

Resource Adequacy: Slice of Day

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Sep 3, 2025



Resource Adequacy

- Resource Adequacy (RA):
 - A compliance product to ensure there is a *plan* for adequate resources to match customer demand with available generation at any hour of the day in the CAISO.
 - Resource Adequacy is purchased as available capacity per month.

Resource Adequacy: Previous Framework



Resource Adequacy – Monthly Peak Requirement

- Prior to 2025, Ava had two types of Resource Adequacy requirements: System and Flexible

System RA

- Interconnected to CAISO
- Imports: energy imported from outside CAISO area

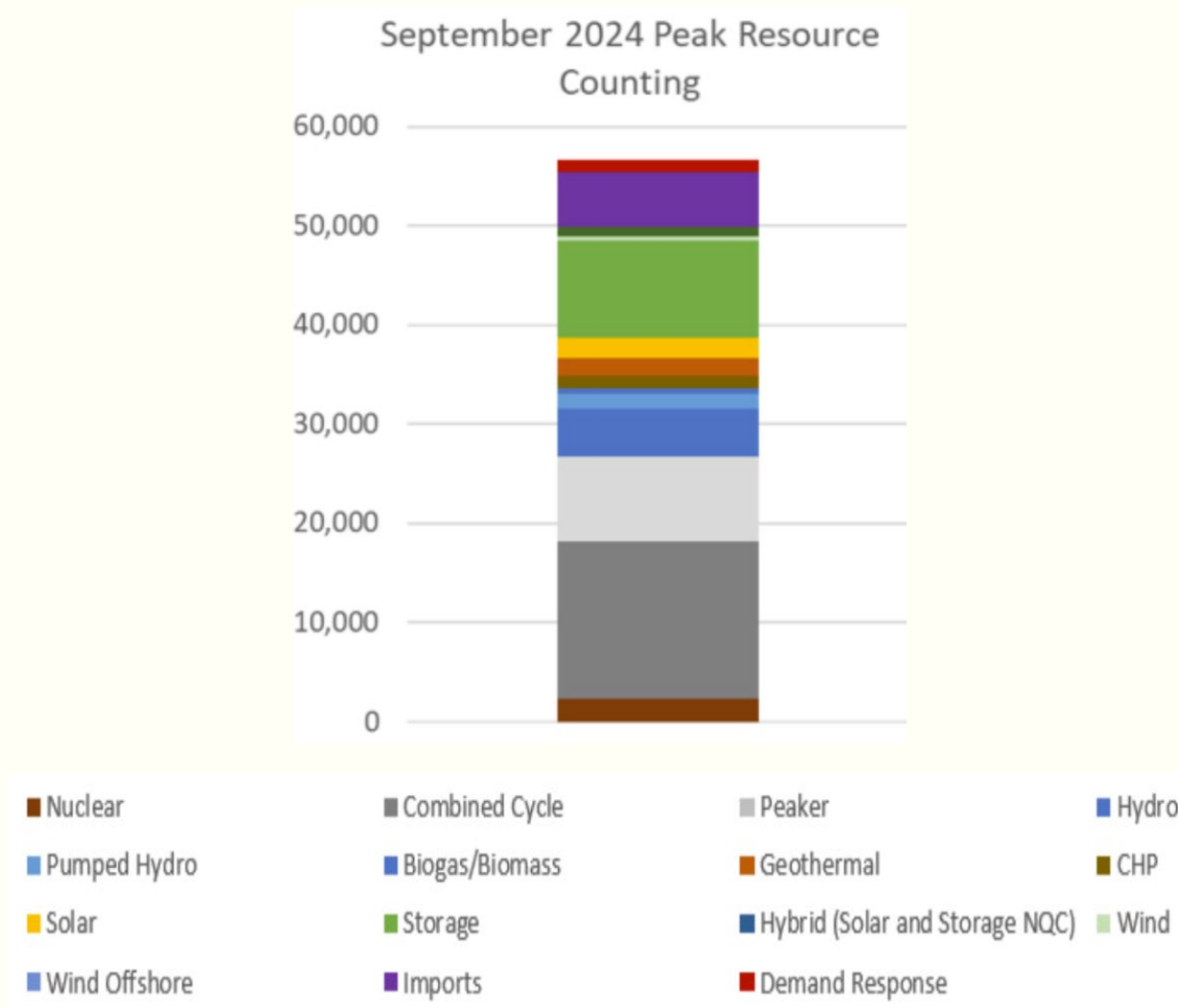
Flexible RA

- Determined by resource ability to increase output during load ramp hours
- Battery storage resources are flex

- The volume of RA Ava was required to procure in each month was based on:
 - Ava's peak customer demand and the planning reserve margin.
- Load serving entities (LSEs) must demonstrate compliance both to the CPUC and CAISO, annually and monthly.
- Local RA and Central Procurement Entity (CPE): Ava was responsible for a Local RA requirement in 2022 and years prior. Starting in 2023, CPE is responsible for Local RA procurement.

Resource Adequacy – Monthly Peak Supply Stack

Single Peak Monthly Requirement Illustration – CAISO System



Resource Adequacy: Current Framework



Resource Adequacy: Slice of Day

- Starting in 2025, RA requirements changed to a Slice of Day structure.
- Intent of change to Slice of Day: Minimize customer cost, meet hourly reliability needs, adapt to a changing grid.

Requirement

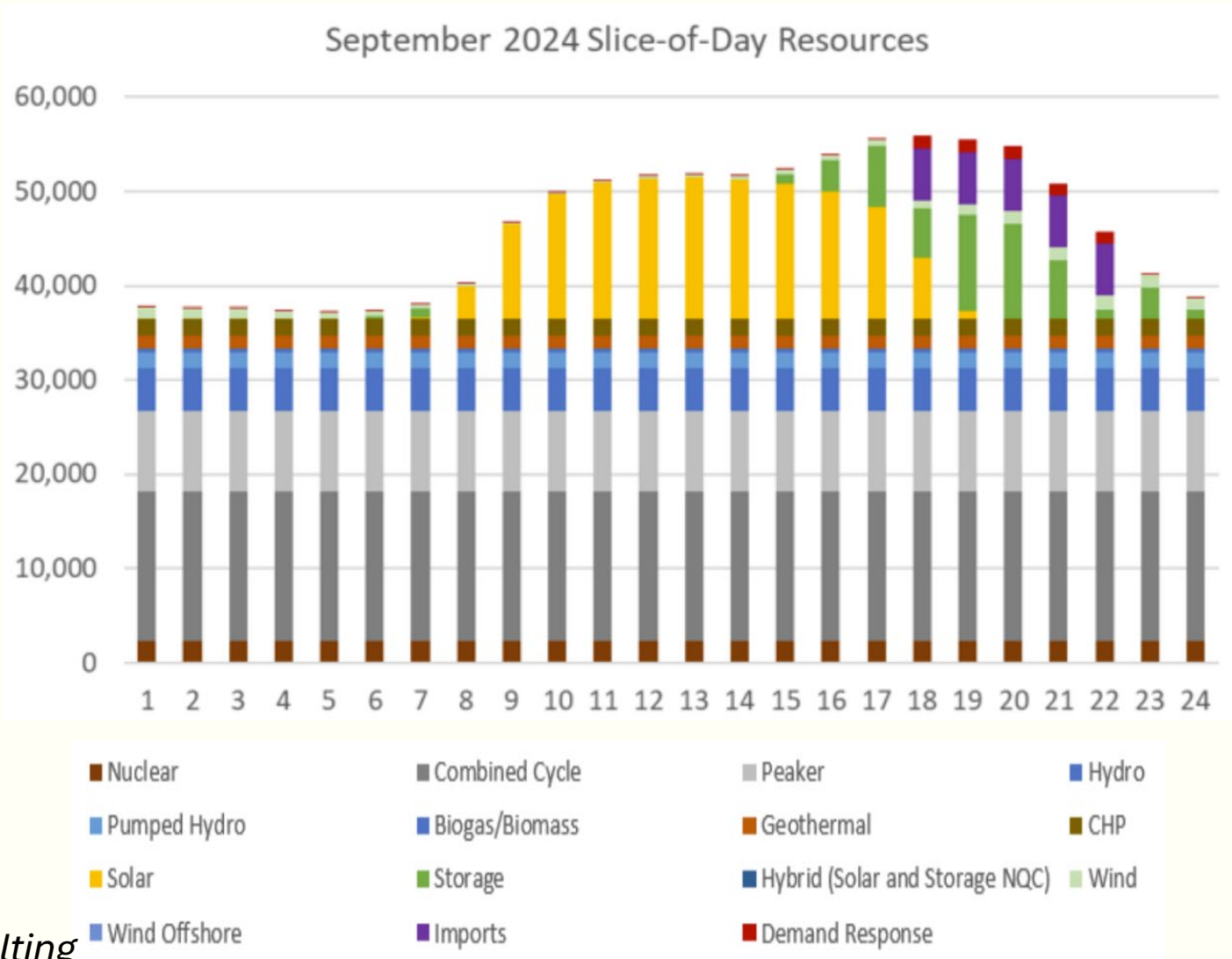
- RA obligations are based on Ava's hourly share of CAISO load for the “worst day” of each month plus a Planning Reserve Margin (PRM).
- LSE's must demonstrate sufficient electricity supply across 24 hours of each month.
- LSE's must procure to their own load shape.

Counting Rules

- Solar and wind resources are based on exceedance profiles, which is looking at historic availability based on region and technology.
- Thermal resources are based on Net Qualifying Capacity (NQC), the resource is assigned a value applied to all hours.
- Storage contributes up the Pmax, but is limited by the storage efficiency, excess generation is needed to charge storage.

Resource Adequacy: Slice of Day Supply Stack

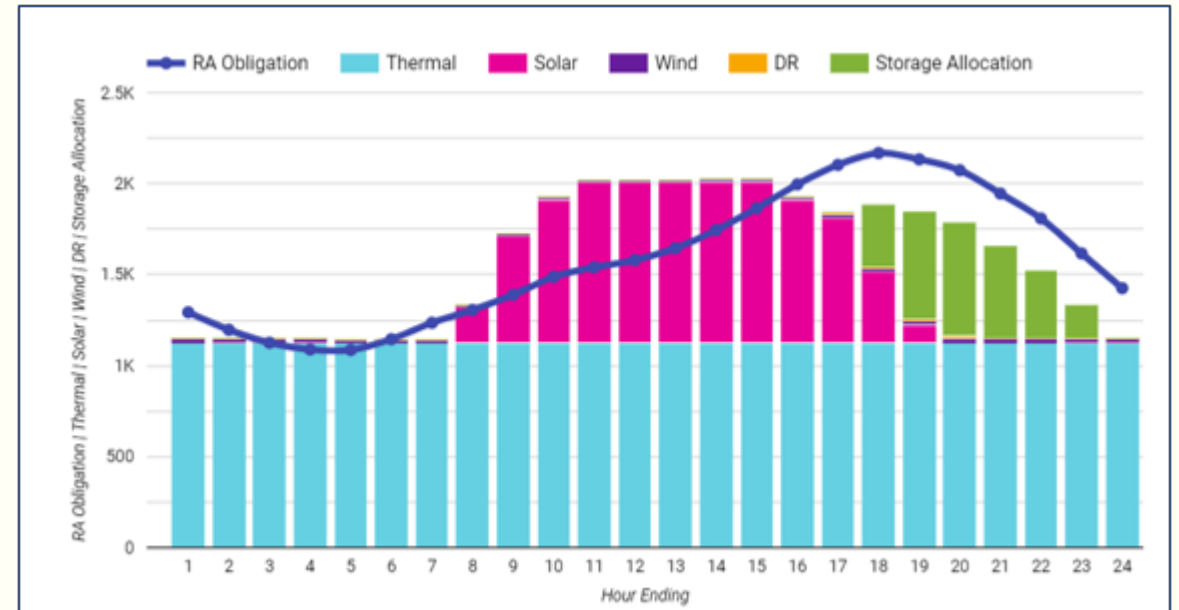
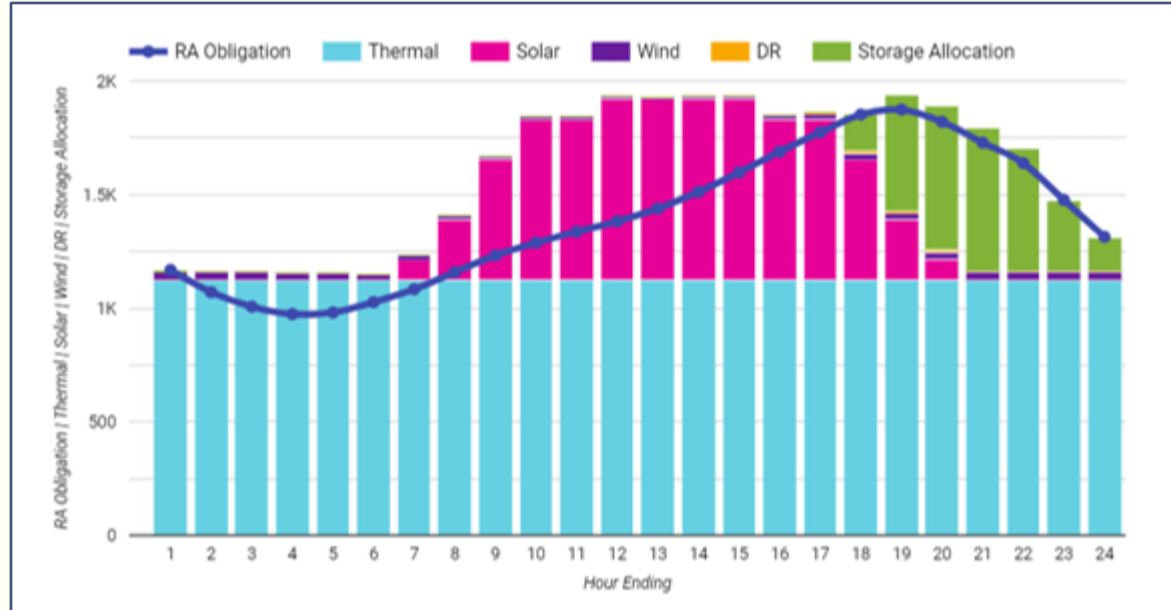
24-hour Monthly Requirement Illustration – CAISO System



Resource Adequacy: Slice of Day and Storage

- Storage resources in the Slice of Day framework can shift RA from hours of excess to hours of need.
- Excess RA from generating resources is required to charge storage for storage capacity to count toward RA compliance obligation.
- Result: LSEs must procure generation RA **in excess of** RA compliance obligation to “charge” storage for discharge in other hours.

Two hypothetical months under Slice of Day:





Community Energy