

WESTERN ENERGY IMBALANCE MARKET

Briefing on supply conditions

Mark Rothleder

VP, Market Quality & Renewable Integration

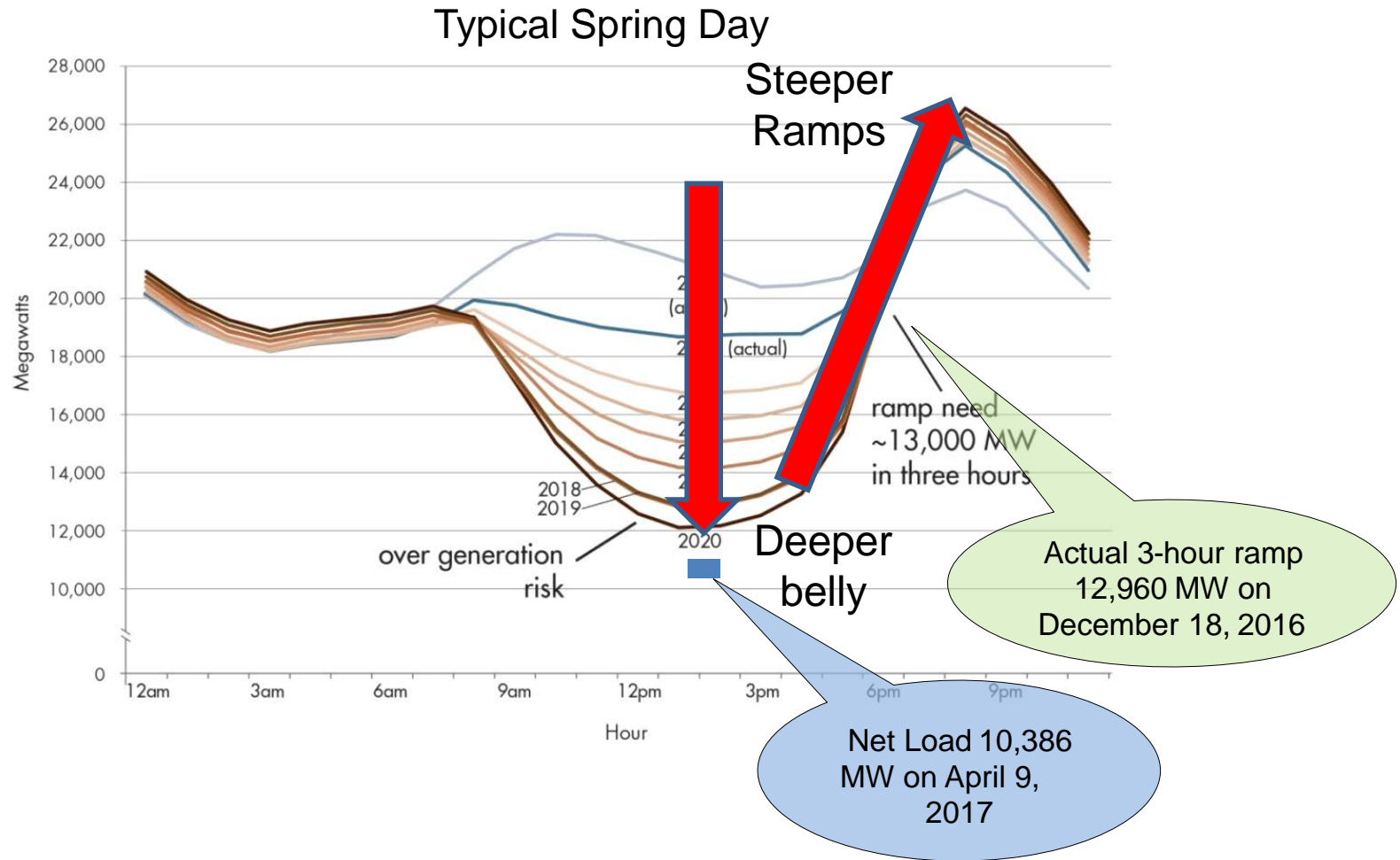
EIM Governing Body Meeting

General Session

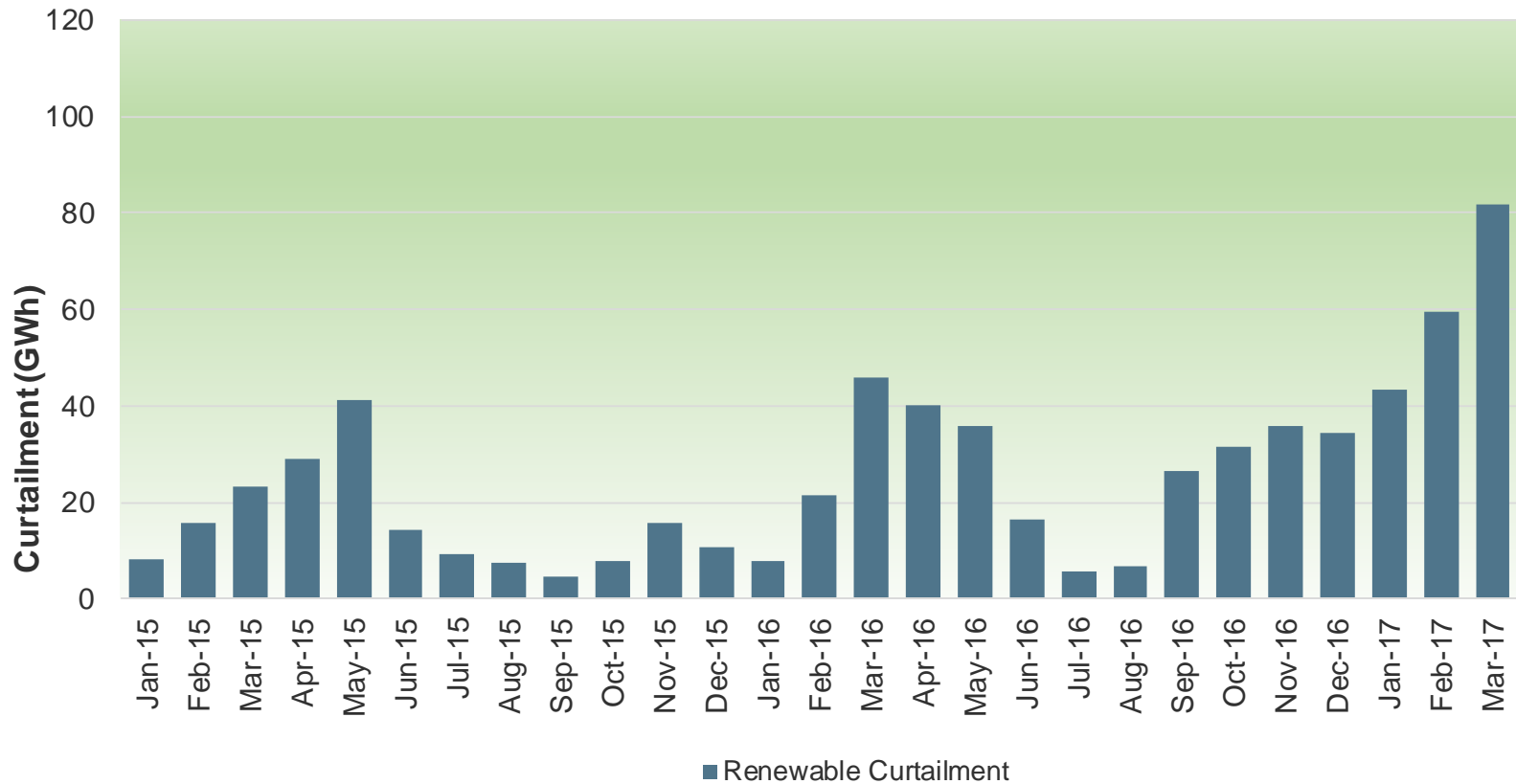
April 19, 2017



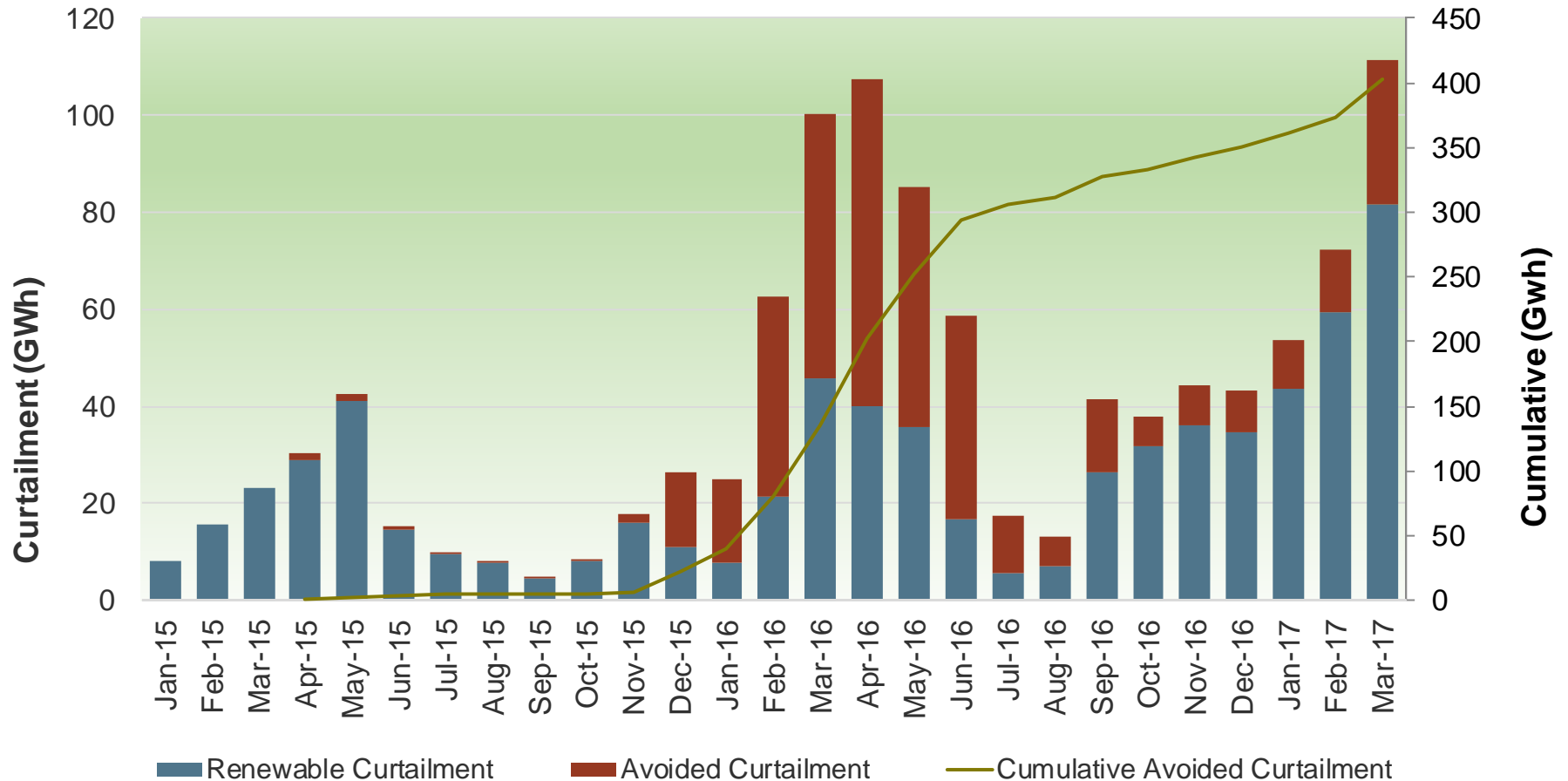
Actual net-load and 3-hour ramps are approximately 4 years ahead of the original estimate



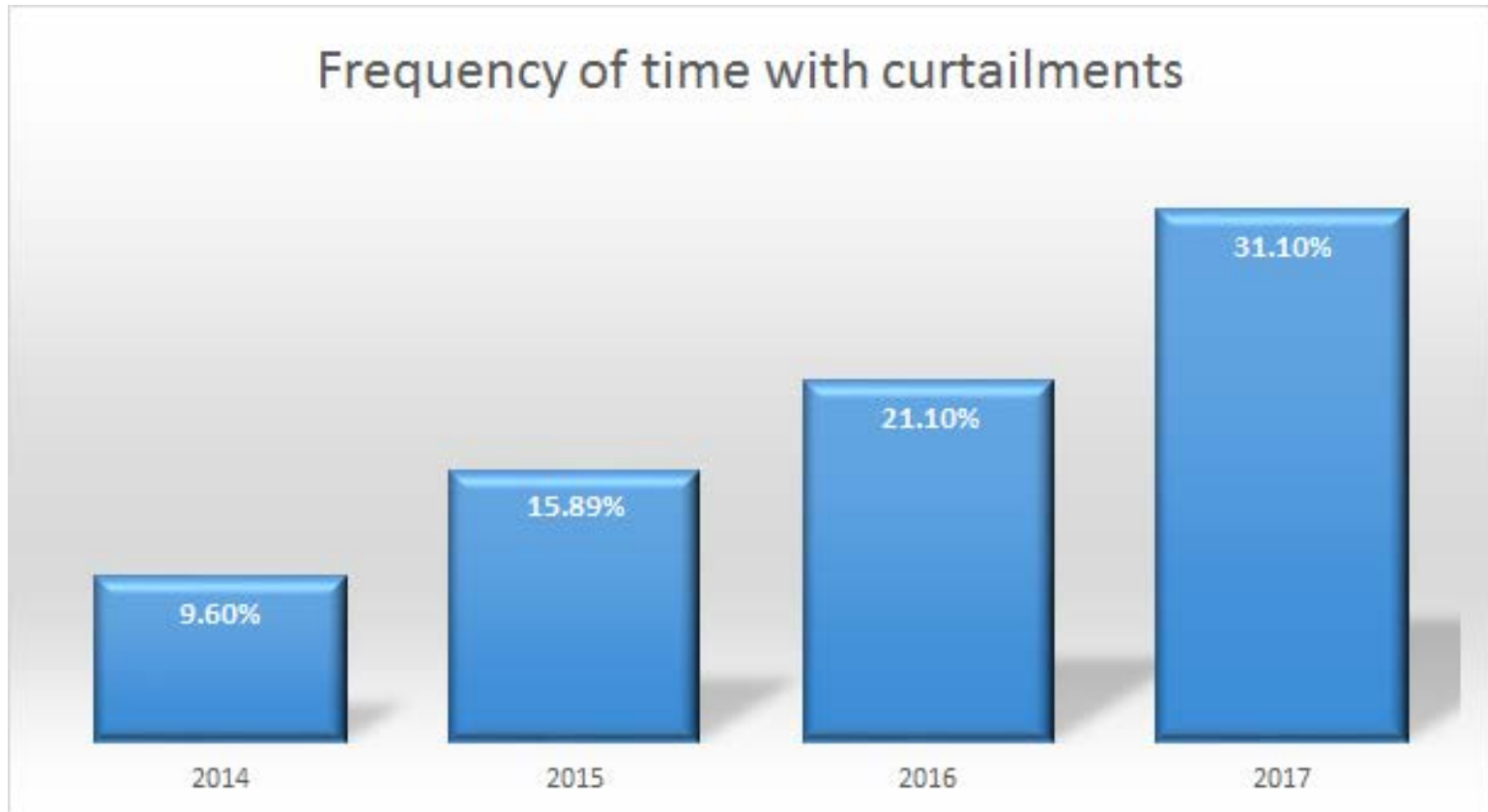
Volume of curtailment increasing



Energy Imbalance Market helps avoid curtailment

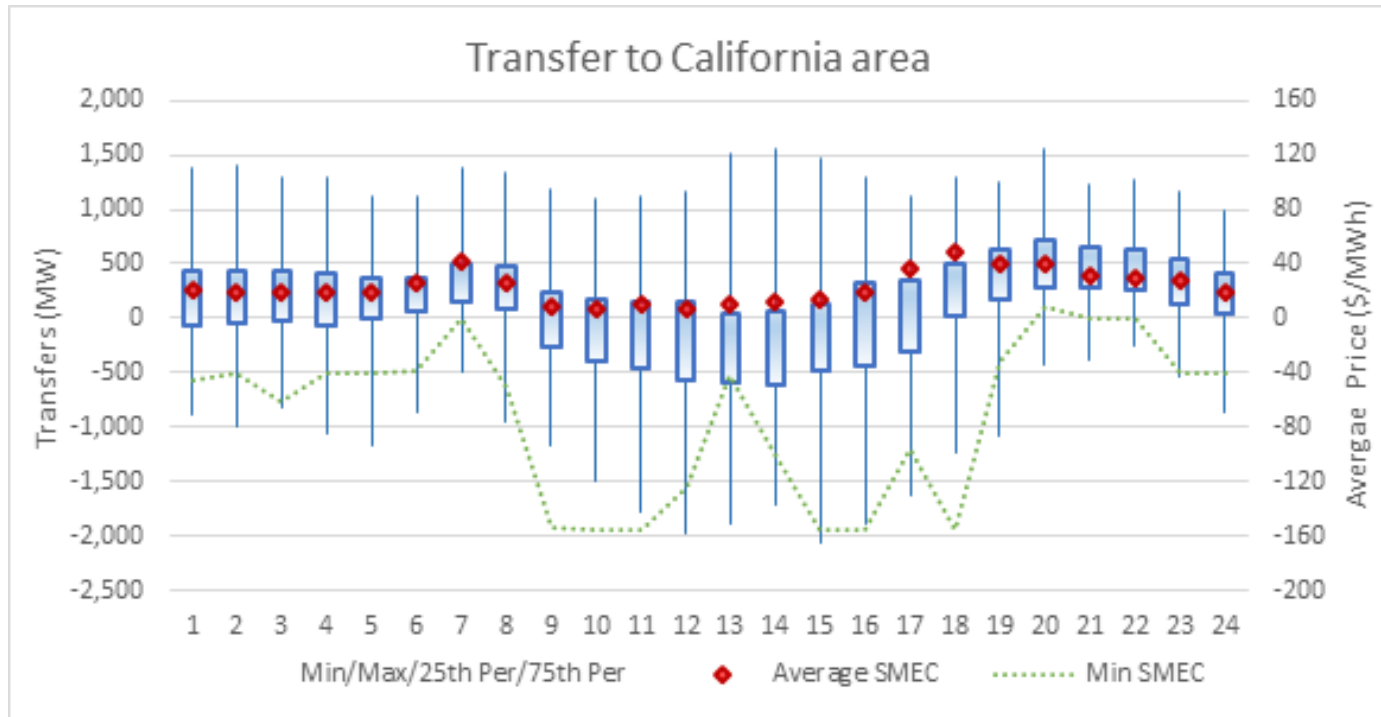


Frequency of curtailment

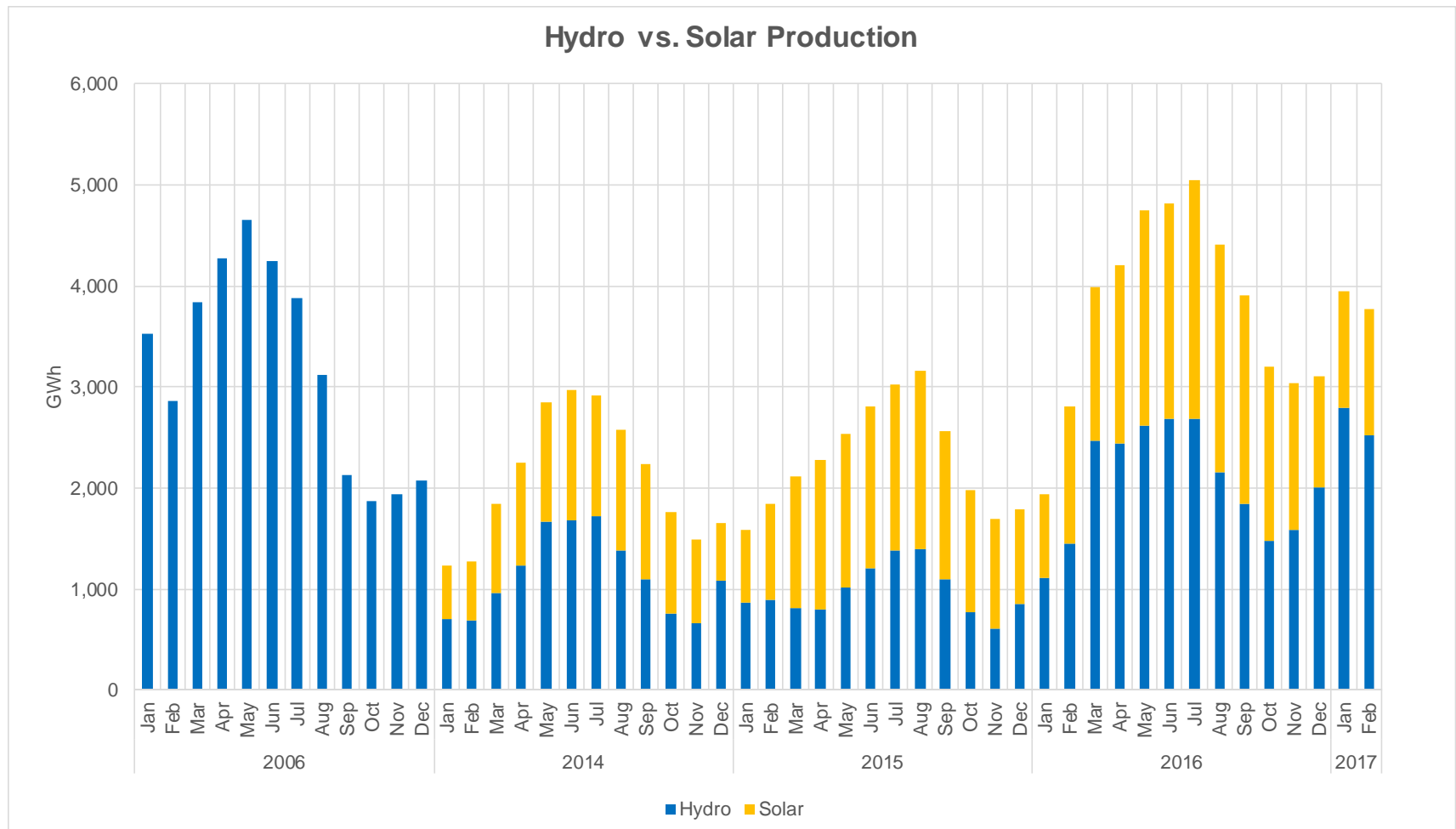


% of real-time intervals with curtailment

When oversupply conditions exist, prices fall facilitating transfer out of California

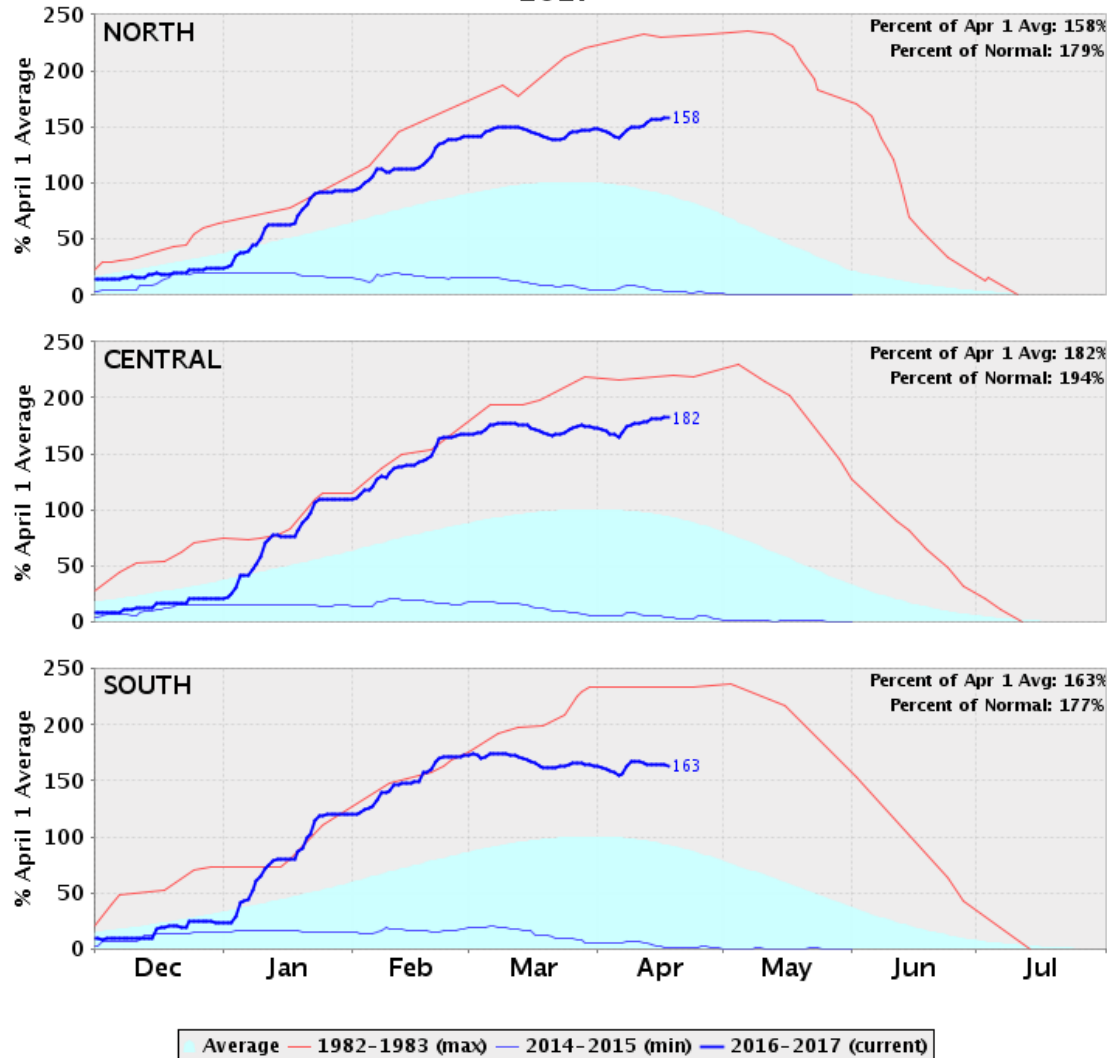


Solar production complemented the hydro production during the drought years as compared to 2006, which was a high hydro year



2016/2017 hydro conditions are higher than normal

California Snow Water Content - Percent of April 1 Average For: 18-Apr-2017



The ISO has started to forecast and communicate expectation of oversupply conditions to inform market

“Market Participant Heads-Up

During Mid-day on Trade Date 3/30/2017, the ISO is forecasting over-supply conditions due to mild temperatures, sunny conditions, above average winds and increased hydro run-off. To the extent the market dispatch is unable to fully mitigate the over-supply and maintain the power balance, the ISO Operators will invoke the Overgeneration Operating Procedure 2390 in Real Time.”

QUESTIONS / DISCUSSION