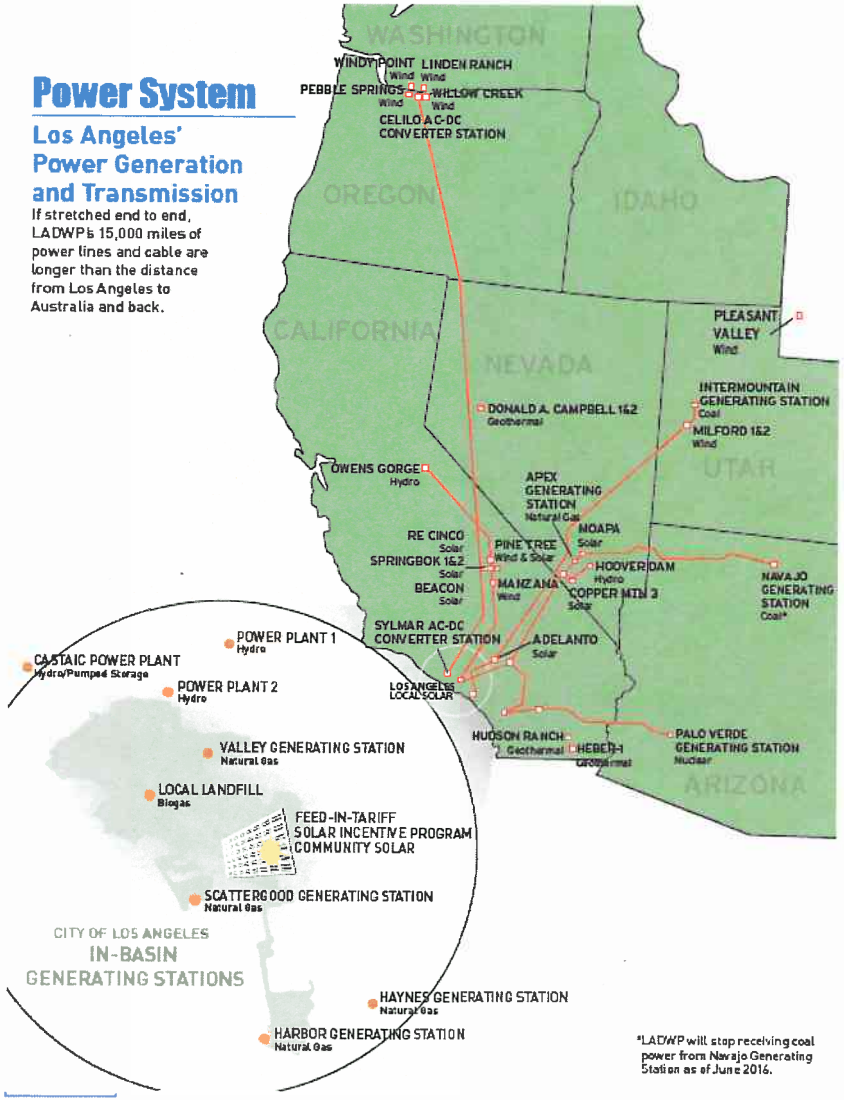
Los Angeles Department of Water & Power

Joint Committee on Climate Change Policies
Senate Committee on Energy, Utilities and Communications
Assembly Committee on Utilities and Energy

July 2, 2018

www.ladwp.com

Overview of LADWP



Balancing Authority

Largest POU

Customers – 1.5 million

Peak Demand – 6,502 MW (8/31/17)

Budget - $4 Billion/year

Distribution System

- 10,378 miles of OH lines & UG cables
- 181 stations
- 128,693 transformers

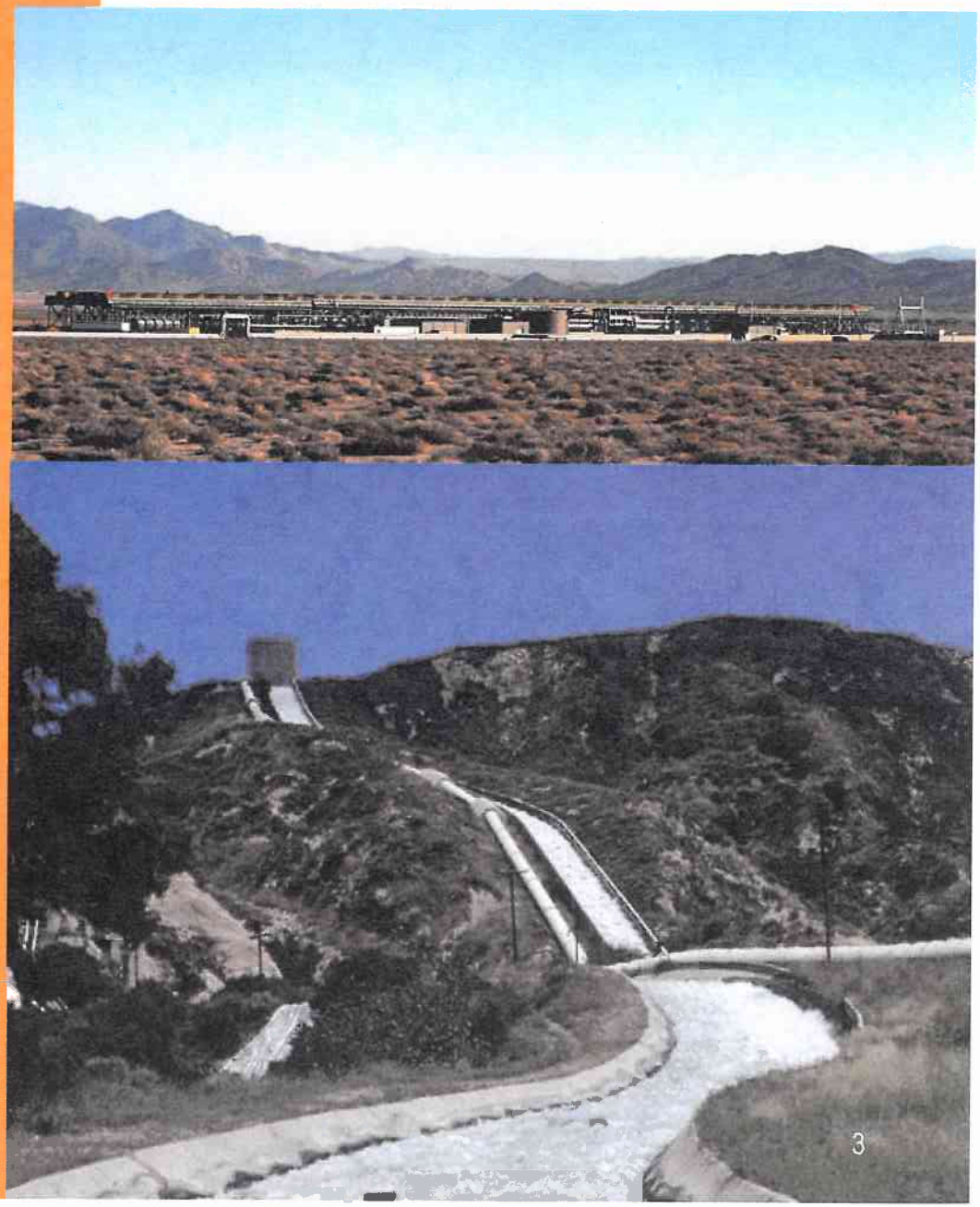
Transmission System

- 3,631 miles of OH & UG circuits
- 15,452 towers

LADWP Renewable Resources in 2018 - Geothermal & Small Hydro

Geothermal

Hudson Ranch	55 MW
NV Geothermal	36 MW
Heber 1	36 MW
Don Campbell 1&2	30 MW
Ormesa Geothermal	10 MW
TOTAL Geothermal	**167 MW**
Total Small Hydro	**208 MW**
TOTAL	**375 MW**



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LADWP Renewable Resources in 2018 - Wind

Milford 1&2	287 MW
Windy Point	262 MW
Pine Tree Wind	135 MW
PPM Wyoming	82 MW
Willow Creek	72 MW
Pebble Springs	69 MW
Linden Wind	50 MW
Manzana Wind	39 MW
TOTAL	**996 MW**

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LADWP Renewable Resources in 2018 - Solar

Springbok 1&2	260 MW
Beacon Solar	250 MW
Moapa Solar	250 MW
Copper Mountain	210 MW
RE Cinco Solar	60 MW
Adelanto Solar	10 MW
Pine Tree Solar	9 MW
Local Solar	303 MW
TOTAL	**1,352 MW**

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LADWP Renewable Resources

Renewable Projects	2015 Capacity (MW)	2018 Capacity (MW)
Solar	290 MW	1,352 MW
Wind	996 MW	996 MW
Small Hydro & Geothermal	287 MW	375 MW
TOTAL	**1,573 MW**	**2,723 MW** *(73% increase)*

Energy Storage is a key strategy for achieving transition to 100% Clean Energy

- 4,000 MW avg. daily load

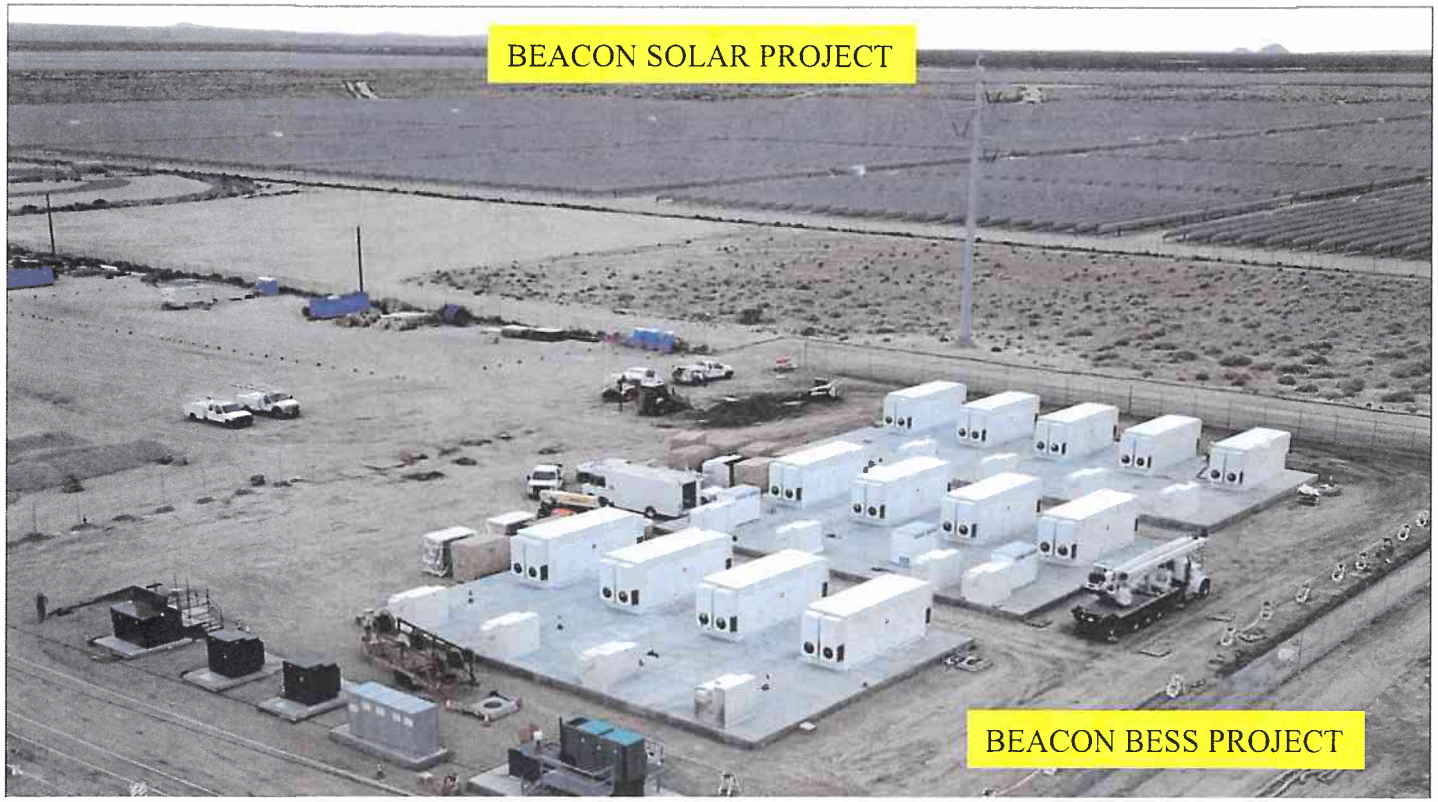
Castaic Power Plant–

LADWP's Crown Jewel of Energy Storage

- 1,265 MW

Beacon Battery Energy Storage Project (BESS)

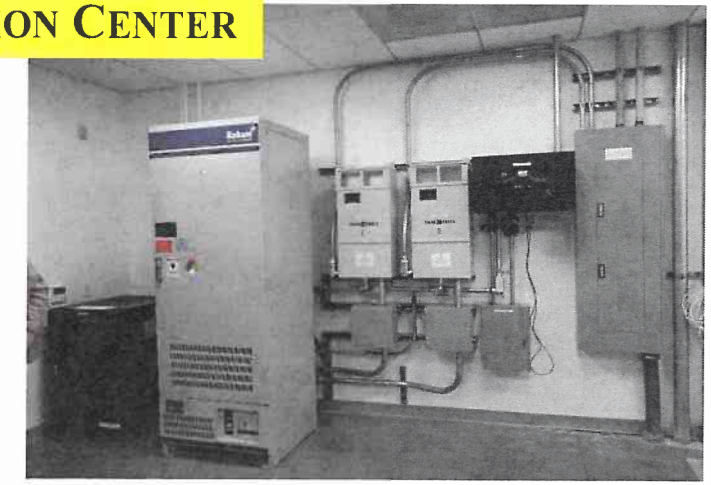
- 20 MW, $19.2 Million, Operation – 6/2018
- Provide Grid Services
- Integrate with variable renewable generation sources



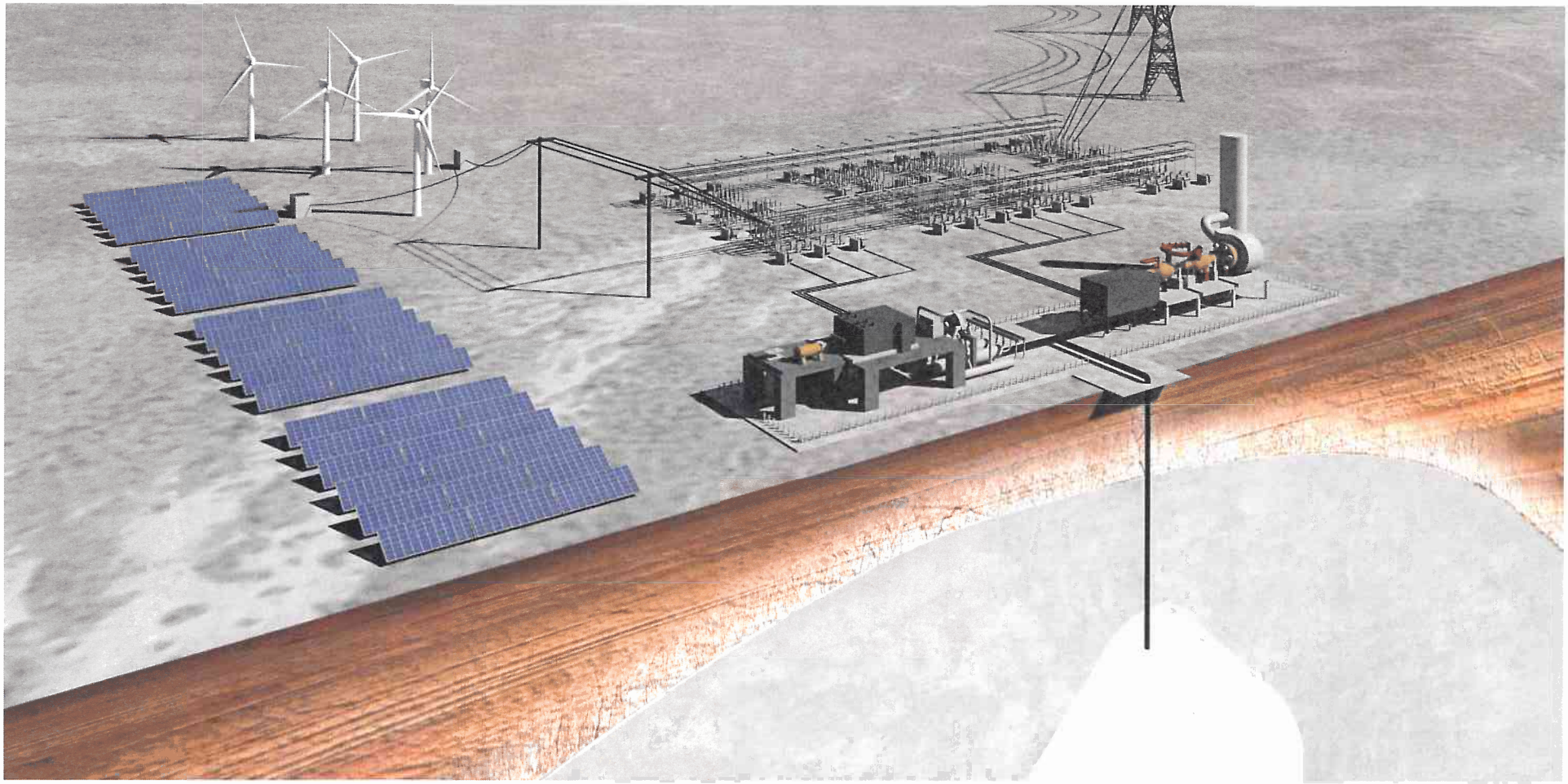
LADWP Energy Storage Achievements

Fire Station 28

La Kretz Innovation Center

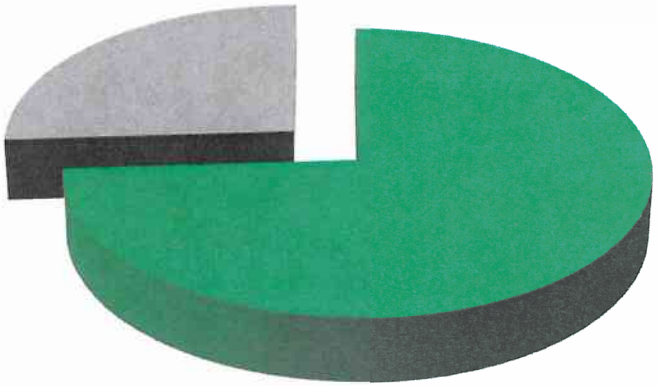


Exploring –
Compressed Air Energy Storage



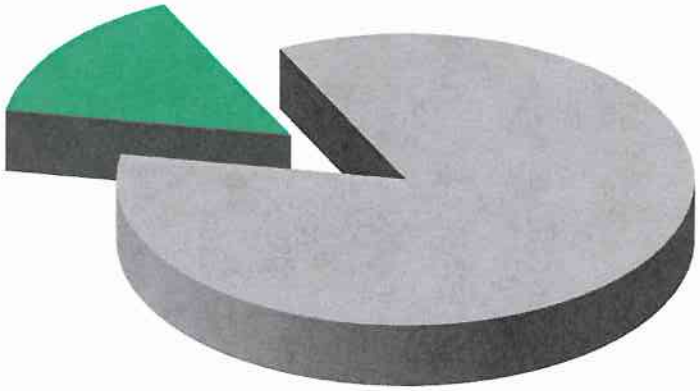
Challenge: Seasonal Extremes

Low Demand Day
2600 MW



April 16, 2016:
74% renewables
(Daily Average)

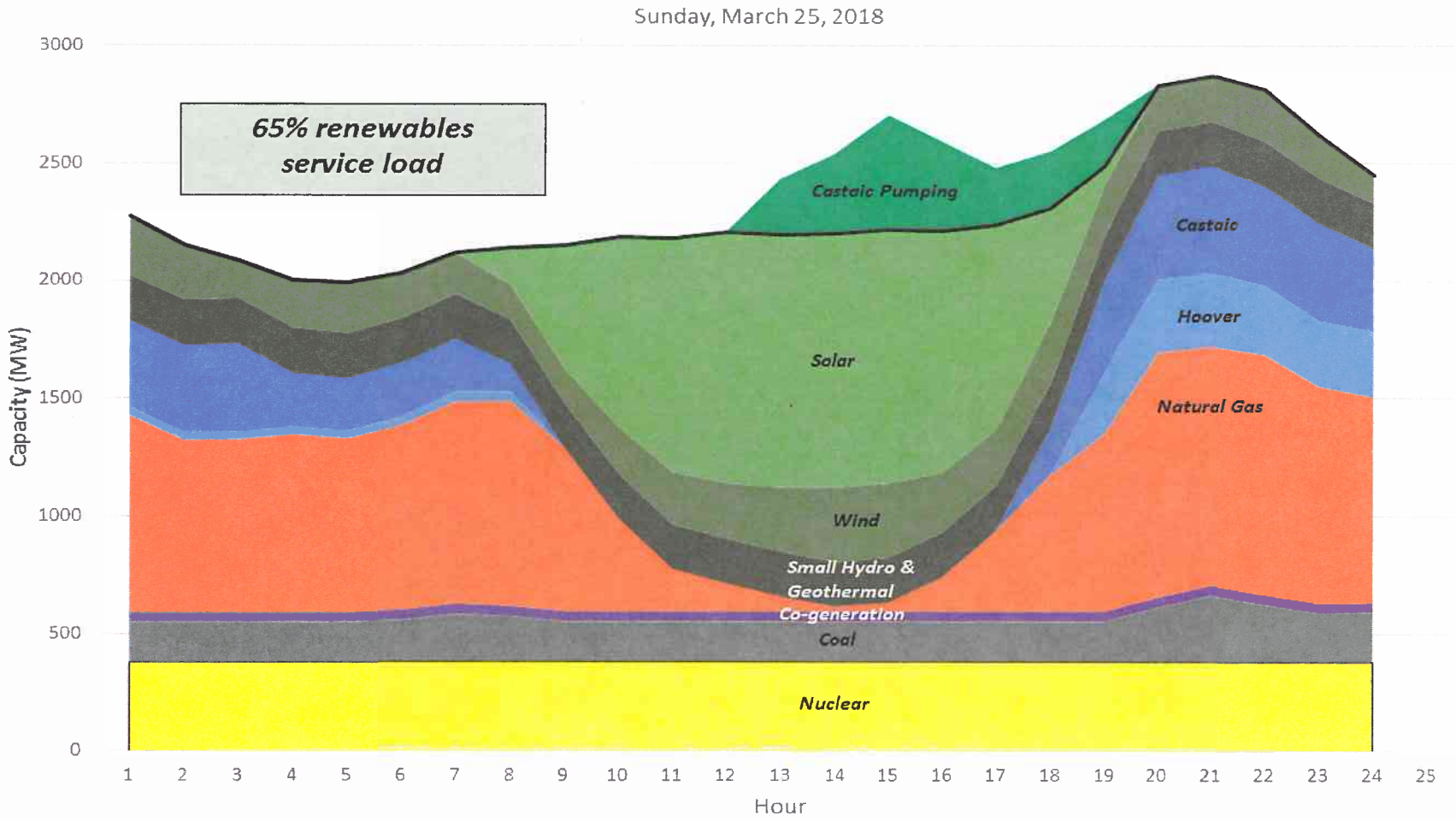
Record High Demand Day
6502 MW



August 31, 2017:
15% renewables
(Daily Average)

Renewable Energy Non-Renewables

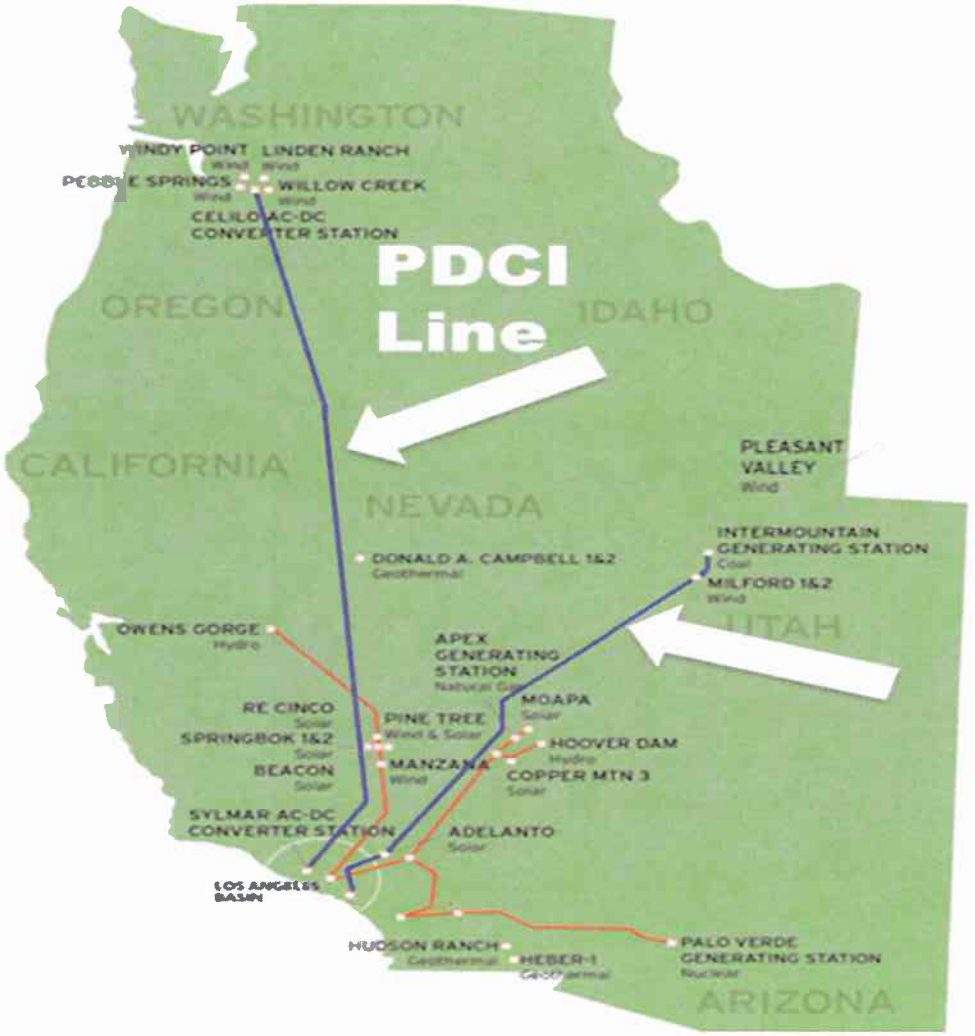
LADWP Energy Storage at Work



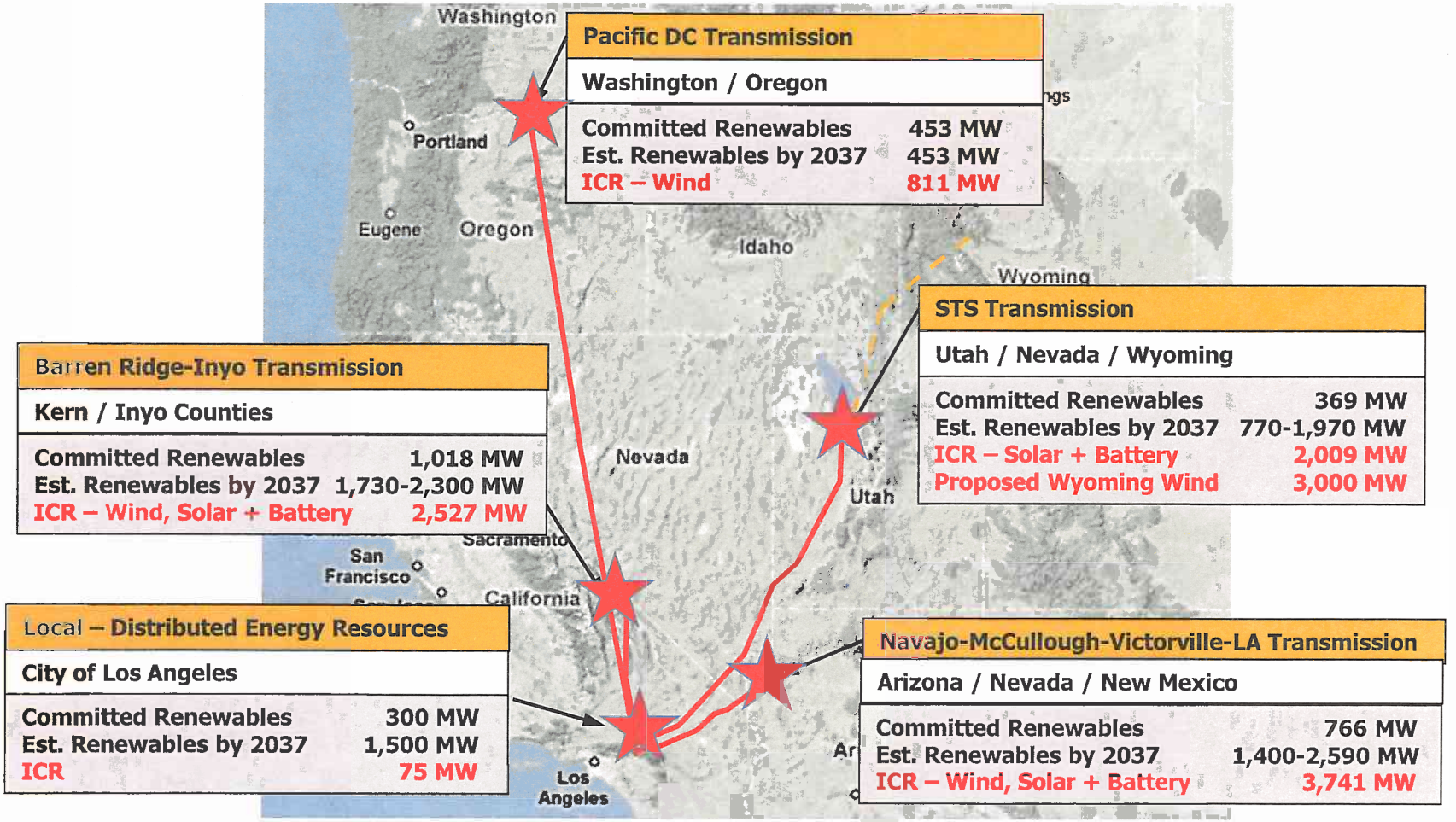
Increase Renewables Targets

		2017 SLTRP	Proposed
2025	Total	4,019 MW	4,575 MW
	RPS %	50%	55%
2030	Total	4,604 MW	5,108 MW
	RPS %	55%	60%
2036	Total	5,704 MW	6,208 MW
	RPS %	65%	70%

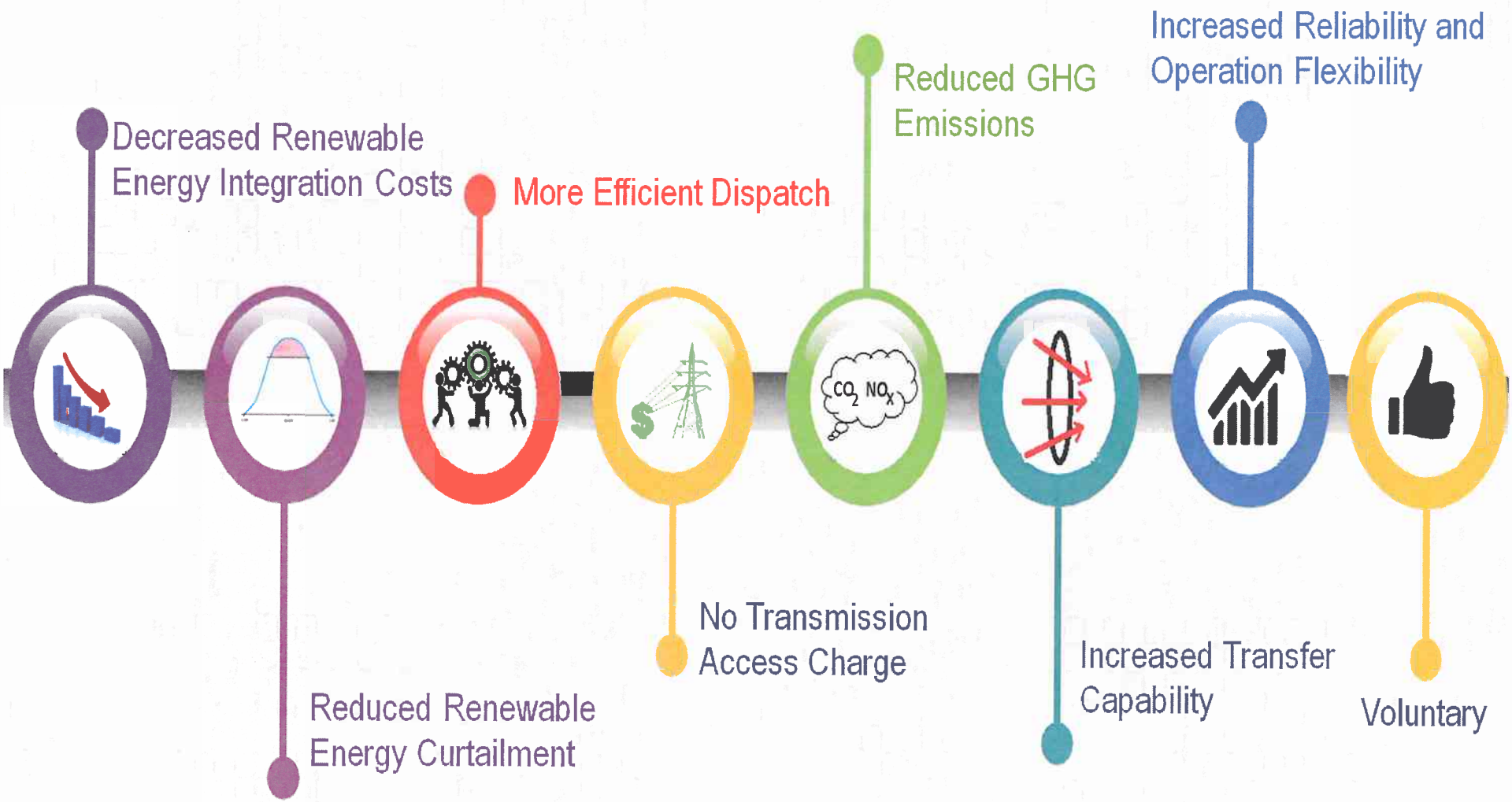
Two Main Transmission Lines



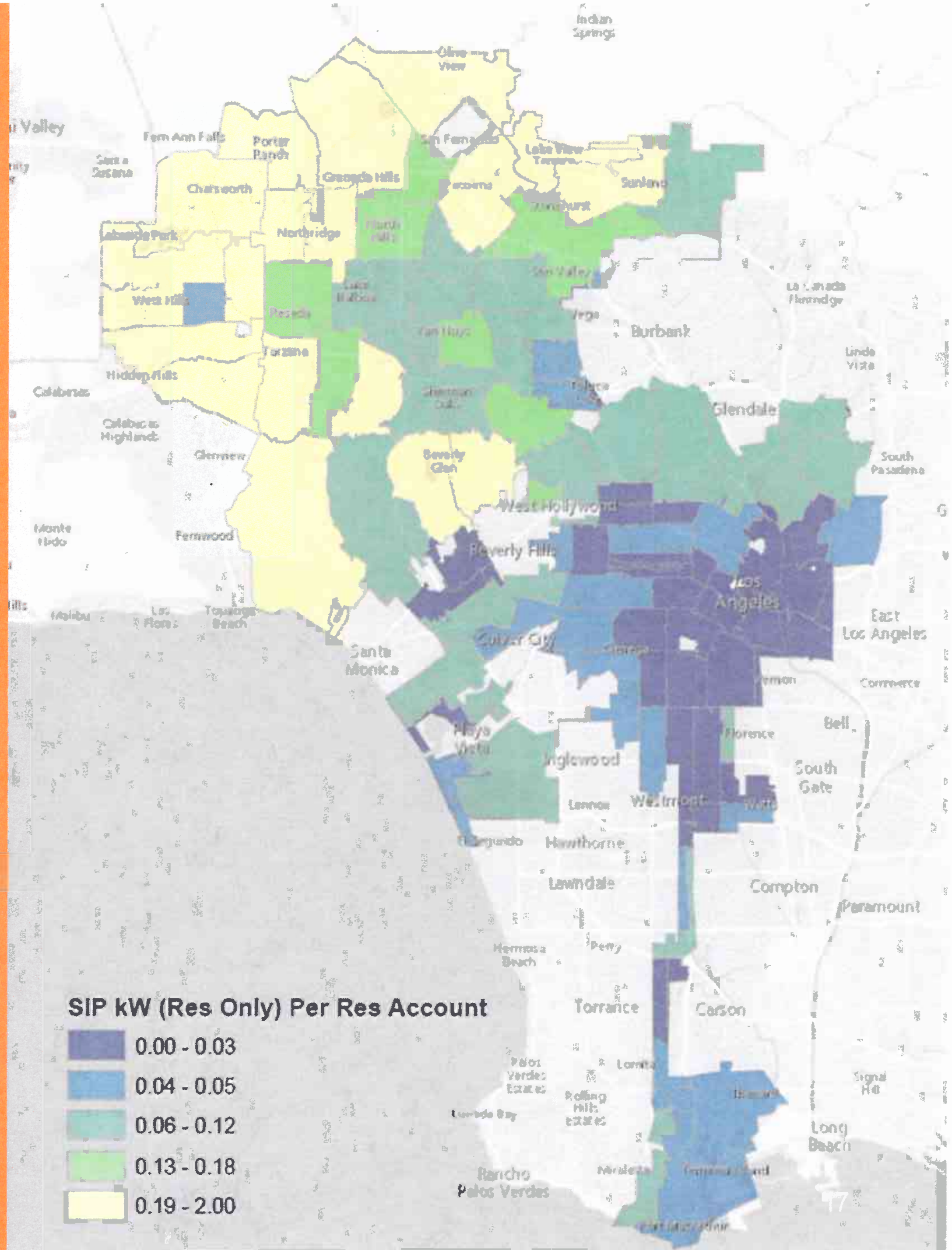
Renewable Interconnection Requests 2017-2037: 12,163 MW



EIM Benefits



Metrics: Geographic Solar Diversity



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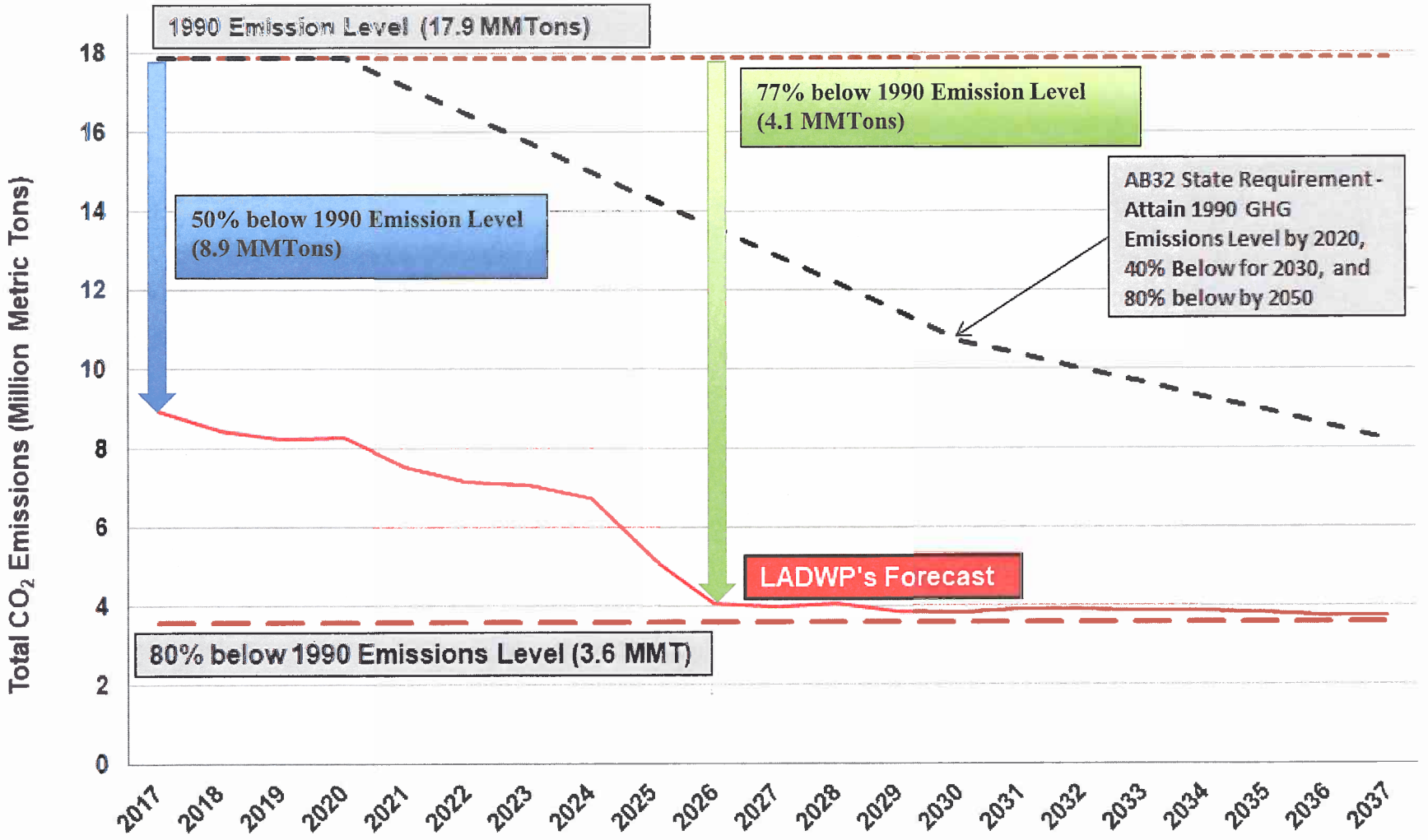
GREENHOUSE GAS EMISSIONS FORECAST

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CUSTOMERS FIRST

Energy Efficiency & Conservation

Energy demand reduction is key IRP component

Additional $100 Million budgeted over 5 years

Initially target low income renters in multifamily housing
Hard to reach customer segment
Improves equity

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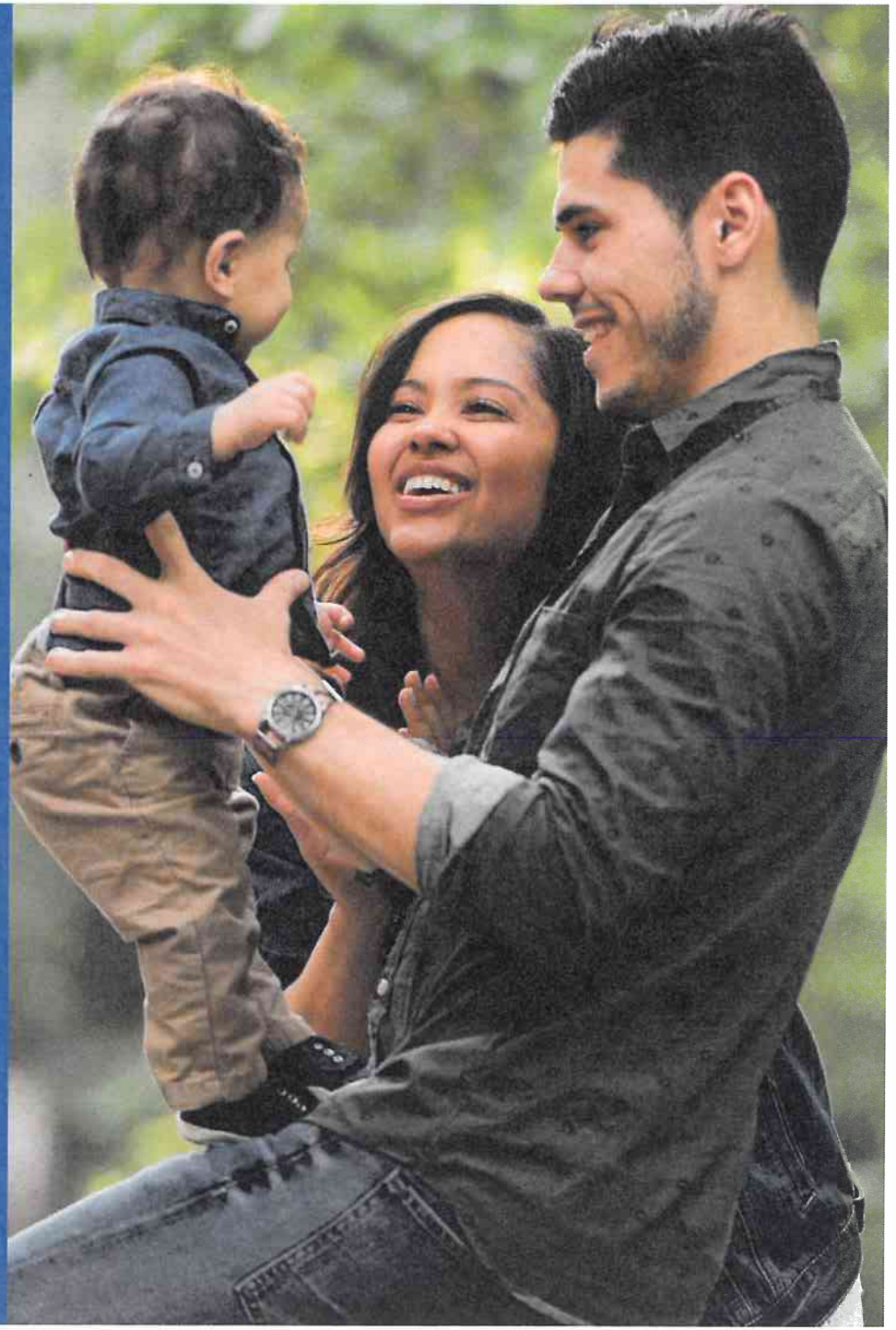

Energy Efficiency & Conservation

Insulation, Appliance Rebates, Light Bulbs

- Insulation rebates offer significant potential
- Construction before 1978 prioritized
- Greatest energy savings and GHG reductions
- Demand reduction helps all rate payers

Potential UPCT increased opportunities for local jobs