

DOCKETED

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California Energy Commission

California Energy Demand Forecast Update - Background

Heidi Javanbakht, Manager – Demand Analysis Branch

December 16, 2022



Today's Workshop Goals

- **Present results of the 2022 California Energy Demand Forecast Update and solicit feedback**
 - Consumption and Sales Results
 - Electric Vehicle Charging Load Profiles
 - Peak and Hourly Forecast Results
- **December 7 Workshop:**
 - Additional Achievable Transportation Electrification
 - Additional Achievable Fuel Substitution



Why do we forecast demand?

Warren-Alquist Act

Established the CEC

Public Resources Code 25301(a)

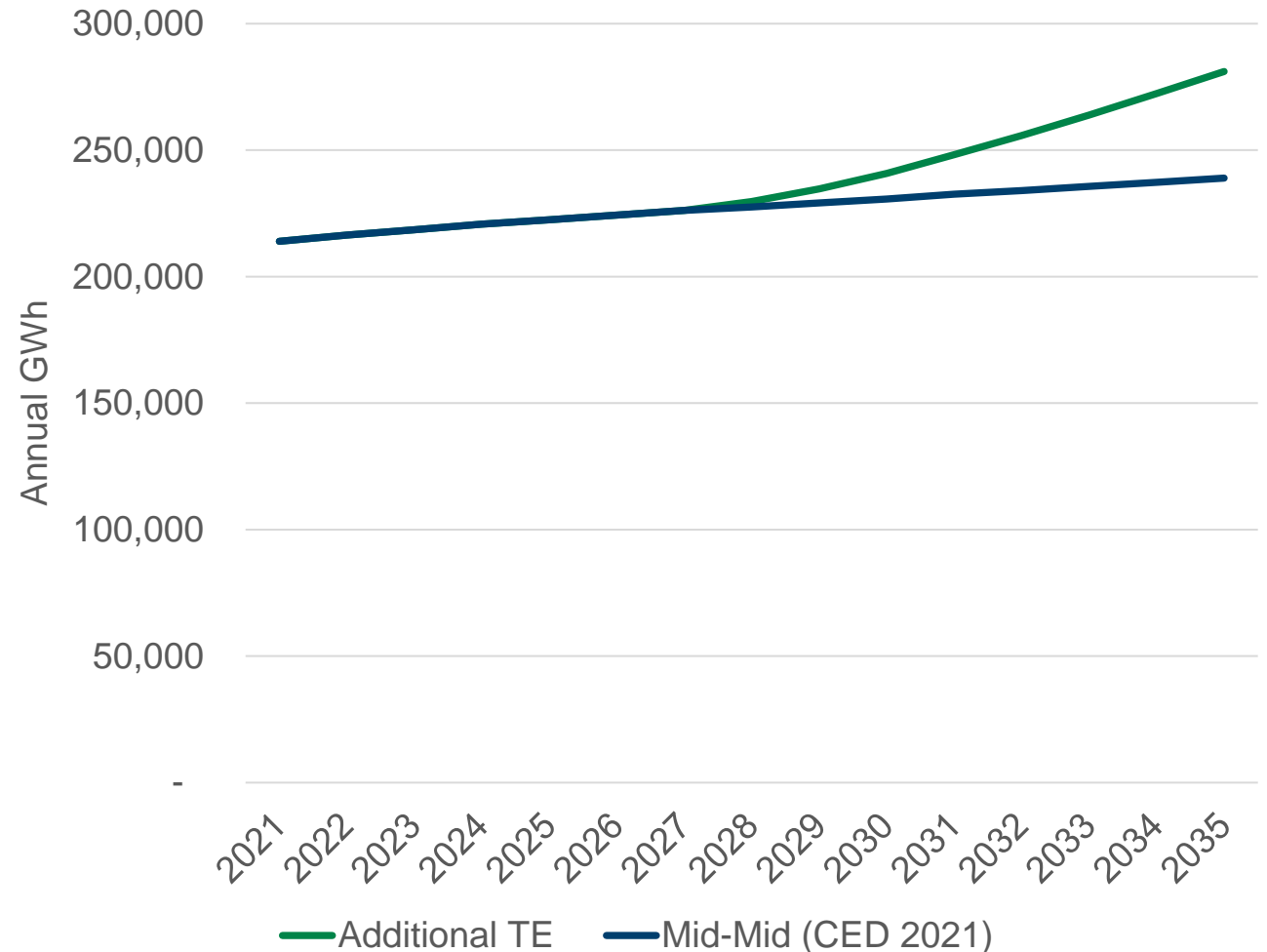
Requires the CEC to "conduct assessments and forecasts of all aspects of energy industry supply, production, transportation, delivery and distribution, demand, and prices."





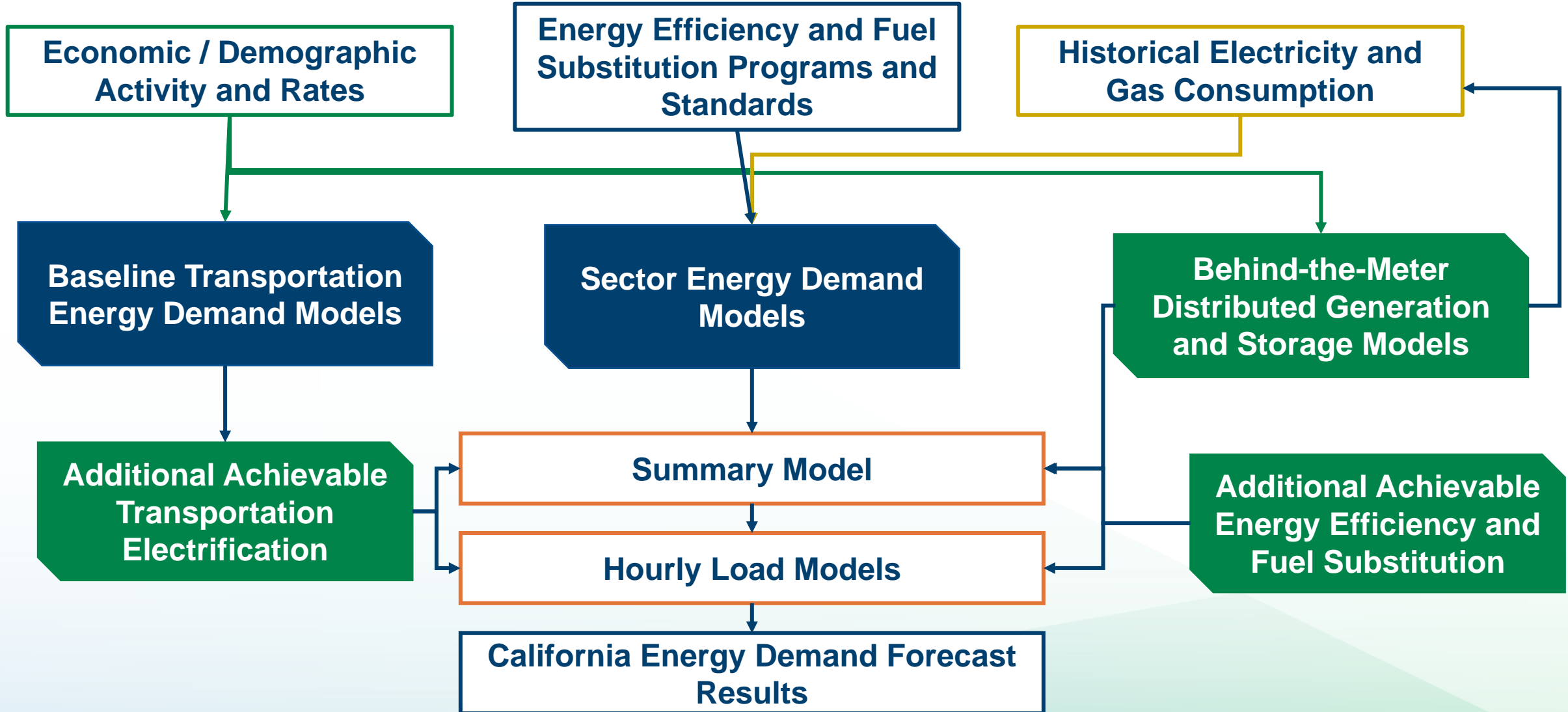
Recap of 2021 Forecast

- Jan 2022: Adopted the 2021 California Energy Demand Forecast
- May 2022: Adopted the Additional Transportation Electrification (ATE) scenario
- CPUC, CAISO, and CEC agreed to deviate from the 2021 CED and use the ATE scenario for:
 - CAISO 2022-2023 Transmission Planning
 - CPUC's Integrated Resource Plan to develop 2023-2024 Transmission Planning Process portfolio





Energy Demand Model System





2022 Electricity Forecast Updates

- Update inputs
 - Historical data
 - Economic and demographic projections
 - Electricity rates forecast
- **Updates to Additional Achievable Fuel Substitution (AAFS) to add estimated impacts from the CARB's State Implementation Plan zero-emission space and water heater measure**
- Update the hourly and peak demand forecast
- **New forecast framework**
- **Additional achievable framework for transportation**



New Forecast Framework

- Old framework captured economic and demographic uncertainty
 - Most scenarios were not being used
 - Some scenarios contained unlikely combinations
- Transitioning to:
 - One set of baseline economic, demographic, and rate assumptions
 - Descriptive naming convention
 - Additional Achievable framework to capture uncertainties in decarbonization strategies



2022 Forecast Framework

New Name →	Planning Forecast	Local Reliability Scenario
Previous Name →	Mid-Mid	Mid-Low
Use Case →	<ul style="list-style-type: none"> • Resource Adequacy • CPUC IRP 	<ul style="list-style-type: none"> • CAISO TPP
Economic, Demographic, and Rate Scenarios	Baseline (Mid)	Baseline (Mid)
Additional Achievable Energy Efficiency	Scenario 3 (Mid)	Scenario 2 (Low)
Additional Achievable Fuel Substitution	Scenario 3 (Mid)	Scenario 4 (High)
Additional Achievable Transportation Electrification	Scenario 3 (Mid)	Scenario 3 (Mid)
CARB SIP zero emission space and water heating equipment sales after 2030	-	Included



2022 DAWG Meetings on Inputs, Assumptions, and Methodology

Forecast Area	Sept 8 DAWG Meeting	Nov 15 DAWG Meeting
Revised Forecast Framework	X	
Economic and Demographic Data	X	
Electricity Rates	X	
Transportation	X	X
Additional Achievable Energy Efficiency and Fuel Substitution		X
CARB SIP Zero-Emission Space and Water Heater Measure		X

[Link to DAWG Meetings](#)



Energy Demand Forecast Timeline

- Draft IEPR published for public comment
 - Forecast results will be added to the final IEPR
- Draft results docketed
- Comments due December 30
- Proposed for adoption – January 25, 2023
- Final IEPR proposed for adoption - Feb 2023



Updates for the 2023 IEPR Forecast

- Additional modifications to the forecast framework
 - Scenarios for DG and storage
 - Improve internal consistency between scenarios
- New Models
 - Residential sector end-use model
 - Distributed generation adoption model
 - Travel demand model
- Methodology Updates
 - PV hourly generation shapes based on BTM PV data
 - Review of how the forecast accounts for climate change



Thank You

