Transmission Planning to meet State Policy Needs

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2022 Scoping Plan Update: Electricity Sector Technical Workshop
Panel 1: Sector Perspectives from Joint Agencies and CAISO (Senate Bill Implementation)
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The need for new grid connected resources in the 5 to 10 year planning horizon has escalated quickly:

	Portfolios for 2020-2021 Plan (2030)	Portfolios for 2021-2022 Plan (2031)	*Authorized near and mid term (2025) procurement*	*Draft Preferred System Plan (2025)*	Draft Preferred System Plan (2032)
Solar	6,763	13,044	*12,800 **	*11,000*	18,833
Wind	992	4,005		*3,553 in state* *0 OOS* *0 offshore*	3,553 in state 1,500 OOS 1,708 offshore
Battery storage	1,376	9,368		*12,553*	14,751
Gas-fired					1
Biomass				*107*	134
Geothermal	0	651	*1,000 likely beyond 2026*	*114*	1,160
Pumped Hydro / Long Duration	1,256	627	*1,000 likely beyond 2026*	*196*	1,000
Total	**10,387**	**27,695**	***14,800***	***27,287***	**42,690**
Gas retirements	0	0			~950

California ISO

* NQC value as opposed to installed capacity

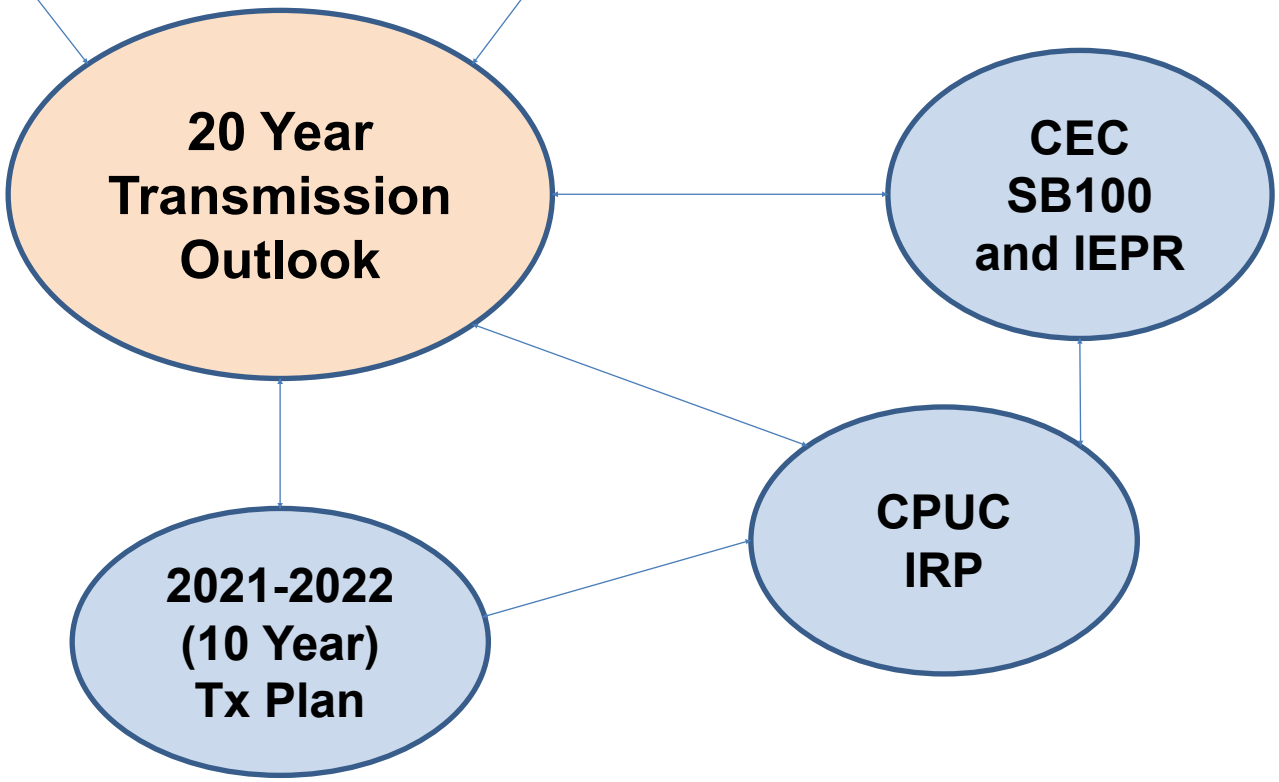
We have expanded our planning efforts to meet the escalating challenges with a 20 year outlook

In state potential transmission projects

Out of state potential transmission projects

Based on a "starting point" portfolio provided by the CEC:

- 120 GW of new resources - predominantly solar and storage, with offshore, in state and out of state wind, geothermal, and pumped hydro/long duration storage
- 15 GW reduction in gas-fired generation



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The 20-year transmission outlook will provide a "baseline" vision for future planning activities:

- Will include high level technical studies to test feasibility of alternatives, focusing on the bulk transmission system
- Will use a "Starting Point" scenario, provided by the CEC with input from the CPUC and ISO, based on the SB 100 Report's Core scenario (SB 100 Core) but drawing from other scenarios:
  - diverse resources known to require transmission development such as offshore wind energy, out-of-state resources, and geothermal
  - gas power plant retirements that may require transmission development to reduce local area constraints.
- Will help scope the challenges we face, allow the state to further refine resource planning, and provide longer term context for decisions made in the 10 year transmission plan process.

The ISO's 2021-2022 transmission plan is also responding to the escalating needs:

- Reflecting significantly higher portfolio amounts than last year's plans – which should lead to additional upgrades
- Also considering additional modest upgrades beyond those identified through the portfolio analysis that:
  - Reflect the anticipated increase in resource procurement
  - Provide optionality and flexibility in procurement activities
  - Generally do not require new rights of way or exceed $100 million
- Setting the stage for further enhancements in the 2022-2023 transmission plan