

# Status of New Resources Expected

November 2020

CPUC Energy Division

[www.cpuc.ca.gov/irp](http://www.cpuc.ca.gov/irp)

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# Significant New Clean Energy Resources are Expected to be Online by August 2021

- Significant quantities of new clean energy resources will come online based on CPUC staff review of resources under contract to Load Serving Entities (LSEs).
- New clean energy resources will largely replace gas-fired resources that are expected to retire over the next few years.
- Based on existing contracts underway:
  - By August 2021, there are expected to be additions of 2,388 NQC MW (~4,315 Nameplate MW) of new capacity.
  - By August 2024, there are expected to be cumulative additions of 3,977 NQC MW (~8,191 Nameplate MW) of new capacity.
- In addition to existing contracts underway, further significant incremental new resources are expected in the next few years:
  - An additional 1,368 NQC MW, ordered by CPUC in November 2019, is expected to be online by August 2024 (518 NQC MW of that by August 2021). These additional incremental new NQC MWs were either not yet under contract at the time the data was compiled, or the contracts are still confidential.
  - Future incremental new resources, above all specified NQC MWs above, are likely to be developed as a result of the CPUC's Integrated Resource Planning process, but either not yet specifically contracted for or not yet ordered.

	New Resources Expected Online by 8/2021	New Resources Expected Online by 8/2024
<b>New Resources Expected, Net Qualifying Capacity (NQC) MW Contracted &amp; Expected to Count Towards Resource Adequacy</b>	2,388 NQC MW	3,977 NQC MW
<b>New Resources Expected, Nameplate Capacity MW Contracted</b>	4,315 Nameplate MW	8,191 Nameplate MW
<b>Number of Projects Expected, Contracted</b>	62 projects	121 projects

# Notes on Data

- Data within this deck is based on best information available to staff through November 2020, but data about expected new resources is **constantly subject to change**.
- Even though the underlying data provided herein is subject to change, overall the tables provided demonstrate indicative information about the new resources expected to come online from a variety of CPUC procurement orders and the resource contracting underway by over 40 Load Serving Entities (LSEs).
- Data is shown as both Net Qualifying Capacity (NQC) megawatts (MW) and as Nameplate MW.
  - The NQC MW value adjusts the Nameplate MW value for the resource's ability to provide reliable capacity to the electric grid during peak periods. Only the NQC MW value can count towards Resource Adequacy.
  - All NQC MW values represent September NQC Values.
- Data is not a reliability assessment; data shows expected new resources but is not intended to demonstrate or assess resource sufficiency.
  - Does not include resources already online by August 2020.
  - Does not assess or characterize new resource certainty due to potential project failure risks. All new resources are uncertain until they are online.
  - Does not compare load forecasts with existing resources plus new resources and does not reflect retirements.
- Further resource sufficiency and reliability assessments are needed and underway in CPUC's Integrated Resource Planning (IRP) rulemaking.
  - In 9/2020, Load Serving Entities (LSEs) submitted IRP procurement plans containing data on contracted and planned resources.
  - IRP Plans are being reviewed by CPUC to assess resource sufficiency.

# **New Resources Expected, Net Qualifying Capacity (NQC) MW**

**The nameplate capacity MW of a resource is adjusted to net qualifying capacity (NQC) to demonstrate the amount of capacity that counts towards Resource Adequacy (RA) program compliance.**

# New Resources Expected, NQC MW Contracted, By Technology Type

Sum of Net Qualifying Capacity (NQC), September NQC Megawatts (MW)					
	Online by 8/1/2021	Online by 8/1/2022	Online by 8/1/2023	Online post 8/1/2023	Grand Total
Energy Storage	1,461	661	105	10	2,236
Solar plus Storage	646	81	284	257	1,268
Solar	158	61	92		311
Wind	111	24			135
Geothermal		14			14
Small Hydro	12				12
<b>Total, Contracted NQC MW</b>	<b>2,388</b>	<b>840</b>	<b>481</b>	<b>267</b>	<b>3,977</b>

Note: There may be additional NQC MWs that may be online by 8/1/2021, but they are omitted from this chart because either the resources are uncontracted or the contracting is confidential. All resources shown are new Net Qualifying Capacity (NQC) MWs that were not online prior to August 2020. NQC is the nameplate capacity adjusted for the resource's ability to count towards Resource Adequacy. All resources are uncertain until they are online. Some resources may not obtain full deliverability status until after 8/1.

# New Resources Expected – NQC MW By Load Serving Entity (LSE) Type, By Technology Type

Sum of Net Qualifying Capacity (NQC), September NQC Megawatts (MW)					
	Online by 8/1/2021	Online by 8/1/2022	Online by 8/1/2023	Online post 8/1/2023	Grand Total
<b>Contracted NQC MW</b>	<b>2,388</b>	<b>840</b>	<b>481</b>	<b>267</b>	<b>3,977</b>
<i>Investor-Owned Utility (IOUs)</i>	1,769	548	33	10	2,360
Energy Storage	1,221	548	25	10	1,804
Solar plus Storage	494				494
Solar	38		8		47
Wind	16				16
<b>Community Choice Aggregators (CCAs)</b>	<b>584</b>	<b>274</b>	<b>427</b>	<b>257</b>	<b>1,543</b>
Solar plus Storage	152	81	269	257	759
Energy Storage	240	113	80		433
Solar	85	58	78		221
Wind	96	9			105
Geothermal		14			14
Small Hydro	12				12
<b>Electric Service Providers (ESPs)</b>	<b>35</b>	<b>18</b>	<b>21</b>		<b>74</b>
Solar	35	3	6		43
Solar plus Storage			15		15
Wind		15			15
<b>Confidential or Uncontracted NQC MW</b>	<b>518</b>	<b>156</b>	<b>693</b>		<b>1,368</b>
<b>Grand Total NQC MW</b>	<b>2,906</b>	<b>996</b>	<b>1,175</b>	<b>267</b>	<b>5,345</b>

Notes: All resources shown are new Net Qualifying Capacity (NQC) MWs that were not online prior to August 2020. NQC is the nameplate capacity adjusted for the resource's ability to count towards Resource Adequacy. All resources are uncertain until they are online. Some resources may not obtain full deliverability status until after 8/1. The confidential and uncontracted NQC MW resources shown represent additional CPUC ordered procurement that are either confidential or uncontracted.

# New Resources Expected – NQC MW By Procurement Program

Sum of Net Qualifying Capacity (NQC), September NQC MW					
	Online by 8/1/2021	Online by 8/1/2022	Online by 8/1/2023	Online post 8/1/2023	Grand Total
<b>Contracted, By Procurement Program NQC MW</b>	<b>2,388</b>	<b>840</b>	<b>481</b>	<b>267</b>	<b>3,977</b>
IRP/ 2019 Near-Term Procurement	1,107	669	132		1,907
Renewable Portfolio Standard (RPS)	260	54	245	22	580
Local Sub-Area/2018 LCR Moss Landing RFO	558				558
Other	120	13	80	236	448
Storage Mandate AB 2514/ 2016 Energy Storage RFO		70	25	10	105
Local Capacity Requirement (LCR)	100				100
2013 Local Capacity Requirement (LCR)	100				100
Aliso Canyon Energy Storage (ACES)	40				40
SONGs/Track IV 2016 Pref Res LCR RFO	30	9			39
Distributed Resources Plan (DRP DIDF/2019 RFO)	16	21			37
Aliso Canyon Energy Storage 2 (ACES2)	31				31
Preferred Resources Pilot (PRP)	20	5			25
Integrated Distributed Energy Resources (IDER) 2018 RFO	5				5
Distributed Resources Plan (DRP/DIDF) 2018 RFO	3				3
<b>Confidential or Uncontracted NQC MW</b>	<b>518</b>	<b>156</b>	<b>693</b>		<b>1,368</b>
<b>Grand Total NQC MW</b>	<b>2,906</b>	<b>996</b>	<b>1,175</b>	<b>267</b>	<b>5,345</b>

Notes: All resources shown are new Net Qualifying Capacity (NQC) MWs that were not online prior to August 2020. NQC is the nameplate capacity adjusted for the resource's ability to count towards Resource Adequacy. All resources are uncertain until they are online. Some resources may not obtain full deliverability status until after 8/1. The confidential and uncontracted NQC MW resources shown represent additional CPUC ordered procurement that are either confidential or uncontracted.



# Number of New Projects Expected, Contracted

# Number of New Projects Expected, Under Contract By Load Serving Entity, By Technology Type

Load Serving Entity (LSE), Technology Type, Number of New Projects					
	Online by 8/1/2021	Online by 8/1/2022	Online by 8/1/2023	Online by 8/1/2024	Grand Total
<b><i>Investor-Owned Utility (IOUs)</i></b>	<b>34</b>	<b>15</b>	<b>4</b>	<b>1</b>	<b>54</b>
Energy Storage	25	15	1	1	42
Solar	3		3		6
Solar plus Storage	5				5
Wind	1				1
<b><i>Community Choice Aggregators (CCAs)</i></b>	<b>27</b>	<b>17</b>	<b>15</b>	<b>3</b>	<b>62</b>
Solar	10	6	6		22
Solar plus Storage	3	4	8	3	18
Wind	9	1			10
Energy Storage	4	5	1		10
Geothermal		1			1
Small Hydro	1				1
<b><i>Energy Service Providers (ESPs)</i></b>	<b>1</b>	<b>2</b>	<b>2</b>		<b>5</b>
Solar	1	1	1		3
Wind		1			1
Solar plus Storage			1		1
<b>Grand Total, Number of Projects</b>	<b>62</b>	<b>34</b>	<b>21</b>	<b>4</b>	<b>121</b>

Note: Exact numbers are approximate, due to some projects being jointly procured by LSEs. In some instances, multiple LSEs reported a project jointly; while in other instances, multiple LSEs reported a project multiple times (each project entry representing just a subset of the total project under contract to that specific LSE.)

# **New Resources Expected, Nameplate Capacity MW**

**Nameplate Capacity MWs have not been adjusted to Net Qualifying Capacity (NQC) MWs for the purposes of counting towards Reliability (aka Resource Adequacy)**

# New Resources Expected, Nameplate MW By Load Serving Entity Type, By Technology Type

Sum of Nameplate Capacity (MW)					
	Online by 8/1/2021	Online by 8/1/2022	Online by 8/1/2023	Online post 8/1/2023	Grand Total
<b>Contracted Nameplate MW</b>	<b>4,315</b>	<b>1,544</b>	<b>1,712</b>	<b>620</b>	<b>8,191</b>
<b>Investor-Owned Utilities (IOUs)</b>	<b>2,181</b>	<b>541</b>	<b>85</b>	<b>10</b>	<b>2,817</b>
Energy Storage	1,211	541	25	10	1,787
Solar plus Storage	592				592
Solar	273		60		333
Wind	105				105
<b>Community Choice Aggregators (CCAs)</b>	<b>1,884</b>	<b>883</b>	<b>1,492</b>	<b>610</b>	<b>4,869</b>
Solar plus Storage	391	282	853	610	2,136
Solar	604	413	559		1,576
Wind	637	60			697
Energy Storage	240	113	80		433
Geothermal		14			14
Small Hydro	12				12
<b>Energy Service Providers (ESPs)</b>	<b>250</b>	<b>120</b>	<b>135</b>		<b>505</b>
Solar	250	20	40		310
Wind		100			100
Solar plus Storage			95		95
<b>Confidential or Uncontracted Nameplate MW</b>	<b>518</b>	<b>156</b>	<b>693</b>		<b>1,368</b>
<b>Grand Total Nameplate MW</b>	<b>4,833</b>	<b>1,700</b>	<b>2,405</b>	<b>620</b>	<b>9,559</b>

Notes: All resources shown are new Nameplate MWs that were not online prior to August 2020. The Nameplate MWs must be adjusted downwards to convert the capacity to net qualifying capacity, or NQC MW, that demonstrates the resource's ability to count towards Resource Adequacy. All resources are uncertain until they are online. Some resources may not obtain full deliverability status until after 8/1. The confidential and uncontracted NQC MW resources shown represent additional CPUC ordered procurement that are either confidential or uncontracted.

# New Resources Expected, Nameplate MW Contracted, By Technology Type

Sum of Contracted Nameplate Capacity MW					
	Online by 8/1/2021	Online by 8/1/2022	Online by 8/1/2023	Online post 8/1/2023	Grand Total
Solar plus Storage	983	282	948	610	2,823
Energy Storage	1,451	654	105	10	2,220
Solar	1,127	433	659		2,219
Wind	742	160			902
Geothermal		14			14
Small Hydro	12				12
<b>Total, Contracted Nameplate MW</b>	<b>4,315</b>	<b>1,544</b>	<b>1,712</b>	<b>620</b>	<b>8,191</b>

Note: All resources shown are new Nameplate MWs that were not online prior to August 2020. The Nameplate MWs must be adjusted downwards to convert the capacity to net qualifying capacity, or NQC MW, that demonstrates the resource's ability to count towards Resource Adequacy. All resources are uncertain until they are online. This table does not include resources online prior to August 2020 and does not show confidential or uncontracted resources.

# Expected Resources from CPUC's November 2019 Integrated Resource Planning (IRP) Procurement Order

November 2019 IRP Order required 3,300 MW NQC by 8/1/2023. There were three tranches ordered and some existing capacity is eligible to count towards the order. Tranches are 1,650 MW NQC by 8/1/2021, and 825 MW NQC by 8/2022 and 825 MW NQC by 8/2023.

For more information on the IRP Procurement Track:

<https://www.cpuc.ca.gov/General.aspx?id=6442463413>

# IRP Near Term Procurement Order, Capacity MW NQC by Load Serving Entity (LSE) Type, by Technology Type

Sum of IRP Near Term Procurement NQC MW, September NQC MW					
	Online prior to 8/1/2020	Online by 8/1/2021	Online by 8/1/2022	Online by 8/1/2023	Grand Total
<b>Contracted, NQC MW</b>	<b>25</b>	<b>1,107</b>	<b>669</b>	<b>132</b>	<b>2,030</b>
<i>Investor-Owned Utilities (IOUs)</i>		<b>798</b>	<b>433</b>		<b>1,329</b>
Energy Storage		304	433		737
Solar plus Storage		494			494
<i>Community Choice Aggregators (CCAs)</i>	<b>17</b>	<b>274</b>	<b>218</b>	<b>111</b>	<b>619</b>
Energy Storage		135	110		245
Solar plus Storage		54	53	65	173
Solar	14	37	40	46	137
Wind	3	47			51
Geothermal			14		14
<i>Energy Service Providers</i>	<b>8</b>	<b>35</b>	<b>18</b>	<b>21</b>	<b>82</b>
Solar	8	35	3	6	51
Solar plus Storage				15	15
Wind			15		15
<b>Confidential LSE or Uncontracted, NQC MW</b>		<b>518</b>	<b>156</b>	<b>693</b>	<b>1,368</b>
<b>Grand Total, IRP Procurement Order NQC MW</b>	<b>25</b>	<b>1,625</b>	<b>825</b>	<b>825</b>	<b>3,300</b>

Note: Table only shows IRP Near-Term Procurement order related projects and does not include all expected new NQC MW since other procurement programs are expected to result in new resources in the same timeframe. Table does include 25 NQC MW of resources that were online prior to August 2020 that are likely to count towards the IRP near-term procurement order, but that 25 NQC MW are not included in other slides. Some procurement shown as IOU procurement may be IOUs on behalf of non-IOU customers in cases where a CCA or ESP chose an opt-out provision of the IRP Near-Term procurement order.



# California Public Utilities Commission

For more information:  
[www.cpuc.ca.gov/irp](http://www.cpuc.ca.gov/irp)