

Unprecedented Challenges: Municipal/Customer Response

Randy S. Howard May, 2019



How to survive an Anaconda Attack





Challenges in the California Electric Utility Sector

Increased emphasis on customer choice changes

- Distributed energy resources
- Technological changes

Legislative interest in procurement mandates

- Biomass, geothermal, rooftop solar, battery and pumped storage
- Central procurement/Backstop Procurement

Climate change and wildfires

- Weather extremes
- New operational, financial, and social risks

Decarbonization

- Changing resources
- Electrify everything



How do you keep your head when everyone else is losing theirs?

- Stay focused under fire
- Look at the incremental success

Purposeful collaboration





Stay focused under fire

Protecting our municipal identity and purpose

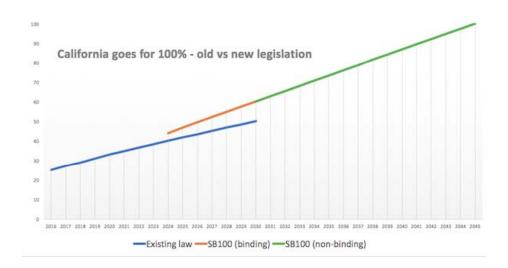
"Critics are on one side of us and the crowd is on the other pulling us apart"

"We seem to have a disease to please"



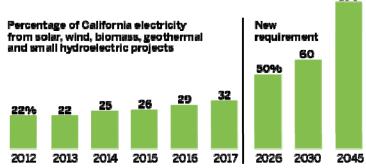
RPS Requirements

- SB 350
 - RPS Targets
 - 33% by 2020
 - 40% by 2024
 - 45% by 2027
 - 50% by 2030
 - Long-Term Contracts
 - 65% of 10 years
- SB 100
 - RPS Targets Increased
 - 33% by 2020
 - 44% by 2024
 - 52% by 2027
 - 60% by 2030
 - Carbon Free by 2045



RENEWABLE ENERGY GROWTH IN CALIFORNIA

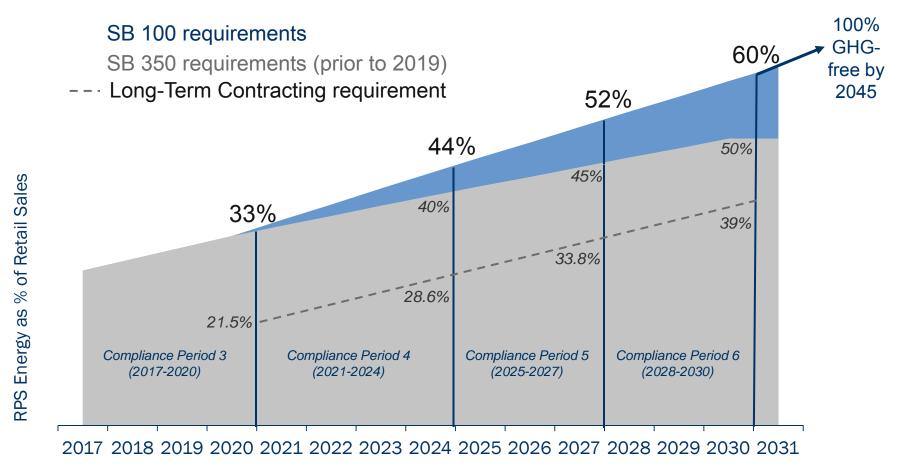
California receives 32 percent of its electricity from solar, wind and other renewable sources. A new law signed Monday by Gov. Jerry Brown requires an increase to 100 percent by 2045.



³⁴Non-carbon* sources like nuclear and large clams also can provide up to 40 percent. Source: California Energy Commission



State RPS Procurement % Requirements



*Beginning in 2021, 65% of RPS requirements must be procured from contracts ≥ 10 years



Hotdog Eating Champion – Joey Chestnut





Stay focused under fire - protect the Big Three:

- Support the Customer
- Invest in the Long-term
- Ensure Reliability and Resiliency of the Grid



Support the Customer

- Rates and Costs Matter
 - Low income, lifeline, economic development
- Safety Measures Matter
 - Wildfire and disaster mitigation plans
- Outages Matter
 - Invest in infrastructure
 - Prepare for the contingencies



Invest in the Long-term

- Integrated Resource Plans Matter
 - Project ownership, DER, economic development
 - Electrification
- Asset Management Plans Matter
 - Levelize costs, preventive replacement, efficiency
- Environmental Sustainability Plans Matter
 - Technology
 - Drive future growth and contingencies

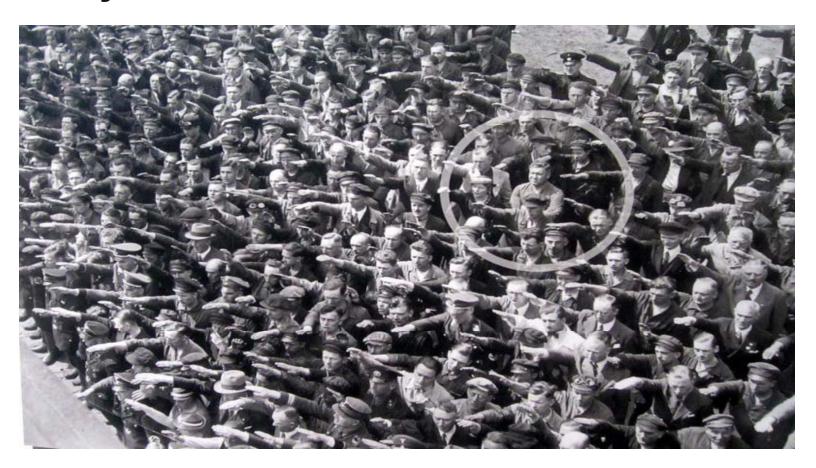


Ensure Reliability and Resiliency of the Grid

- Procuring Diverse Resources to Match Load Matters
 - Diversity of technology and location
 - Electrificatiation
- Improving Load Factor/Utilization Matters
 - Energy Efficiency, Demand Response
- Backbone Grid Design Matters
 - Technology/DER
 - Drives future growth and contingencies



Stay focused and not follow the crowd





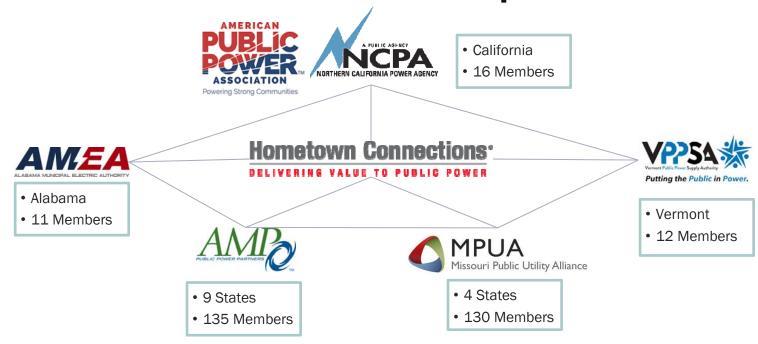
Purposeful Collaboration

- Joint Development
 - Partner in long-term needs
 - Energy/Resource Adequacy
 - RPS
 - GHG-Free
 - Transmission
- Joint Procurement Opportunities
 - Increased buying power
 - Increased offerings
 - Alignment in standards





Hometown Connections Ownership





NORTHERN CALIFORNIA POWER AGENCY

Advanced Metering Program



Cyber & Physical Security Consulting



Utility Mobile Workforce Solutions



Analytics





ENGINEERING & OPERATIONS

From the meter, through the substation and to the control room, new information and technology must work together to deliver optimal performance.



Smart Grid Software (Transmission & Distribution Modeling/Analytics, Outage Management, GIS Mapping Technology & Field Engineering)





CUSTOMER CONNECTIONS

Customers today expect access to good information on demand, 24/7, with the ability to speak with a live voice when needed.



Customer Engagement / Energy Analysis



Customer Information Solutions (CIS)

Hometown Connections^{*}

DELIVERING VALUE TO PUBLIC POWER

Customer Information Solutions (CIS)



Unified Operational Data Management & Data Analytics





BUSINESS & FINANCE

Effective business planning and financial system design serve as the critical underpinning to all utility projects, programs, and services.













Services





SYSTEM IMPROVEMENT

Hometown Connections serves as a unique catalyst for the exchange of information on what works best for public power utilities of every size.





Consulting

Cyber & Physical



Energy Workforce Solutions



Questions / Comments

