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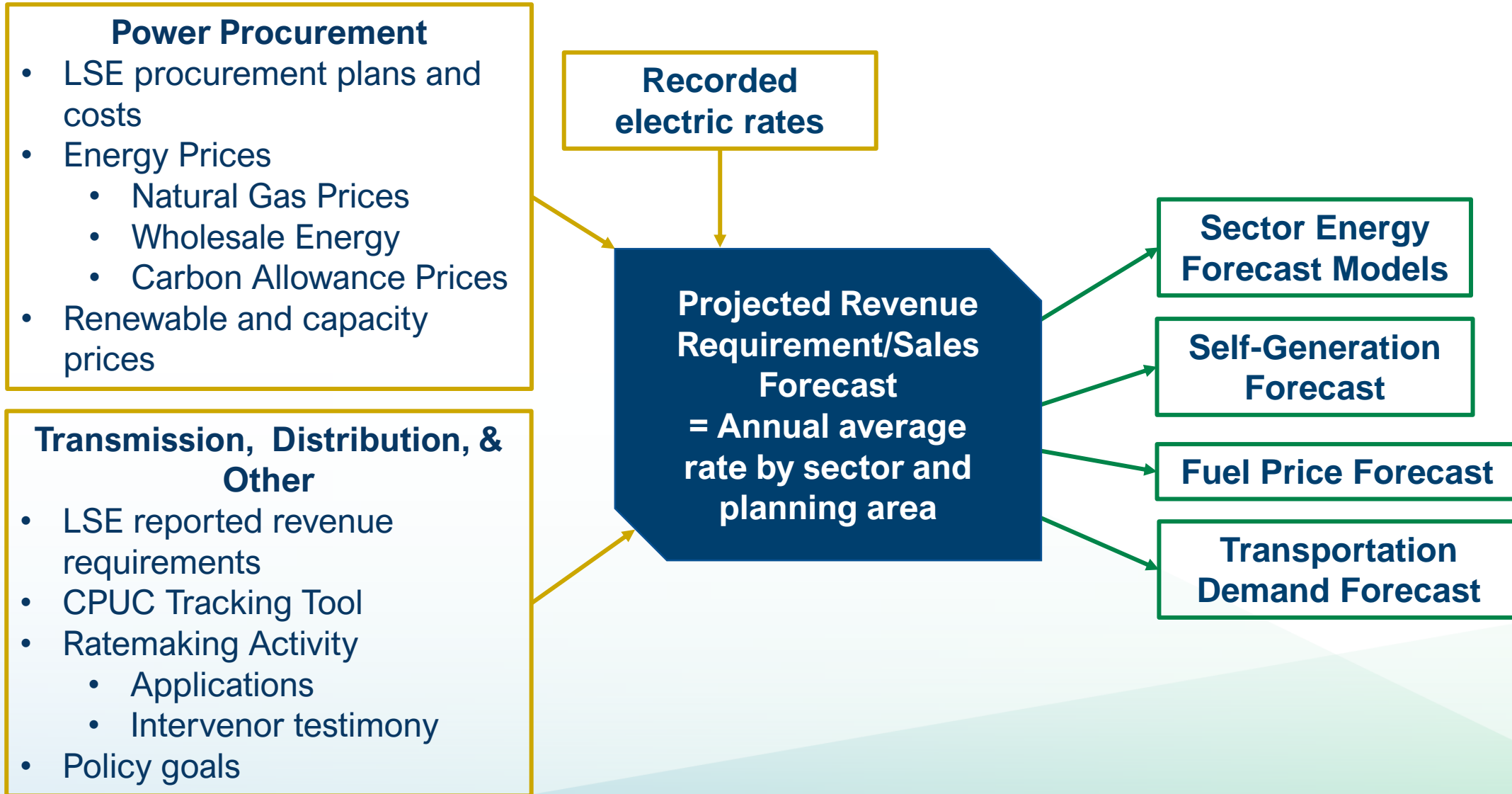
2023 IEPR Rate Forecast Inputs and Assumptions

Lynn Marshall, Energy Assessments Division

August 15, 2023

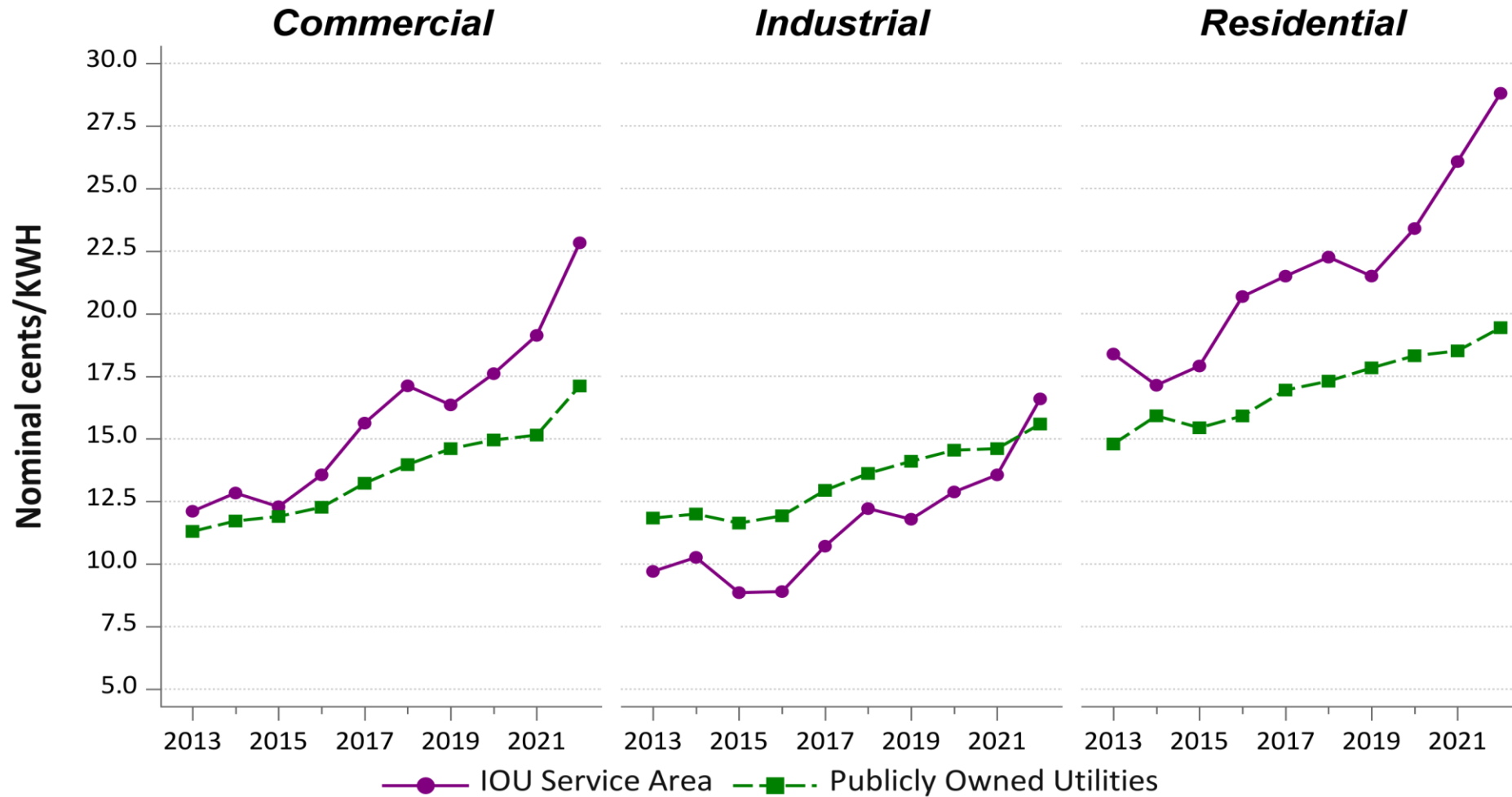


Rate Forecast Overview





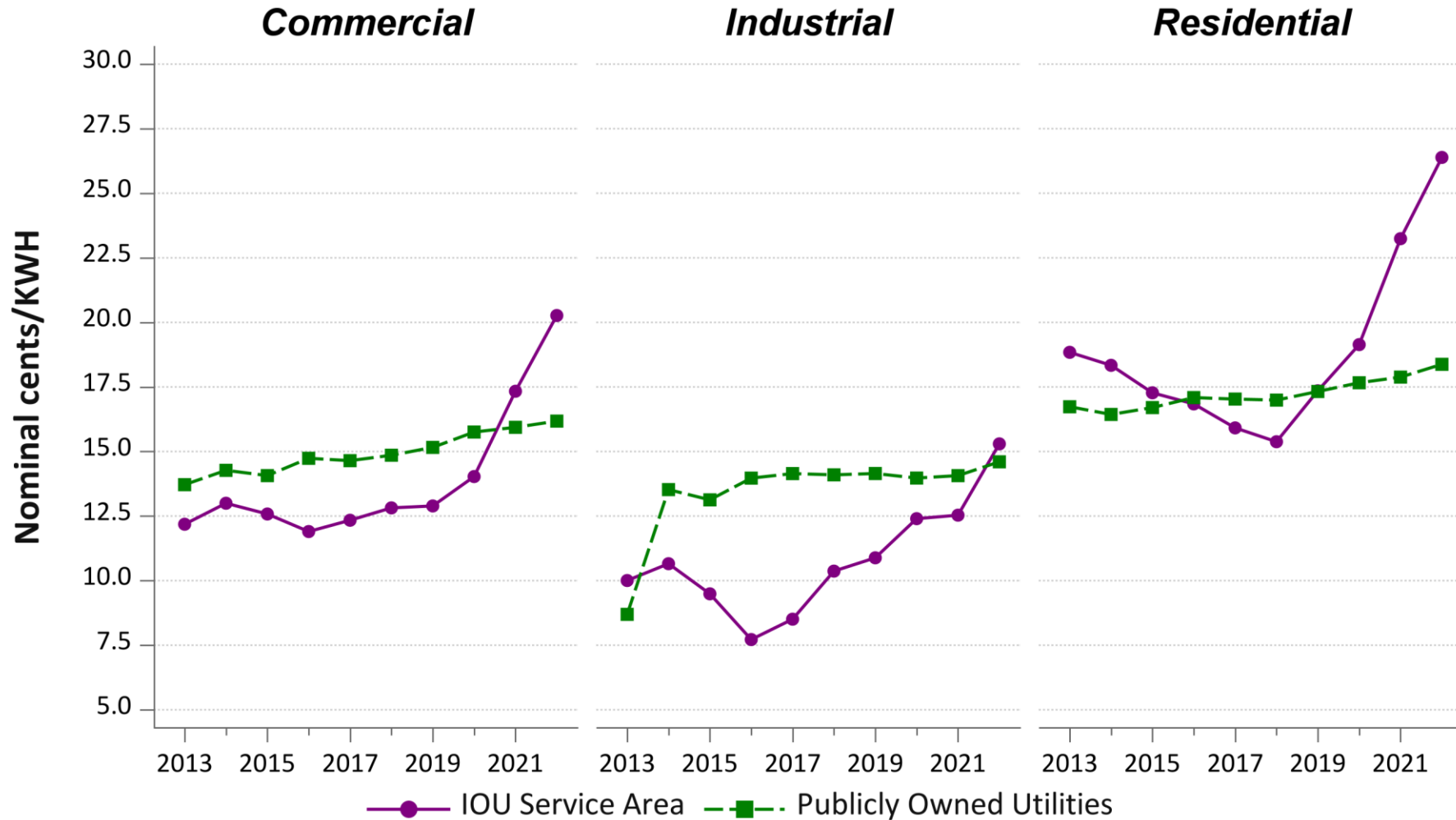
PG&E TAC Area Electricity Rates, 2013-2022



- IOU rates are the average of bundled, community choice, and direct access rates.
- PG&E service area rates increased more than 10% annually from 2019-2022, compared to the CPI average increase of 4.6%.



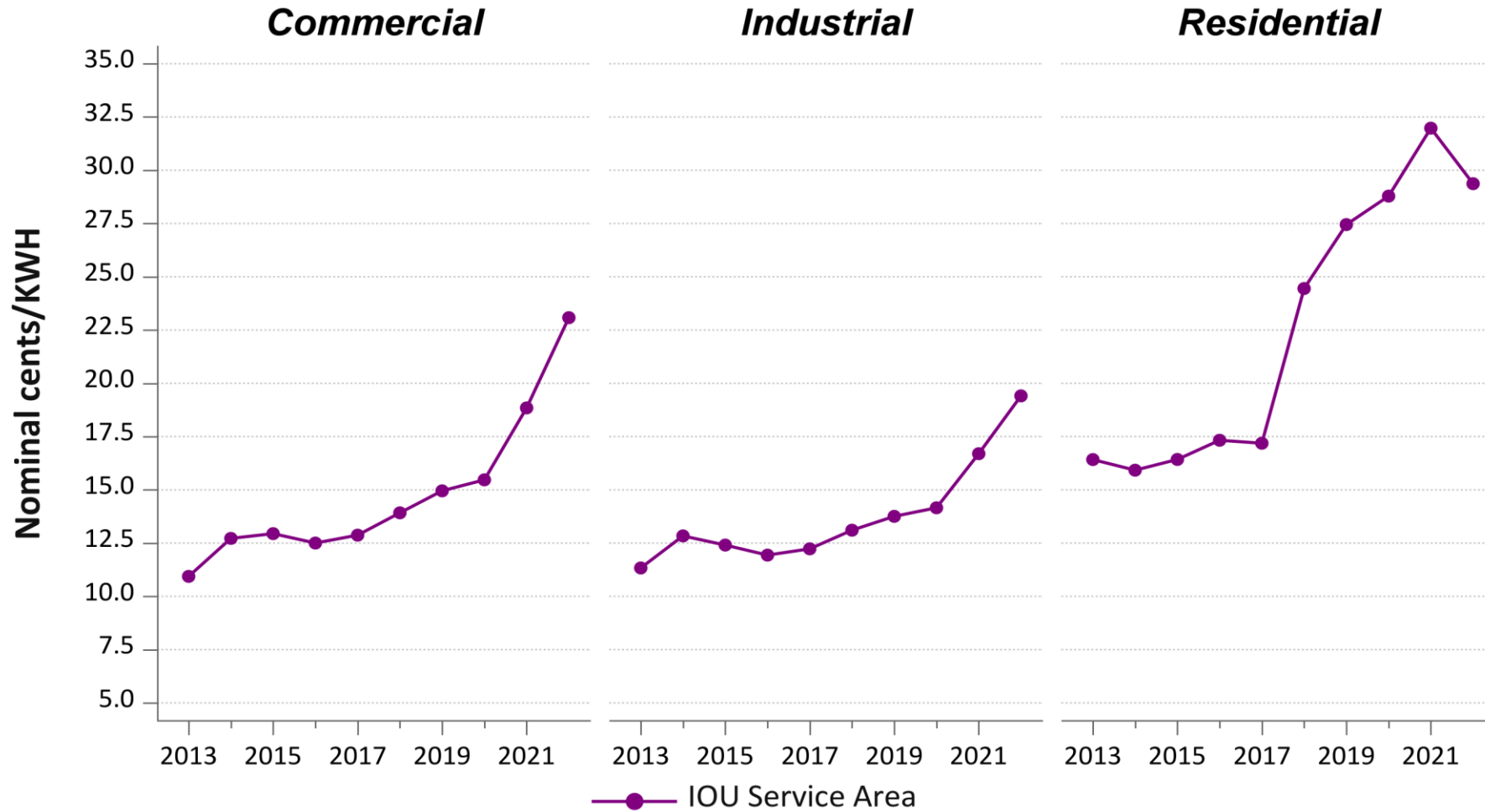
SCE TAC Area Electricity Rates, 2013-2022



- The decision in SCE's 2021 GRC authorized a 7.6% increase in 2021, and revenue increases of 5% in 2022 and 2023. Residential rates increased an average of 15% 2019-2022.



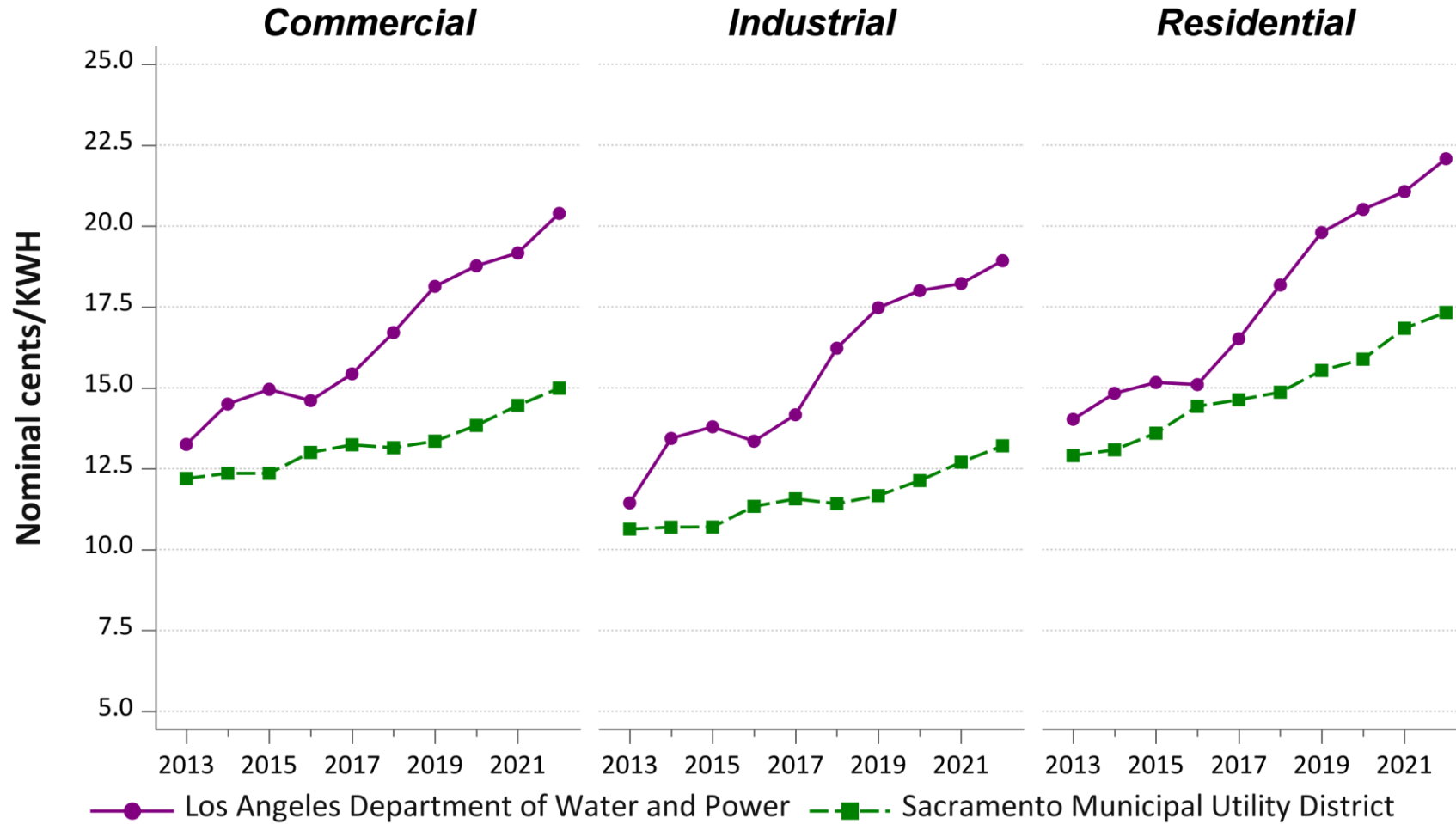
SDG&E Electricity Rates, 2013-2022



- Residential rates increased over 15% annually from 2019-2022.



SMUD and LADWP Electricity Rates, 2013-2022



- LADWP'S last 5-year rate action increased rates 3.8% annually through 2020.

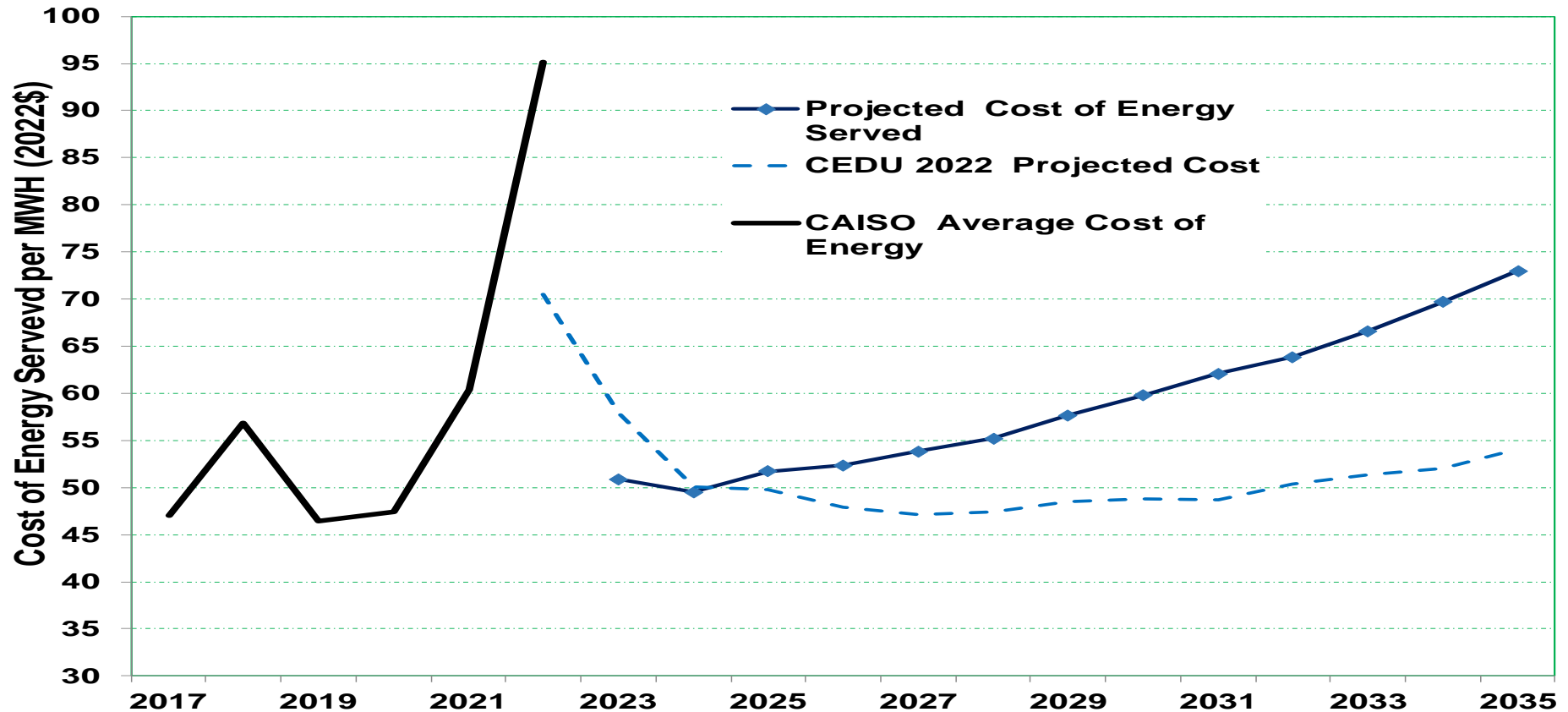


Procurement Revenue Requirements

- LSE-submitted supply and demand IEPR forms include
 - Current and projected generation resource mix by fuel source
 - Procurement costs for contracted resources by fuel type, utility-owned generation, and market purchases
- The forecast of total procurement costs is based on:
 - Utility-reported costs for utility-owned resources and contracts for non-gas-fired resources
 - The cost of market purchases and residual need valued using staff wholesale price forecast and capacity prices.
 - Additional renewable resource procurement cost valued using NREL Annual Technology Baseline levelized costs.



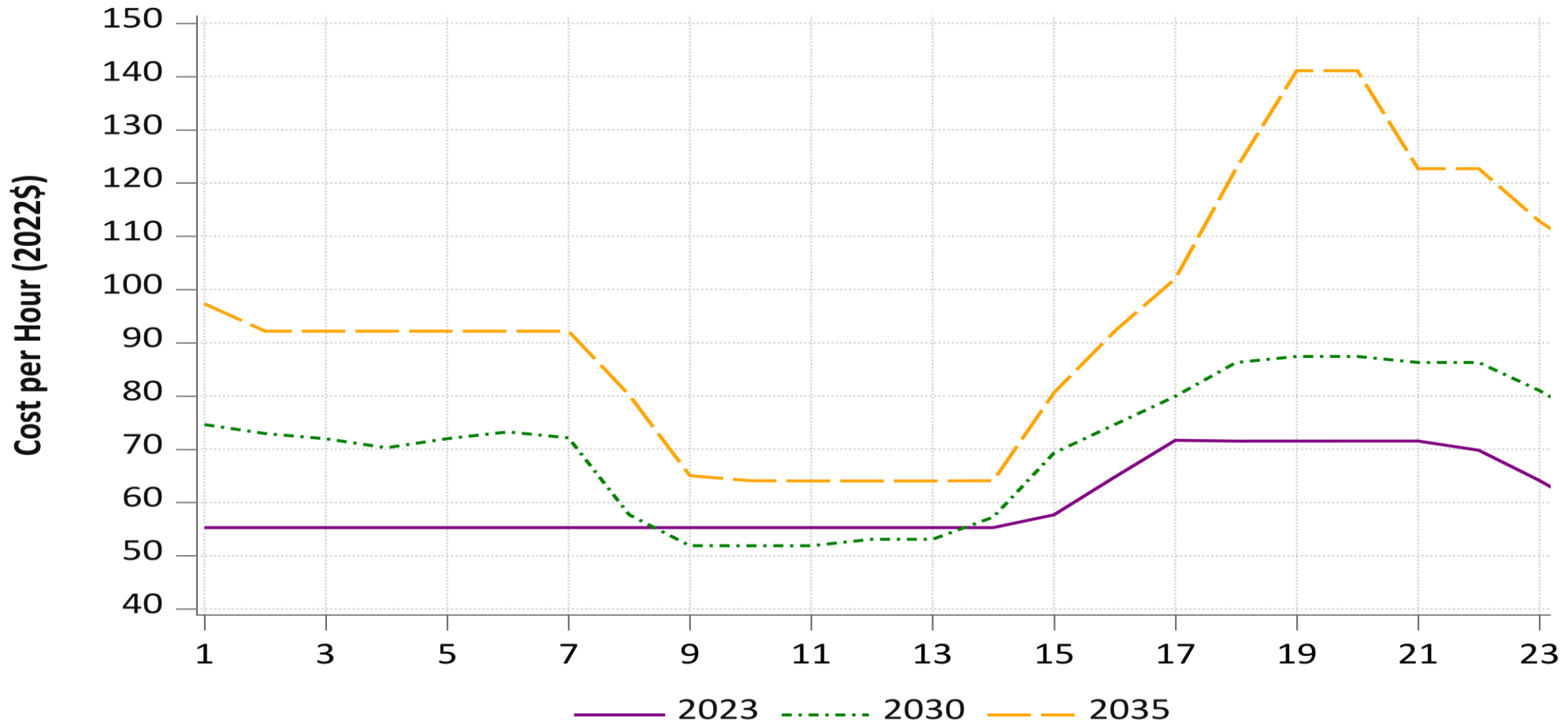
Wholesale Energy Costs



- Hourly energy prices are produced by the staff PLEXOS model using the CEDU 2022 demand forecast. Cost include market prices, ancillary services and operating reserves
- With increasing loads, more hours with less efficient units running.
- CAISO DMM estimates that after normalizing for natural gas prices, average hourly cost was \$45 in 2022. (CAISO 2022 Performance Report, p.97)



Annual Peak Day Hourly Energy Prices



- While the hours of the peak period don't shift, the peak to off-peak differential between high and low hours increases.



Capacity Costs

- CPUC annually surveys LSEs on prices paid for Resource Adequacy-eligible capacity.
- The RA prices for 2022 and 2023 are the volume-weighted average of all reported RA-only market transactions executed in the fourth quarter of 2020, and the first through third quarter of 2021 for delivery in 2022 or 2023.
- The annual price (\$/kW-year) is the sum of the monthly weighted average of the relevant transactions.
- Forecasted capacity prices will be escalated with inflation from the 2023 price.

Year	RA Market Price (\$/kw-year, 2022\$)
2018	54.0
2019	67.0
2020	61.6
2021	94.1
2022	97.3
2023	85.5



Cap and Trade Program

Electric generation is covered by the CARB cap and trade program, so allowance prices are included in PLEXOS model and are reflected in resulting prices.

The current cap and trade regulation has the following features:

- Overall supply of allowances, including those available at auction or allocated to entities, declines 4%/year.
- Price containment reserves contain additional allowances to be available when auction prices reach the reserve price.

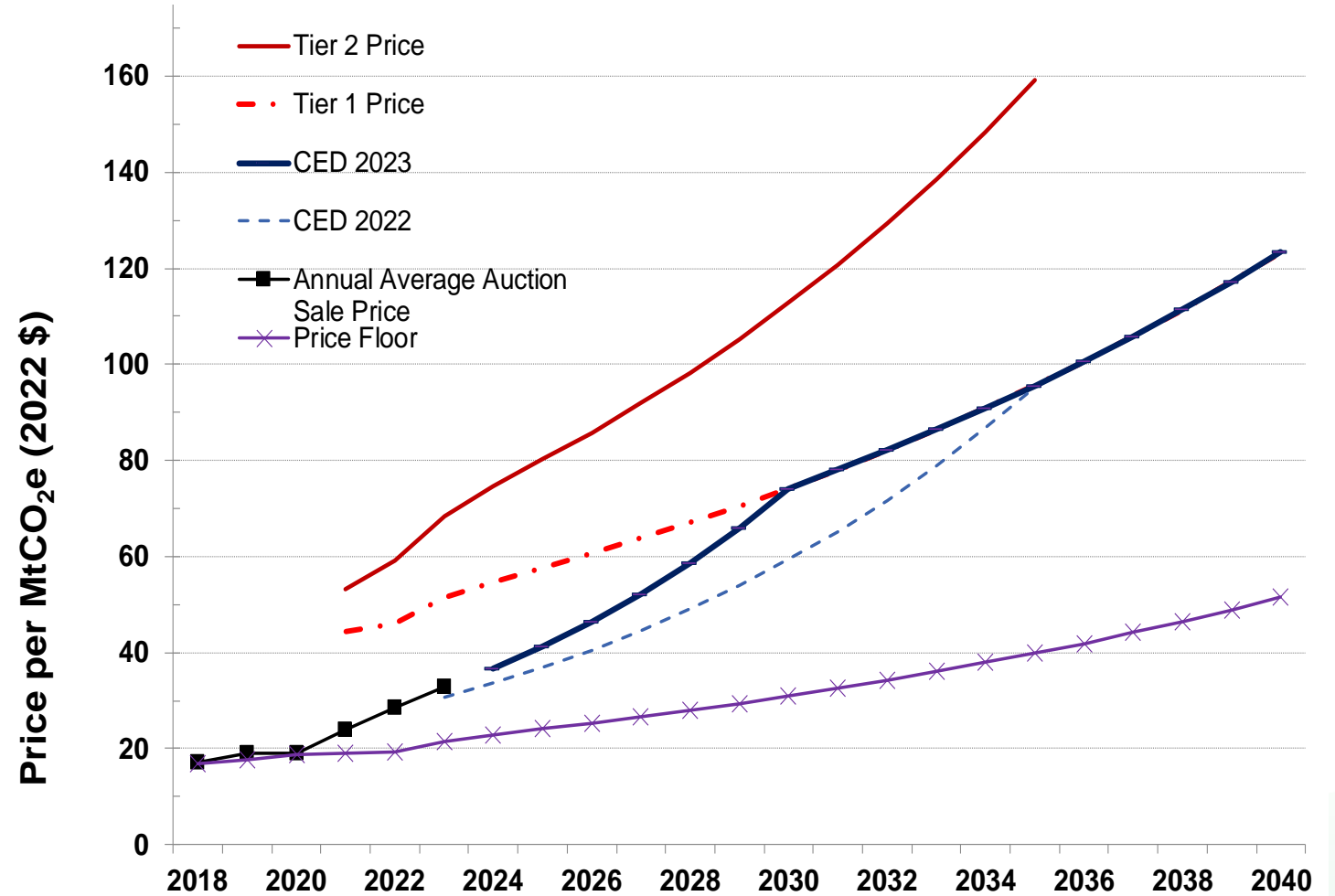
CARB has just begun the process to revise the program to support the 2022 Scoping Plan Update goals and will evaluate various options:

- Scenarios to reduce 2025-2030 allowance budgets
- Removal of allowances from different available pools
- Total compliance instrument supply informed by state climate goals and 2022 Scoping Plan modeling
- CARB regulatory impact evaluation will model allowance costs for various scenarios.



GHG Allowance Price Scenarios

- Since CARB initiated pre-rulemaking, secondary market prices have increased and are currently at \$35 compared to the May auction price of \$30. The next auction is 8/16/23
- Staff prepare preliminary and final forecasts for use by production cost modeling.
- The proposed preliminary forecast assumes prices reach Tier Price 1 in 2030.
- Final forecast will be revised based on developments or analysis in CARB proceeding.



Preliminary CED 2023 Forecast assumes prices will reach the Tier 1 price in 2030, then follow the Price Containment Reserve Tier 1 Price



Other Revenue Requirements

- LSEs over 200 MW report current and projected revenue requirements on IEPR demand forms:
 - Distribution
 - Transmission
 - Customer Costs
 - Energy efficiency, demand response, electrification, and other programs
- CPUC Energy Division Utility Cost & Rate Tracking Tool provides quarterly reports on current and pending IOU revenue requirements.
- Rate case proceedings and publicly owned utility rate actions and plans:
 - All 3 IOUs have pending General Rate Case applications with proposed increases averaging 10% or more annually. Wildfire risk mitigation is a major driver of higher GRC approved and requested amounts.
 - Staff will adjust requested amounts consistent with intervenor positions and recent CPUC decisions.



Thank You!

