

## DOCKETED

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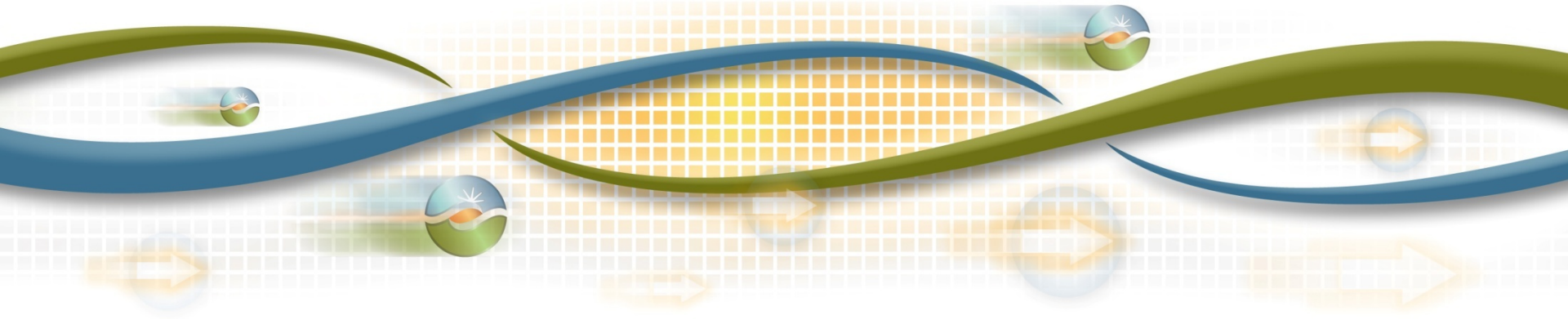


# 2017 IEPR Lead Commissioner Workshop Southern California Reliability

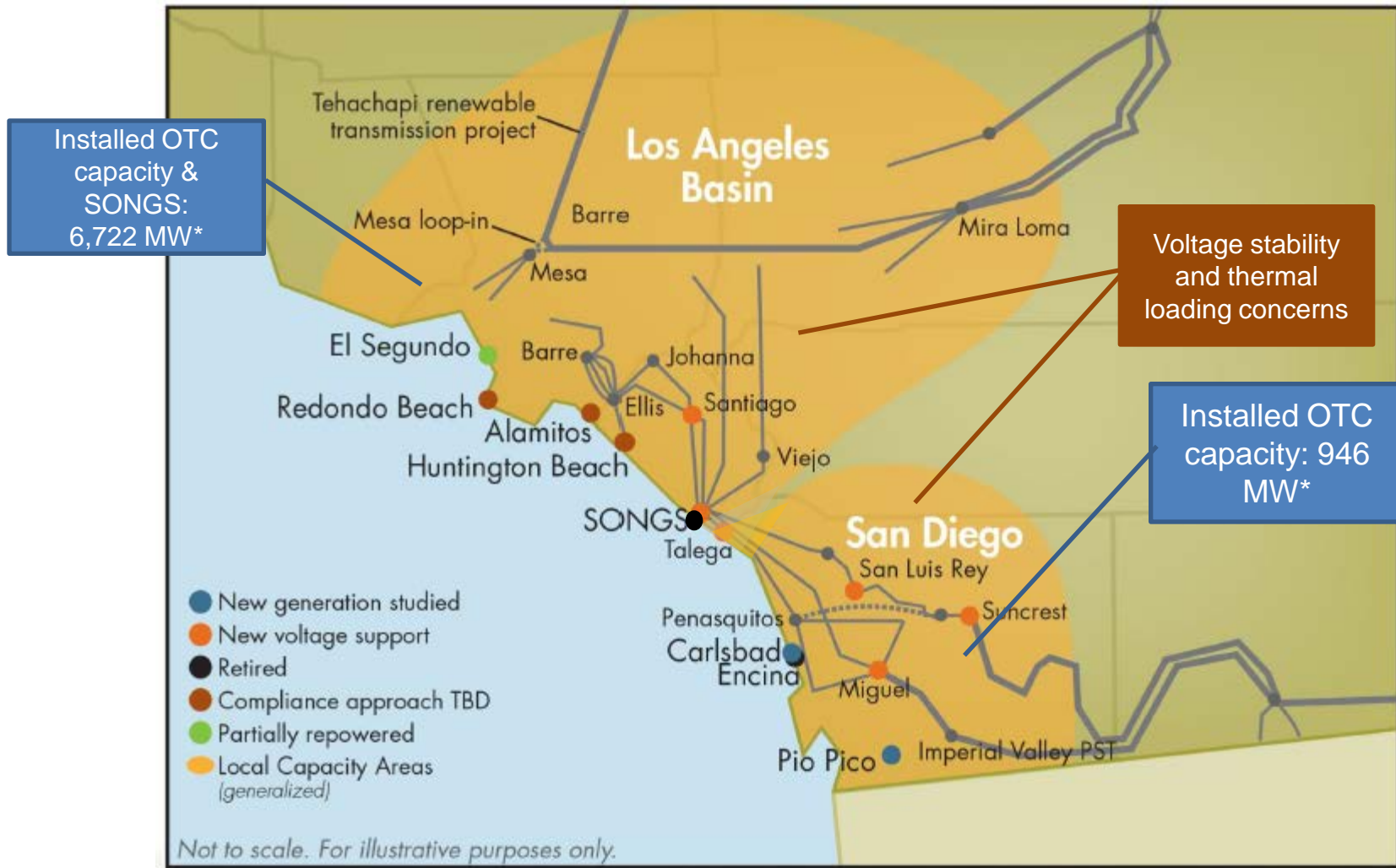
*California Energy Commission – Joint Agency Workshop,  
At South Coast Air Quality Management District  
Diamond Bar, CA  
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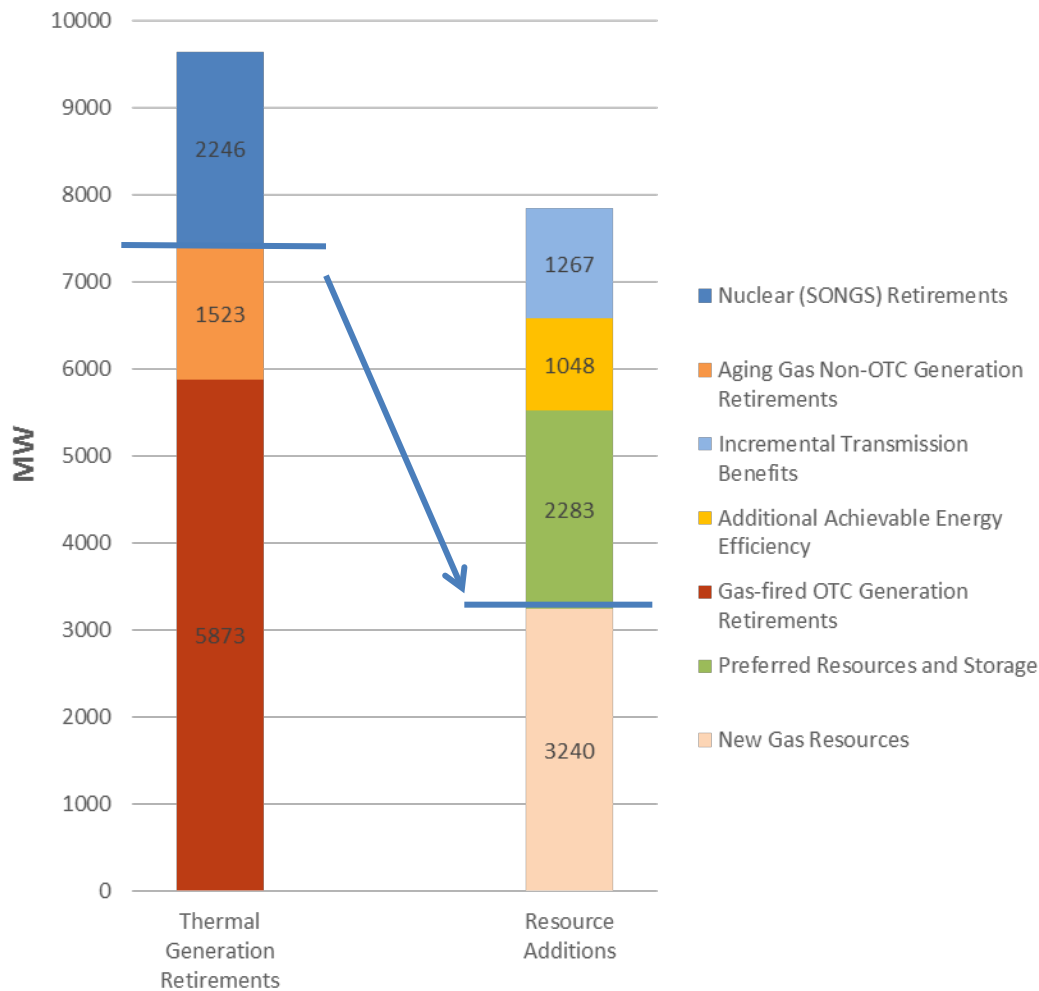
The reliability of the LA Basin and San Diego have been impacted by the SONGS closure, the scheduled retirement of once-through cooled resources, and most recently, gas supply concerns:



**Notes:**

\*Assumed retired in the long-term LCR studies; LA Basin figure includes SONGS retirement

# Less than half of the gas-fired generation retiring in the LA Basin / San Diego area is being replaced with new gas generation – despite retirement of 2246 MW of SONGS baseload generation.



2013 - 2022

## New Gas Generation (2013-2022)

Walnut Creek	500
El Segundo Energy Center	550
Western LA Basin - PPA-approved	1382
Track 1 SDG&E (Pico/Pico/Escondido)	308
Track 4 SDG&E - PPA-approved	500
<b>Total</b>	<b>3240</b>

## Gas Retirements (2011-2022)

Encina	946
El Segundo #3	335
El Segundo #4	335
Alamitos	2011
Huntington Beach	904
Redondo	1342
Etiwanda (long-term assumption)	640
Long Beach (long-term assumption)	260
Cabrillo Power II	188
Harbor Cogen (mothballed)	100
Inland Empire Unit #1 (mothballed)	335
<b>Total</b>	<b>7396</b>

## Nuclear Generation Retirement (2013)

San Onofre Generating Station	2246
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\* The 2017 net load forecast in the LA Basin and San Diego areas already relies on approximately 3857 MW of incremental energy efficiency from approved programs and standards.

## A number of resource and transmission projects are underway to address the concerns:

- Resource procurement:
  - LA Basin: 1,813 MW (energy efficiency, behind-the-meter PV, energy storage, demand response, conventional resources)
  - San Diego: 800 MW (conventional resources); SDG&E issued 140 MW RFO for preferred resources in 1Q 2016
- Dynamic Reactive Support – synchronous condensers
  - Talega – in service
  - Miguel – in service
  - San Luis Rey – June 2017
  - Santiago – December 2017
  - San Onofre – June 2018
  - Interim use of Huntington Beach units 3 & 4 synchronous condensers ending December 2017
- Other transmission projects
  - Imperial Valley phase-shifting Transformer – in service
  - Mesa 500 kV Loop-in – March 2022 (being reviewed)
  - Sycamore-Penasquitos 230 kV transmission line – June 2018

# The mitigations underway address a number of emerging system concerns:



# Overall, mitigation projects are proceeding, but some potential delays have created concern:

## – Carlsbad Energy Center

- The in-service date of the Carlsbad Energy Center is delayed due to prior legal challenges - new expected on-line date is Q4 2018
- In February 2017, SACCWIS recommended the SWRCB defer compliance date for Encina Units 2 – 5 until December 31, 2018 to maintain grid reliability – targeting hearing and adoption August 2017

## – Mesa 500 kV Loop-In Project

- Received CPUC approval for permit to construct in February 2017
- However, the risk adjusted schedule in-service date has moved from June 2021 to March 2022 – the schedule, phasing and mitigation options are being examined and reviewed in lieu of need for OTC compliance extensions
- If delayed beyond Q2 2021, Redondo Beach (or Alamitos generation) OTC compliance dates of December 31, 2020 may need to be extended.

## – Sycamore – Penasquitos 230 kV Line Project

- Received CPUC approval for permit to construct in October 2016
- The project currently has a June 2018 in-service date; options are being considered if the project is at risk of delay

## Next Steps

- The ISO is continuing to coordinate with the utilities and the state agencies to monitor the situation regarding:
  - Timing of Sycamore-Penasquitos
  - Timing of the Mesa Loop-in
  - Impacts on the availability and flow rates of the gas storage system
- Note that impacts of restrictions on Aliso Canyon utilization and other restrictions on the natural gas system are addressed in a subsequent presentation.