



Assembly Committee on Utilities and Energy

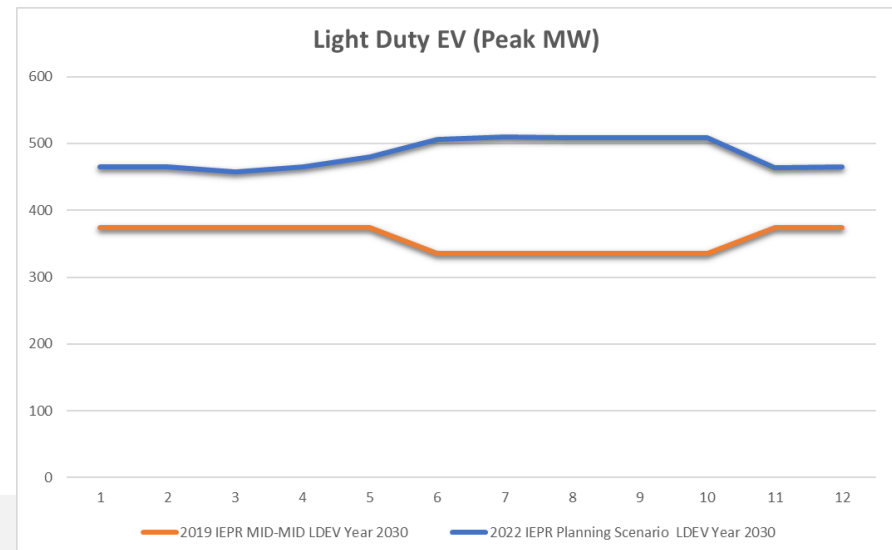
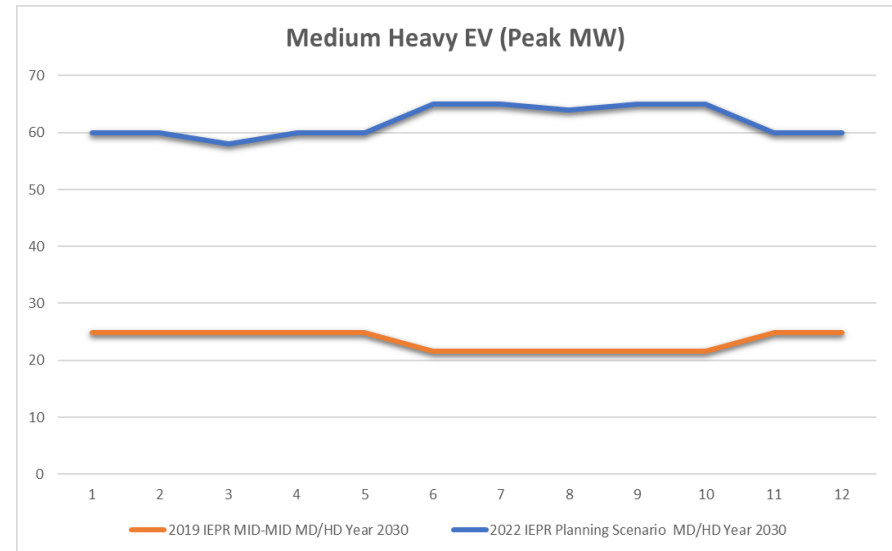
Charging Forward: Identifying Roadblocks to Electric Vehicle Infrastructure Deployment Across California

August 23, 2023

Electric Distribution Planning – Changing Forecasts

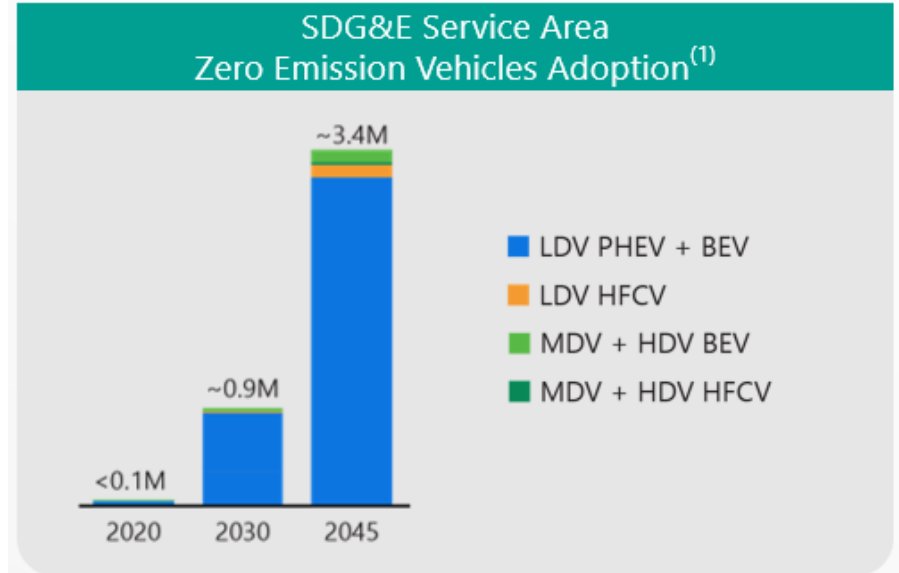
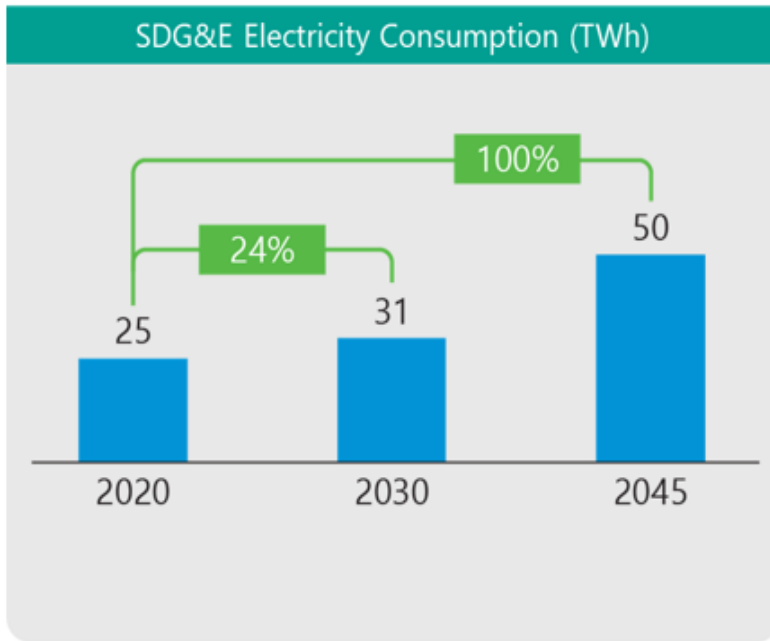
Challenge: Being electrification ready when customers request connection

- Increasing electricity demand:
 - 2019 IEPR shows approximately 4.4GW for 2026
 - 2022 IEPR shows approximately 4.6GW for 2026 – **an increase of approximately 200MW for 2026**; we expect much larger increases as electrification grows
- Upward trend in energization requests and all-electric community developments
- Challenges
 - Long lead time grid needs
 - Significant changes in annual IEPR forecasts
 - Getting accurate forecasting information early from customers – bottom-up planning
- Ensuring utilities are afforded the agility and resources to build to meet the load need is critical



Electricity Consumption Increase

SDG&E's Path to Net Zero projected electricity consumption to double from 2020-2045, primarily driven by transportation electrification



	2020	2030	2045
EV chargers	~7K	~180K	~640K

- Load example: One fast charger plug = approximately 50 homes⁽³⁾

1) 2020 represents actuals based on CEC ZEV and Infrastructure Statistics (YE-2020, updated April 2021) for light-duty only, within California and the SDG&E service area. 2030 + 2045 shown are projected ZEVs for light-duty, medium-duty, and heavy-duty.
 2) 2020 chargers represent actuals based on SDG&E's Accelerate to Zero study (San Diego County Only, reflects light-duty, medium-duty, and heavy-duty). 2030 + 2045 shown are projected for light-duty, medium-duty, and heavy-duty.
 3) <https://www.canarymedia.com/articles/ev-charging/fast-ev-chargers>

Electric Transmission System Build Out – Challenges

Development Example: Sunrise Powerlink

Statistics		Delays	
kV	500	Environmental Review/Permitting (yrs)	~5
Capacity (MW)	1,000	Environmental Impact Report (pgs)	~11,000
Length (mi)	~120	Alternatives evaluated	100+
Construction (mo)	21	Permits	70
Planning initiated	2004	Permitting Agencies	28+
Energized	2012	State/Fed Litigation (yrs)	6

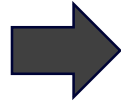
New transmission is needed to move power to where customers live and work, and to meet new demands such as electric vehicles.

Removing Roadblocks to Critical System Build Out

The utilities are facing unprecedented change and will need comprehensive solutions to navigate the evolving energy landscape and support the state in successfully achieving its decarbonization goals

Issues

**Transmission
Permitting Timelines**



**Electrification &
Distribution
Infrastructure**

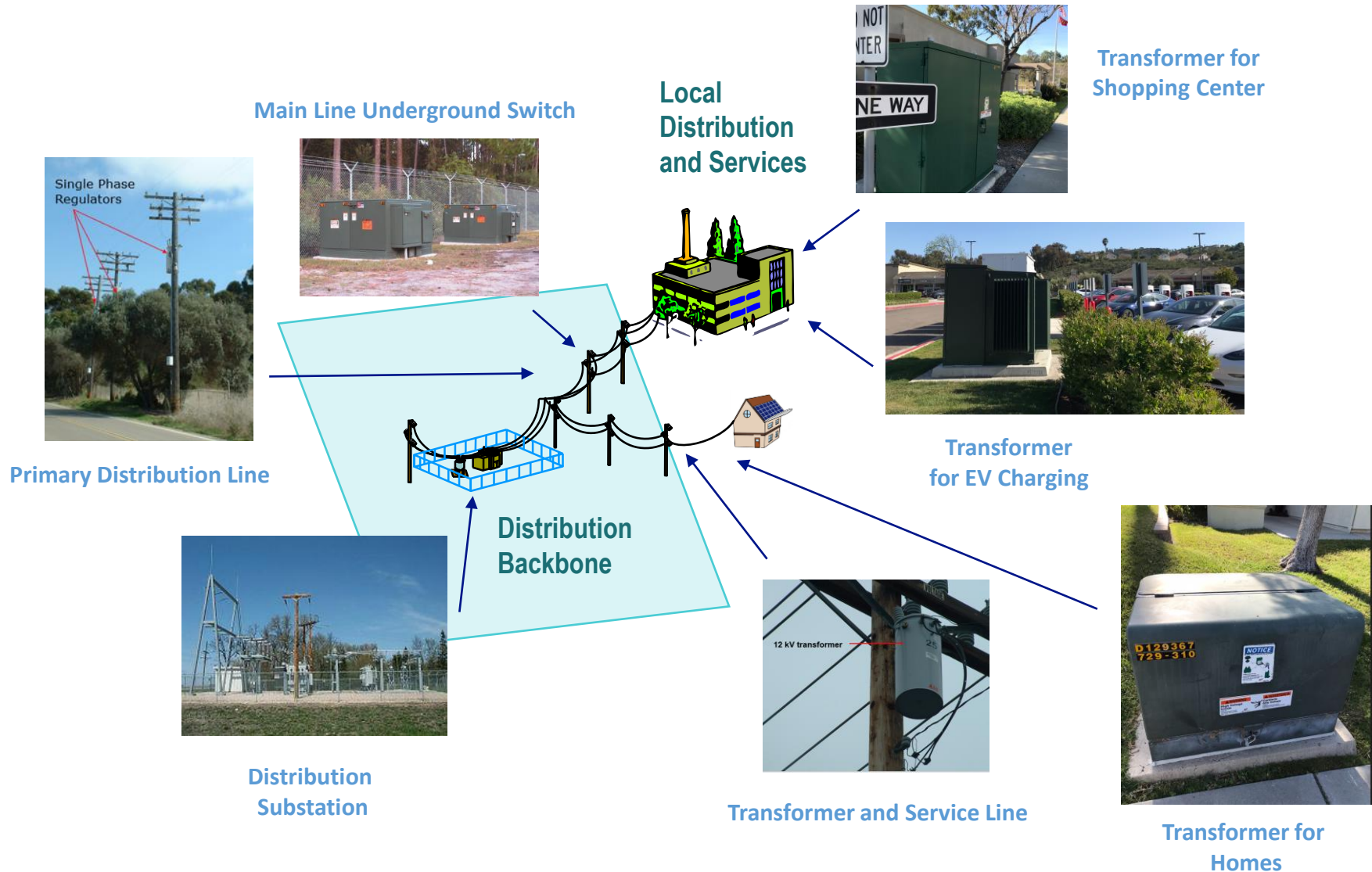


Solutions

Streamline and reform outdated permitting and environmental review processes

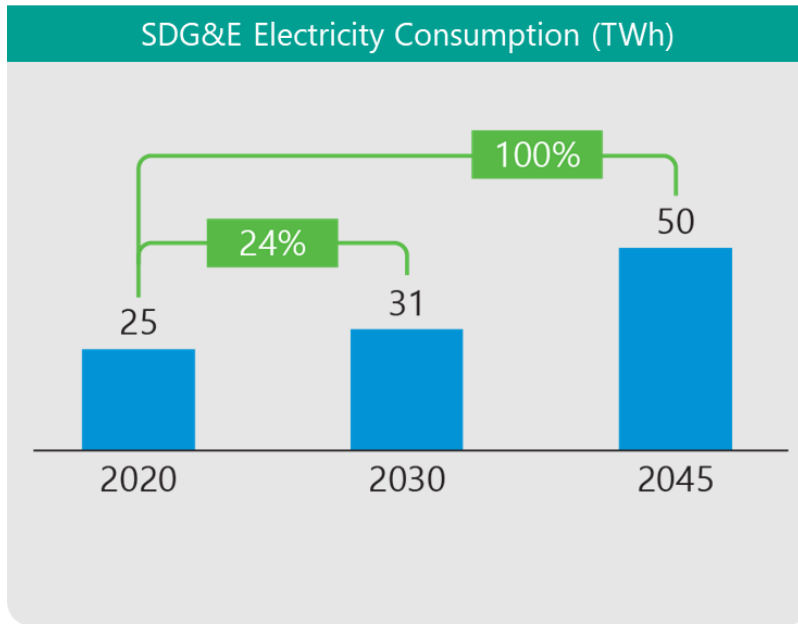
Enable flexible capacity spend

Appendix: Electric Distribution – System Components

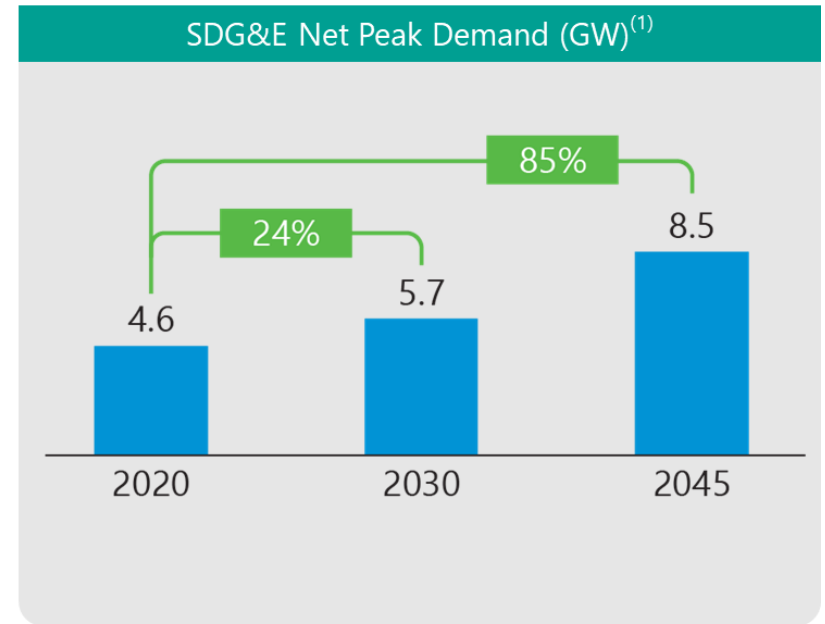


Appendix: Electricity Consumption & Demand

Electricity consumption and net peak demand are expected to increase significantly



SDG&E's projected electricity consumption doubles from 2020 to 2045, primarily driven by transportation electrification



SDG&E's projected electric net peak demand grows by 85% from 2020 to 2045