

# California Clean Energy Future Metrics

## Transmission Expansion

Transmission expansion plays a vital role in enabling the interconnection and operation of renewable energy to meet Renewables Portfolio Standards. Planning and developing the transmission system to meet those needs is a key function in transmission planning. The additional requirements necessary to enable unencumbered renewable generation operation are generally layered on top of other transmission requirements, such as the need to provide reliable service in to major load centers regardless of the source of generation.

As well, major transmission projects can be identified through the ISO’s large generator interconnection process (LGIP).

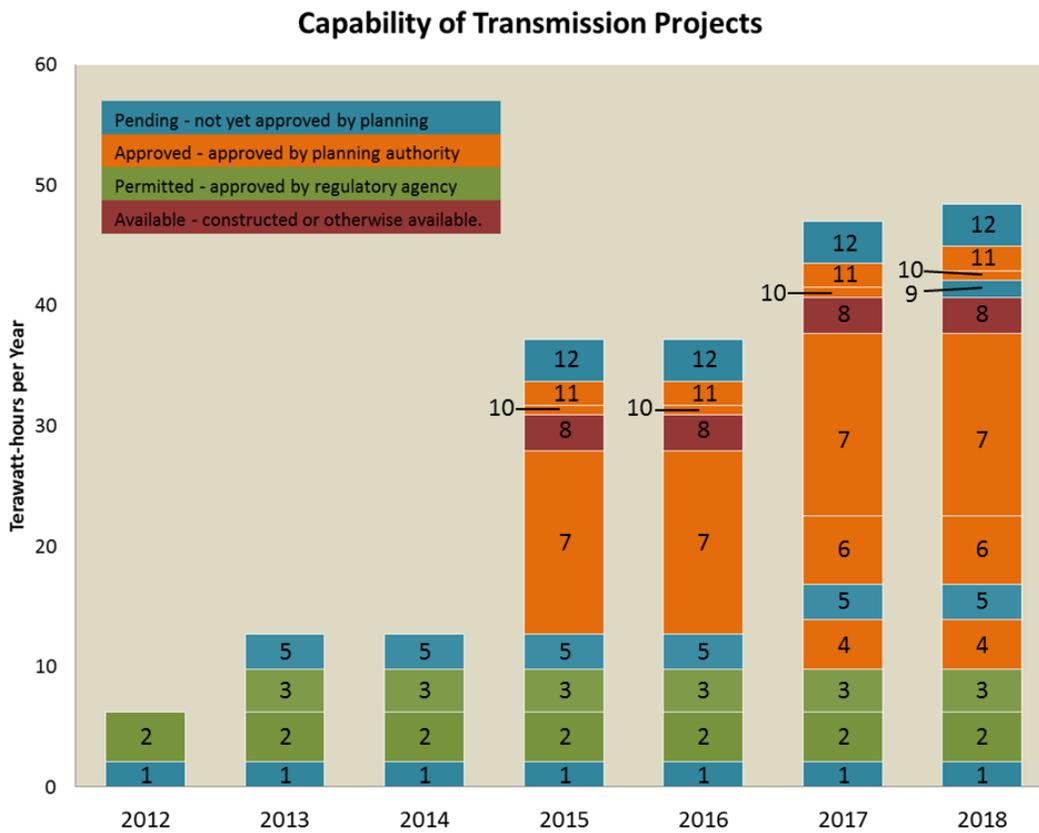
The ISO has identified the transmission projects underway in the ISO’s footprint that provide sufficient capacity to enable the state to achieve the 33% renewables portfolio standard:

Transmission upgrade	Approval status		Renewable Potential		Online
	ISO	CPUC	MW	TWh/Yr	
1 Carrizo-Midway	Pending LGIA	Not yet filed	900	2.1	2012
2 Sunrise Powerlink	Approved	Approved	1,700	4.1	2012
3 Eldorado-Ivanpah	LGIA	Approved	1,400	3.6	2013
4 Pisgah-Lugo	LGIA	Not yet filed**	1,750	4.1	2017
5 Valley-Colorado River	Approved	Approved*	4,700	8.6	2013
6 West of Devers	LGIA	Not yet filed			2017
7 Tehachapi	Approved	Approved	4,500	15.2	2015
8 Tehachapi Wind/Solar Diversity	N/A	N/A	1,000	3.0	2015
9 Cool Water-Lugo	Pending LGIA	Not yet filed	600	1.4	2018
10 South Contra Costa	LGIA	Not yet filed	300	0.8	2015
11 Borden-Gregg	LGIA	Not yet filed	800	2.0	2015
12 Path 42	Approved	Not yet filed	1,400	3.5	2015
Other-Outside of ISO Grid	N/A	N/A	3,300	8.4	
<b>Total</b>			<b>22,350</b>	<b>56.8</b>	
<i>TWh/year needed in ISO area to meet 33% goal:</i>			<b>44</b>		



The status of each of these projects is being tracked, with the primary categories being:

- Pending approval; these projects have either been identified but not yet approved by the necessary planning authority, or are dependent on generator interconnection agreements (LGIAs) being executed.
- Approved; these projects have been approved by the necessary planning authority, e.g. the ISO Board of Governors.
- Permitted; these projects have received the necessary regulatory approvals and permits, e.g. approved by the CPUC.
- Available; these projects are either constructed, or the capacity is otherwise available.



**Note:** This summary currently encompasses only the ISO’s footprint, representing 83% of the state. Once the metrics have been reviewed and further refined, the municipal utilities and utility districts outside of the ISO’s footprint will be approached regarding incorporating their data into the metrics.