



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

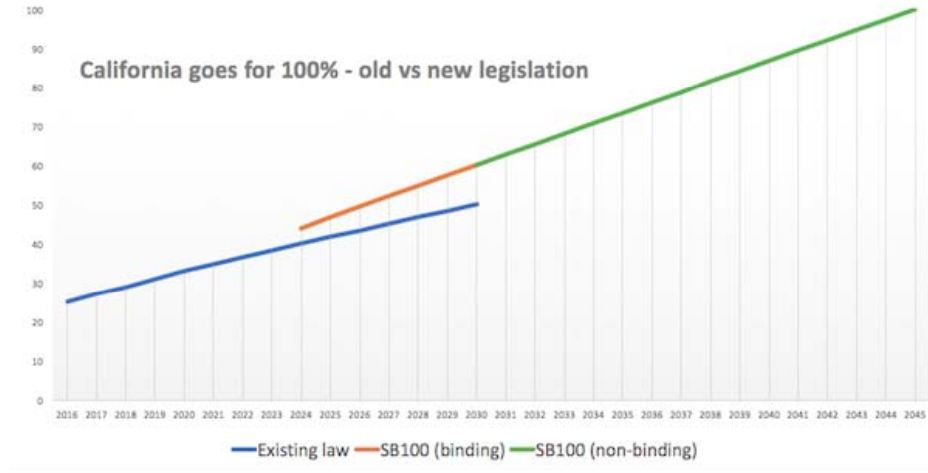
- Protecting our municipal identity and purpose

**“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

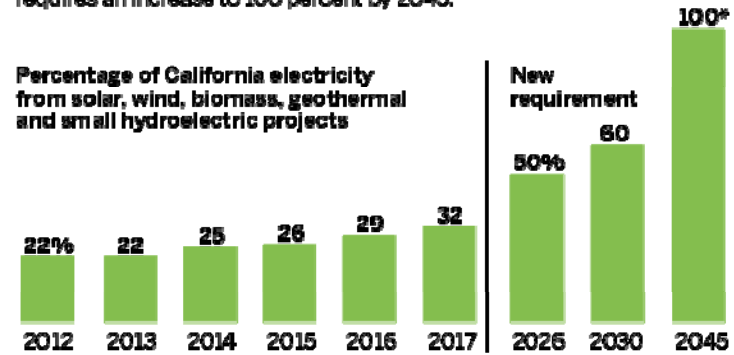
- SB 350
 - RPS Targets
 - 33% by 2020
 - 40% by 2024
 - 45% by 2027
 - 50% by 2030
 - Long-Term Contracts
 - 65% of 10 years
- SB 100
 - RPS Targets Increased
 - 33% by 2020
 - 44% by 2024
 - 52% by 2027
 - 60% by 2030
 - Carbon Free by 2045



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.

Percentage of California electricity from solar, wind, biomass, geothermal and small hydroelectric projects

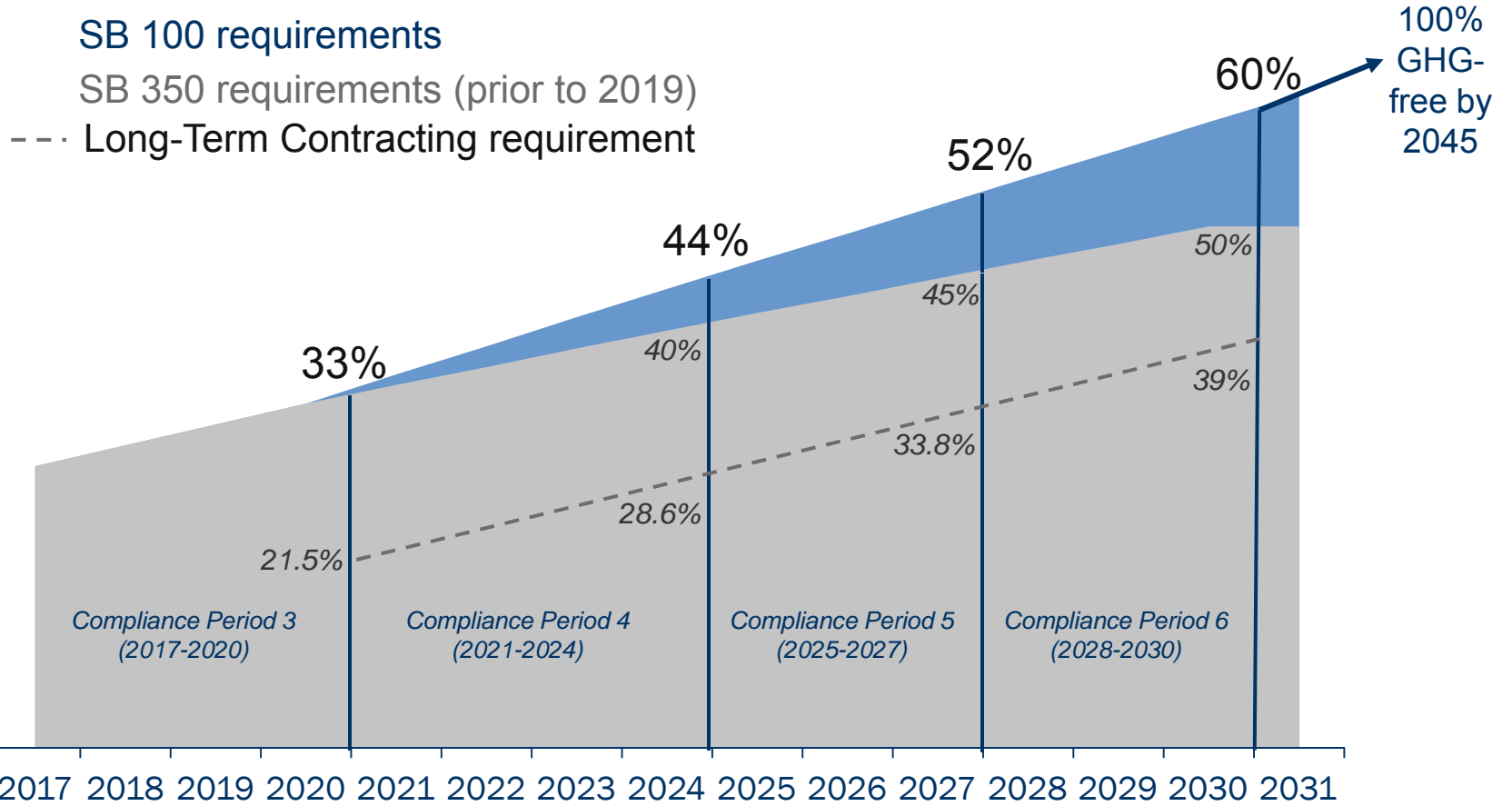


Non-carbon sources like nuclear and large dams also can provide up to 40 percent.

Source: California Energy Commission

BAY AREA NEWS GROUP

State RPS Procurement % Requirements



*Beginning in 2021, 65% of RPS requirements must be procured from contracts \geq 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
 - Electrification
- **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

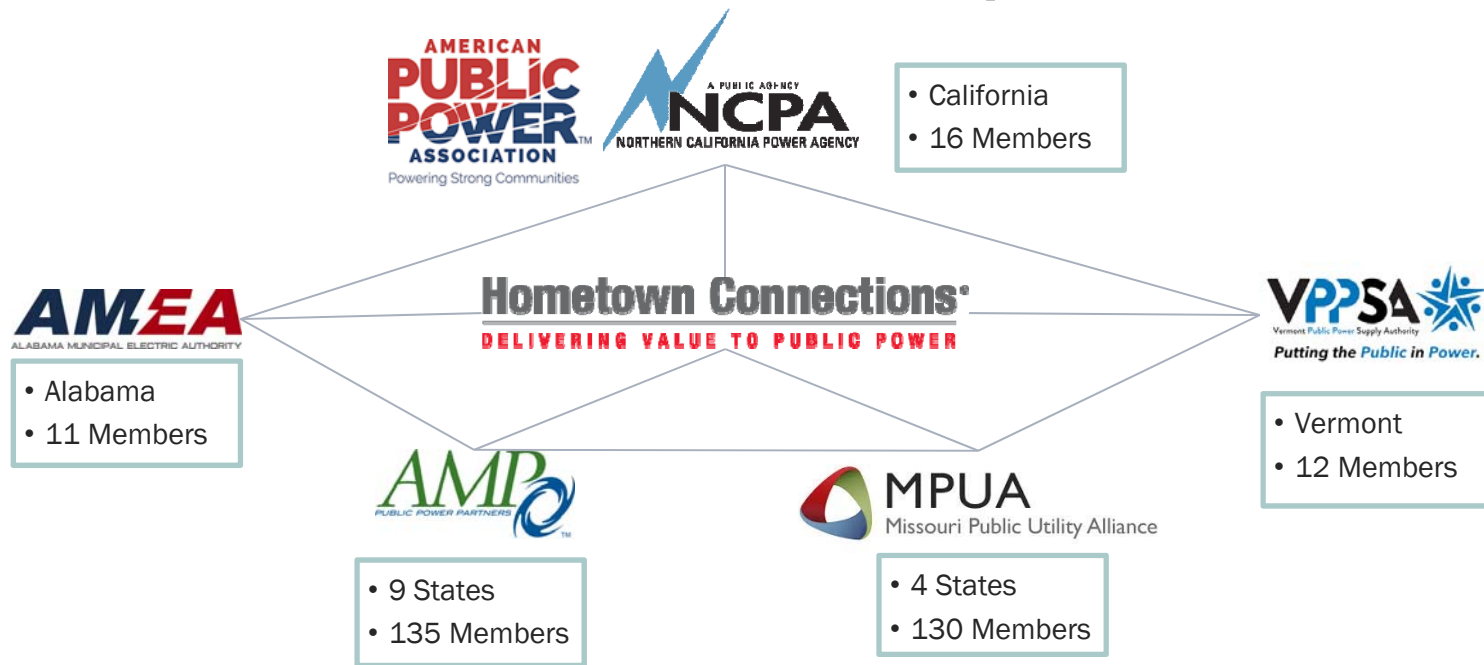


Purposeful Collaboration

- 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





Questions / Comments

