

L.A.'s Clean Energy Future

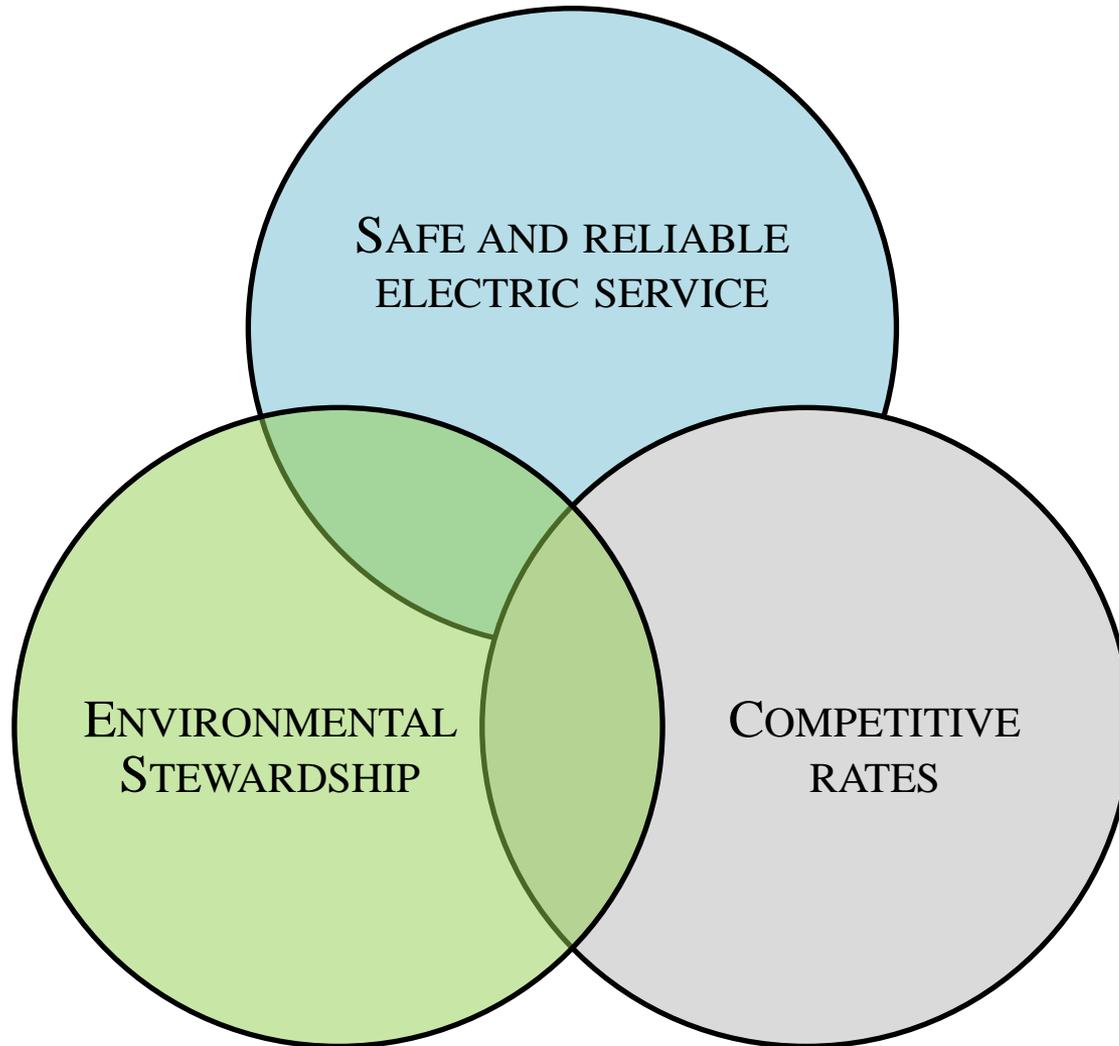
Los Angeles City Council

Energy, Climate Change and Environmental Justice Committee

August 1, 2017

Putting Customers First 

Power System Objectives



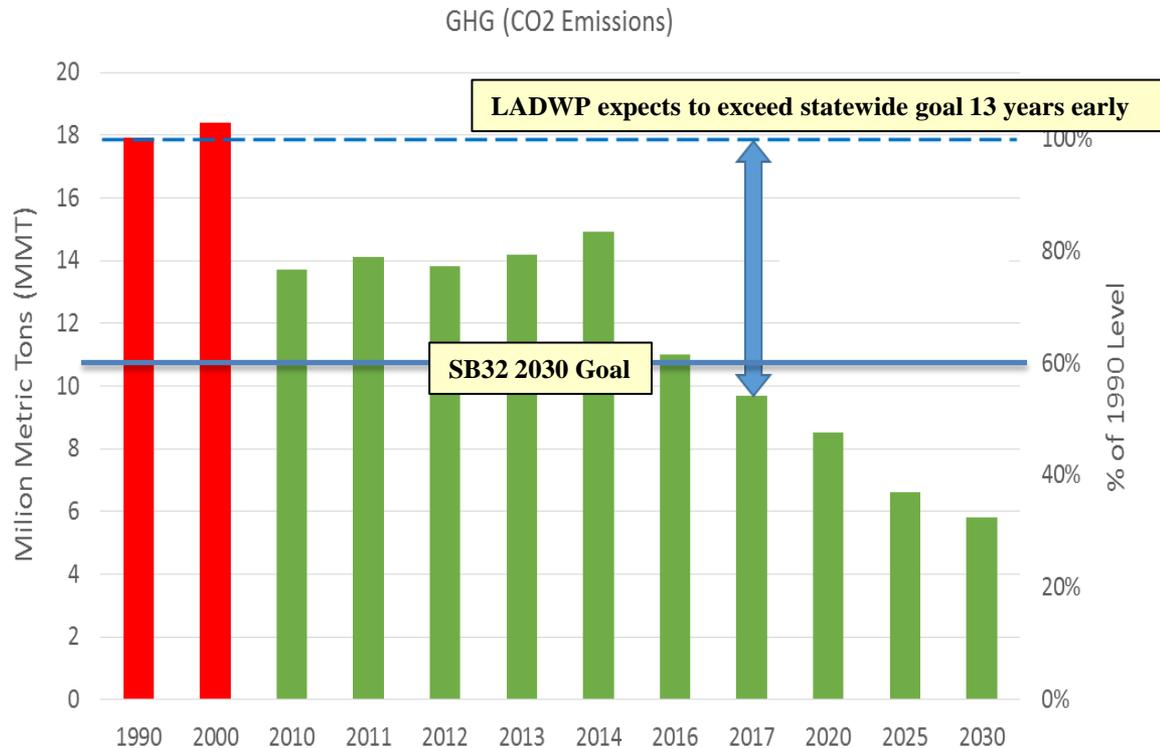
Power System Accomplishments

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

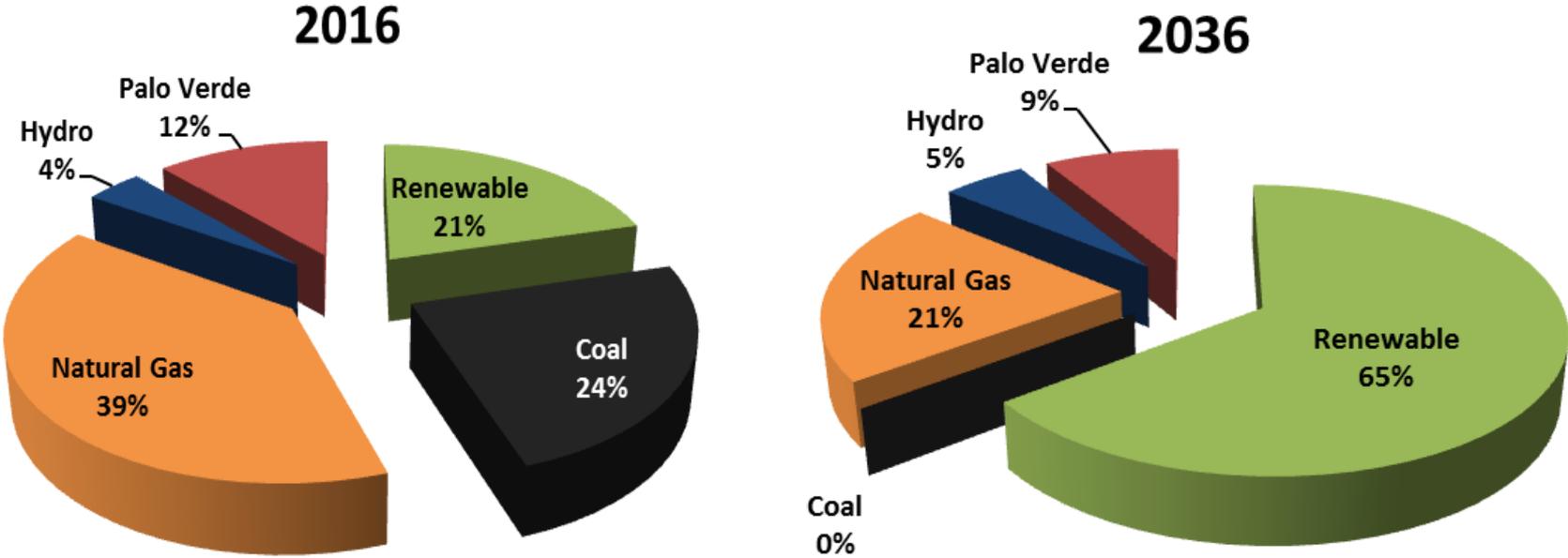
Renewable Progress:

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



LADWP GHG (CO2) Reductions Exceed State Mandates

2016 IRP – Transformation of Resources



Note: Includes 15% Energy Efficiency in 2036 in the overall mix of resources

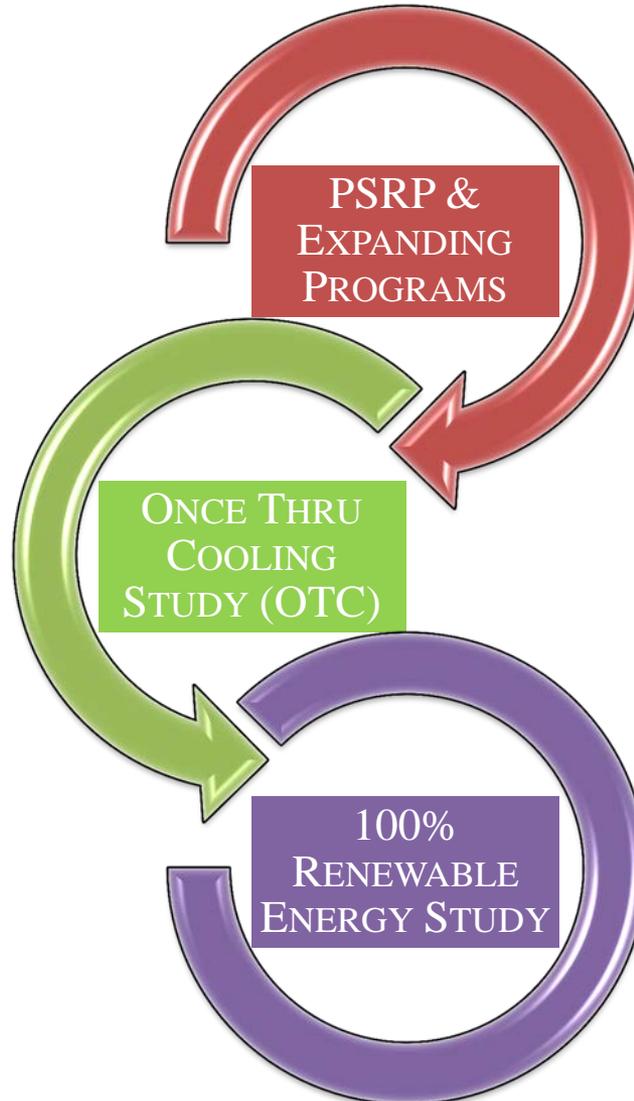


Power System Major Initiatives Overview

- Expanding Programs
 - Energy Storage, Energy Efficiency, Community Solar, Electric Vehicle Charging, Distributed Energy Resources, Energy Imbalance Market
- Power System Reliability Program (PSRP)
- Once-Thru-Cooling Study
- 100% Renewable Energy Study

CLEAN ENERGY LONG TERM STRATEGIC STEPS

PSRP and other programs will be incorporated into the Once Thru Cooling Study. Study is currently underway by independent Subject Matter Experts and Draft Report due 1st Qtr 2018.



Energy Storage, Energy Efficiency, Community Solar, Electric Vehicle Charging, Distributed Energy Resources

OTC data/modeling information will be further expanded in the 100% Renewable Study by the National Renewable Energy Lab. Establishment of partnerships has commenced. Target completion: June 2019

Replacing Aging Infrastructure

Power System Reliability Program (PSRP)

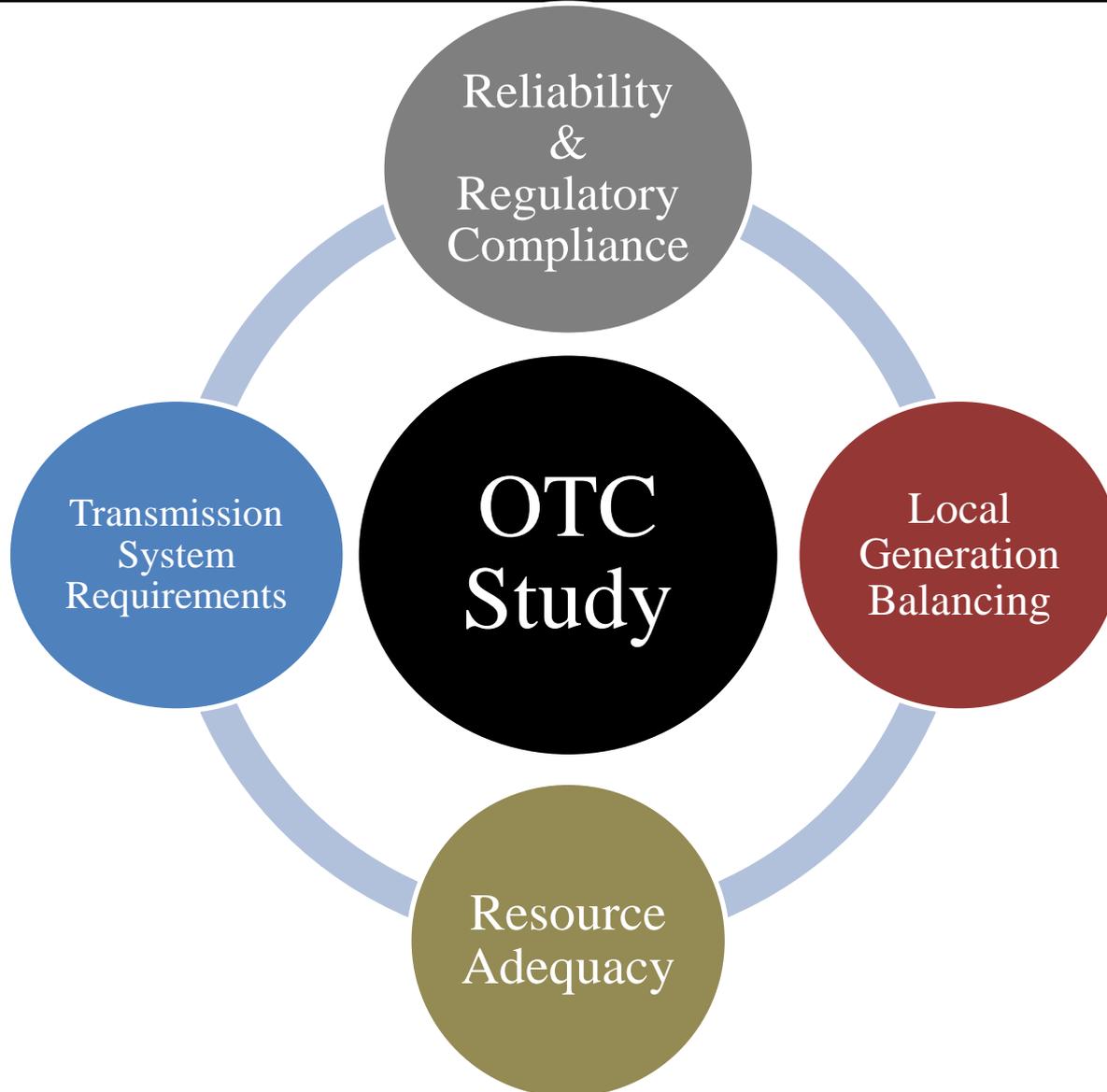
Generation
System
Reliability

Distribution
System
Reliability

Substation
System
Reliability

Transmission
System
Reliability

ONCE THRU COOLING (OTC) STUDY



100% RENEWABLE ENERGY STUDY

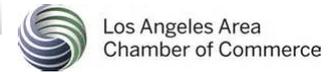
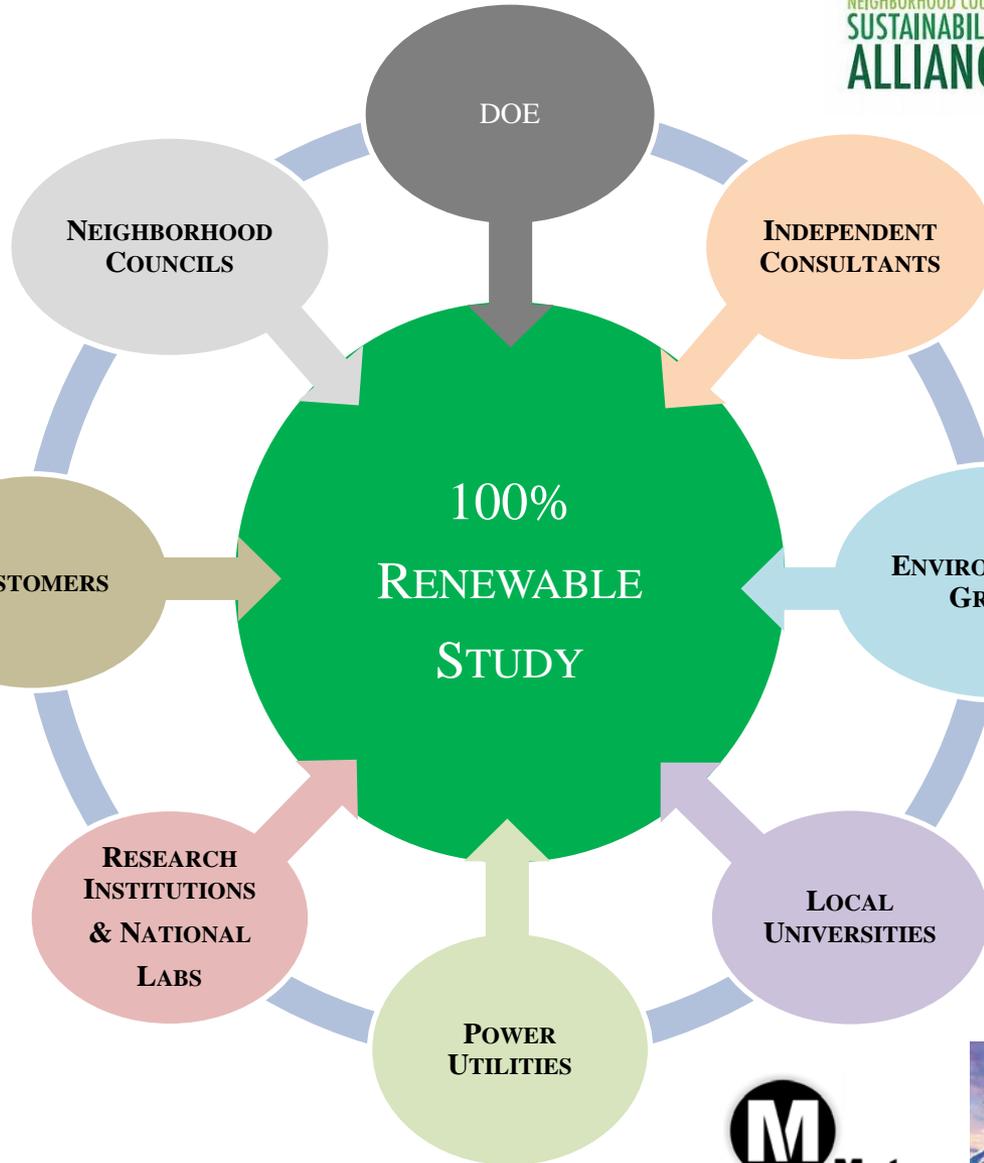
MISSION STATEMENT

Develop and implement a research partnership that will utilize technical, academic, and policy experts, as well as experts from the utility industry, to study what investments should be made to achieve a 100% Renewable Energy portfolio for the Los Angeles Department of Water and Power.

STUDY CONSIDERATIONS

- Maintaining system reliability
- Types/availability of clean energy resources
- Role of energy storage, energy efficiency, demand response, and Energy Imbalance Market (EIM)
- Developing technologies
- Necessary infrastructure upgrades
 - Critical transmission investments
 - Role of LADWP's existing natural gas generating units
 - Once Thru Cooling (OTC) Study
- Optimization of costs
- Impact to local economy
- Impact to rate payers

STUDY PARTNERS



RESEARCH PARTNERSHIPS

Examine the potential for high quality careers and equitable local economic development, including local hiring programs for work that must be performed to modernize the electric system infrastructure within the City to increase efficiency, install energy storage, add distribution-connected renewable generation and otherwise enhance the electrical grid within Los Angeles.

– **Macroeconomic impacts:**

- Near-term stimulus associated with the new infrastructure construction and labor.
- What is the impact on the Los Angeles economy as a whole?

– **Environmental justice impacts:** what are the impacts on local air quality, and how does that impact local communities?

Next Steps

- Continue Once-Thru-Cooling and 100% Renewable Energy studies
- Continue implementation of CAISO's Energy Imbalance Market (EIM)
- Continue development of potential energy storage opportunities
- Continue to foster partnership with research institutions, academia, environmental groups, and other external stakeholders
- Expand public outreach and transparency
- Explore major opportunities in non-fossil fuel energy

Questions?