

Northwest Hydroelectric Association Annual Conference

System Integration Panel

Michael L. Jones

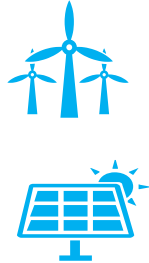
February 21, 2018



Together, Building
a Better California

Drivers of Change

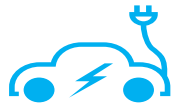
Environmental leadership policies



SB 32

SB 350

Cap and Trade



Rapidly advancing technology

Rooftop Solar

15¢ / kWh

Tesla Model 3

\$25,000*

Lithium-ion Prices

-73% in 6 Yrs.

Increasing customer choice and engagement



3,200 MW

Customer Solar

140,000

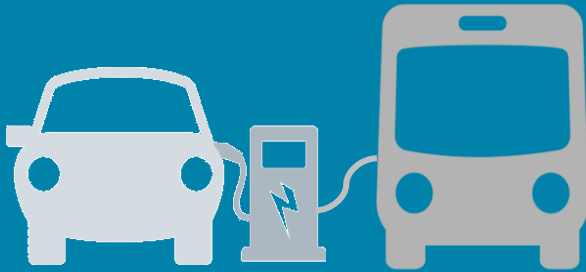
Electric Vehicles

21%

CCA Customers

*With state and federal rebates

Clean transportation includes multiple fuels across vehicle class size



Electric Vehicles



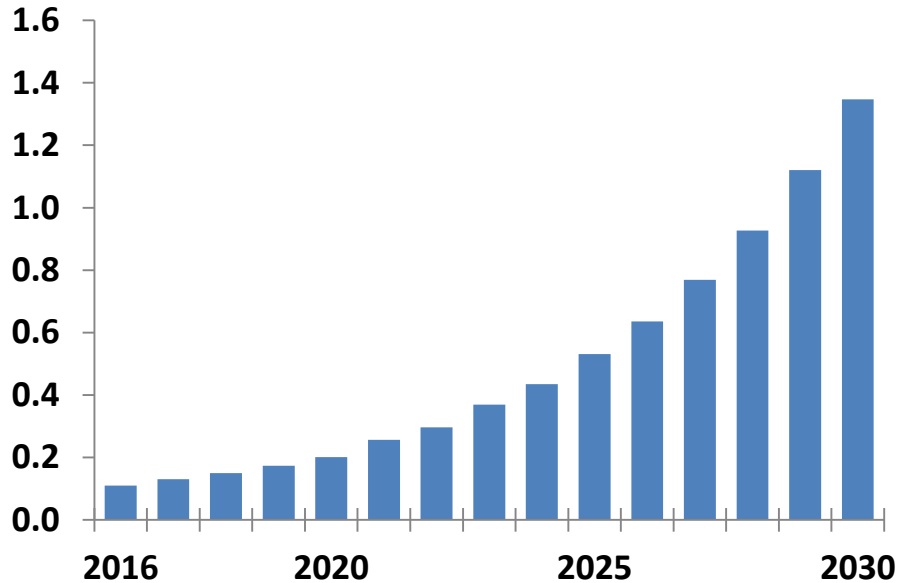
Compressed Natural Gas and Renewable Natural Gas Vehicles



Hydrogen Vehicles

Electric Vehicle Forecast (millions)

■ PG&E's share of California Clean Vehicle target



EV Adoption Implications

EV adoption is expected to:



Promote CA Energy Goals



Generate load growth



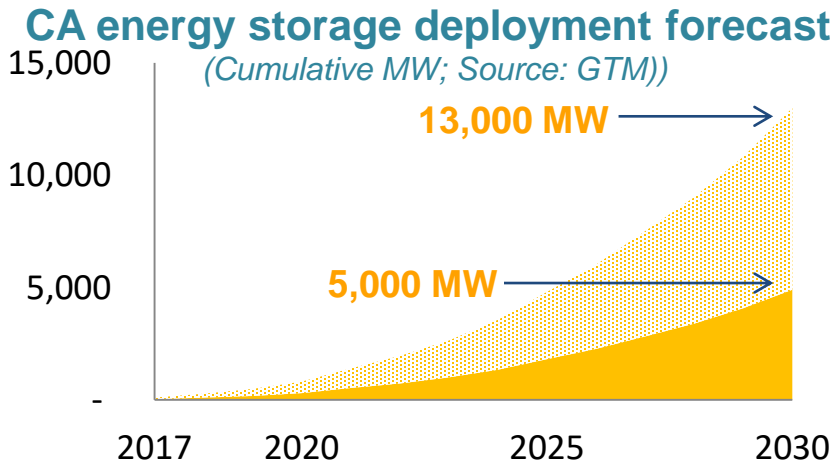
Drive infrastructure investments



Put downward pressure on rates

Trends

Lithium-ion storage prices are falling



Battery Storage market is still in early stages of maturity.

Estimates of need for storage over the next decade range significantly

Pumped Storage Opportunities?

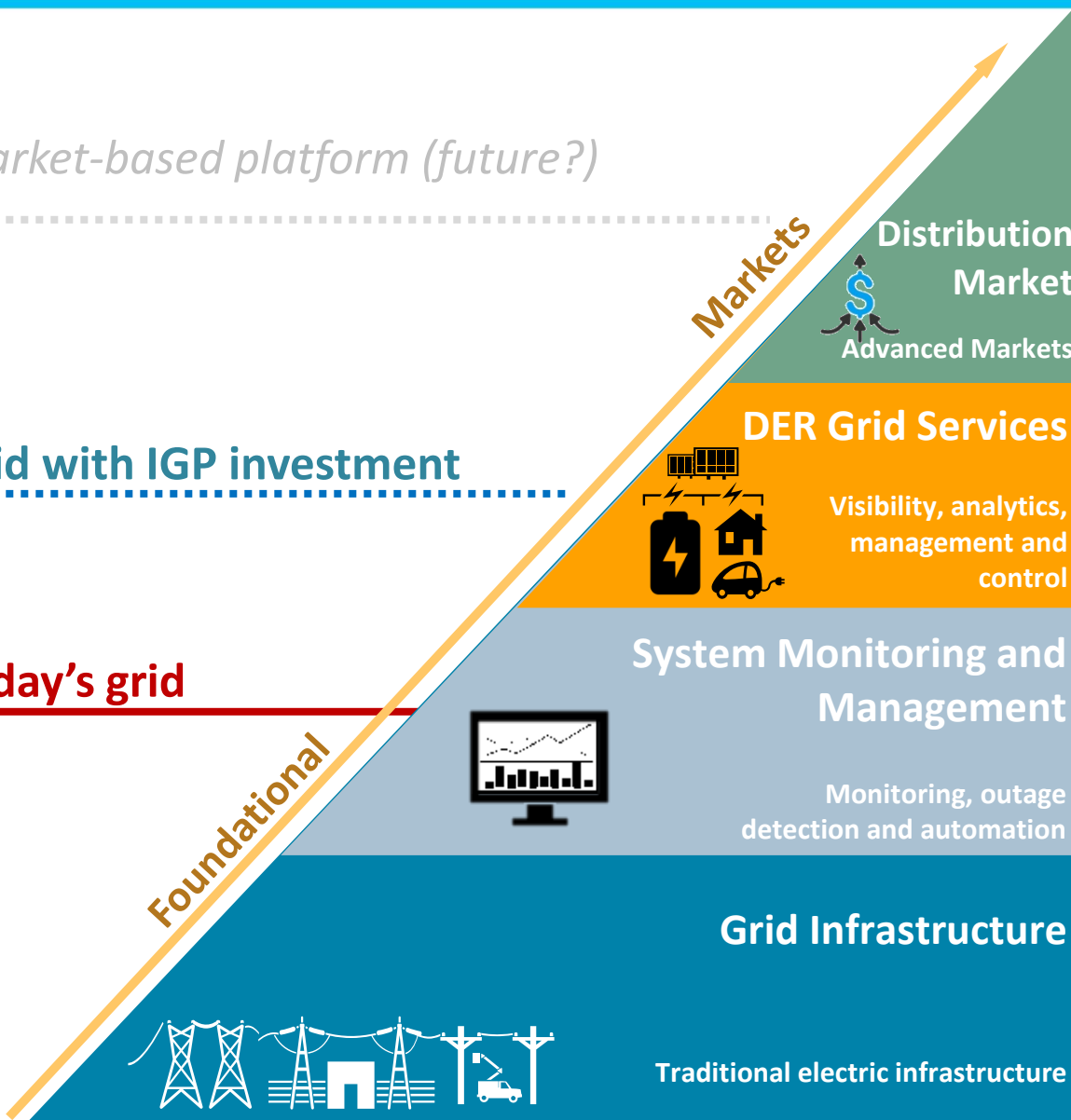


PG&E is investing in the grid as a platform to enable decarbonization through new distributed technologies

Market-based platform (future?)

Grid with IGP investment

Today's grid



If this is the future in California, what role can you play?

