



**Hawaiian
Electric**

Integrated Grid Planning

Forecast Assumptions Working Group

August 31, 2020



Objectives for today



Economic assumptions



Forecast update



What is happening in other service territories?



UHERO



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Maui Electric
Hawai'i Electric Light

Considerations for Re-evaluating our Forecasts

- ◆ Impacts from COVID-19 are unprecedented
- ◆ Assumptions on the future continue to change
- ◆ With much uncertainty ahead of us it is important to evaluate sensitivities
- ◆ How are the forecasts going to be used?

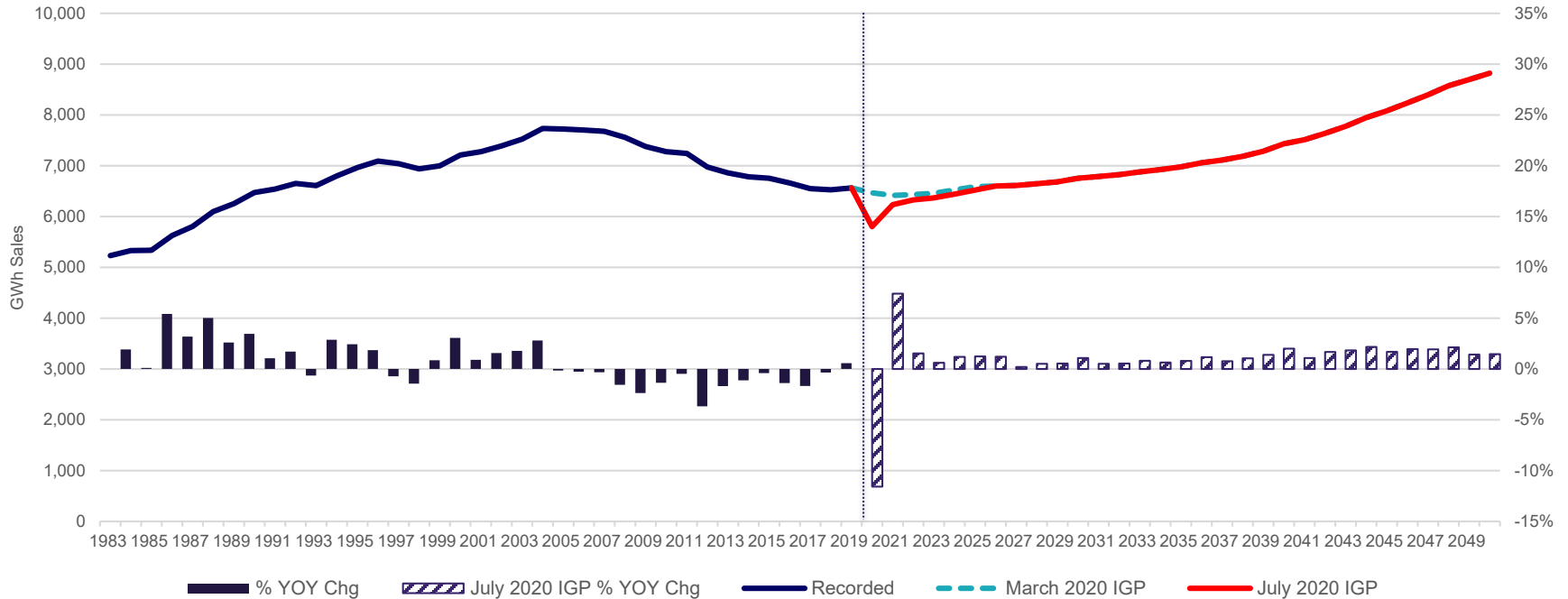


O'ahu

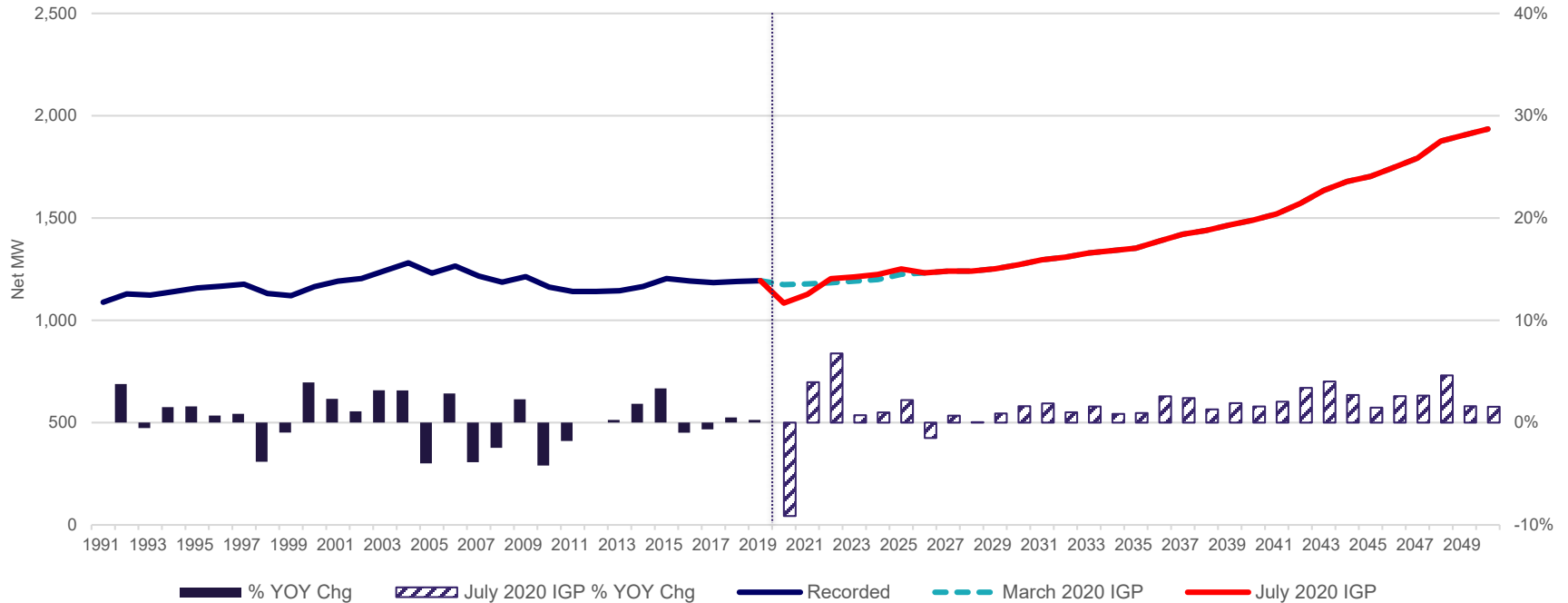


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O'ahu Sales Forecast Comparison



O'ahu Peak Forecast Comparison

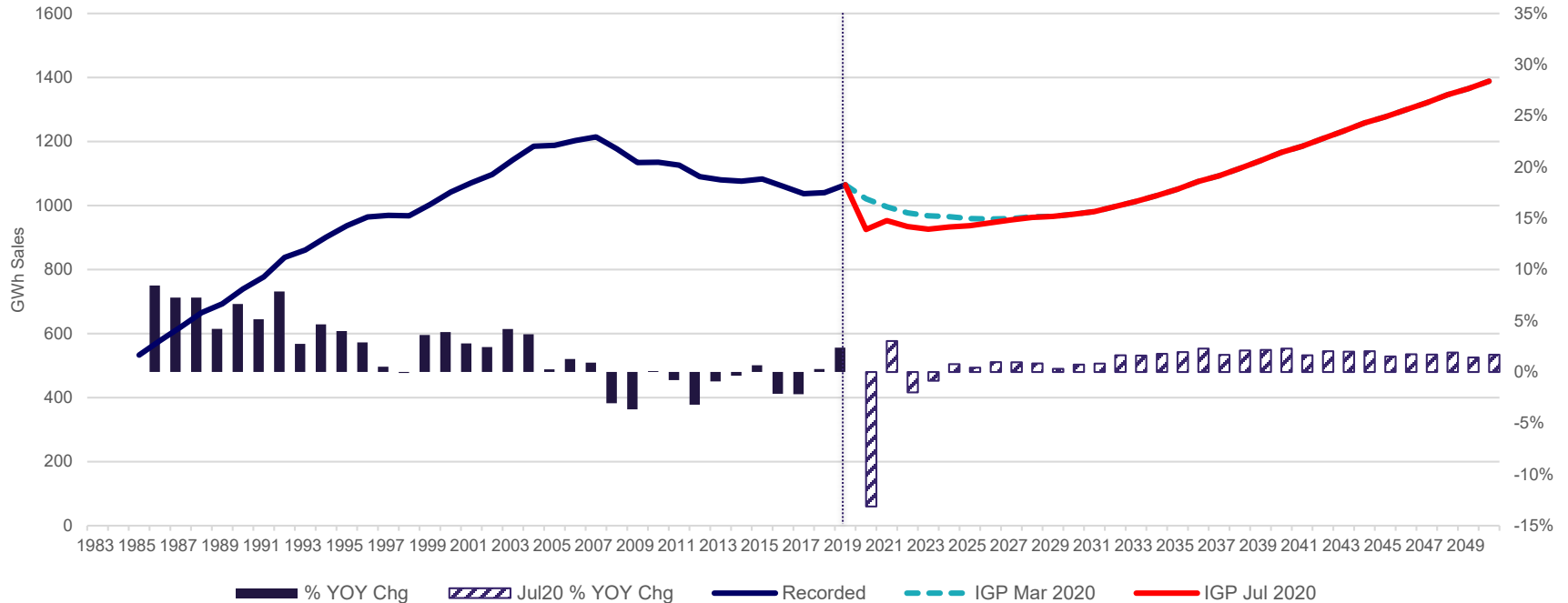


Maui County

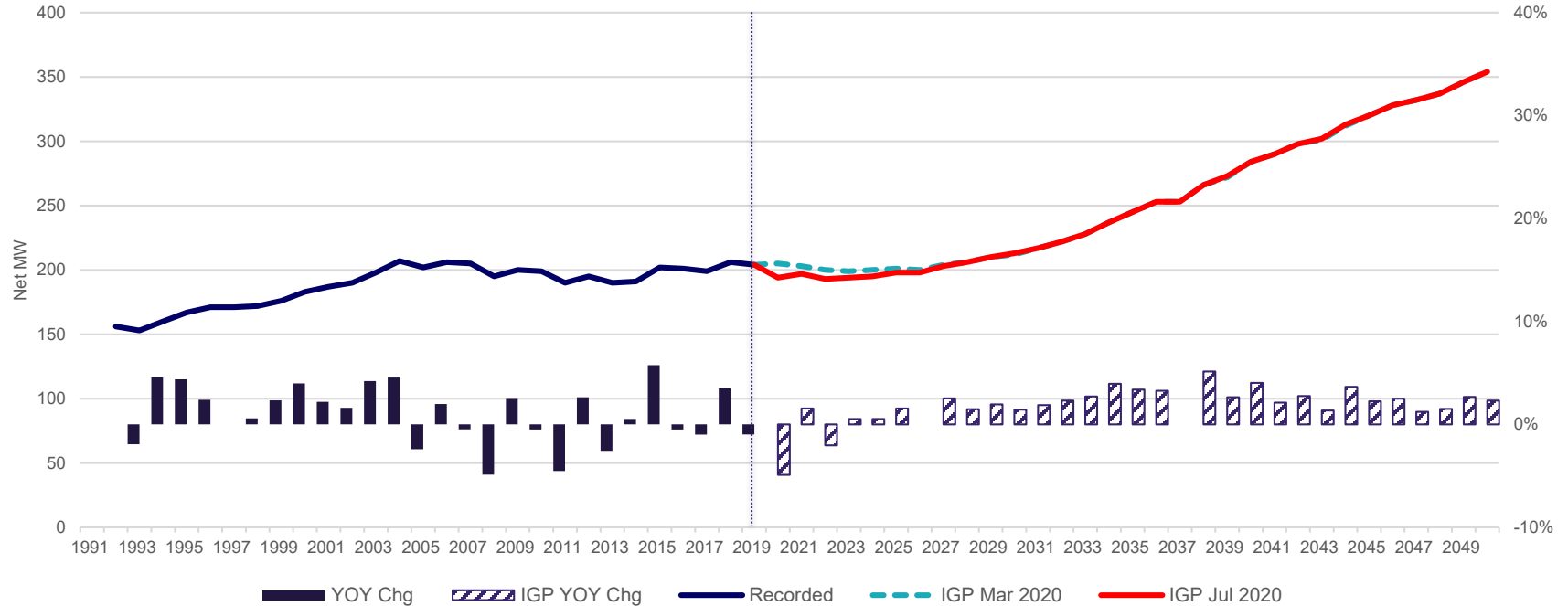


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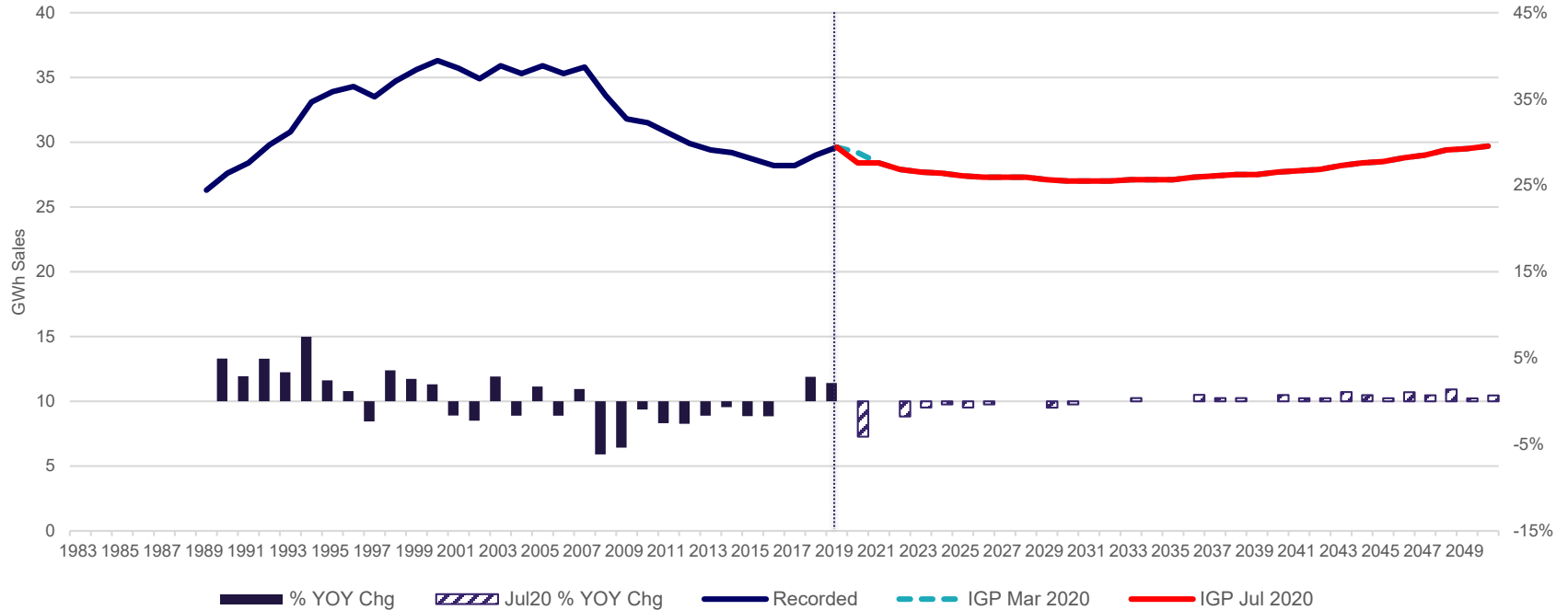
Maui Sales Forecast Comparison



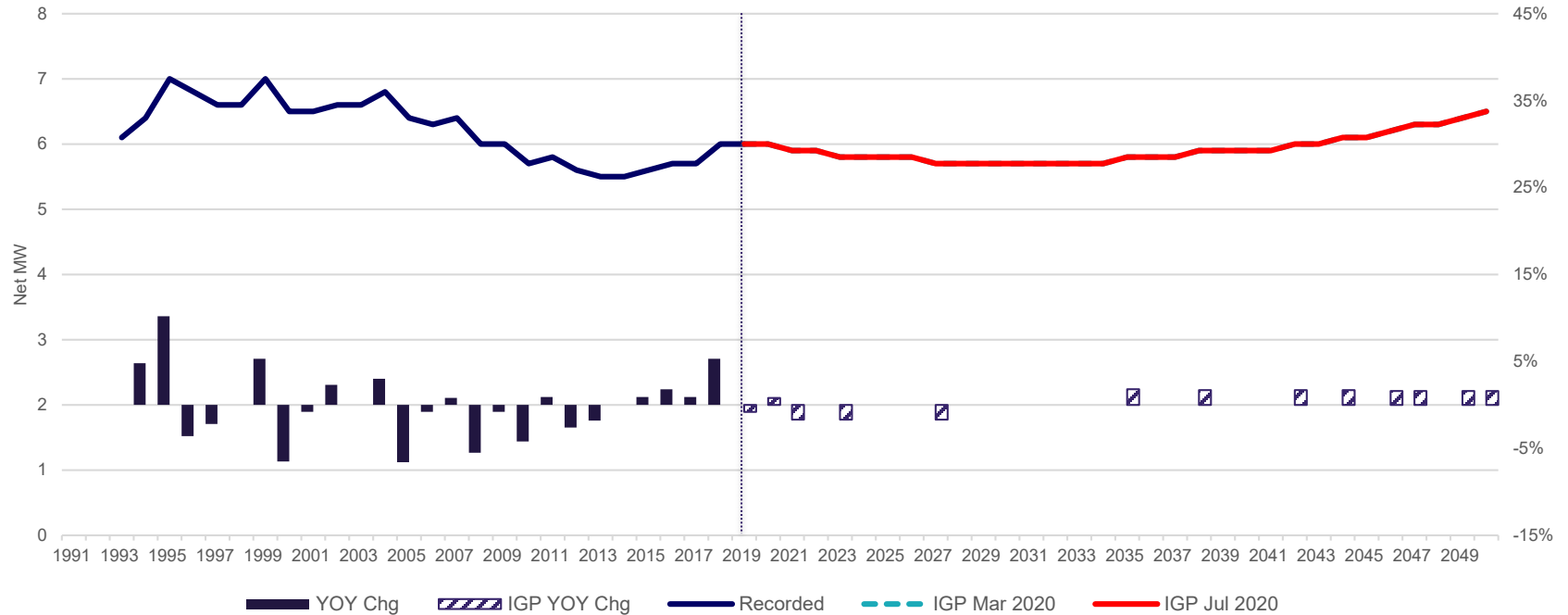
Maui Peak Forecast Comparison



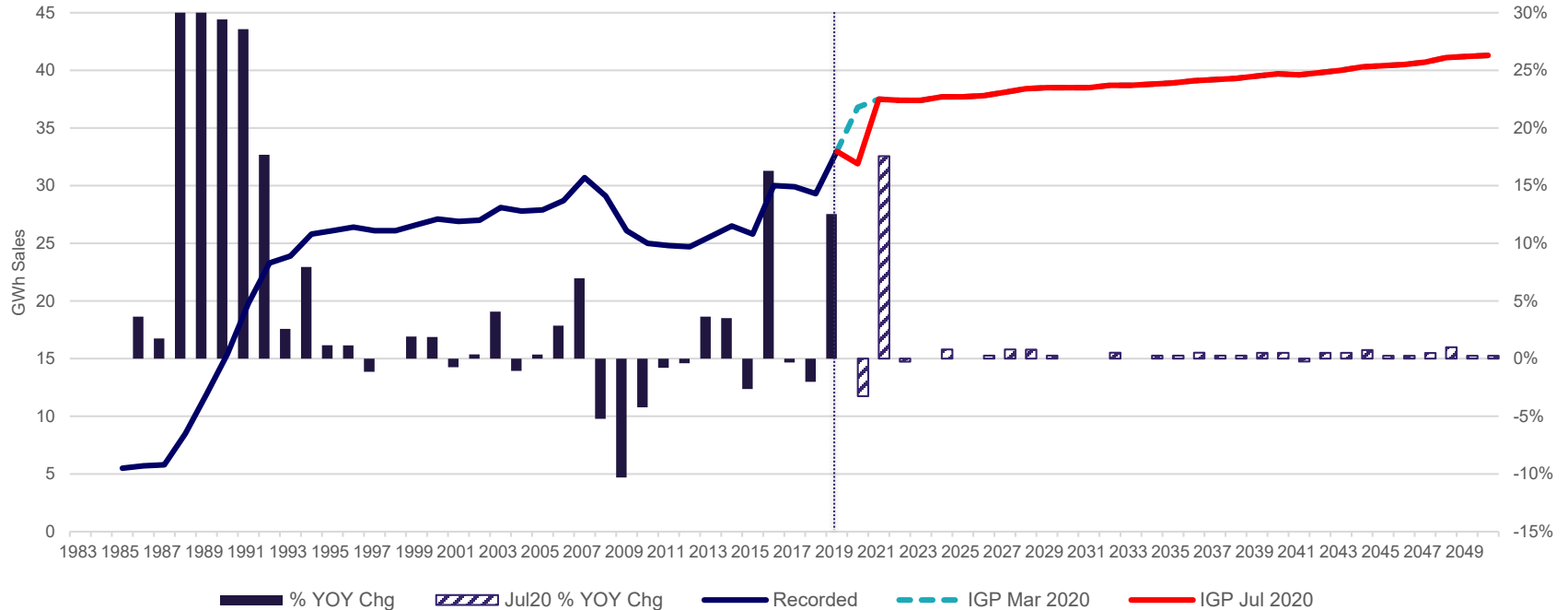
Moloka'i Sales Forecast Comparison



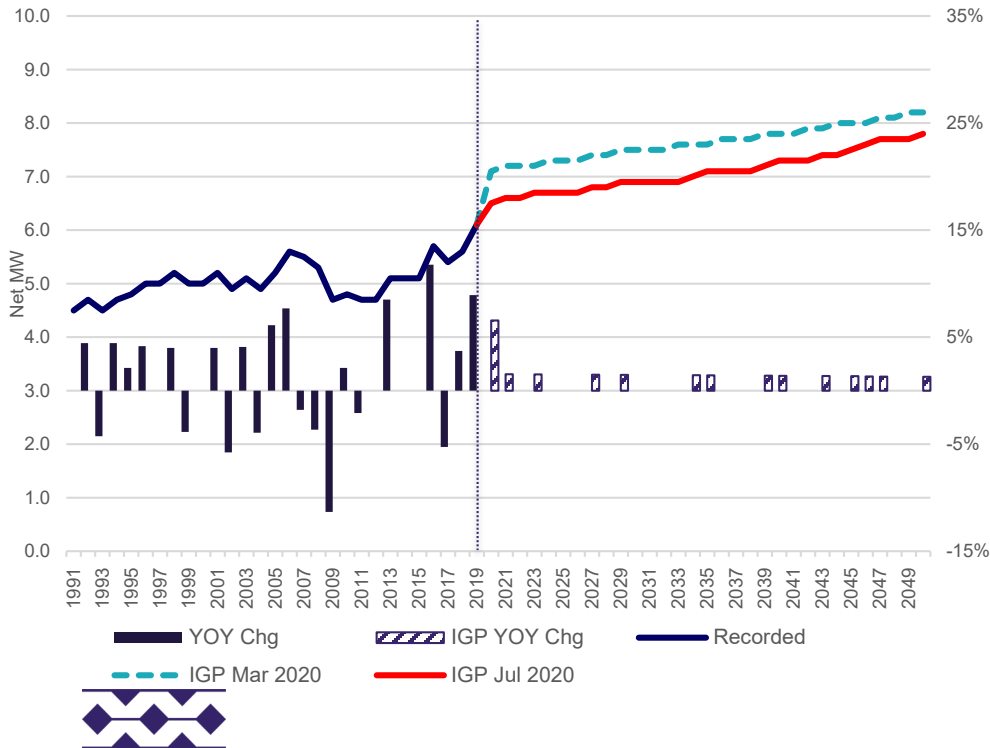
Moloka'i Peak Forecast Comparison



Lānaʻi Sales Forecast Comparison



Lāna‘i Peak Forecast Comparison



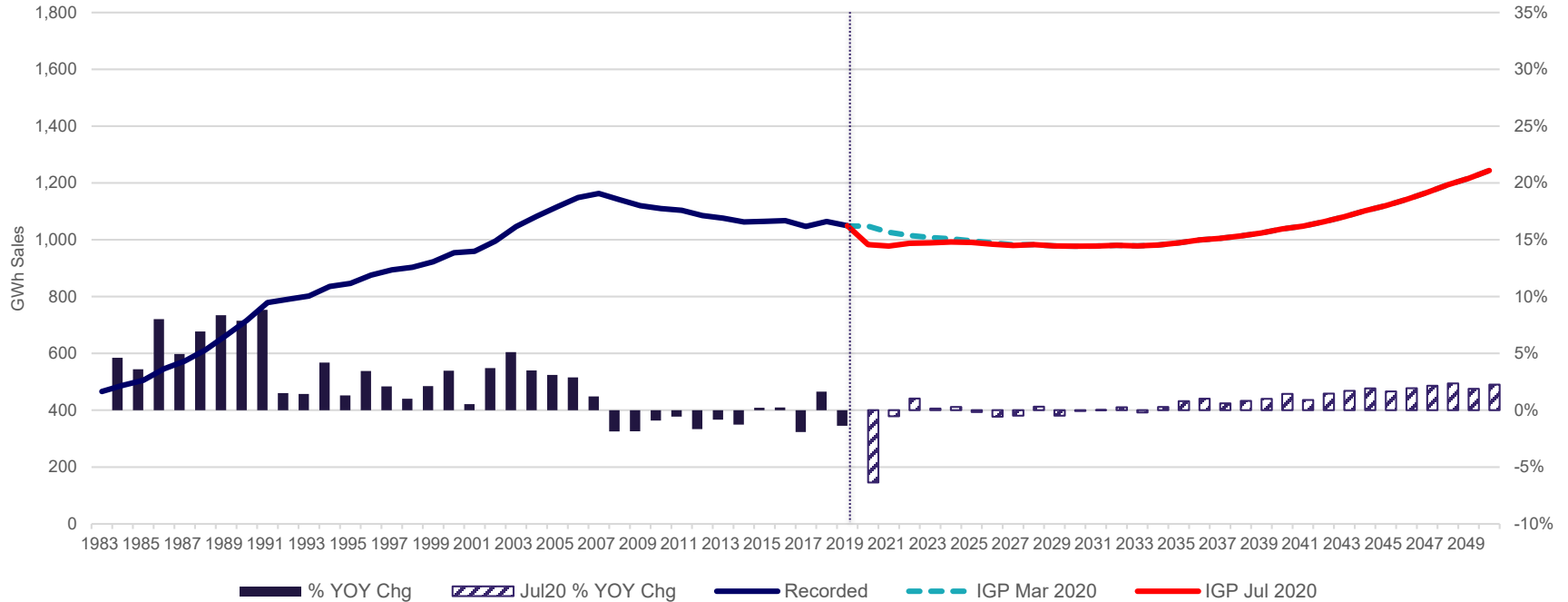
- ◆ 2020-2050 peak forecast revised to include recent pre-Covid data from large commercial customers that better represents expected load at full operation
- ◆ 2020 peak also considers impact of Covid-19

Hawai'i

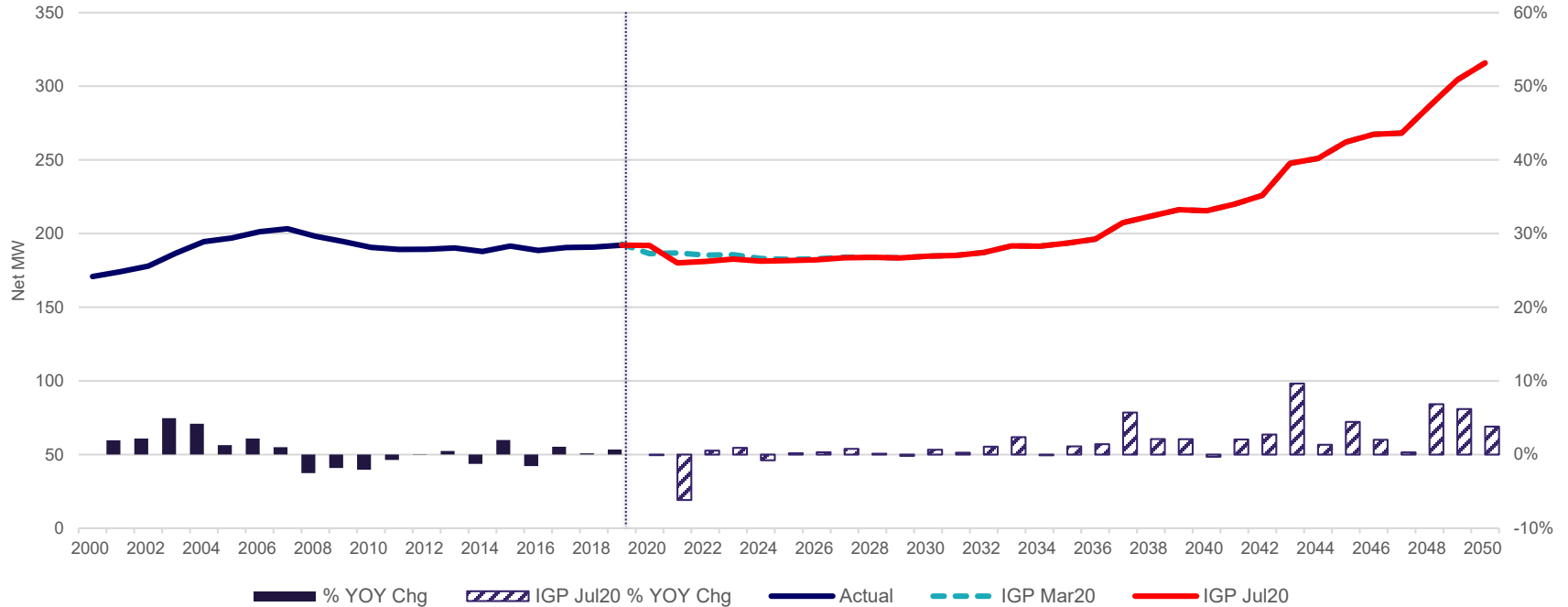


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Hawai'i Island Sales Forecast Comparison



Hawai'i Island Peak Forecast Comparison

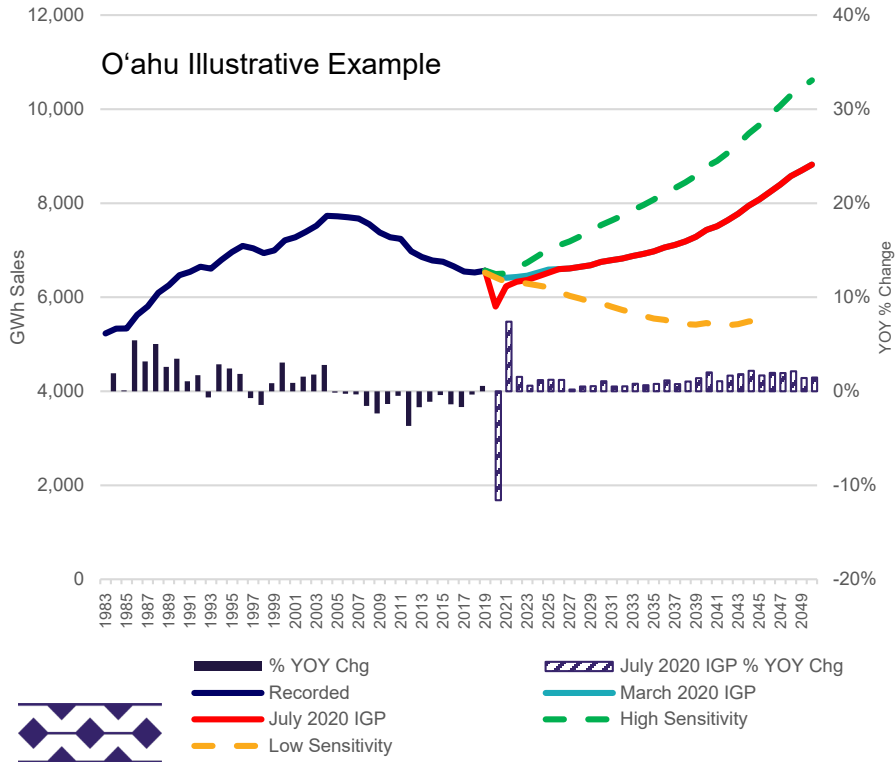


Sensitivities



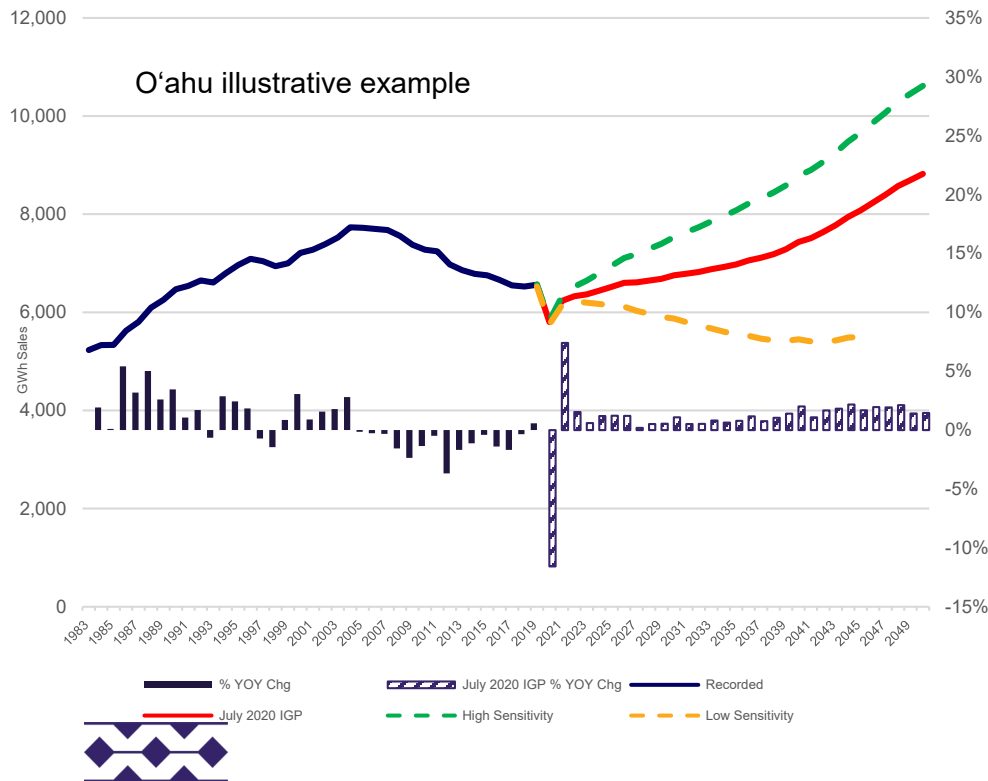
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In the near term the reference forecast is outside of the bookends



- ◆ We are in unprecedented times
- ◆ Stacking of the layers arrives at a high and low range however, there are the various permutations of the layer sensitivities to arrive at other forecasts
- ◆ Additional sensitivities will also be done in the modeling phase to test the robustness of the resource plans such as extreme conditions and how much PV can the system take

Bookends were updated to accommodate the extreme impacts of Covid



- ◆ This is a forecast the planners can use to start their modeling
- ◆ Demand response and controllable DER are modeled as resources downstream of the forecast
- ◆ Additional sensitivities will also be done in the modeling phase

References for more information

- ◆ Forecasts used to start the resource planning analysis (pre-Covid)
 - O'ahu
https://www.hawaiianelectric.com/documents/clean_energy_hawaii/integrated_grid_planning/stakeholder_engagement/working_groups/forecast_assumptions/oahu_IGP_forecast_by_layer.xlsx
 - Maui County
https://www.hawaiianelectric.com/documents/clean_energy_hawaii/integrated_grid_planning/stakeholder_engagement/working_groups/forecast_assumptions/MECO_IGP_forecast_by_layer.xlsx
 - Hawai'i Island
https://www.hawaiianelectric.com/documents/clean_energy_hawaii/integrated_grid_planning/stakeholder_engagement/working_groups/forecast_assumptions/hawaii_island_IGP_forecast_by_layer.xlsx
- ◆ Detailed description of developing the forecasts including the data sources and models
 - Docket No. 2018-0165 (IGP Docket) PUC-HECO-IR-1 and PUC-HECO-IR-2
- ◆ Forecast Assumptions Working Group Documents
<https://www.hawaiianelectric.com/clean-energy-hawaii/integrated-grid-planning/stakeholder-engagement/working-groups/forecast-assumptions-documents>



Experiences elsewhere



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Provide feedback on today's or any prior meeting's material and discussion:

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Mahalo!

