

Memorandum

To: ISO Board of Governors

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

Date: March 14, 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 February 15, 2013. Key highlights include:

1. The current ISO queue contains approximately 49,000 MW (34,000 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 944 MW of projects that reached commercial operation and 331 MW of project withdrawals;
3. Compared to the amount of new generation needed to meet the mandated 33% Renewables Portfolio Standard by 2020, the ISO queue currently contains approximately three times that amount. Cluster 5 is the only cluster with ongoing studies and the Cluster 6 window for new project submittals will open April 1, 2013; and
4. Studies related to the generator project downsizing process have begun. Thirteen projects submitted valid requests to downsize from a combined total of 6,147 MW to 2,179 MW, removing 3,968 MW of project capacity.

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 breaks down the types of renewable generation currently in the interconnection queue and the reductions in renewable capacity since July 2011. The October 2012 to February 2013 period experienced 944 MW of renewable generation reaching commercial operation. The total queue reduction for the period was 1,275 MW, with 331 MW of that coming from project withdrawals.

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

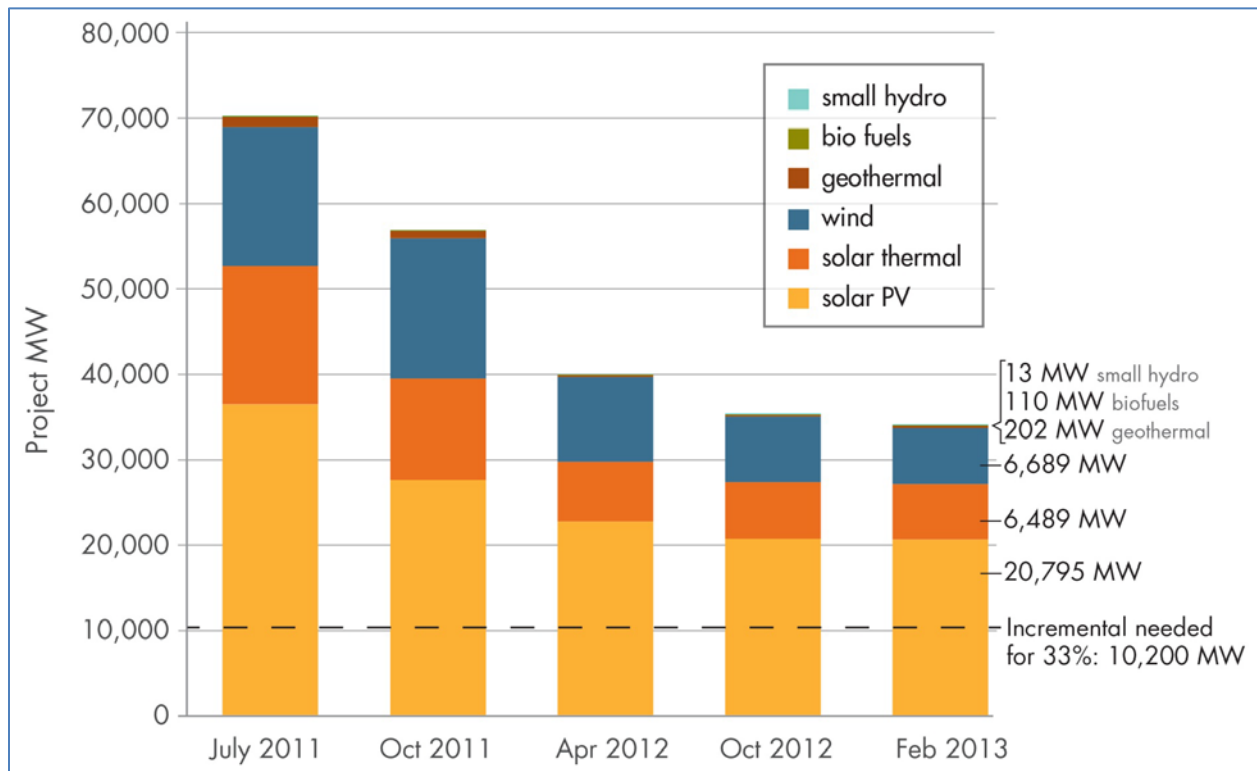


Figure 2 shows the amount of renewable capacity in the queue by study group and graphically displays the queue reductions by study group. There has not been any financial security posting requirements for projects in the queue since before the November briefing, which is typically the event that triggers significant project withdrawals. The next posting due dates for Clusters 3, 4 and 5 will be during the first half of May 2013, which will likely trigger additional project withdrawals.

Figure 2
Renewable Generation Capacity in the ISO Queue by Study Group
(changes by study group since November 2012 update)

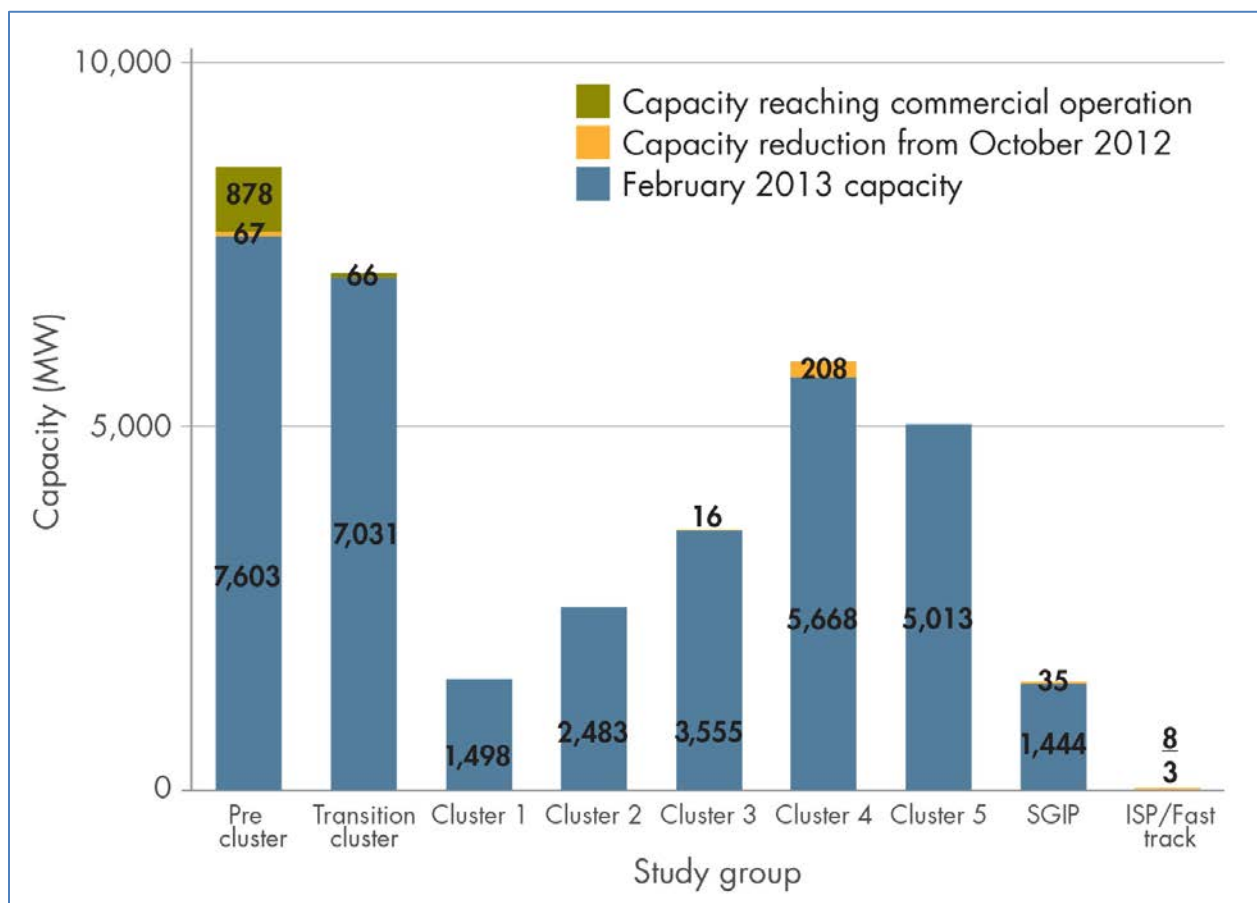


Figure 3 provides insight into the amount of generation capacity in the ISO queue by project size and type. Solar PV continues to be the dominant generating technology for all size ranges. Figure 3 also provides a breakdown of the capacity in the ISO queue by the number of projects for each project size category. Projects in the 100 to 500 MW category make up 61% 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

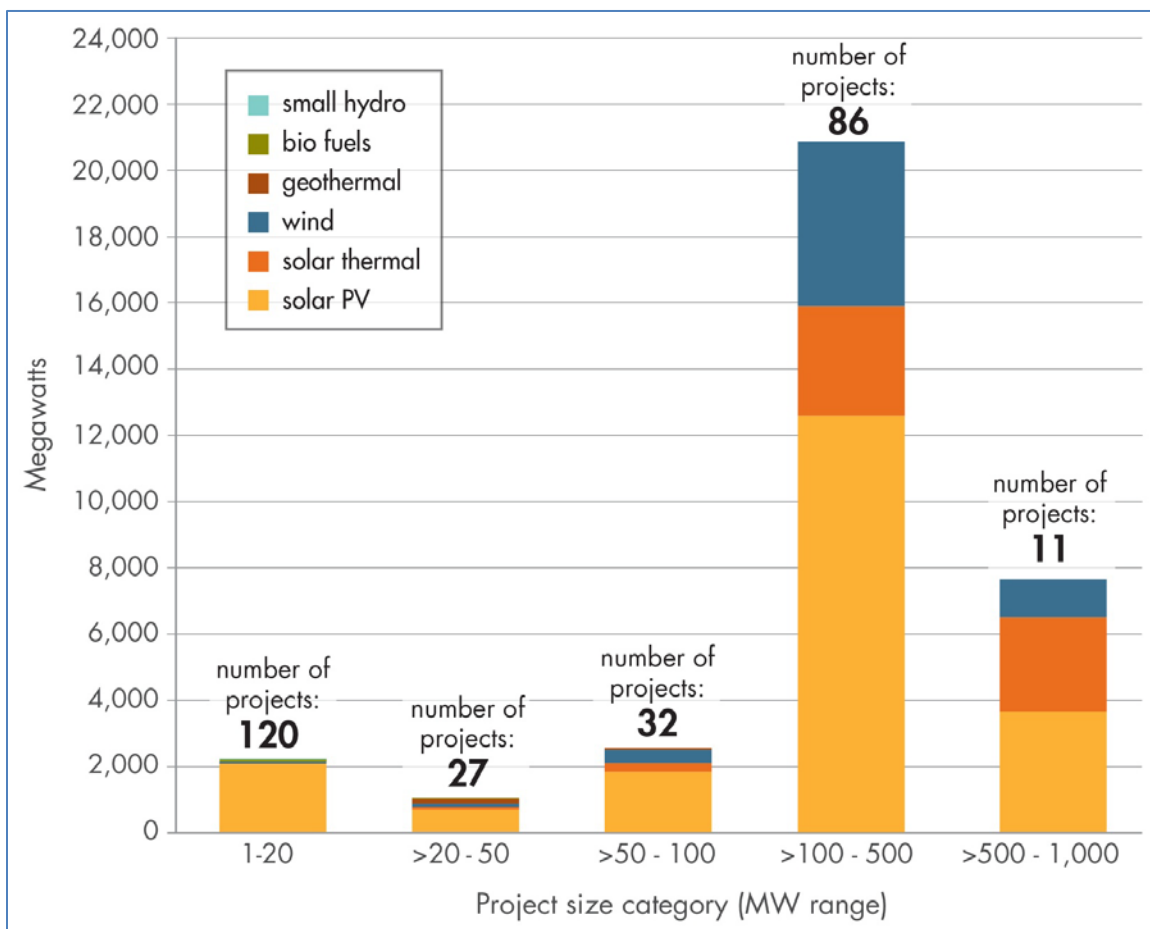
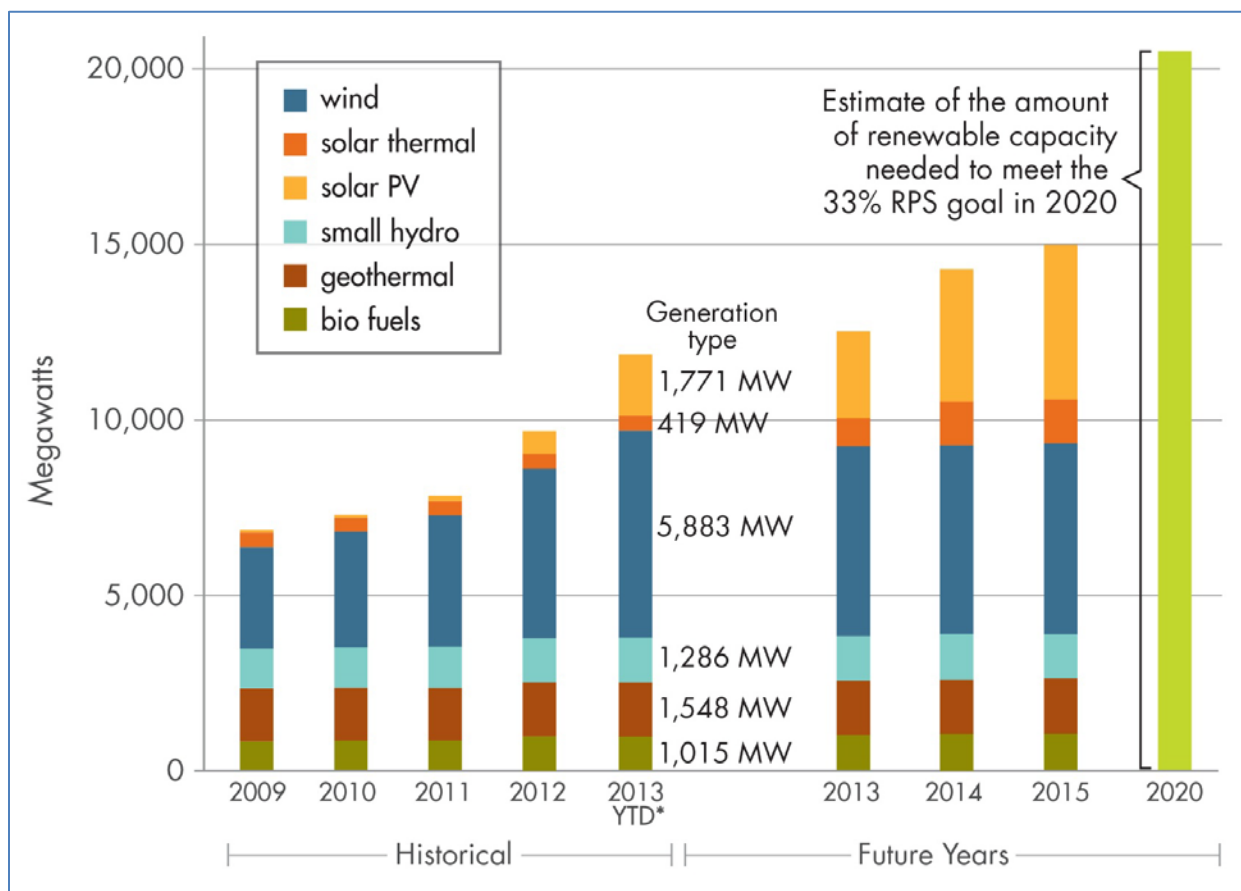


Figure 4 shows the current online renewable capacity and projections of future renewable capacity by technology type. The ISO currently has 11,922 MW of operating renewable generation within its footprint. During 2012, the ISO started to realize significant additions of new renewable generation capacity, which is expected to continue until the 33% RPS requirement is reached. Most of the future gains are expected to come from solar and wind resources.

The projected amounts of renewable capacity for end-of-year 2013 through 2015 in Figure 4 reflect the current online renewable capacity plus an amount of renewable generation that has obtained a power purchase agreement with a California investor owned utility and is anticipated to come on line in those years.

The approximate 20,500 MW amount shown for 2020 is the expected renewable generation needed to reach the 33% RPS requirement. Approximately 10,200 MW of additional renewables will be needed between 2013 and 2020 to reach 33%. Of the additional 10,200 MW needed, approximately 1,420 MW are expected from out-of-state renewable generation. Any additional out-of-state renewable generation will likely come from a combination of out-of-state projects currently in the ISO interconnection queue and out-of-state renewable generation not connecting directly to the ISO system. Currently, there are 5,800 MW of out-of-state projects in the ISO queue.

Figure 4
Current and Projected Renewable Generation Capacity within the ISO



*All online resources included in the 2013 YTD, including those yet to achieve full commercial operation.

Figure 5 shows results from the current downsizing initiative following the validation of requests received during the downsizing window that closed January 4, 2013. The reduction in project capacity requested by 13 projects totals 3,968 MW, downsizing from a combined total of 6,147 MW to 2,179 MW. A total of 15 requests were received and studies began February 19, 2013 for the 13 projects that were validated. The anticipated end date for the studies is July 8, 2013.

**Figure 5
Results of Downsizing Request Window
Technologies and Capacity Reductions of Projects Requesting to Downsize**

