DOCKETED	
Docket Number:	20-IEPR-03
Project Title:	Electricity and Natural Gas
TN #:	234490
Document Title:	Presentation - Introduction
Description:	S1. 1 Fugate, Nick, CEC - Introduction
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Organization:	Energy Commission
Submitter Role:	Commission Staff
Submission Date:	8/25/2020 11:53:50 AM
Docketed Date:	8/25/2020

California Energy Commission

Updating the CED 2019-2030 Demand Forecast

August 26, 2020

Introduction

California Energy Demand (CED) Forecast

Ten-year forecasts of end-user electricity and natural gas consumption developed and adopted by the CEC to inform state planning efforts.

CED includes many individual forecast products

- Three baseline scenarios for annual energy and peak demand, with each peak forecast consisting of several weather variants
- Three baseline scenarios for hourly demand within each IOU TAC
- Six scenarios for Additional Achievable Energy Efficiency (AAEE)

A baseline scenario, with the appropriate weather variant, may be paired with an AAEE scenario to form a managed forecast suitable for a specific planning purpose.

Single Forecast Set (SFS)

Leadership at the CEC, CPUC, and California ISO have jointly identified specific combinations of forecast products to be used in specific studies

Planning Use Case	Managed Forecast	Peak Weather Variant
CPUC resource adequacy LSE system requirements	Mid baseline & Mid AAEE	1-in-2
California ISO TPP and resource adequacy local capacity studies	Mid baseline & Mid AAEE	1-in-5
California ISO TPP and resource adequacy local capacity studies	Mid baseline & Low AAEE	1-in-10

The full SFS agreement is memorialized in the 2019 IEPR:

https://efiling.energy.ca.gov/getdocument.aspx?tn=232922

Evolution of the Forecast

The CED forecast process has and continues to expand in order to accommodate evolving circumstances and planning needs

- “Additional achievable” framework for addressing uncertainty around future programs and standards
- Hourly forecasting to assess the impact of load modifiers on the timing and magnitude of system ramps and peaks
- Forecast expected load impacts resulting from rising temperatures, leveraging climate models and scenarios used in California’s Climate Change Assessments
- Planned: Forecast distributions of hourly load profiles correlated with historical weather patterns to support probabilistic reliability assessments within IRP

Scope of the Update

During IEPR update years, staff update the previously adopted CED forecast (CED 2019)

The updated forecast retains most characteristics of the original forecast, with changes limited to:

- Electricity demand only
- Refreshed economic and demographic drivers
- Sector forecasts informed by econometric model runs
- Additional historical load and interconnection data
- Updated projections for key demand modifiers (self-generation, transportation electrification)