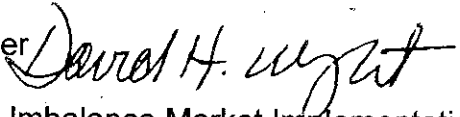


CITY OF LOS ANGELES
DEPARTMENT OF WATER AND POWER
INTRADEPARTMENTAL CORRESPONDENCE

Date: June 20, 2018

To: Board of Water and Power Commissioners

From: David H. Wright, General Manager 

Subject: Presentation – LADWP's Energy Imbalance Market Implementation Project Update for Board Meeting - July 24, 2018

For your review, please find attached the following PowerPoint presentation for the Board meeting on July 24, 2018:

Power System

- LADWP's Energy Imbalance Market Implementation Update Presentation

LADWP would like to update the Board on the progress of the Energy Imbalance Market implementation project including: market overview, participants, and benefits. LADWP has committed to join the California Independent System Operator's Energy Imbalance Market, has conducted a gap analysis, and evaluated its readiness to enter this new market.

If you have any questions, please contact me at (213) 367-1338.

Attachment



Energy Imbalance Market

Board of Water and Power
Commissioners Update Presentation

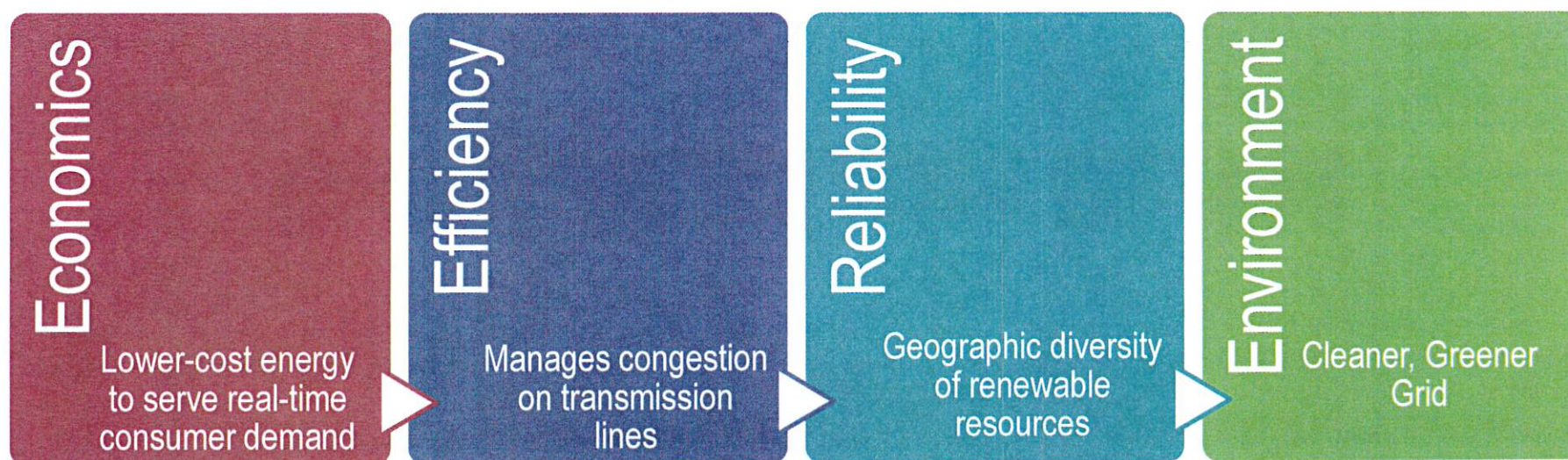
July 24, 2018

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Energy Imbalance Market (EIM)

The California Independent System Operator's (CAISO) Energy Imbalance Market (EIM) is a real-time wholesale energy trading market that enables participants in the western states to buy and sell energy.

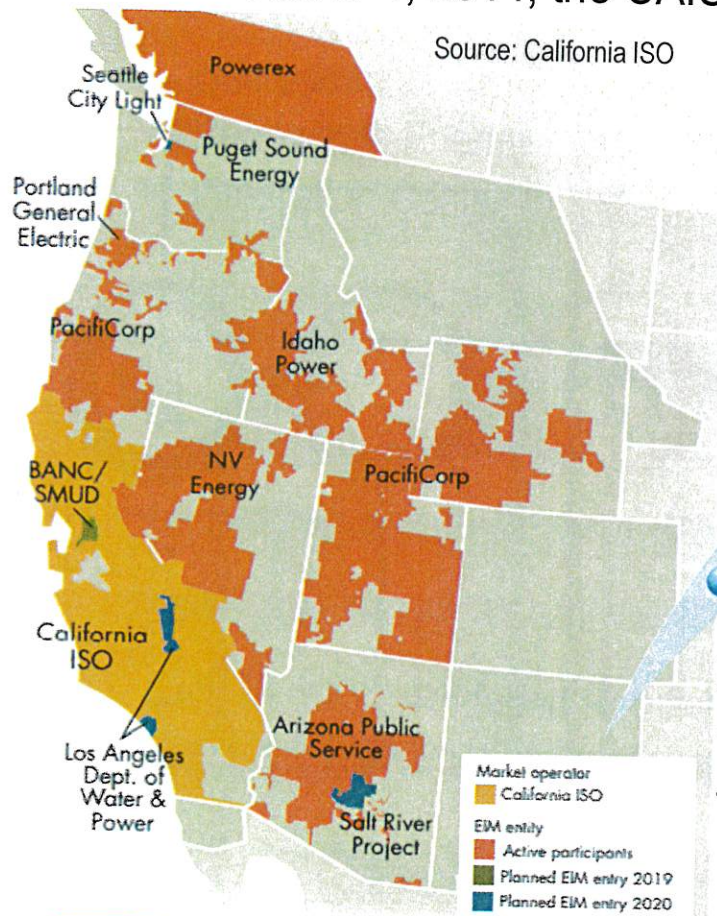
EIM provides improvements in the following areas:



EIM Participants Go-Live Dates

On November 1, 2014, the CAISO activated the Energy Imbalance Market.

Source: California ISO



2014-2015

-PacifiCorp
-NV Energy

2016

-Arizona Public Service
-Puget Sound Energy

2017

-Portland General Electric
-Idaho Power Company

2018

-Powerex
-Idaho Power Company

2019

-Balancing Authority of Northern California/ SMUD

2020

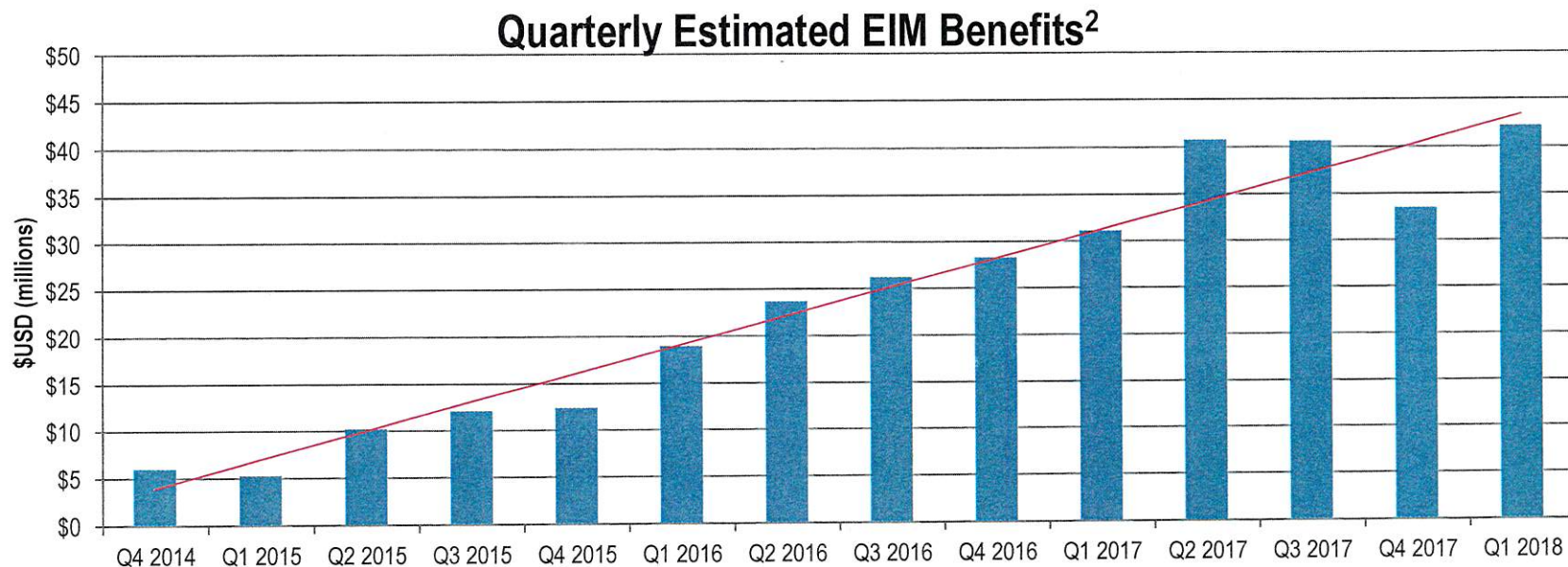
-LADWP
-Salt River Project
-Seattle City Light



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EIM Economic Benefits

- The total estimated gross benefits for EIM entities since 2014 inception is reported as \$330 million through March 2018
- Expect increasing benefits with more participants
- LADWP may receive a net benefit of \$12M per year¹



LADWP Milestones

✓ 2016	Preliminary Studies and Scoping	Completed
✓ 03/21/17	Implementation Agreement	Board Approved
✓ 05/17/17	Implementation Agreement	Council Approved
✓ 07/21/17	Implementation Agreement-Filed	CAISO Approved
✓ 10/01/17	Implementation Agreement-Effective	FERC Approved
✓ 12/31/17	Gap Analysis	Completed
05/30/18	System Requirements	Target End
05/01/18	Implementation	Started
08/28/19	IT System Testing/Commissioning	Target Start

04/01/20 EIM Go-Live target date 4/1/2020*

* Note: EIM Implementation Agreement approved with Go-Live target date of 4/1/2019



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Gap Analysis Findings

Gap Analysis conducted July 2017 through end of December 2017.

- Analysis Identified the following constraints:
 1. Metering Readiness (Assessment, Testing and Replacement)
 2. Procurement and Vendor Software Development (21 months)
 3. Staff Readiness (e.g. Load Dispatchers training program 18 months)
 4. Open Access Transmission Tariff (24 months)
 5. CAISO testing phases to start September 2018 (9 months from Gap Analysis)

In conclusion, the 2019 Go-Live date is not obtainable; the 2020 date is a reasonable, but aggressive Go-Live date that LADWP is working towards for EIM Implementation.

Note: CAISO allows for once a year inclusion into the EIM market (April of each year).

Next Steps

- Finalize critical system software requirements for procurement
- Complete metering devices sample testing
- Obtain CAISO approval of metering test plan
- Establish Local Regulatory Authority (LRA) with CAISO
- Hire and train EIM staff

Questions?

