



# 1<sup>st</sup> Quarter Energy Market Results

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# Summary

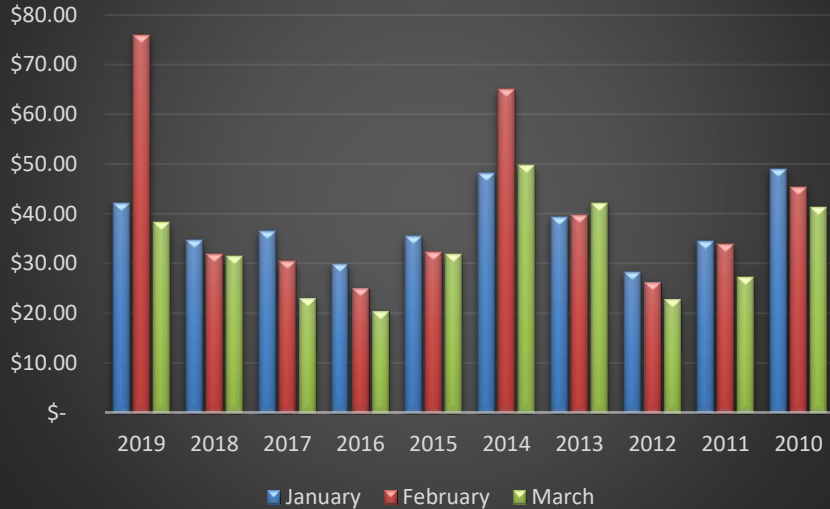
- Brief overview on CAISO energy purchases and hedging
- Historical Range of Costs – demonstrate potential volatility
- Risk Management Guideline Hedge Matrix and Targets
- Effective Coverage Ratios
- Power Costs Results

# Overview of Energy Hedging

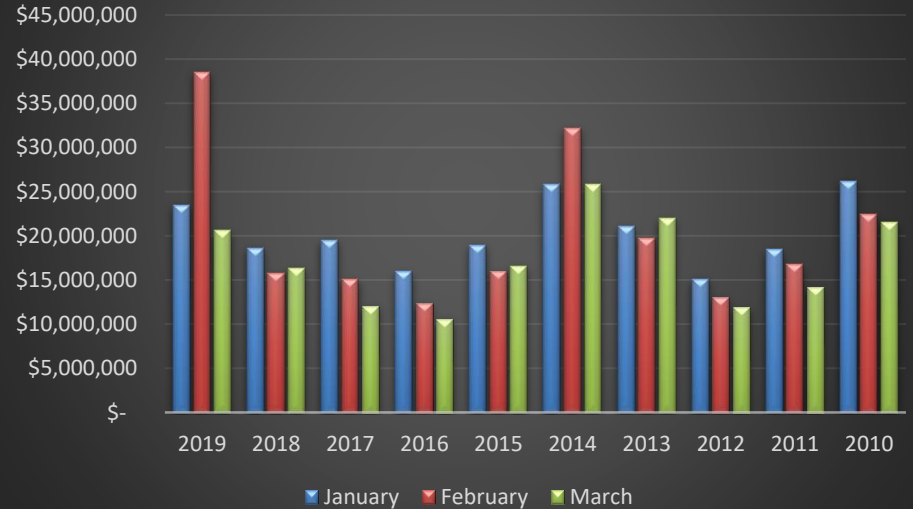
- Start with a load forecast based on historical usage patterns to determine demand for the period under consideration
- Two main purchase options: Pre-pay vs. Spot Market (Day Ahead/Real time)
- Buy power from another entity with a defined volume, delivery period, and profile at a fixed price. For example *100mw for January, February, March between 6am and 10pm @\$30/MWh* – give up potential of lower costs for certainty, standard energy product profile doesn't match exactly with demand, general “insurance” premium built in
- Pay for each hour's demand at the published CAISO clearing price in the Day-Ahead and Real-time spot markets – more volatility, uncertainty, minimal credit issues

# Range of Potential 1<sup>st</sup> Quarter Spot Market Costs Based on Historical Prices

## Average Monthly Spot Market Costs/MWh by Year

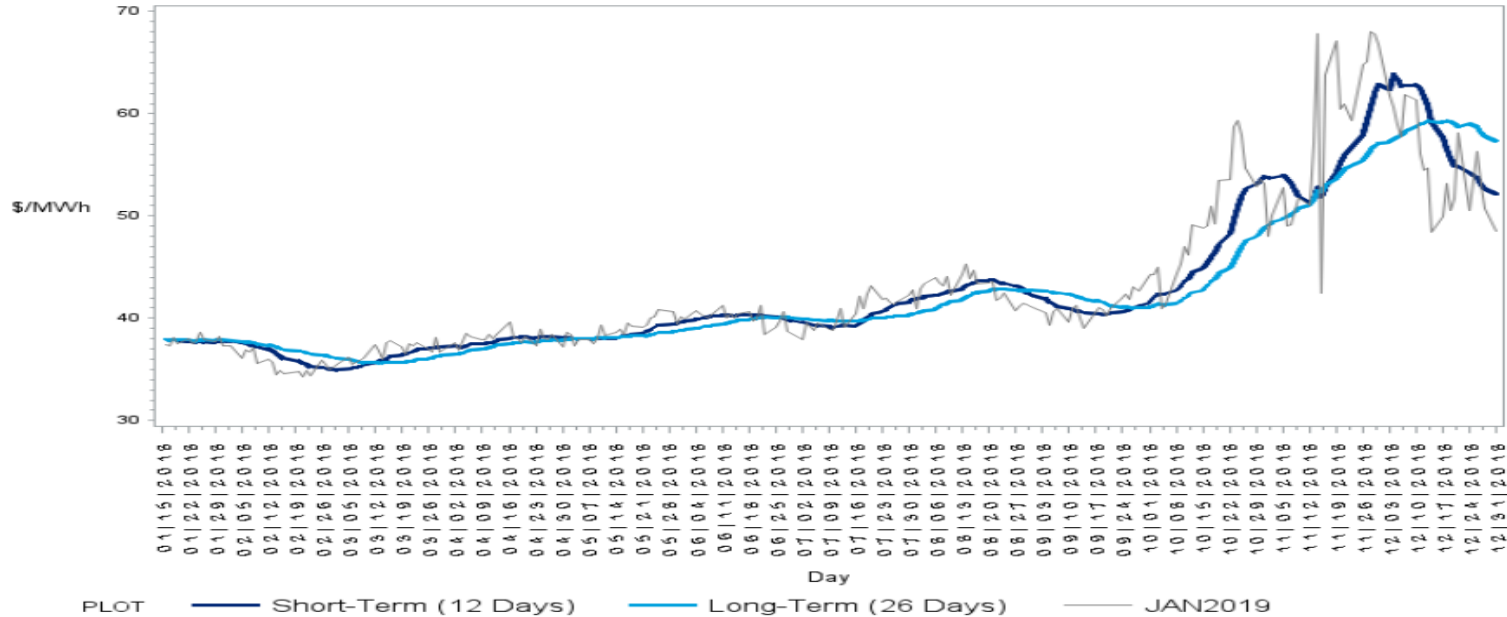


## Historical Monthly Spot Market Costs by Year



# Historical Pricing for January '19 Prior to Actual Deliveries

Chart 1: Fwd. NP15 January 2019



PLOT — Short-Term (12 Days) — Long-Term (26 Days) — JAN2019

# Risk Management Guideline Matrix

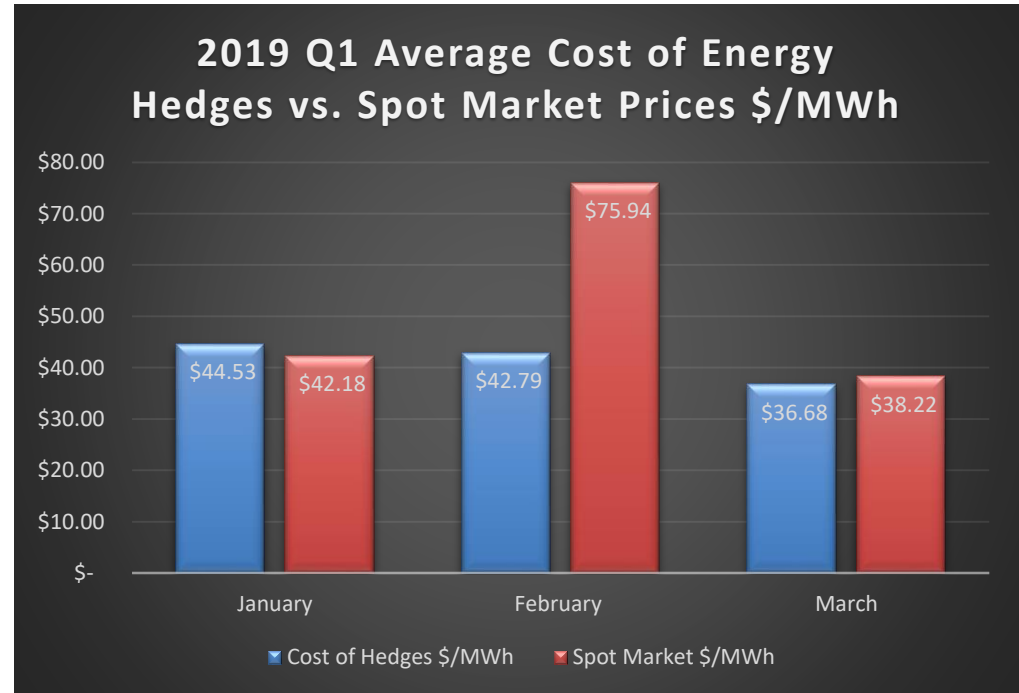
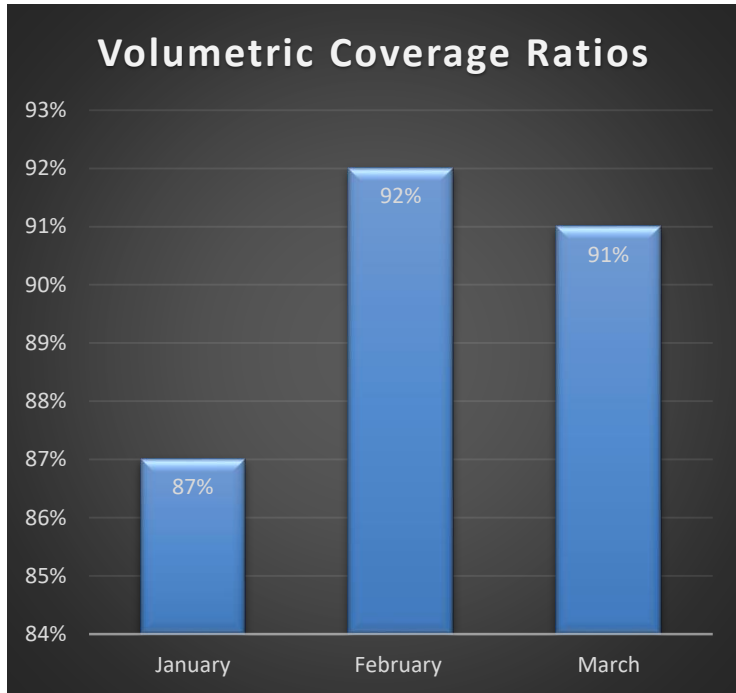
## APPENDIX 9

### Recommended Coverage

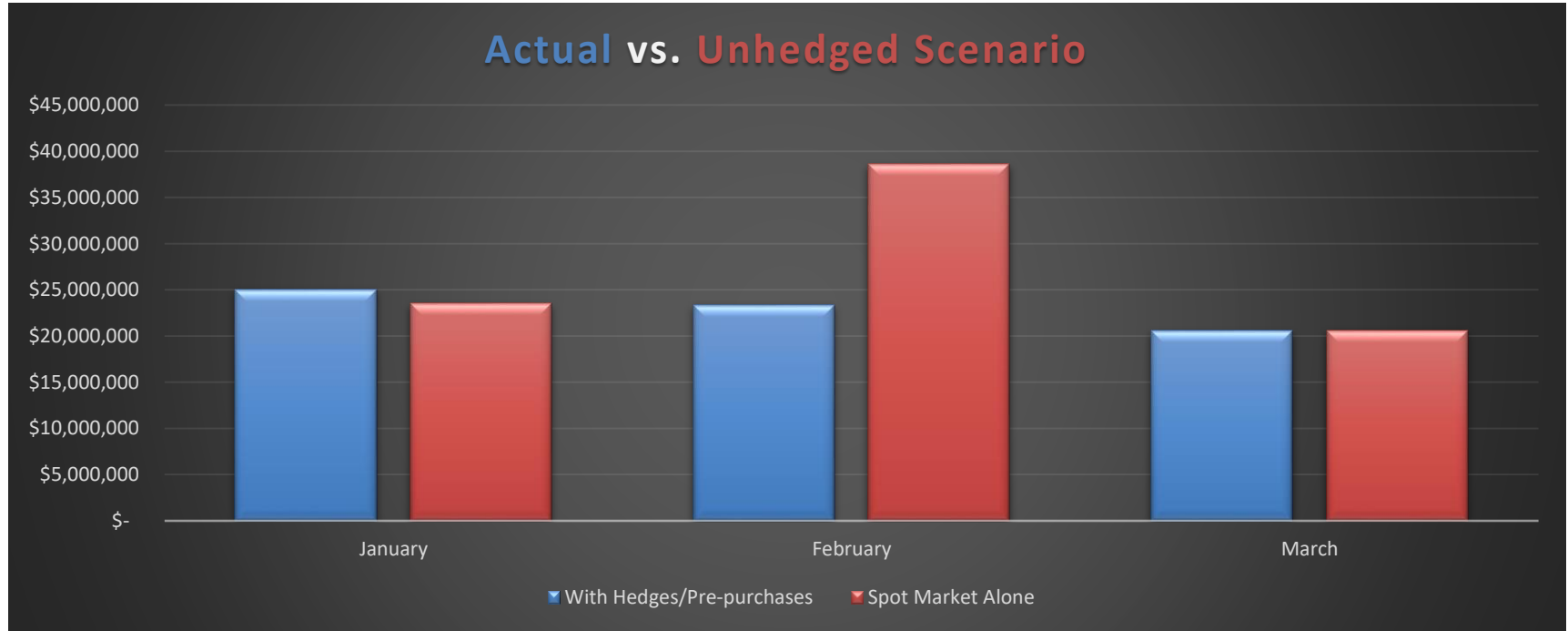
The following Time-Price Coverage Matrix will be used as a guide for EBCE’s short term and long term procurement strategies. The objective of the Time-Price Coverage Matrix is to develop a procurement strategy focused on hedging against the risk of open load positions, as measured over time, and to mitigate EBCE’s exposure to market price volatility and other pricing risk. EBCE will strive to further develop this matrix based on (1) EBCE’s wholesale price risk and (2) appropriate limits for these risks. The actual covered positions taken by EBCE, reflected as a percentage of forecasted load, may deviate from the following Time-Price Coverage Matrix based upon EBCE’s staff evaluation of current market conditions and other applicable requirements (e.g., regulatory requirements).

Months to Delivery		Price Matrix Percentile						
		>60%	60%	50%	40%	25%	10%	<10%
		Covered Position as a % of Forecasted Load						
0+	3	80%	80%	85%	85%	90%	90%	100%
3+	6	70%	70%	75%	80%	80%	90%	100%
6+	9	70%	70%	75%	80%	80%	80%	90%
9+	12	60%	60%	70%	80%	80%	80%	90%
12+		60%	60%	70%	80%	80%	80%	90%

# Coverage Ratios for Q1 2019



# 2019 1<sup>st</sup> Quarter Results





# Questions?