Los Angeles Department of Water & Power

LOS ANGELES DEPARTMENT OF WATER & POWER (LADWP)

RPS STATUS REPORT

SENATE COMMITTEE BRIEFING FEB. 1, 2011

Los Angeles Department of Water & Power

Presentation Topics

- LADWP Achievements
- LADWP Power System Overview / Priorities
- 2010 Energy Mix
- RPS History – 20% by 2010
- Renewable Energy Approach – Diversity & Geographic
- Future Challenges

Los Angeles Department of Water & Power

LADWP Progress: Recent Achievements

LADWP has made significant progress in achieving its environmental goals

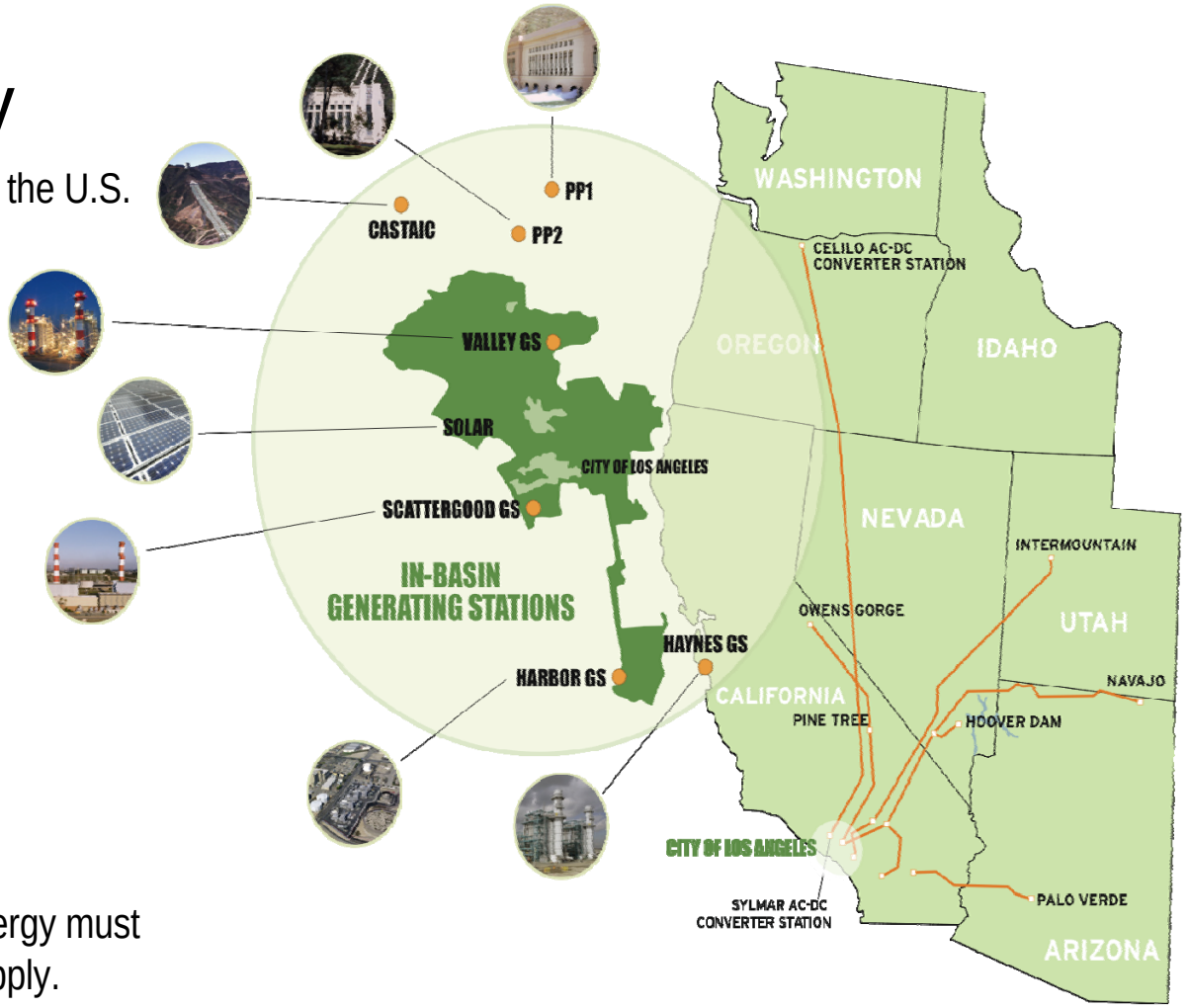
- Achieved 20% delivered renewable energy in 2010 in accordance with Mayor's Green LA Plan
- LADWP Supports AB32 Goals; direct investments to reduce GHG emissions are LADWP's priority
- 2010 represented lowest coal usage (39%) by LADWP since 1990
- CO2 emissions are 22% below 1990 levels today

Los Angeles Department of Water & Power

Power System Overview

Energy Distribution, Transmission & Supply

- LADWP is the largest municipal utility in the U.S.
- Manages 27% of transmission in California for LA and other Southern California public utilities
- 465 square miles of service
- LADWP imports energy from several states
- Ability to import over 10,000 MW via AC and DC transmission lines
  - 157 Distributing Stations
  - 21 Receiving Stations
  - 121,000 Transformers
- For reliability, substantial amount of energy must come from In-Basin local generation supply.



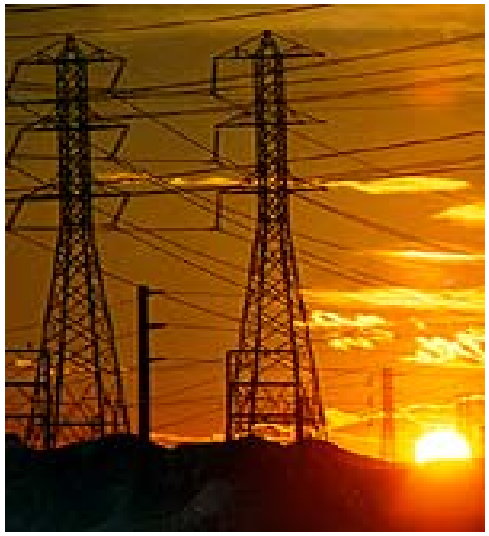
Los Angeles Department of Water & Power

Power System Overview

LADWP Has a Vertically Integrated Power System

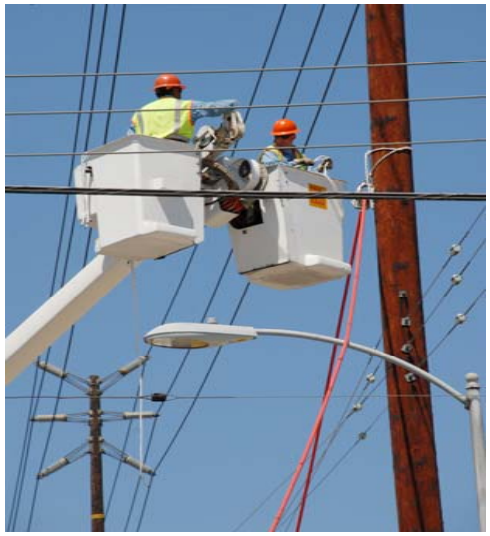
Generation

- 7,200 MW capacity
- 25,000 GWH production
- Hydro, coal, natural gas, nuclear, and renewables



Transmission

- 5,500 miles of lines
- 15,000 towers
- 28% of California's transmission
- AC: 115 kV - 500 kV
- DC: 1000 kV(+-500kV)



Distribution

- 7,000 miles of overhead lines
- 6,300 miles of underground lines
- 301,000 poles

LADWP is nation's largest municipal utility

Los Angeles Department of Water & Power

Power System Priorities

Reliability: Continuous infrastructure replacement and upgrades to maintain reliability

Maintain Competitive Rates

Environmental Stewardship:

- regulatory Compliance by repowering in-basin power plants
- reducing use of Once-Through Cooling (OTC)
- meeting greenhouse gas (GHG) reduction requirements
- increasing renewable energy and energy efficiency

Los Angeles Department of Water & Power

Sources of Energy-2010

	2005 Energy Mix % of Total	2010 Energy Mix % of Total	Energy Cost cents/KWh	Carbon Content Estimates for 2010
Coal	**53**	**39**	**4.4**	**74%**
Natural Gas	**26**	**26**	**4.9**	**26%**
Nuclear	**10**	**10**	5.7	
Large Hydro	**6**	**5**	2.3	
Renewables:	**5**	**20**		
Small Hydro	3	6	7.3	
Wind	1	9	9.6	
Solar	<1	<1	20.7	
Geothermal	<1	<1	9.0	
Biomass and Waste	1	4	5.9	
Combined Average Cost			**5.3**	

Renewable Portfolio: 20% of Total Energy Mix delivered in 2010

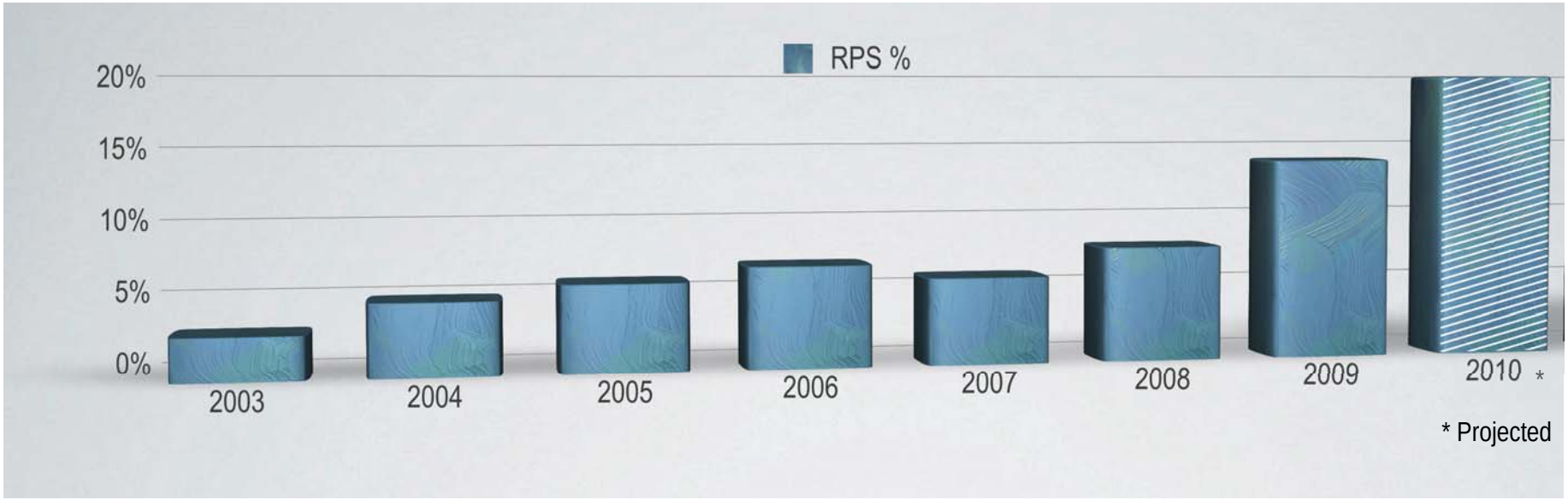
CO_2 is 22% below 1990 level

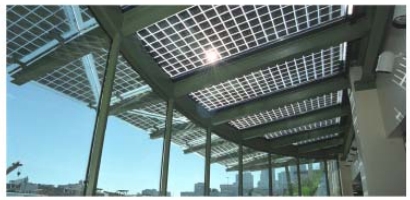
*** 2010 Energy Mix predicted, subject to final auditing**

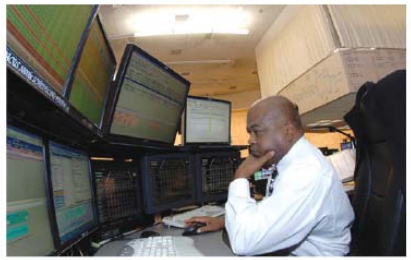
Los Angeles Department of Water & Power

Renewable Portfolio Standard (RPS) Historical Progress

LADWP quadrupled RPS since 2003; by reaching 20% by 2010





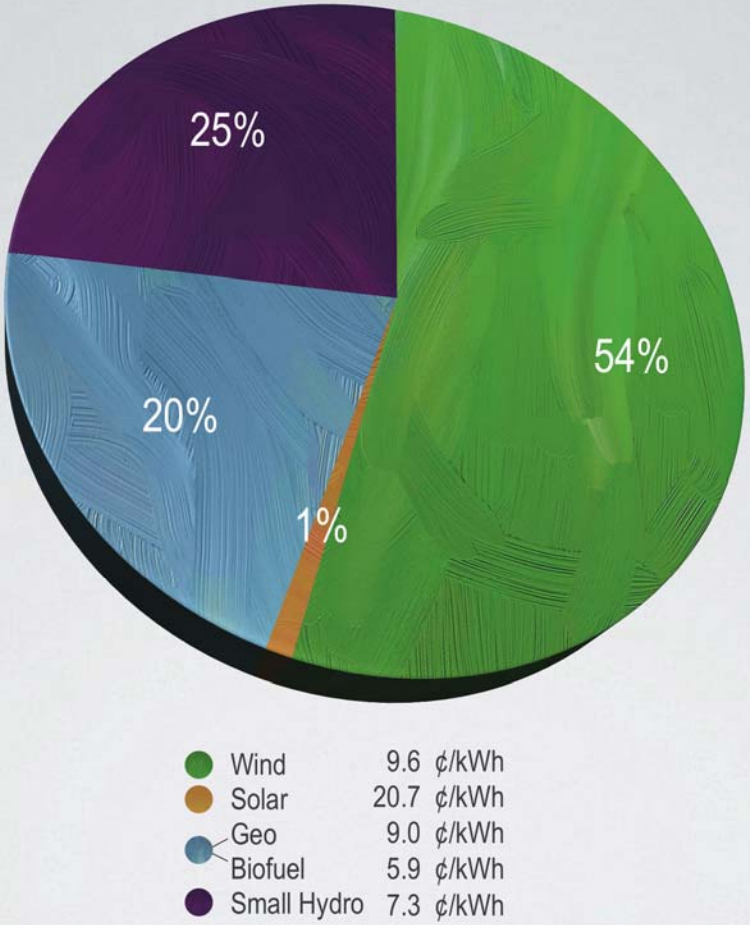


Los Angeles Department of Water & Power

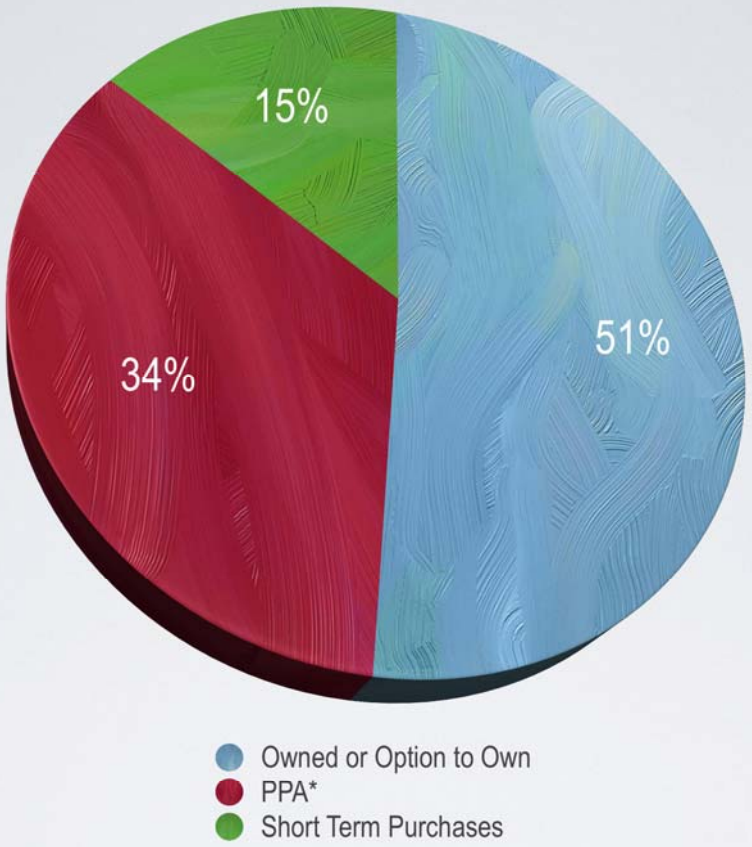
Renewable Portfolio Standard (RPS)

Renewable Resource Portfolio

Type of Resource



Type of Ownership**



*Power Purchase Agreements (PPA) expire between 2015 and 2025.
**Subject to change due to negotiations and construction schedules.