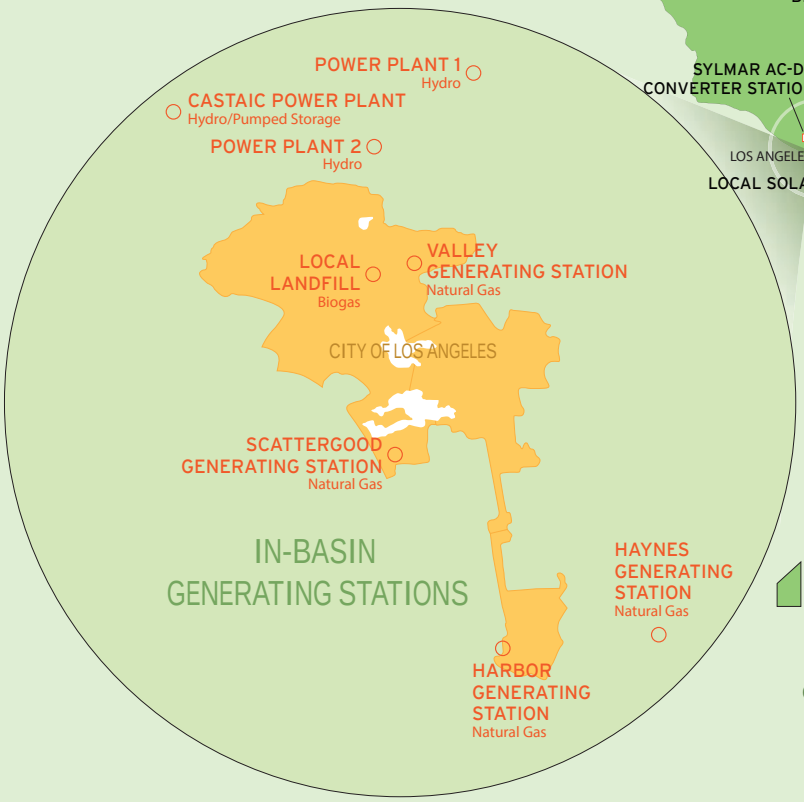
Michael F. Fleming was appointed to the Board of Water and Power Commissioners by Mayor Eric Garcetti and was confirmed by the Los Angeles City Council on September 11, 2013. Mr. Fleming is the Executive Director of the David Bohnett Foundation.

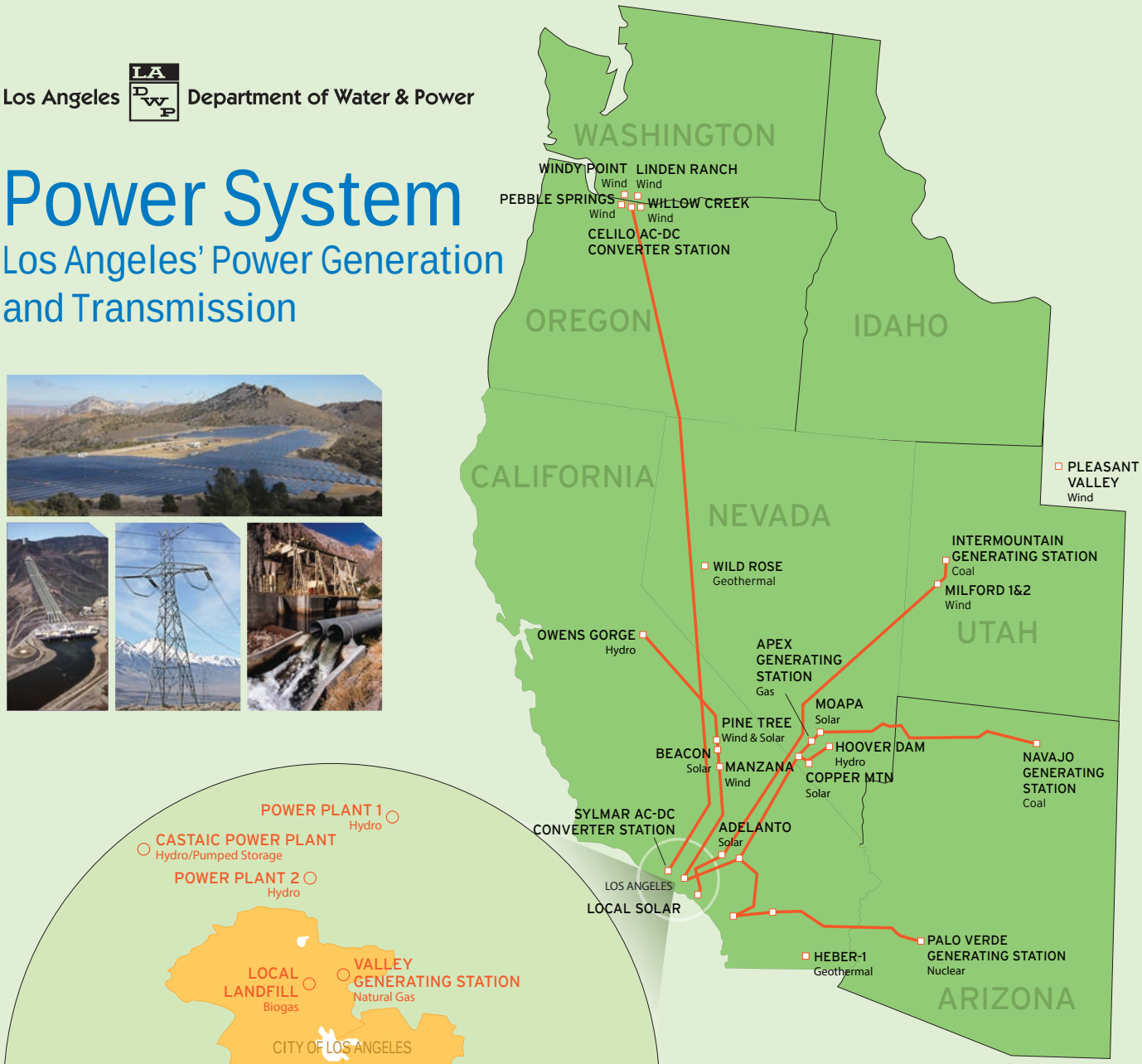
Christina Noonan was appointed to the Board of Water and Power Commissioners by Mayor Antonio R. Villaraigosa and confirmed by the Los Angeles City Council on August 10, 2010. She was re-appointed by the Mayor and then re-confirmed by City Council on August 12, 2011. She is a Senior Vice President of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

Los Angeles Department of Water & Power

Power System

Los Angeles' Power Generation and Transmission

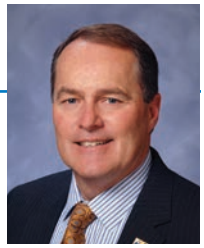




"If stretched end to end, LADWP's 15,000 miles of power lines and cable are farther than the distance from Los Angeles to Australia and back."

Power System

Randy Howard
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 Eastern Sierra's in Owens Valley. LADWP began delivering electricity in Los Angeles in 1916.

Power Facts and Figures

LADWP's Power System supplies more than 23 million megawatt-hours (MWh) of electricity a year for the City of Los Angeles' 1.4 million residential and business customers.

Revenues & Expenditures

For Fiscal Year 2013-14, the Power System budget is $3.9 billion. This includes $1 billion for operations and maintenance, $1.5 billion for capital projects, and $1.4 billion for fuel and purchased power.

City Transfer

The Power System transfers 8% of its gross operating revenue (estimated at $253 million in FY 2013-14) to the City's General Fund each year to provide critical City services such as public safety.

Electric Capacity

LADWP has over 7,327 megawatts (MW) of generation capacity from a diverse mix of energy sources.

Power Resources (2012)

(As reported to CEC)

Renewable energy	20%
Biomass & Biowaste	5%
Geothermal	0%
Small hydroelectric	2%
Solar	0%
Wind	13%
Natural gas	21%
Nuclear	10%
Large hydro	4%
Coal	33%
Other/Unspecified	12%

Power Use

LADWP supplies over 23 million MWh each year to approximately 1.4 million electric service connections in Los Angeles as well as over 5,000 customers in the Owens Valley. 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:

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

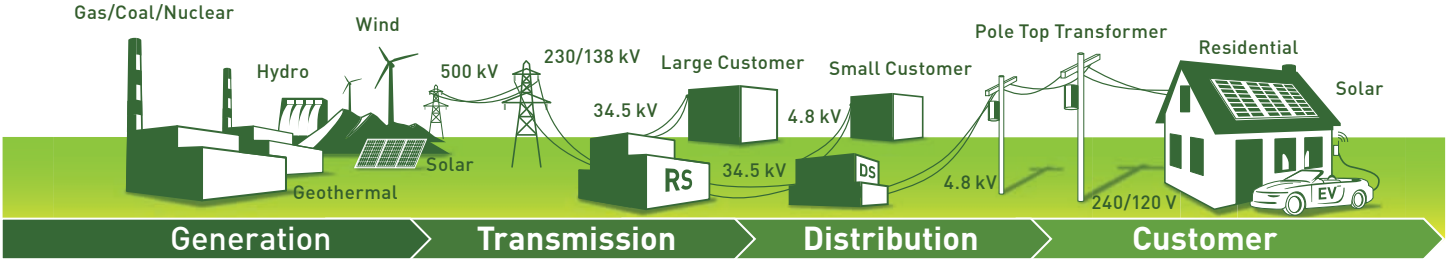
321,516 distribution utility poles

3,166 pole mounted capacity banks

1.3 million distribution crossarms

29,550 utilitarian streetlights

126,000 distribution transformers




Pine Tree Wind Farm

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 (IRP) – 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 IRP calls for replacing the 39% coal that LADWP currently receives each year from Navajo Generating Station in Arizona and Intermountain Power Plant (IPP) in Utah by increasing energy efficiency to at least 10% 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, the LADWP Board directed staff to finalize a transaction agreement to divest LADWP's 21% interest in Navajo Generating Station. 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.

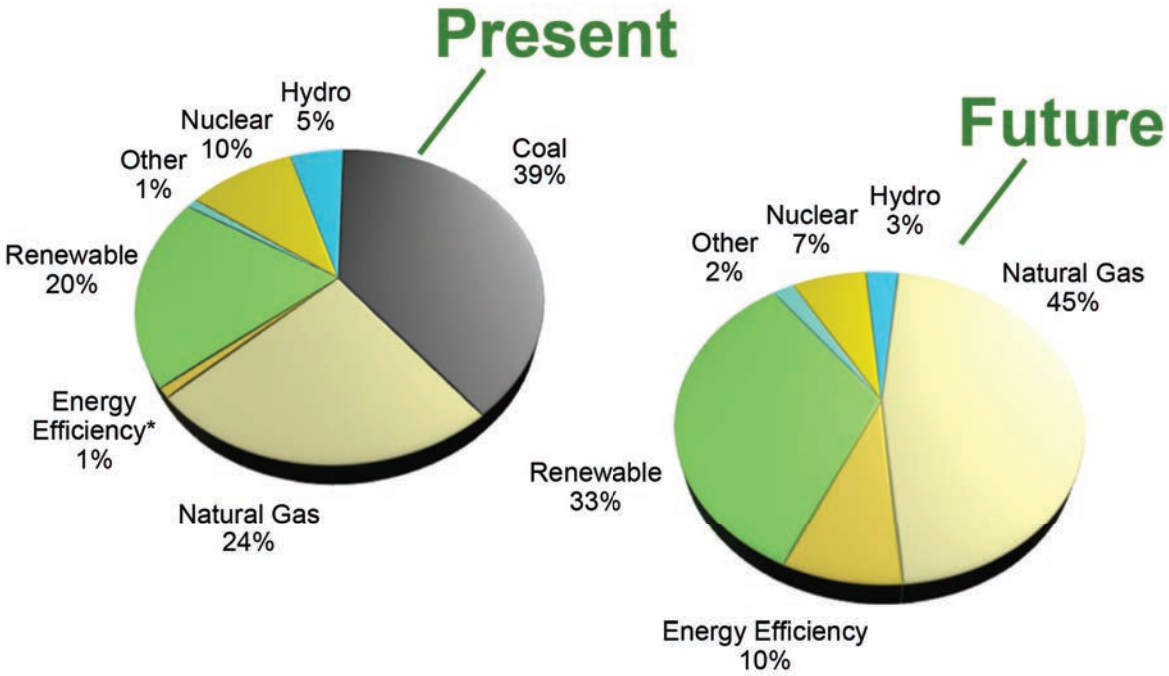
Reliability Through Integration

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 Renewables 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

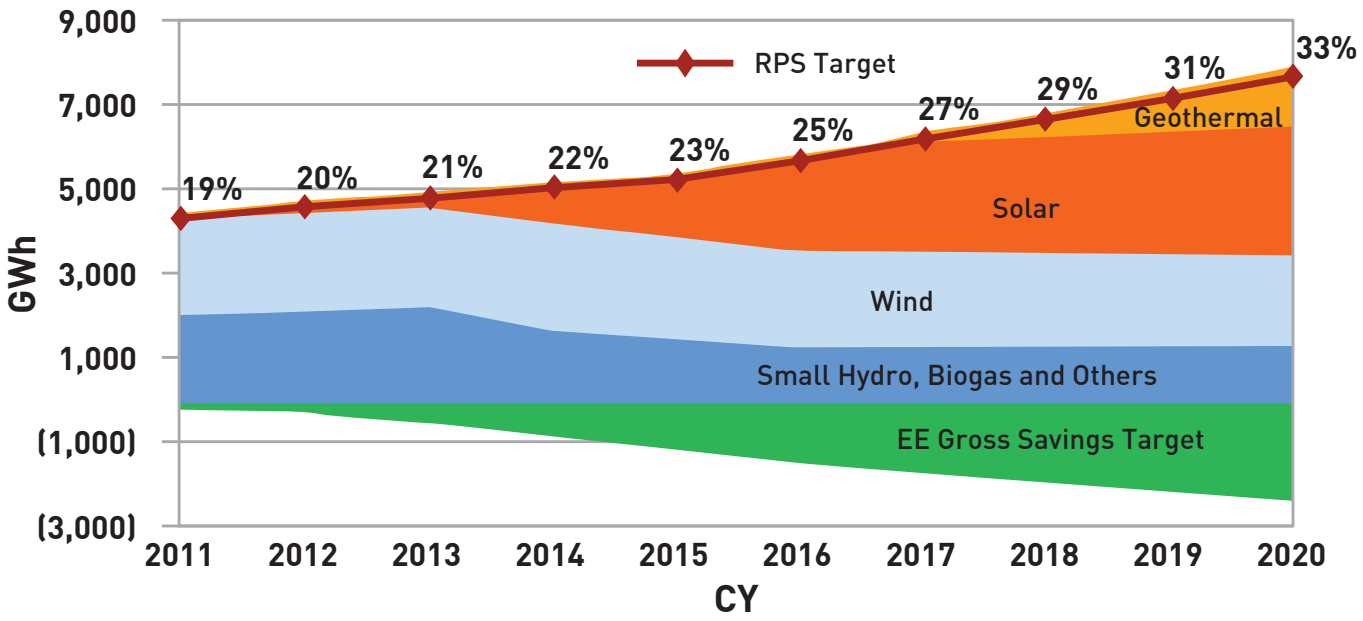
In July 2012, Los Angeles began receiving 10 MW of renewable energy from the Adelanto Solar Power Project. Located at the Adelanto Switching Station near Victorville, California, the solar array was LADWP's first utility-scale solar power plant built by its own employees and the nation's largest solar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

In September 2012, the environmental studies were approved to expand 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.

Recent Accomplishment

Beacon Solar Project

In 2012, LADWP acquired a 2,500-acre site from Beacon Solar LLC that offers the capacity for developing 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 through the BRRTP, 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

Wild Rose Geothermal Power Plant

In March 2013, LADWP received approval to enter into a power purchase agreement for 14 MW of reliable geothermal power from the Wild Rose Geothermal Power Plant in Mineral County, Nevada and began receiving the geothermal energy in December 2013. 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 Manzana 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 recently approved 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 2015. (At the time of publication, this project was pending City Council approval.)

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 also is 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 SB 1, 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, 2013, LADWP has paid over $233 million to customers in solar incentives. This amount includes $55 million provided prior to implementing the SB1 required program, and $178 million under SB1.

There are over 11,100 customer-installed solar systems connected to the grid. This represents 97 MW of solar capacity and generates 160,000 MWh per year. Requests for the program continue to grow with total commitments of 123 MW reached in 2013.

↘ 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, 10 projects for 2.4 MW are in various phases of development. The first FiT project was completed in June 2013 and is expected to generate 142,000 kWh per year.

Recent Accomplishment

FiT100 Program

Since approving the 100 MW Feed-in Tariff (FiT) Set Pricing Program, LADWP has offered two 20-MW allocations of solar and other eligible renewable energy during 2013. Through the FiT Program, LADWP will purchase power from third parties at a fixed price per kWh (starting at $0.17/kWh) under a standard offer power purchase agreement. Subsequent 20 MW allocations will be made available every six months through 2015.

The first allocation was offered in February 2013 at $0.17/kWh and resulted in 107 applications for solar projects within the City of Los Angeles for a total of 50 MW and several more applications for projects in the Owens Valley. Under this allocation, 39 projects are pending contract execution and five projects are pending construction. Twenty-one projects have been cancelled or withdrawn from the program. The second allocation was offered in July 2013 at $0.16/kWh and resulted in 120 applications for solar projects within the City of Los Angeles for a total of 72 MW. Under this allocation, 60 projects are pending interconnection study and four projects are pending contract execution. Staff will be backfilling any unreserved capacity in an allocation with waitlisted projects.

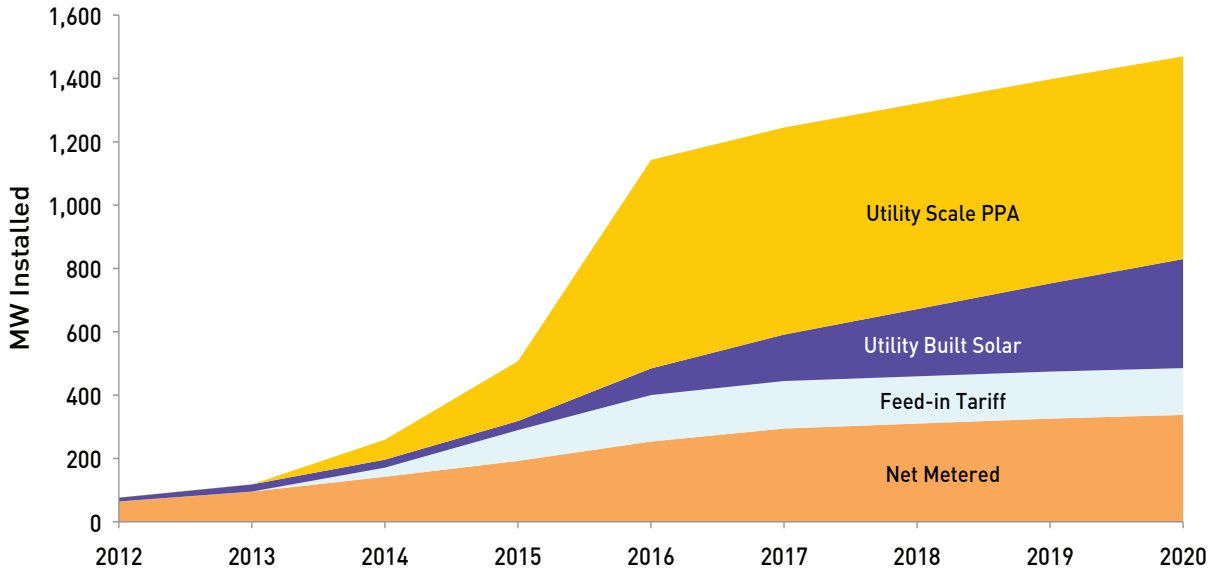
Recent Accomplishment

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 program is 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. Negotiations are currently underway and final selections will be announced in May 2014.

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

LADWP Solar Program Forecast



*Note: Net Metered Program includes both RPS and non-RPS portions.

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

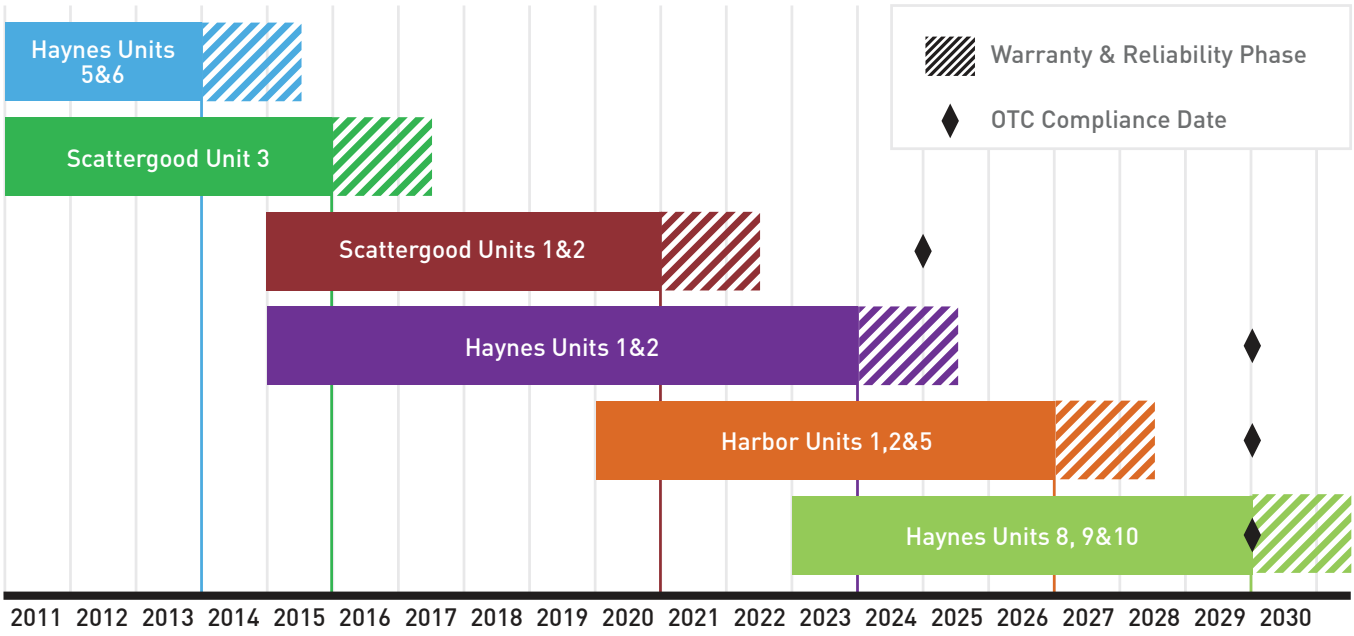
In the first project to eliminate ocean cooling at nine generating units at three coastal power plants in 2013, LADWP completed construction of six 100 MW generators at the Haynes Generating Station in Long Beach and removed them from ocean cooling. While meeting OTC requirements, LADWP replaced the 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 broke ground in April 2011 and created approximately 350 construction jobs. The new units went into commercial operation this summer.

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 GS.

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 set a goal of 10% cumulative energy savings by 2020, and is evaluating the feasibility of a 15% goal. An updated potential study to find areas for additional energy savings is expected to be finalized by March 2014.

Increased Investment

To achieve a 10% energy reduction by 2020, LADWP more than doubled the budget for Energy Efficiency in FY 2012/13 and for FY 2013/14.

Recent Accomplishment

Guiding Principles

In August 2012, LADWP adopted a set of 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

Under new direction since 2012, LADWP's energy efficiency programs have been re-branded as Efficiency Solutions and 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. Ten have been launched and several others are under development.

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

Greenhouse Gas Reductions

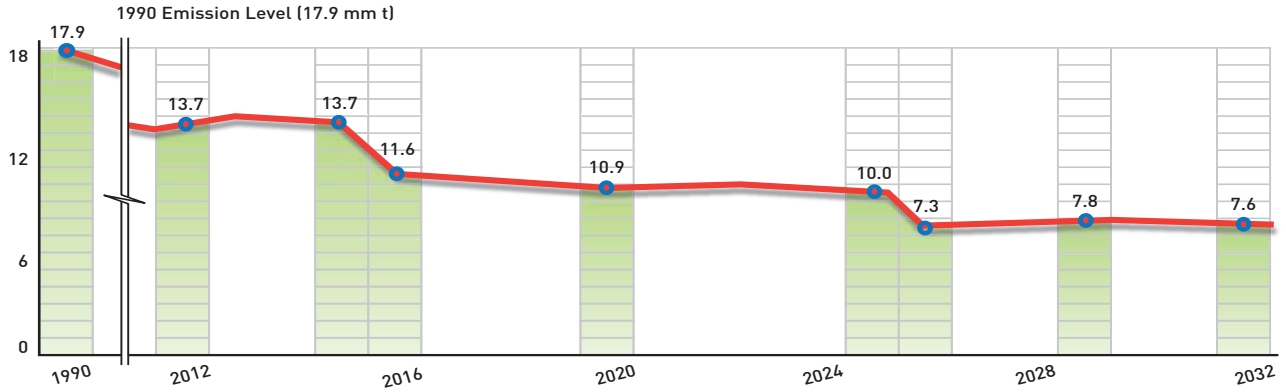
Legislative Requirements

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 will receive 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 22% below LADWP's 1990 level, and expected to be 59% below the 1990 level in 2025.



In 2025, LADWP will have reduced CO2 emissions by 10.6 million metric tons, compared to the 1990 baseline level, equivalent to removing 2.2 million cars from the highway.

Recent Accomplishment

Progress in GHG Emissions Reduction

LADWP has already reduced its greenhouse gas emissions to 22% below its 1990 level and exceeds the 2020 Kyoto Protocol target 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 59% below the 1990 level by 2025—the equivalent of removing 2.2 million cars from the highway.

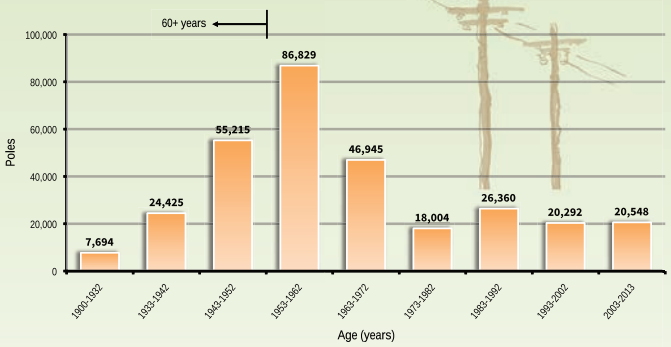
Power Reliability

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, are aging rapidly and require 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 17 years to replace all of the poles that are 60-plus years old (the average expected pole lifespan). During that time another 130,000 poles will become 60-plus years old, which would take another 26 years to 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.

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



Note: approximately 15,426 poles do not have install dates.

Another area of concern is the backlog of temporary repairs awaiting permanent repair. There are over 41,000 of these "Fix It Tickets" in the queue, and the number is growing by about 1,000 jobs per year.

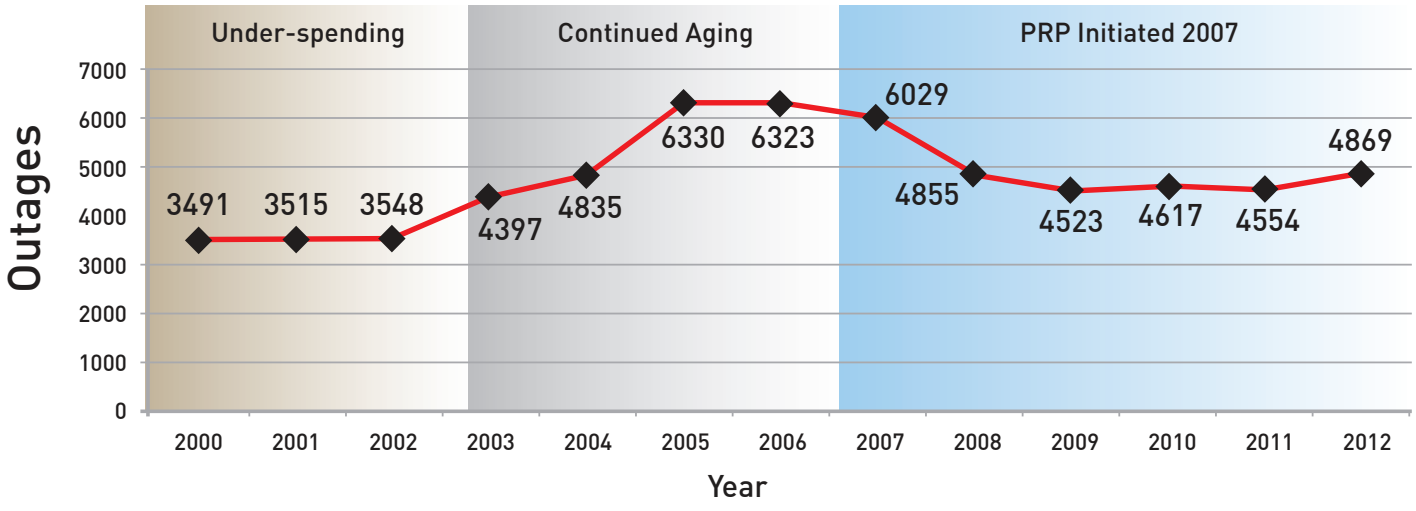
Recent Accomplishment

Power Reliability Plan

To address the problem of aging infrastructure, LADWP has: 1) undertaken a major revision to the Power System Reliability Business Plan to assist in cost effectively prioritizing reliability expenditures; 2) worked on accelerating the hiring and training of field crews to replace those being lost due to retirements; and 3) initiated the process to use contractors to provide assistance 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 May 2013, the Department paid $1 million in EV home charger rebates to 540 residential customers 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 is aimed at expanding charging infrastructure for businesses and all customer sectors.

Recent Accomplishment

Public Charging Stations:

LADWP has worked with customers to upgrade Los Angeles' 350 existing public charging sites located on City of Los Angeles property and at private, publicly accessible locations, and will add new charging locations based on public interest.

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 the majority of 52,000 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 52,000 smart meters are being 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.

2-Year 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 planned total 2-year rate change, based on the system-wide average rate, is 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.

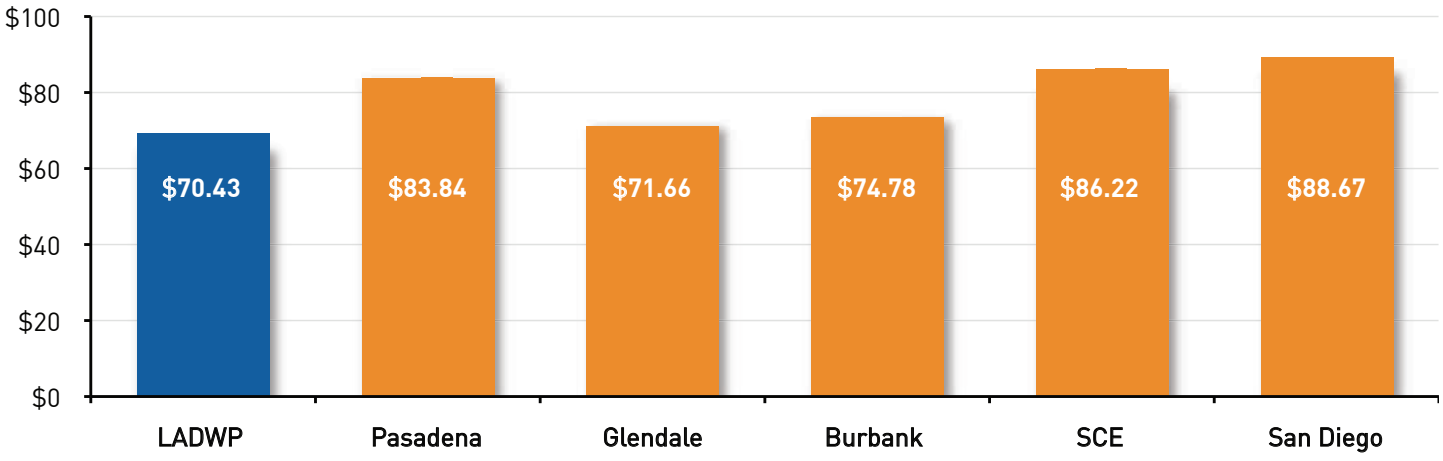
LADWP anticipates the need for further rate adjustments in 2014 to continue meeting the legal mandates requiring its power supply transformation and for the upgrading of its aging infrastructure to ensure reliability.

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 the 2012 rates action.

Comparison of Typical Residential Monthly Bill*



*Based on using 500kWh/month, as of July 2013

Los Angeles Department of Water & Power

Water System

Los Angeles' Water Sources

Water System

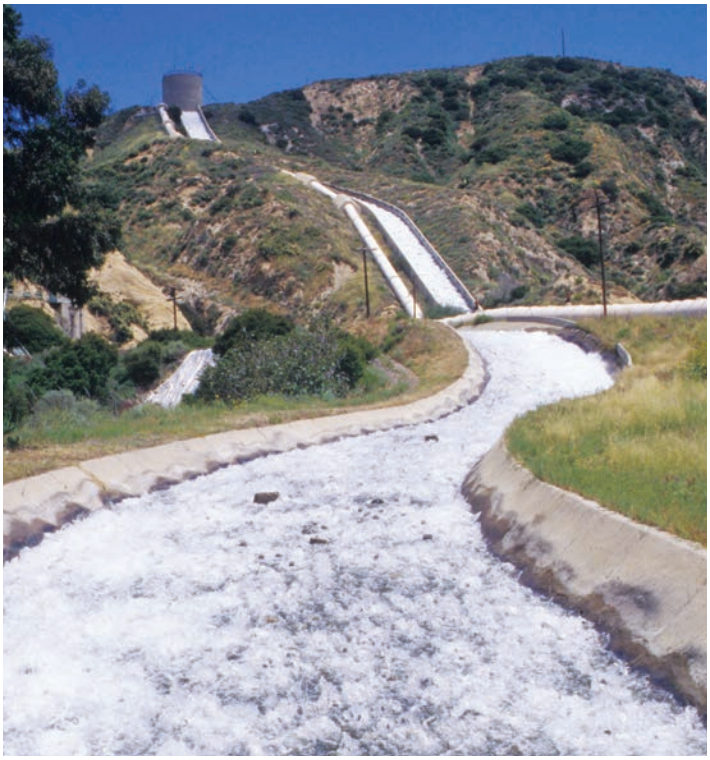
Jim McDaniel
Senior Assistant General Manager - Water System

LADWP's Water System is the nation's second largest municipal water utility, and serves a population of 3.8 million people within 465 square miles. The Water System supplies approximately 187 billion gallons of water annually and an average of 513 million gallons per day for the 679,000 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 3.8 million, the Water System has worked tirelessly to ensure that Angelenos receive a safe and reliable water supply.

In 2013, LADWP marks the 100th anniversary of the 233-mile, gravity fed Los Angeles Aqueduct. While the Department marks this historic milestone, the Water System is also laying the groundwork for a sustainable water supply for the next century.

The Water System has identified three areas as its top priorities: **Safety** of water supplies, **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 2013-14, the Water System budget is $1.5 billion, including $446 million for operations and maintenance, $766 million for capital projects, and $288 million for purchased water.

Water Supply Sources (5-year average)

LA Aqueduct (Eastern Sierra Nevada): 37%
Purchased water (MWD): 51%
Bay Delta 43%
Colorado River 8%
Groundwater:..... 11%
Recycled water: 1%

Water Use

Average Daily Use Per Capita: 123
Gallons Per Day (GPD)

Residential
372,700 acre-feet (460 million cubic-meters) per year, or 333 million GPD

Commercial/Industrial Customers
111,000 acre-feet (137 million cubic-meters) per year

Annual Water Sales
171 billion gallons (or 648 billion liters)
Water Service Connections (Active):..... 679,000

Water Infrastructure

Tanks and Reservoirs:..... 114
Pump Stations: 78
Ammoniation Stations:.....1
Chlorination Stations: 24
Regulator Stations:.....421
System Pressure Zones:..... 124
Distribution Mains (miles):..... 7,225
Fire Hydrants:..... 60,221
Total Storage Capacity (acre-feet):..... 315,245

Sustainability

Recent Accomplishment

Urban Water Management Plan

In May 2011 the Board of Water and Power Commissioners approved the Urban Water Management Plan, which 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

Acceleration of Local Water Supply Development

In October 2012, the Board of Water and Power Commissioners approved the resolution: "LADWP Guiding Principles for the Development and Implementation of the Local Water Supply Program." The resolution calls for LADWP to work towards accelerating and increasing the local water supply goals over those listed in the Urban Water Management Plan and to expedite groundwater contamination remediation in the San Fernando Basin.

As a result of the resolution, LADWP is developing the "LA's Water Reliability 2025" Program, which will analyze the feasibility, costs, benefits, and rate implications of accelerating the goals for water conservation, water recycling, and stormwater capture by a decade. The program will also investigate expediting groundwater contamination remediation in the San Fernando Basin.

"LA's Water Reliability 2025" is a living document that will be periodically refined and updated as LADWP completes various technical studies and gains valuable input through ongoing outreach with the Los Angeles community.

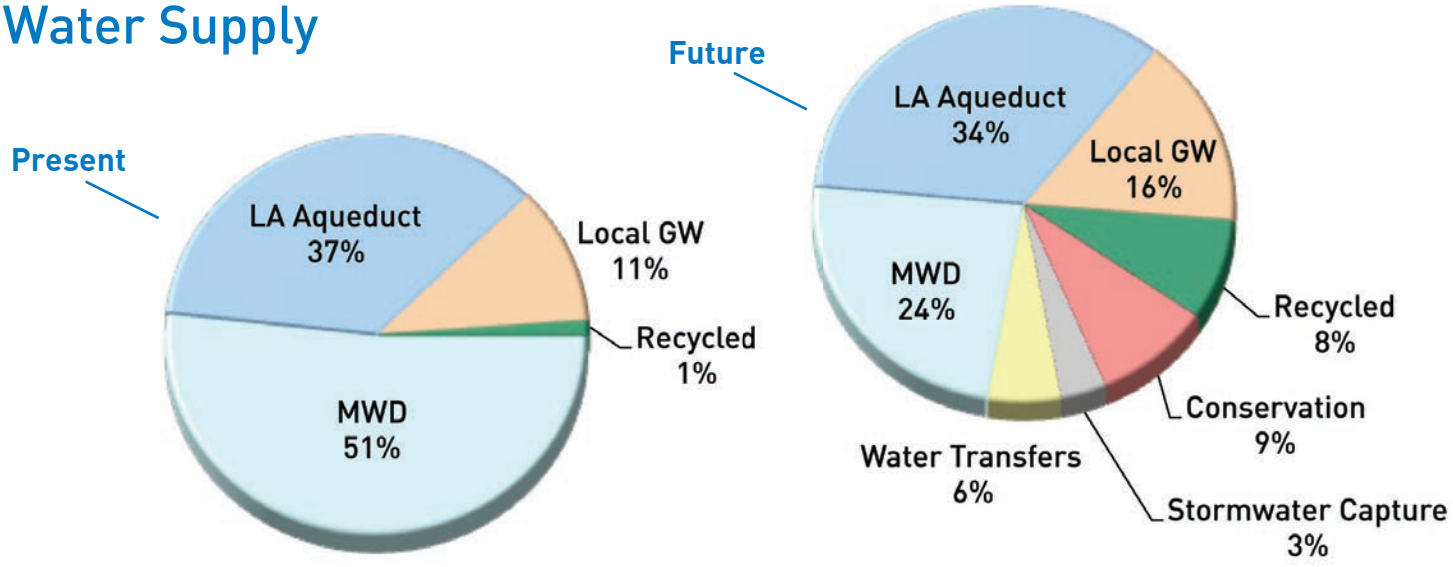
Recent Accomplishment

Water Conservation

As part of its plan to accelerate local water supply goals, LADWP stepped up its message to use water efficiently, prompting Los Angeles residents and businesses to cut their record-low water use from the previous year to levels not seen since 1977-78, when the city's population had approximately one million fewer residents.

With this record-low water use, Los Angeles became the city with the lowest water use per capita of any major U.S. city with a population of over one million people. 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.

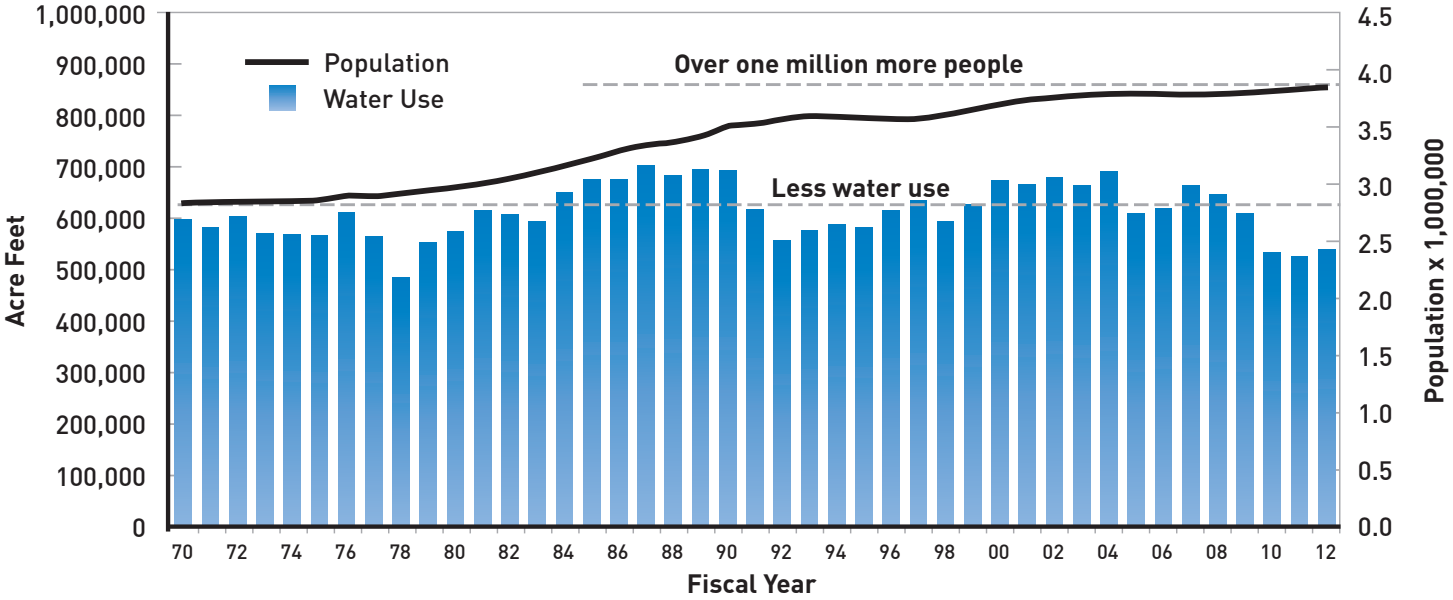
Water Supply



FY 2008 - 2012 Average
Total - 574,600 AF

FY 2034 - 2035 Average
Total - 711,000 AF

Historic and Projected Water Use and Population



Recent Accomplishment

Incentive and Rebate Programs

During this past year, LADWP increased public outreach efforts to raise awareness about using water more efficiently. LADWP used monthly press releases and social media 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.

The California Friendly Landscape Incentive Program rebate was increased to $2 per square foot for residential customers and continues at $1 per square foot for business customers. The rebates cover turf removed and replaced with California friendly plants, mulch, and permeable pathways. With a per capita water use of 123 gallons per day, Angelenos' conservation efforts have resulted in maintaining the city's water usage at historic lows.

Water Conservation Potential Study

Launched in 1977, LADWP's Water Conservation Program has saved over 100,000 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 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 wastewater 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 most recent Urban Water Management Plan, LADWP has increased the goal to 59,000 AFY of recycled water use by 2035.

Recent Accomplishment

Recycled Water Expansion

Recycled water was first used in the city in 1979 for park and landscape irrigation. LADWP currently recycles approximately 8,000 AFY for irrigation, industrial and seawater barrier uses. LADWP serves recycled water to 134 customers, including the City's Department of Recreation and Parks, to irrigate portions of Griffith Park, Wilson-Harding, Lakeside, Westchester, Van Nuys, Woodley, Balboa and Encino Golf Courses, Balboa Sports Complex, and Taylor Yard Park. Additional customers

using recycled water include Dominquez Gap Barrier, Loyola Marymount University, Los Angeles International Airport, Valley Generating Station, Playa Vista Development, Mount Sinai Memorial Park, Forest Lawn Mortuary, and NBC Universal. Recycled water is also used to irrigate freeway landscaping.

LADWP also provides about 35,000 AFY of recycled water to West Basin Municipal Water District and 30,000 AFY for environmental purposes at Lake Balboa, the Japanese Garden, the Wildlife Lake and the Los Angeles River.

Implementation of LADWP's recycled water program continues to move forward with the addition of new purple pipe. Two agreements recently approved will expand capacity for the Advanced Water Purification Facility at Terminal Island Water Reclamation Plant and install purple pipe for the Strathern Wetlands Park Project. 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. An integral part of the recycled water program is community involvement. The Recycled Water Advisory Group 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 2012 marked the 3-year anniversary of the launch of the Recycled Water Advisory Group. LADWP and the Bureau of Sanitation actively sought stakeholder involvement during development of the Recycled Water Master Plan documents 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 groundwater replenishment (GWR), a process that will use highly purified, advanced treated recycled water from the Donald C. Tillman Water Reclamation Plant, to recharge spreading basins in the San Fernando Valley. A goal of 30,000 AFY by 2035 has been set for recharging the San Fernando Groundwater Basin.

Current ongoing tasks to support the GWR project include: preparation of a Draft Engineering Report, preliminary steps for the environmental impact analysis, stakeholder engagement, public outreach, consultation with an independent advisory panel of experts, and frequent communications with regulators at the California Department of Public Health and the Regional Water Quality Control Board.

Stormwater Capture

A variety of factors, such as increased urbanization, have led to declining groundwater levels, and capturing more stormwater is a natural way to recharge the San Fernando basin aquifers.

Recent Accomplishment

In May 2013, LADWP began creating the framework of a Stormwater Capture Master Plan that will guide the Department's efforts to enhance the beneficial uses of stormwater runoff as a supplemental water resource for LA. LADWP is moving forward with several stormwater enhancement projects that will help sustain the long-term reliability of the San Fernando Basin. The 2010 Urban Water Management Plan estimates that stormwater capture and recharge will increase groundwater storage in the San Fernando Basin by 15,000 AFY by the year 2035.

Stormwater Projects

In partnership with other governmental and non-governmental agencies, stormwater enhancement studies and many projects 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 upgrade and expand stormwater capture capabilities at the dam. The project was completed in July 2011.

Recent Accomplishment

Hansen Spreading Grounds Enhancement Project

LADWP provided $4.1 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 January 2013.

Recent Accomplishment

Tujunga Spreading Grounds Enhancement Project

LADWP provided $1 million to the District for the design of the project. The project will replace and automate the intake structure on the Tujunga Wash Channel, install a second automated intake to receive flows from the Pacoima Wash Channel, and reconfigure the spreading basins. LADWP will provide up to $27 million to the District to construct the project.

California friendly plants save water.

A groundwater monitoring well under construction in the San Fernando Valley.

Recycled water distributed through purple pipe.

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 for the betterment of the environment. This will also allow LADWP to reduce the city's reliance on imported water purchased from the Metropolitan Water District, and to provide the citizens of Los Angeles with a more stable and reliable source of water.

To remediate and cleanup the local groundwater resources, LADWP is constructing 25 groundwater monitoring wells in various areas of the easterly portion of the San Fernando Basin where the city's major wellfields are located. Twenty-two of the wells are completed or under construction by the U.S. Army Corps of Engineers, and three more wells are in construction. The U.S. Environmental Protection Agency has also contributed to this program by constructing one of the 25 monitoring wells.

These new wells, along with a network of more than 70 existing wells, are being used to characterize the basin's groundwater quality and develop a complex of comprehensive groundwater remediation facilities for removing contamination from the city's major wellfields in the San Fernando Basin.

Water samples will be collected from the groundwater production and monitoring wells to analyze the contamination and determine the nature and extent of the pollution. The location of each well has been selected to measure water quality along specific groundwater flow paths which lead toward nearby LADWP wellfields.

LADWP expects to complete the groundwater characterization study by June 2014, and review the findings with the California Department of Public Health (CDPH). LADWP will seek approval from CDPH to construct two major groundwater treatment facilities to be operational by 2024-2025. These will be designed to remove contamination from the local groundwater to protect the environment and the public.

Bay Delta Issues

Water from the Sacramento/San Joaquin rivers (Bay Delta) and the Colorado River, purchased from MWD, provides about 52% of the city's overall water supply in an average year, and water imported from the Bay Delta alone is 44%. In dry years, an even larger portion of LA's water supply comes from purchased water. For example, 71% of the city's water will come from the Bay Delta this year.

However, ongoing environmental and water supply issues continue in the Bay Delta, creating uncertainty of Delta water exports for Southern California.

Some of the major issues in the Delta include:

- Fishery declines – pumping restrictions due to threatened and endangered fish species;
- Seismicity – the US Geological Survey (USGS) predicts a two-thirds probability of a major earthquake of magnitude 6.7 or greater occurring in the Delta over the next 30 years causing levee failure.
- Levee failure – vulnerability due to poor construction, subsidence caused by agricultural activities, and potential sea level rise caused by climate change.

LADWP is diligently doing its part to reduce future reliance on the Delta by heavily investing in local resources, including water conservation, water recycling, stormwater capture, and working to clean up the local groundwater supply. As LADWP develops local water resources, the reliability of existing Delta supplies remain a critical need.

In addition to reducing reliance on Bay Delta water, LADWP has supported the Bay Delta Conservation Plan (BDCP), which offers mid-term and long-term actions to restore the Delta ecosystem's health and the reliability of future water supplies from the Bay Delta.

To learn more:

- **www.baydeltaconservationplan.com**
- **www.swc.org**
- **www.socalwater.org**

Owens Valley Issues

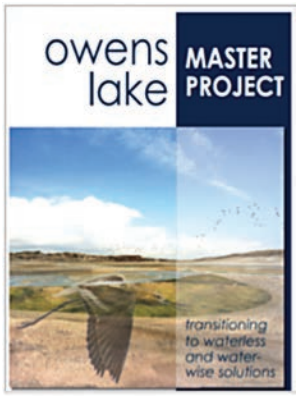
LADWP has maintained a significant presence in the Owens Valley for over 100 years. Since the early 1900s when the City of Los Angeles began purchasing land in the Owens Valley to secure water rights, the City has been the single largest landholder on the valley floor. Since construction of the First 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 control dust 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 95,000 AFY of water each year - 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 coming from Owens Lake and a historic reduction in air pollution in the Owens Valley.



Recent Accomplishment

Owens Lake Master Project

In April 2013, LADWP presented a new Master Project to conserve water and protect the environment in the Owens Valley. The proposed Master Project would be implemented in five phases and would reduce water use by over 40% of current levels. Each of the five phases would create additional habitat for important species groups on Owens Lake. By the end of phase five, habitat will be increased across Owens Lake for diving waterbirds, breeding shorebirds, breeding waterfowl, Alkali Meadow, migrating shorebirds, and migrating waterfowl.

Gravel is used to quell dust on portions of Owens Lake.

Recent Accomplishment

Owens Lake Litigation

In April 2011, Great Basin notified LADWP that it would issue a new order to once again expand the dust control area and require the construction of additional dust mitigation measures. LADWP expressed concerns about being required to control dust in areas that are at higher lake elevations than pre-Los Angeles Aqueduct diversion levels and thus caused by nature or other factors. Furthermore, with more than 90% of the dust already controlled, it seemed there was no end in sight to Great Basin's orders.

LADWP proposed that the additional areas under construction be measured before agreeing to yet another expansion. In an attempt to resolve these issues, LADWP entered into mediation with Great Basin. Unfortunately, mediation proved unsuccessful and LADWP had to resort to legal actions to seek resolution.

On June 27, 2013, LADWP and Great Basin announced that the two agencies had reached a major agreement regarding future dust control on portions of Owens Lake, preservation of historic Native American artifacts and use of new water-saving dust control areas. The agreement represents a first step toward resolving more of the outstanding issues between the two parties while LADWP attempts to safeguard scarce water supplies while protecting air quality in the Owens Valley.

➘ Go to **www.ladwp.com/owenslake** to learn more about the mitigation efforts.

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 Disinfection By-Products Rule (DBP2). LADWP's major efforts to comply with these regulations include addressing its five remaining open reservoirs, and changing the city's water supply disinfection system 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 five remaining open reservoirs into compliance with the LT2 water regulation. Both Silver Lake and Ivanhoe reservoirs will be replaced with the Headworks Reservoirs. Elysian and Upper Stone reservoirs will remain in service and receive floating covers. Los Angeles Reservoir will also remain in service with a new ultraviolet (UV) treatment plant to disinfect water leaving the reservoir, and shade balls to assist in disinfection byproducts and algae control.

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 August 2014.

Recent Accomplishment

Los Angeles Reservoir Project
An ultraviolet treatment facility is currently in development to disinfect water leaving the LA Reservoir and satisfy the LT2 water quality regulation. In addition, LADWP has begun deploying shade balls (about 23 million of 77 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

Silver Lake Reservoir/Headworks East
The Water System broke ground on construction of Phase 1 of the Silver Lake Complex Storage Replacement Project (Headworks Reservoir) in January 2013. The Headworks Reservoir Complex is designed to replace Ivanhoe Reservoir storage capacity when Ivanhoe is removed from service in November 2014.

This deadline is part of a compliance agreement with the California Department of Public Health for LADWP to meet the LT2 regulation. Due in part to the compressed design and construction durations for this project, LADWP is using the Construction Manager at Risk project delivery model, which will save approximately one year on the overall delivery of the project. Silver Lake Reservoir must be removed from service by January 2018.

Recent Accomplishment

Los Angeles Aqueduct Filtration Plant

In April 2011, LADWP broke ground on the construction of a UV water treatment process for the Los Angeles Aqueduct Filtration Plant in Sylmar. Processing approximately 600 million gallons of water per day—enough to fill the Rose Bowl nearly eight times daily—the UV facility will be the largest west of the Mississippi River and the second largest in the U.S.. The UV facility will add an advanced level of protection to LADWP's treatment process to comply with new water quality regulations established by the U.S. Environmental Protection Agency.

Recent Accomplishment

Grants and Loans

To help fund these large-scale projects, LADWP has been awarded nearly $467 million in grants and loans from the Safe Drinking Water State Revolving Fund, including $35 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 Angelinos. 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 utilizes an Asset Management Program to assist staff with prioritizing efforts, developing strategies, and determining 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 billion in the next 10 years for infrastructure reliability. Due to budget constraints, this represents approximately a $380 million reduction from the previous year's plan. A significant amount of these expenses 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

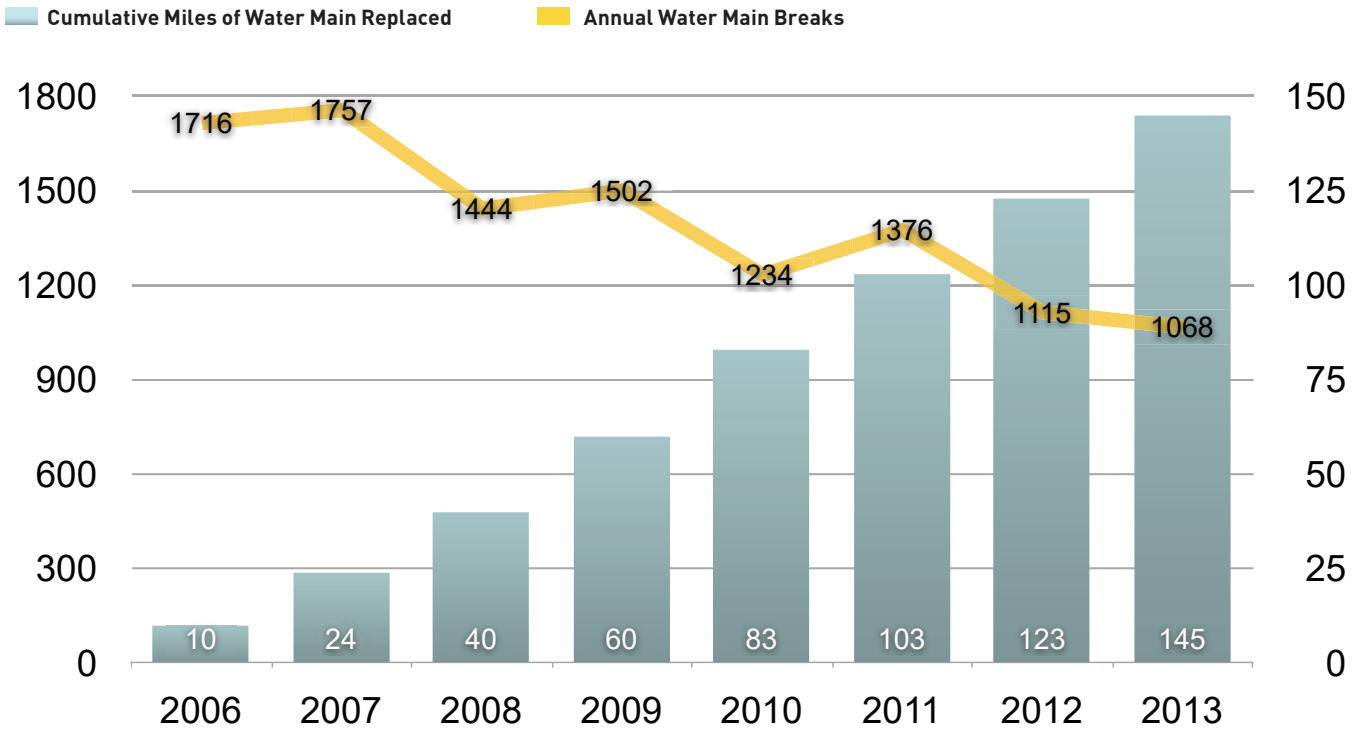
The Water System sets goals for infrastructure that are deemed critical for delivering reliable water supplies. These goals are tracked and reported on a monthly basis. Infrastructure goals for FY 2013-14 include:

- Mainline Replacement: 130,000 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

(Note: Key infrastructure goals have been reduced from prior years due to budgetary constraints.)

Significant challenges exist to replace and upgrade LADWP's infrastructure. Despite these challenges, LADWP maintains a high level of reliability, and our pipeline leak rate is below the national average of 25 leaks per 100 miles of pipeline. Through the Asset

Main Replacement Levels and Leaks



Crews work on replacing a section of trunk line under Coldwater Canyon.

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.

Recent Accomplishment

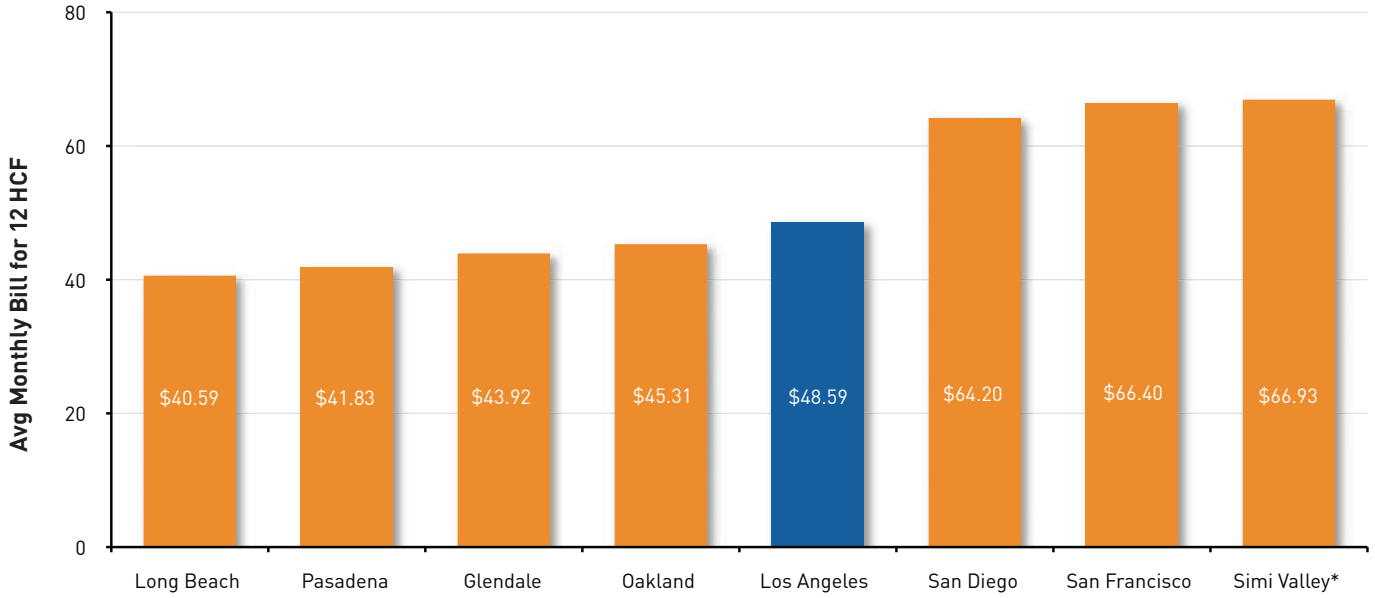
Coldwater Canyon Trunkline Replacement

Over the past two years, LADWP has implemented an array of programs to enhance reliability of water deliveries throughout the city. One of the most technically challenging of these was the replacement of the 99-year-old water trunkline that runs beneath Coldwater Canyon Avenue. To limit the congestion and traffic of this major avenue linking the Valley and Metro area, LADWP crews worked with the local communities and the media to inform travelers and limit the impact of the construction and closures. As a result of these efforts and planning, Coldwater Canyon Avenue opened ahead of schedule in late April 2013.

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 has 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.

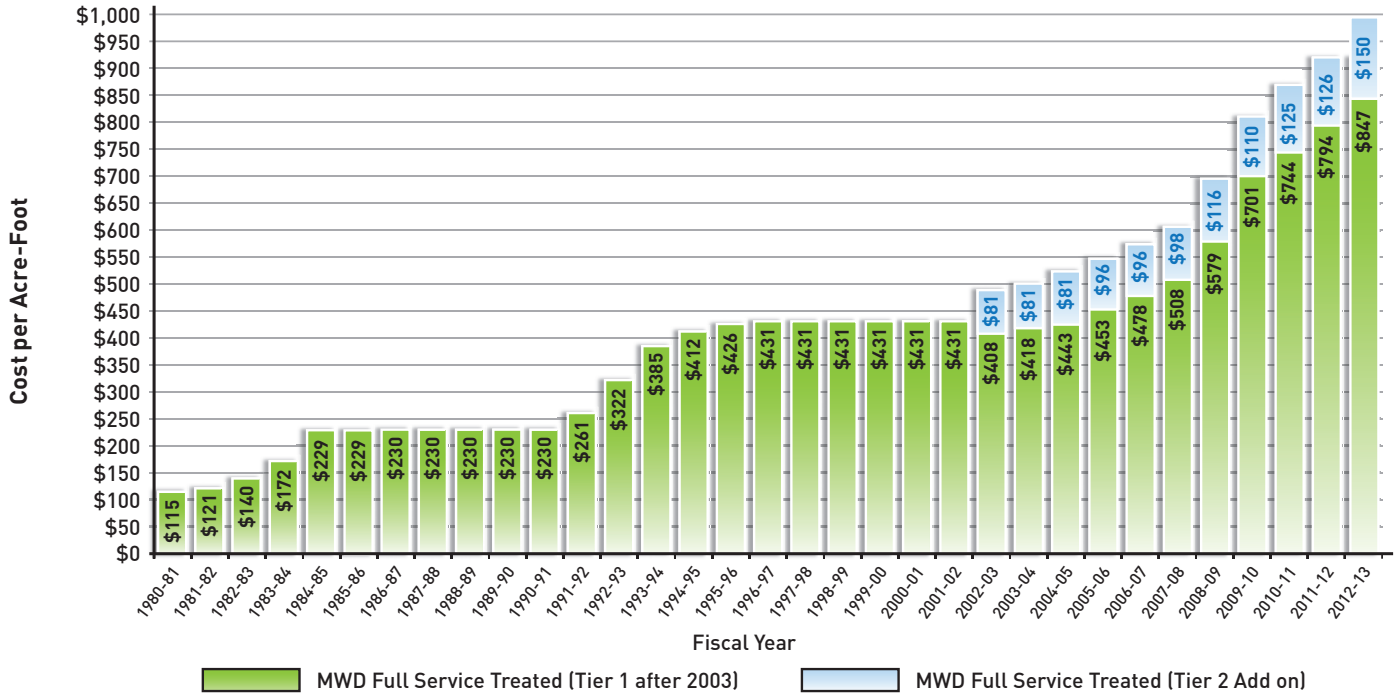
Comparison of Typical Residential Monthly Water Bill



*Golden State Water (investor-owned utility)

Data as of June 2013

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.

LA DWP

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