

Western Assessment of Resource Adequacy 2024 Annual Demand by Subregion

Annual Demand by Subregion

WECC's annual Western Assessment of Resource Adequacy (Western Assessment) examines resource-adequacy-related risks concerning the reliability of the Western Interconnection over the next 10 years. Through an energy-based probabilistic approach, WECC looks at the risks throughout the interconnection and five subregions (See Figure 1). This work is meant to help stakeholders target specific areas and topics for deeper evaluation and mitigation.



Figure 1: Map of the Western Interconnection with subregions

The 2024 Western Assessment examines the growth in annual demand, in TWh, over the next 10 years, and compares this year's forecasts to those made in the 2022 Western Assessment and 2023 Western Assessment.

In the Western Interconnection, annual demand is expected to grow from 942 TWh in 2025 to 1,134 TWh in 2034. (See Figure 2). While the forecast for 2025 is nearly identical to those made in previous years, the forecast increases significantly in the later years.

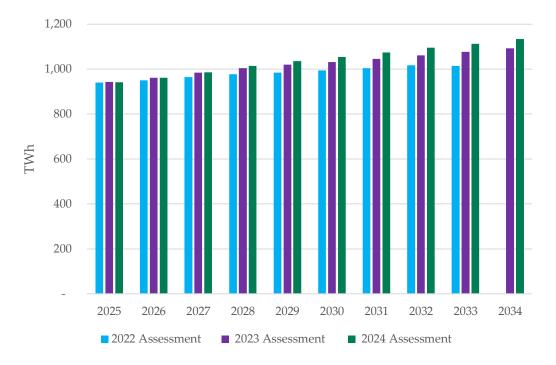


Figure 2: Annual demand projections for the Western Interconnection

In the California-Mexico subregion over the next decade, the 2024 Western Assessment projects the growth rate over the decade to be 23.5%, from 268 TWh in 2025 to 331 TWh in 2034 (See Figure 3). The current forecast is similar to those made in the 2022 and 2023 Western Assessments until 2030, when the projected growth rate increases. For example, the 2022 Assessment forecast the subregion's annual demand to be 302 TWh in 2033, while the 2023 Assessment forecast the subregion's annual demand at 313 TWh in 2033. That increases to 319 TWh in the 2024 Assessment.



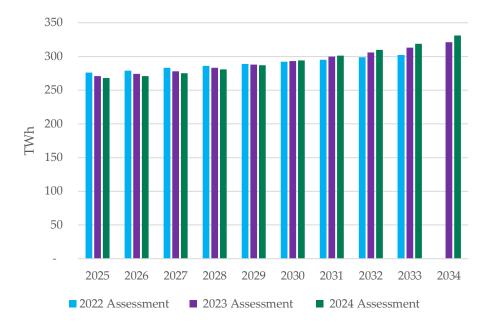


Figure 3: Annual demand projections for the California-Mexico subregion

In the NW-Central subregion over the next decade, annual demand is forecast to grow nearly 14% from 2025 through 2034, from 167 TWh to 190 TWh (See Figure 4). That is up significantly from the forecast made in the 2023 Assessment, which projected the subregion's annual demand to grow from 128 TWh in 2025 to 139 TWh in 2034. But the current forecast is not significantly higher than that found in the 2022 Assessment.

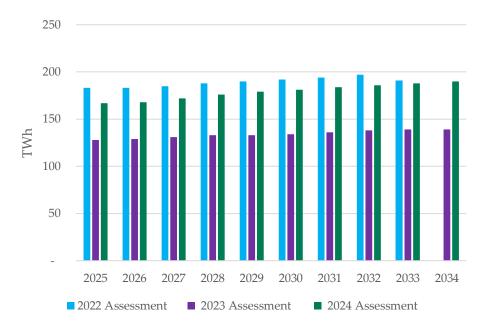


Figure 4: Annual demand projections for the NW-Central subregion



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Annual demand in the NW-Northeast subregion is forecast to grow 11.3% over the coming decade, from 133 TWh in 2025 to 148 TWh in 2034 (See Figure 5). That is significantly higher than the forecast made in the 2022 Assessment, which projected the subregion's annual demand to grow from 109 TWh in 2025 to 116 TWh in 2033.

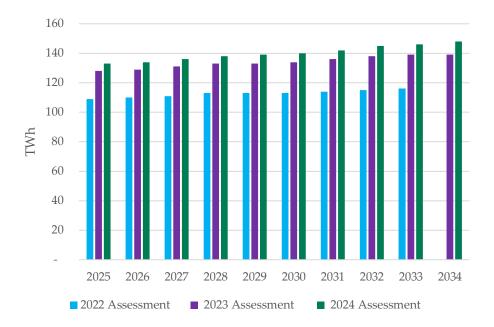


Figure 5: Annual demand projections for the NW-Northeast subregion

Annual demand in the NW-Northwest subregion is forecast to grow nearly 20% from 2025 through 2034, from 250 TWh in 2025 to 299 TWh in 2034 (See Figure 6). The forecast has grown steadily since the 2022 Assessment, which projected the subregion's annual demand to grow from 239 TWh in 2025 to 254 TWh in 2033.



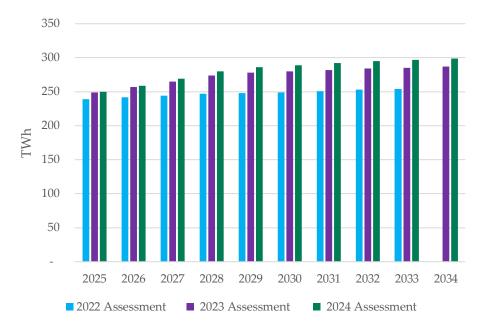


Figure 6: Annual demand projections for the NW-Northwest subregion

In the Desert Southwest subregion, annual demand is expected to grow 35% over the next decade, from 123 TWh in 2025 to 166 TWh in 2034 (See Figure 7). This forecast is lower in the next few years than those made in the 2022 and 2023 Assessments; they begin to increase over the forecasts made in previous Assessments beginning in 2030.

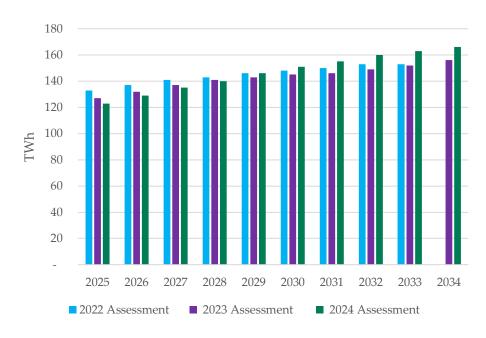


Figure 7: Annual demand projections for the Desert Southwest subregion

