

Memorandum

To: ISO Board of Governors

From: Keith Casey, Vice President, Market & Infrastructure Development

Date: July 3, 2013

Re: Briefing on renewables in the generator interconnection queue and downsizing process status

This memorandum does not require Board action.

EXECUTIVE SUMMARY

The information included in this briefing represents the status of renewable generation in the California Independent System Operator Corporation's generator interconnection queue as of June 17, 2013. Key highlights include:

1. The current ISO queue contains approximately 40,000 MW (25,000 MW renewable) actively seeking to interconnect to the ISO controlled grid;
2. Changes in renewable projects in the queue since the last generator interconnection queue update include approximately 200 MW of projects that reached commercial operation and 12,600 MW of project withdrawals and downsizings;
3. The Cluster 6 window for new project submittals closed April 30, 2013 with approximately 5,200 MW of new conventional projects and 3,800 MW of new renewable projects entering the queue;
4. Compared to the amount of new generation needed to meet the mandated 33% Renewables Portfolio Standard by 2020, the ISO queue currently contains approximately two times that amount, 85% of which has completed the study process; and
5. Cluster 5 is entering into Phase II studies, Cluster 6 is entering into Phase I studies, and studies related to the generator project downsizing process are complete.

DISCUSSION

The following graphs illustrate the renewables in the ISO queue from several perspectives, and provide further information on the generator project downsizing process.

Figure 1 shows the amount of renewable generation in the interconnection queue over time and breaks down the types of renewable capacity. During the February 15, 2013 to June 17, 2013 period the queue experienced a net reduction of 8,944 MW.

Figure 1
Change in Renewable Capacity in ISO Queue since July 2011

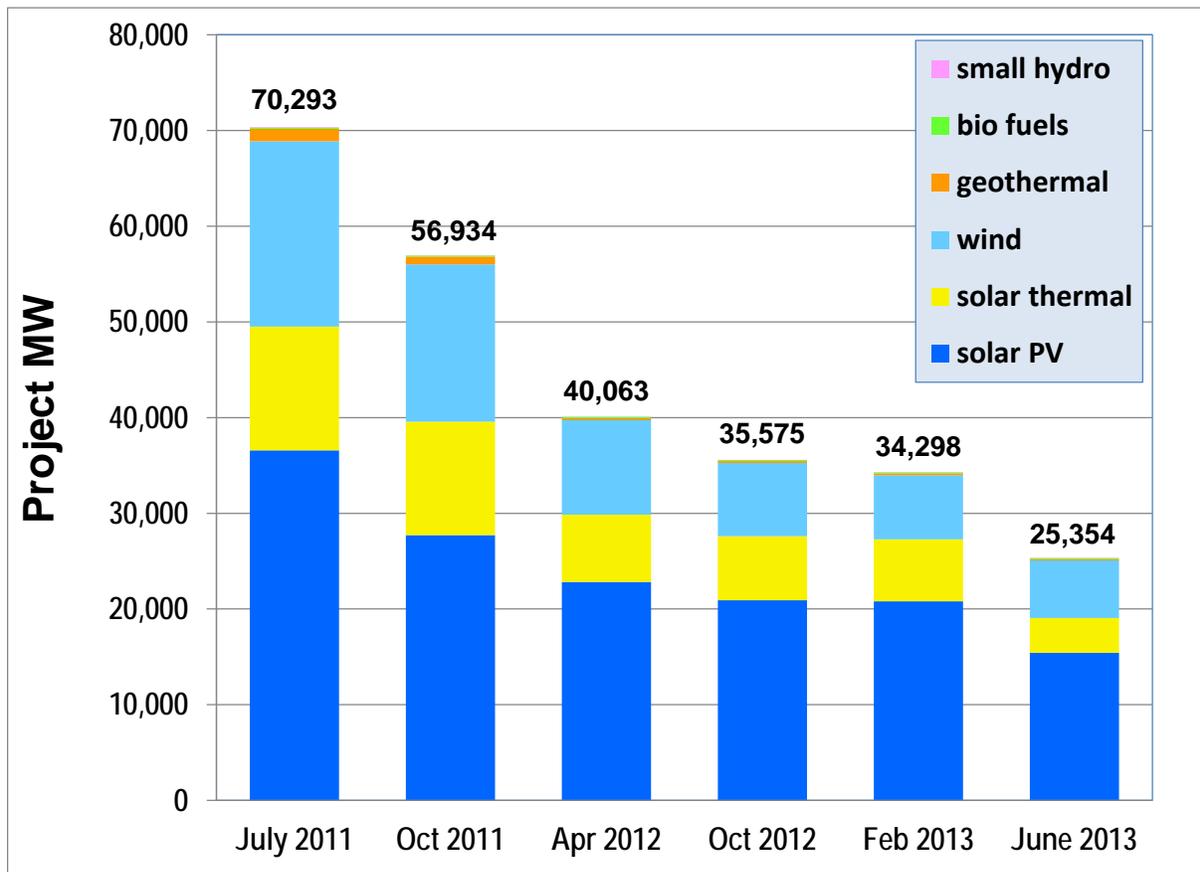


Figure 2 displays the amount of renewable capacity in the queue by study group and shows the capacity reductions within each study group. If the Cluster 6 bar is ignored, the total of all categories in each of the remaining bars represents the capacity that was in the queue as of February 15, 2013. The blue portion of each bar represents the June 2013 capacity that remains in the queue.

Since the March update 12,788 MW of renewable capacity exited the queue, 8,892 MW coming from project withdrawals, 3,698 MW from project downsizings, and 198 MW from projects that reached commercial operation. Clusters 3, 4 and 5 had posting requirements during the month of May, which resulted in the majority of the withdrawals, 7,595 MW. The Cluster 6 open window provided an additional 3,844 MW of new projects, resulting in a net 8,944 MW change in renewable project capacity in the queue.

Figure 2
Renewable Generation Capacity in the ISO Queue by Study Group
(changes by study group since March 2013 update)

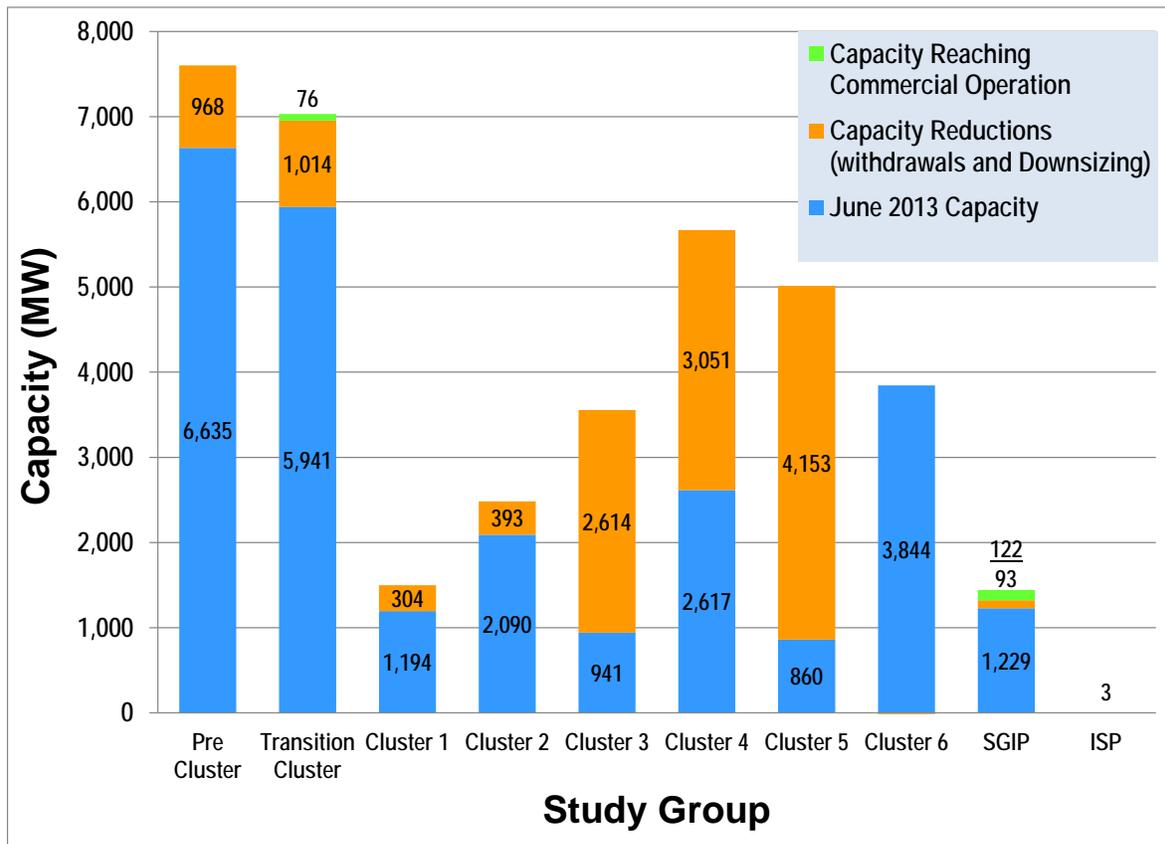


Figure 3 provides insight into the amount of generation capacity in the ISO queue by project size and type. Solar PV continues to be the dominant generating technology for all size ranges. Figure 3 also provides a breakdown of the capacity in the ISO queue by the number of projects for each project size category. Projects in the 100 to 500 MW category make up 71% of project capacity; however, the 1 to 20 MW category continues to make up the largest number of projects.

Figure 3
MW of Renewable Projects in ISO Queue
by Size and Type

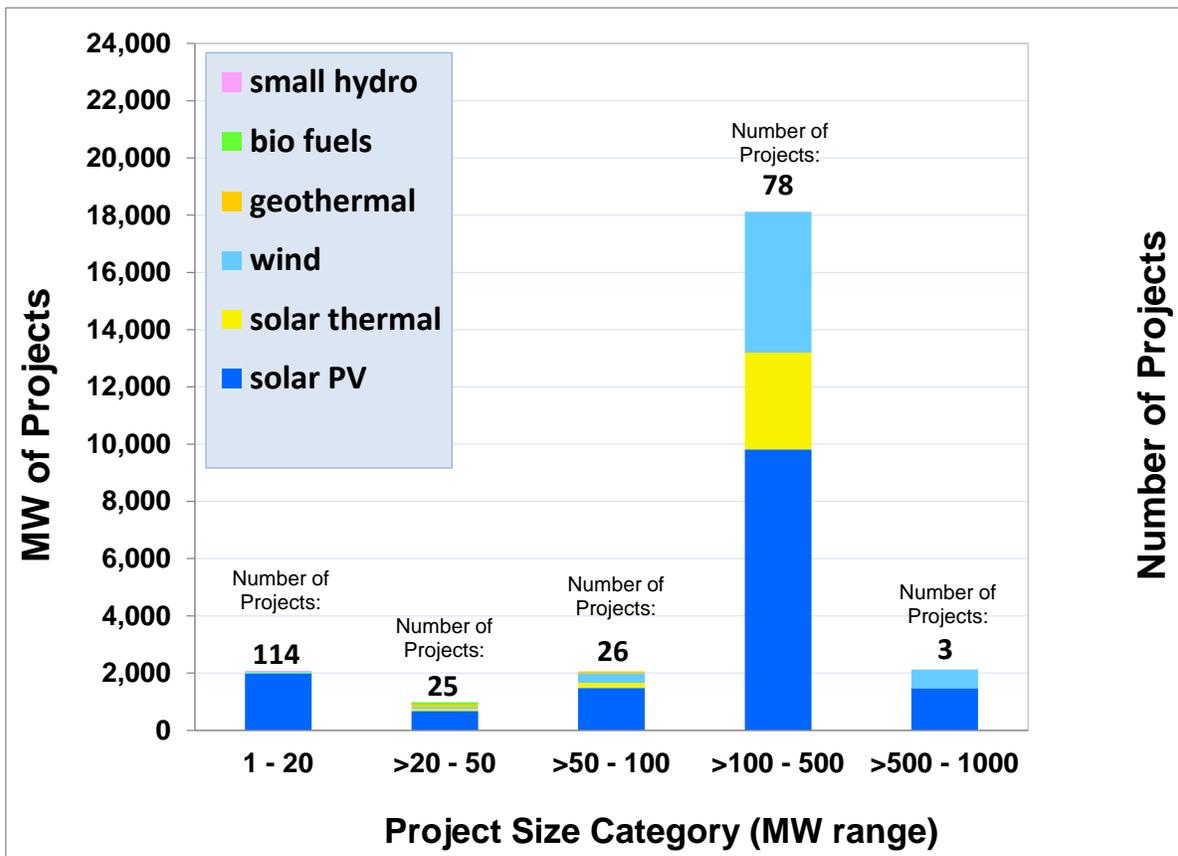
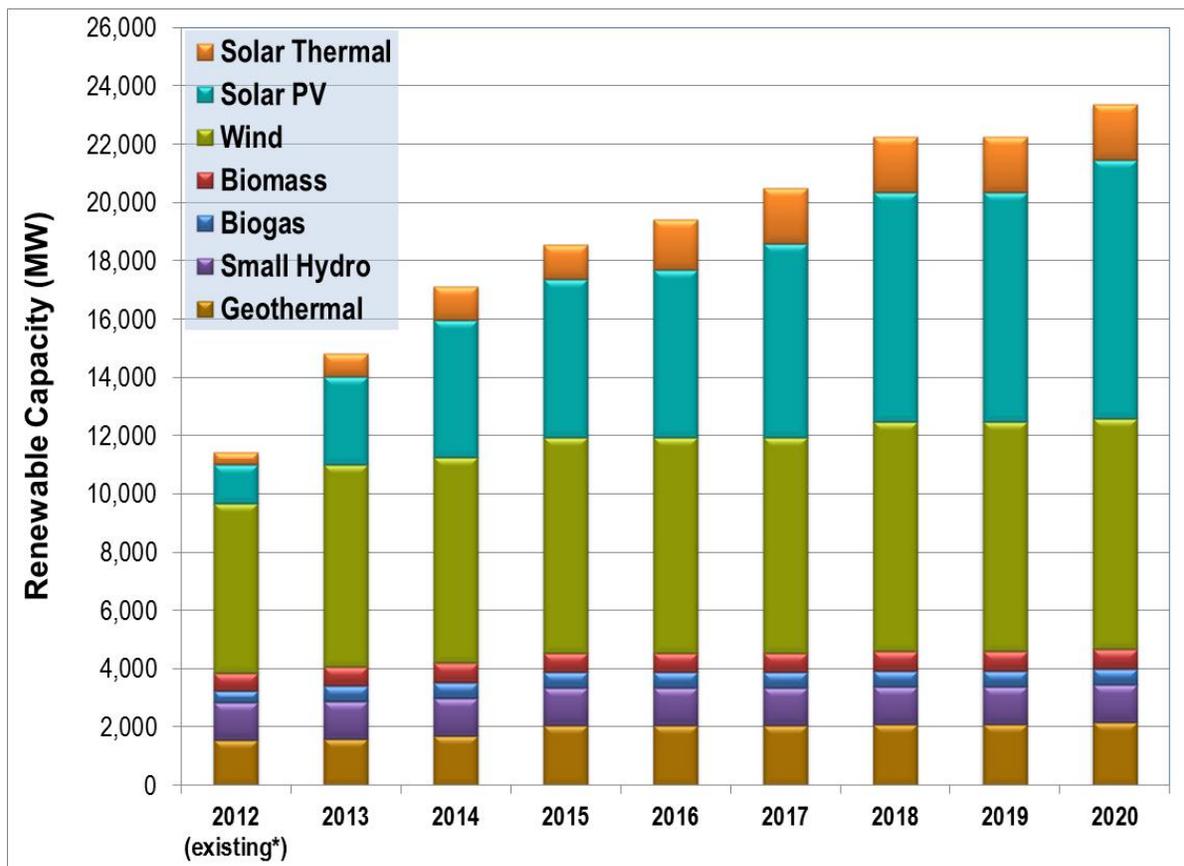


Figure 4 shows the projected build-out of renewable capacity by technology type based on projections from the investor owned utilities through 2017 and using the CPUC RPS calculator¹ thereafter. The 23,383 MW estimated amount shown for 2020 is the expected renewable generation needed to reach the 33% RPS requirement for that year. The ISO currently has approximately 12,200 MW of operating renewable generation within its footprint, which leaves approximately 11,200 MW of additional renewables needed between 2013 and 2020 to reach 33%. The majority of this need is presently under contract with the three California IOUs and expected to satisfy much of the yearly amounts depicted in the 2013 through 2020 timeframe in Figure 4.

Figure 4
Projected 33% RPS Build-Out through 2020
(IOU Data through 2017 and RPS Calculator beyond 2017)



*All online resources included in the 2012 amounts, including those yet to achieve full commercial operation.

¹ The 33% RPS Calculator is a model developed for the CPUC by Energy + Environmental Economics (E3) to aggregate renewable resource cost and performance data and select renewable resources needed to meet the RPS target.

Downsizing Study Update

The studies for the one-time downsizing process have been completed and study reports will be sent to the downsizing projects and projects that were affected by the downsizing process by the July 8, 2013 scheduled date. A total of twelve projects remain in the downsizing process and an additional 17 projects were impacted by the decrease in generating capacity. The final reduction in project capacity requested by the twelve projects totals 3,698 MW.

The downsizing study was performed in conjunction with the Generation Interconnection and Deliverability Allocation Procedures reassessment process where project withdrawals and the results of the transmission planning process are incorporated into the base cases that were developed for the Cluster 5 Phase II study work. The combination of the project downsizings and recent project withdrawals resulted in the ability to remove some of the network upgrades required for a portion of the downsizing projects and other affected cluster projects. The significant amount of withdrawals shown in *Figure 2* contributed greatly to the ability to remove some of the network upgrades required by the downsizing and the other affected projects remaining in the queue.

The next step in the downsizing process will be to begin the process of revising the Interconnection Agreements for the projects that received adjustments to their required network upgrades.