DOCKETED	
Docket Number:	21-ESR-01
Project Title:	Energy System Reliability
TN #:	243175
Document Title:	Presentation - CPUC Tracking Energy Development
Description:	N/A
Filer:	Courtney Wagner
Organization:	California Energy Commission
Submitter Role:	Commission Staff
Submission Date:	5/20/2022 8:20:28 AM
Docketed Date:	5/20/2022

Tracking Energy Development

Presentation at CEC Staff Workshop on Summer and Midterm Reliability

Molly Sterkel, CPUC Energy Division

May 20, 2022

www.cpuc.ca.gov/summerreadiness

Tracking Energy Development (TED) Task Force

Participation

- Joint Effort of **CPUC, CEC, CAISO and Governor's Office of Business and Economic Development (GO-Biz)**.

Objective

- Track new energy projects coming online and under development.
- Provide project development support, as appropriate.
- Identify barriers and coordinate action across agencies.

Priority

- Priority is on reliability projects expected online by 2023.
- Likely expansion to projects that can be online by 2026.

Governor Newsom's Emergency Proclamation July 30, 2021

"The CEC is directed, and the CPUC and the CAISO are requested, to work with the State's load serving entities on accelerating plans for the construction, procurement, and rapid deployment of new clean energy and storage projects to mitigate the risk of capacity shortages and increase the availability of carbon-free energy at all times of day."

-- Proclamation, p.3

Contact: CPUC, Molly Sterkel (mts@cpuc.ca.gov) and Naveed Paydar (Naveed.paydar@cpuc.ca.gov)

New Online Energy Resources

Data as of May 2022

New Resources Added in CAISO, July 2020 – April 2022

Technology Type	Net Qualifying Capacity (NQC) MW	Nameplate Capacity (MW)	Number of Projects
STORAGE	2,871	3,111	49
SOLAR	454	2,708	45
WIND	278	1,855	23
NATURAL GAS	335	335	2
OTHER*	13	22	3
Total New Resources	**3,950 MW NQC**	**8,030 Nameplate MW**	**122**

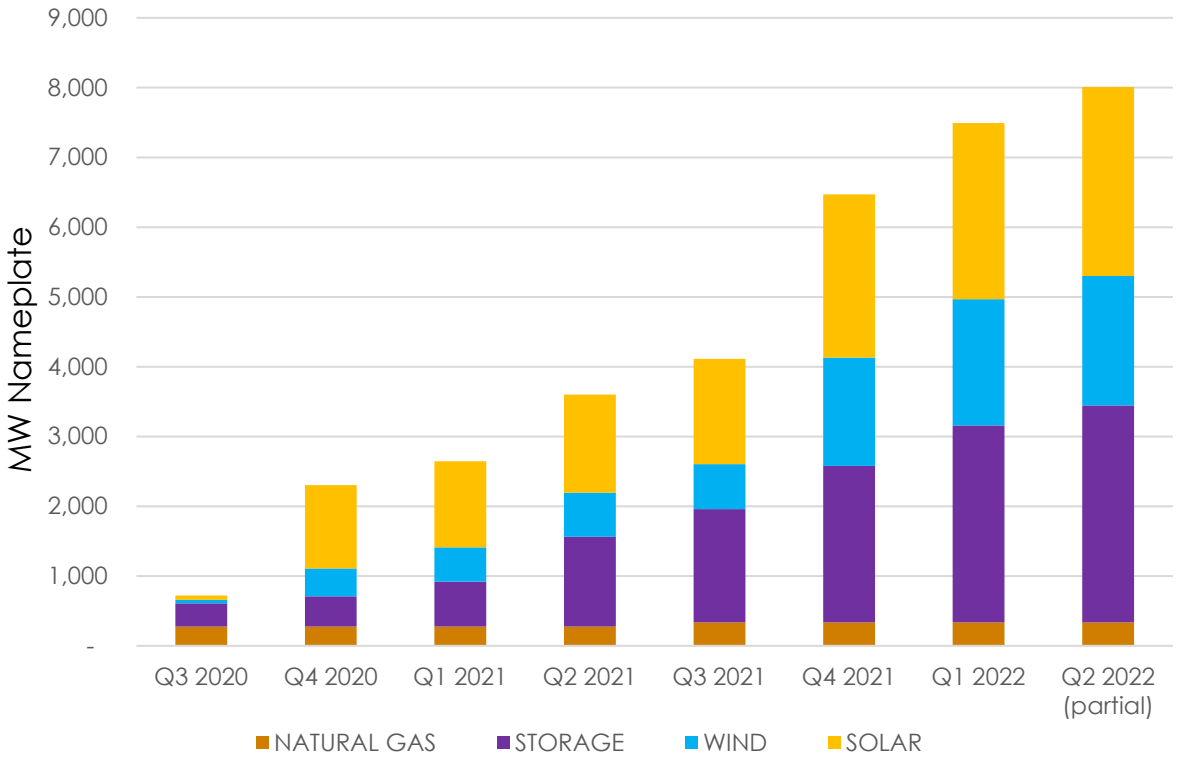
Notes:
All data shown derived from CAISO Master Generating Capability List, and CPUC NQC Lists with online dates between July 1, 2020 – April 15, 2022. Nameplate Capacity is shown as "Net Dependable Capacity" in the CAISO Master Generating List file. Data shown includes both in-CAISO generation and specified imports, both cumulatively. [8,030 MW Nameplate = 6,249 MW In-CAISO + 1,781 MW Specified Imports] [3,950 MW NQC = 3,287 MW NQC In-CAISO + 664 MW NQC]. All NQC values are "September NQC". "Project" is defined as a unique CAISO resource ID. "Natural Gas" includes 275 MW Sutter added to the CAISO via pseudo-tie. * "Other" includes 17 MW geothermal, 2 MW biomass, and 3 MW hydro added during period displayed.

New Online Energy Resources

Data as of May 2022

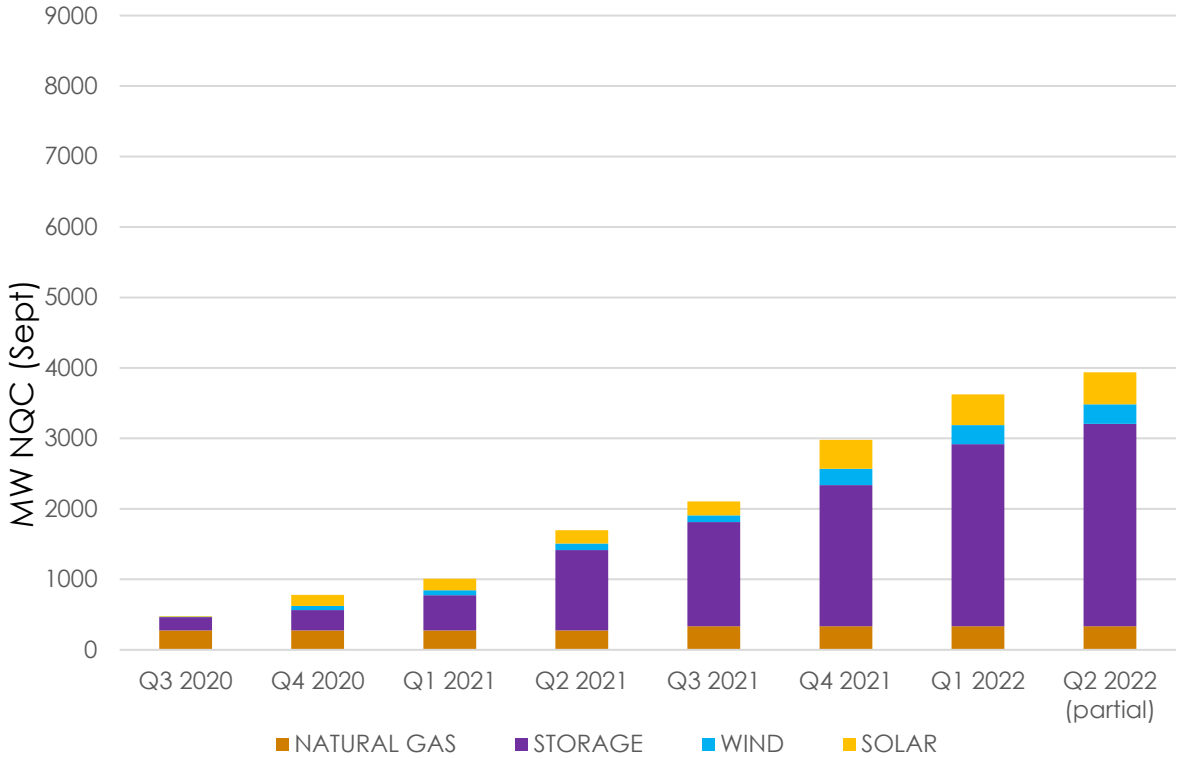
Nameplate MW

New MW Nameplate, by Quarter
Total = ~8,000 MW Nameplate since July 2020



NQC MW

New MW NQC, by Quarter
Total = ~4,000 MQ NQC since July 2020



Notes: All data shown derived from CAISO Master Generating Capability List, and CPUC NQC Lists with online dates between July 1, 2020 – April 15, 2022. Nameplate Capacity is shown as "Net Dependable Capacity" in the CAISO Master Generating List file. All NQC values are "September NQC". Data shown includes both in-CAISO generation and specified imports, both cumulatively. "Natural Gas" includes 275 MW Sutter added to the CAISO via pseudo-tie. Data shown omits 17 MW geothermal, 2 MW biomass, and 3 MW hydro added during period displayed.

Issues Currently Impacting Energy Development

Supply Chain

- Department of Commerce Investigation – Auxin Solar Petition (AD/CVD)
- Manufacturing disruptions (Pandemic-related lockdowns in China, labor strikes)
- Shipping disruptions
- Inflation/ Price increases
- Market-tightening/ intense competition with other markets
- Wide-ranging materials shortages, both energy-specific and all-construction projects.
- Commodity market challenges

Interconnection and Transmission

- Lengthy interconnection study processes and standard timelines
- Long-lead timelines for transmission network upgrades and interconnection facilities upgrades
- Complexity of managing high volume of queued projects, new projects, and project modifications
- Complex processes requiring intense coordination across interconnecting utility
- High level of workforce expertise required

Permitting

- Large volume of projects seeking permitting review
- Projects are under development in 40 counties (100+ cities)
- Learning curves on
  - Storage Technology
  - Storage fire-safety issues
  - Adding storage to existing projects
  - Permitting projects with two technologies

Data as of May 2022

Estimates for Resources Expected 22-23

In 2019 and 2021, CPUC ordered new procurement

- 14,800 MW New NQC by 2026, with annual requirements

Load-Serving Entities (LSEs) are actively contracting

- Quantity of MW in contract is **extremely dynamic**
- ~6,700 MW NQC at ~200 projects are in contract to serve summers 2022-2023, including some already online
- Additional contracting in place & underway for 2024-2026

Issues facing contracted projects

- It is highly likely issues will lead to delays for some -- if not many -- of these projects
- It is also likely that additional contracting for 2023, and beyond, will occur, especially as issues evolve

Potential New Resources Additions for Summers 2022-2023

	Estimated Net Qualifying Capacity (NQC) MW	Estimated Nameplate Capacity (MW)	Estimated Number of New Projects
STORAGE	4,500	4,900	80
SOLAR	300	2,100	40
SOLAR+STORAGE	1,700	4,000	50
WIND	100	700	15
OTHER	100	100	15
Estimated New Resources 2022-2023	**~6,700 MW NQC**	**~11,800 Nameplate MW**	**~200**

Notes:
CPUC Staff compilation of data submitted to CPUC thru 5/5/2022 by Load-Serving Entities. Expected Online Dates between October 1, 2021 – Sept 30, 2023. All NQC = September NQC. Data shown includes projects under contract but does not account for project development challenges. Data excludes projects brought online by Sept. 30, 2021 that contribute to CPUC orders, and Data includes as much as 1,800 MW NQC already online between Oct.1, 2021 and April 30, 2022. "Other" includes geothermal, biomass, biogas, CHP-Waste. "New Project" is either a unique contract or a unique CAISO resource ID.

Strategies to Support Energy Development

- **Increase General Awareness**
  - Importance of new energy development to meeting the State's near-term reliability needs and long-term policy goals
  - High levels of development are the "new normal" – will persist throughout the decade
- **Develop Tools to Communicate Key Information**
  - Track procurement to create a dashboard of projects in development
  - Share information about transmission network upgrades needed for generator development, see CAISO's Transmission Development Forum
- **Look for Opportunities for Process Improvements**
  - Interconnection processes and related transmission development processes
  - Use feedback from load-serving entities and developers to enhance existing policy efforts at CEC, CAISO, CPUC
- **Facilitate Timely Communications**
  - Focus attention on near-term projects coming online in time for Summer (e.g. shipping issues, last minute permitting, interconnection or testing issues)

Questions?

www.cpuc.ca.gov/summerreadiness