

L.A.'s Clean Energy Future

Board of Water and Power Commissioners

June 6, 2017

Putting Customers First 

Mission and Priorities

Power System is committed to provide:

- Safe and reliable electric service
- High-quality service in an environmentally responsible manner
- Competitive rates

Power System key priorities Include:

- Replacing aging infrastructure
- Meeting and exceeding renewable energy mandates
- Improving customer service

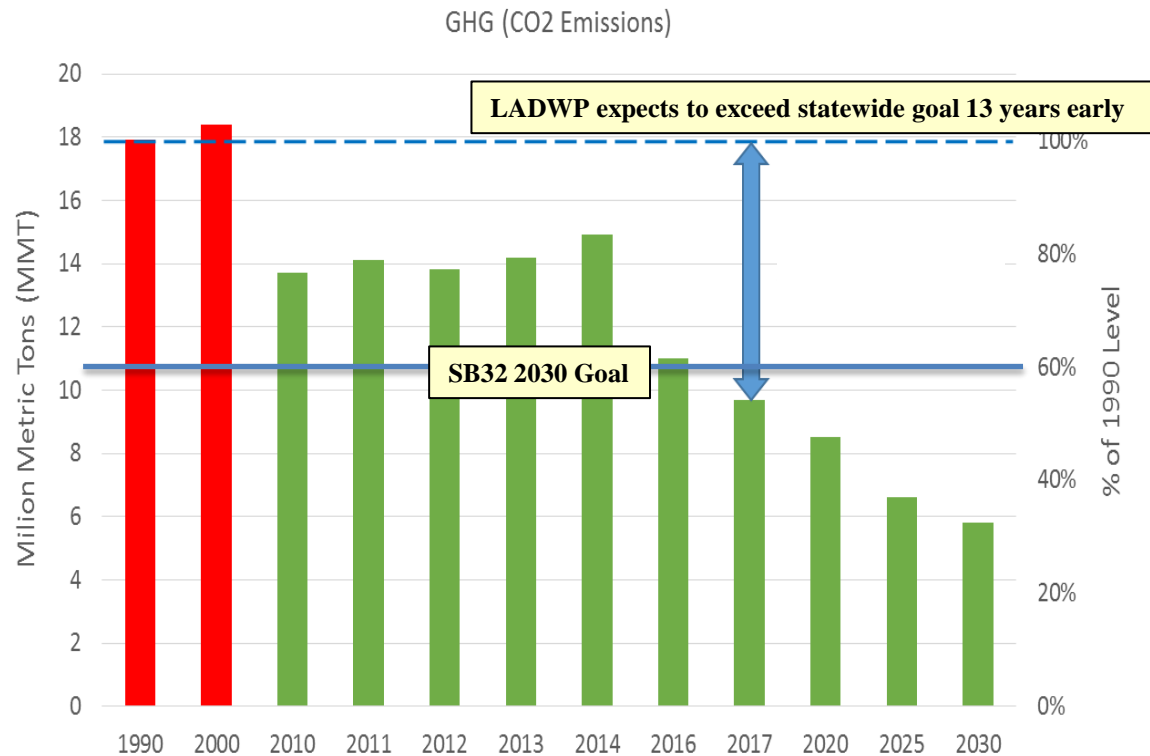
LADWP Accomplishments

Year	2006	2010	2016	2020	2025	2030	2036
California RPS	-	20%	25%	33%	45%	50%	-
LADWP'S RPS Target	6%	20%	29%*	39%	50%	55%	65%

*estimated

Renewable Progress:

- 930 MW large solar
- 221 MW BTM solar
- 996 MW Wind
- 384 MW planned



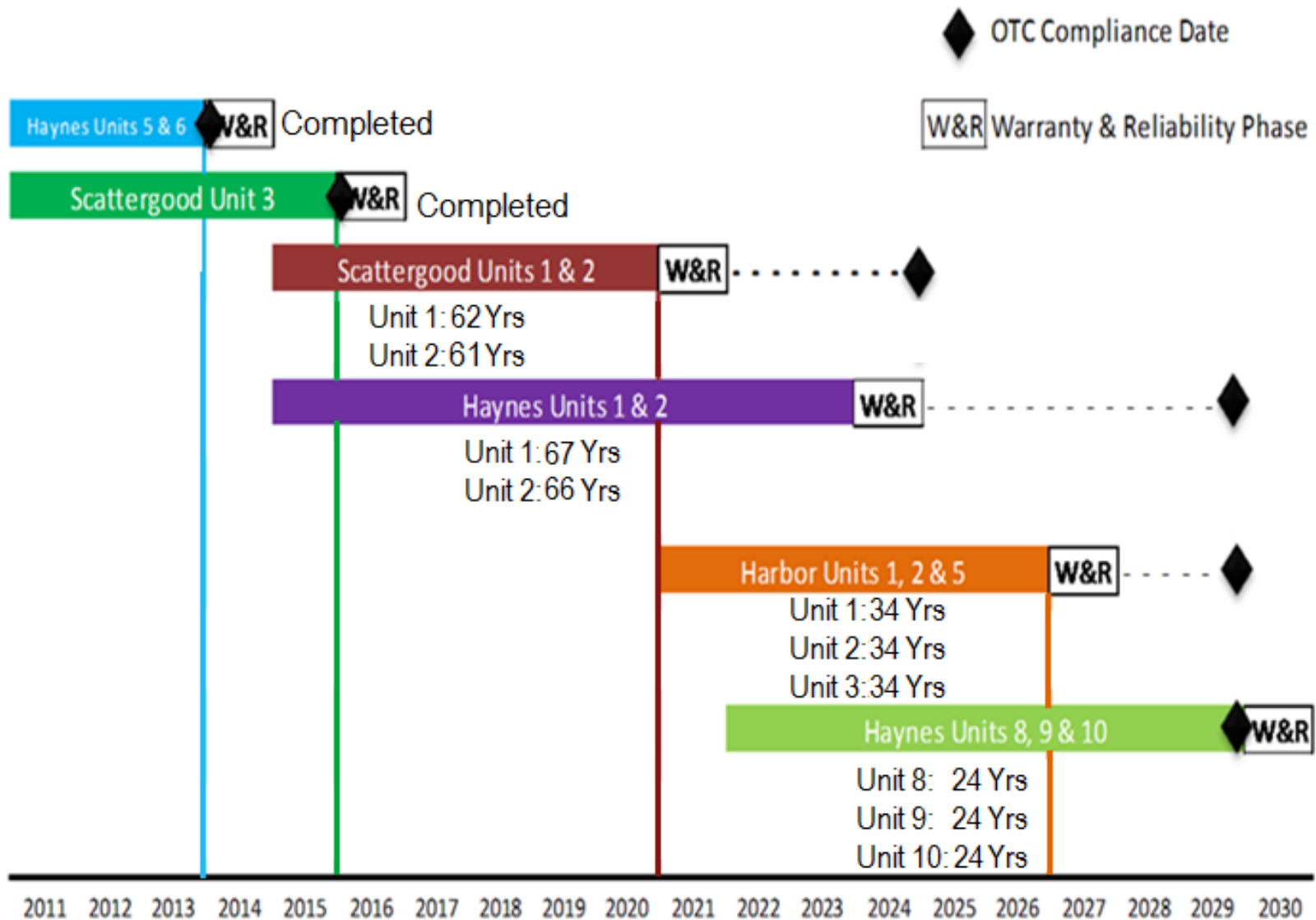
LADWP GHG (CO2) Reductions Exceed State Mandates

Replacing Aging Infrastructure

LADWP is committed to replace and upgrade its aging infrastructure in all functions of the Power System:

- Distribution System Reliability Program
- Substation System Reliability Program
- Transmission System Reliability Program
- Generation System Reliability Program

Originally Proposed Repowering Schedule of OTC Units



Reassessment of Repowering Projects

LADWP has *put on hold* all planned local repowering projects until a system-wide, in-depth, and independent study/analysis is conducted to:

- Analyze the necessity for repowering
- Identify all viable alternatives to repowering

Key Components of the System-wide Study are:

- Meet all NERC/WECC Reliability Standards;
- Local Transmission System Reliability;
- Resource Adequacy Requirements;
- Local Generation Balancing and System Reliability; and
(Ramping *and* Integration of Renewables)
- Mitigation Solutions, Practical Alternatives, and Impact on Environment

System-wide Study

The study will:

- Analyze the reliability of local generation and transmission systems during planning period 2017 through 2030 (Will consider all units that were scheduled for repowering)
- Evaluate Green House Gas (GHG) levels of each alternative
- Include high penetration of renewable resources based on LADWP RPS targets
- Provide qualitative, quantitative, and comparative analysis of all alternatives
- Recommend the most practical mitigation solutions

Study results will be used to:

- Develop Scope of Work, Procurement Strategy, and Impact on Rates
- To determine optimal solutions, technologies, and projects to maintain and improve the reliability of LADWP's local electric system

Potential Alternatives may Include...

- Repowering of OTC Units at a Reduced or Requisite Capacity
- Renewable Energy Resources with Energy Storage System
- Transmission Line(s) Improvement Only
- Repowering of OTC Units as Originally Planned
- Transmission Line(s) Improvement with Energy Storage System
- Deployment of Distributed Energy Resources
(Energy Efficiency, Demand Response, PV solar, Electric Vehicle Charging, Energy Storage)
- Combination of Any of the Above *or* Any Other Viable Alternatives

Study Timeline and Associated Impacts

Timeline:

- Anticipated Completion No Later Than Early 2018

Approved Study Recommendations and Findings:

- Will be incorporated in future Integrated Resource Plan (IRP) documents

Budget Activity:

- No funds will be expended for repowering projects until the system-wide study is completed and final recommendations are approved
- All repowering projects require Board and City Council approval
- Fiscal Year 17/18 Power System budget includes \$61.5 million to complete demolition projects at Scattergood and Haynes Generating Stations and prepare the site for future energy projects

Power System Major Initiatives

- Expansion of Renewable Generation Portfolio
- Expansion of the Electric Vehicle Charging Infrastructure
- Expansion of Energy Storage
- Grid Modernization/Smart Grid
- 100% Renewable Energy Study (Stakeholder Engagement and R&D)
- Energy Efficiency, Community Solar, and DER Integration Pilot
- Exploring New Hydro Pumped-Storage Power Plant Opportunity

Next Steps

- Collaborate with other utilities to solve common challenges
- Increase reliance on renewables and energy storage
- Explore viable technologies/programs to reduce GHG emission
- Partnership with research institutions such as NREL
- Taking steps to participate in CAISO's Energy Imbalance Market (EIM)
- Expand public outreach
- Work closely with other City Departments/Bureaus
- Present study results and findings to Board of Commissioners