

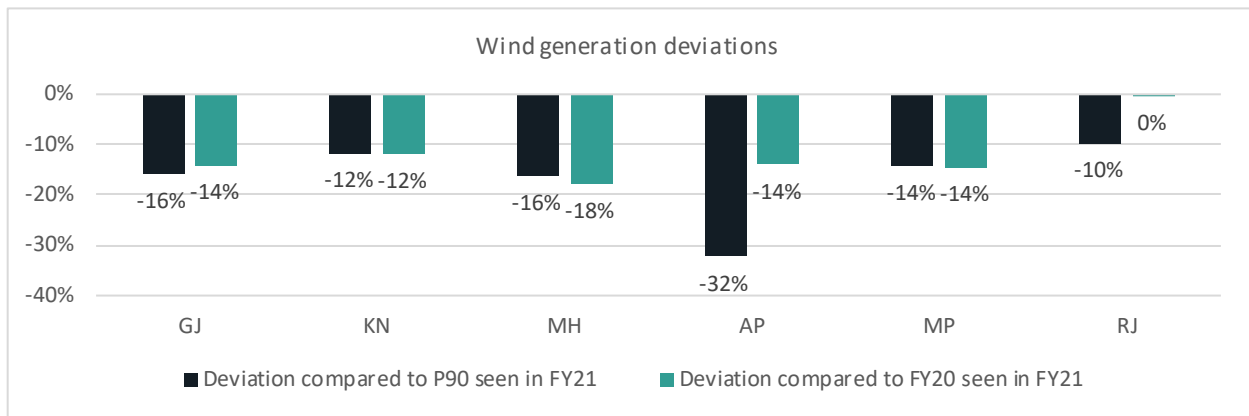
Stability in solar power generation vis-à-vis wind a structural credit positive

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Solar power is characterized by largely predictable generations as compared to wind where the generations are erratic. This is one of the key reasons for solar-power installed capacity outpacing the wind-power installed capacity in the recent years. CARE Ratings (CARE) has studied the generation levels of 105 solar and 45 wind projects in its portfolio and has analysed the generation for FY21 and FY20 in relation to the P-90¹ estimates which indicates that solar power plants fared well when compared to wind power plants. In CARE’s view the stability in generation of solar power plants augurs well from the credit rating perspective.

Solar generation better on P-90 estimates

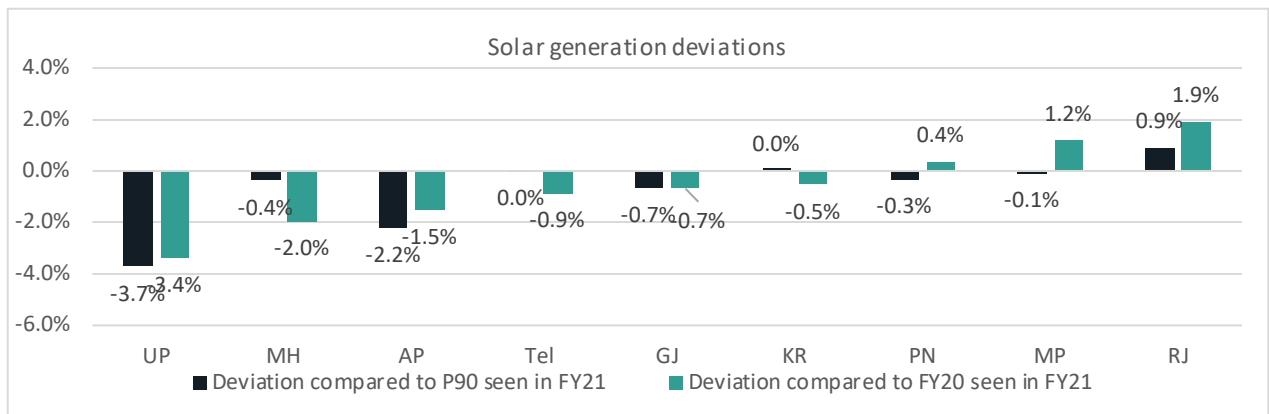
In terms of generation, FY21 was one of the worst years for the wind sector with plant load factor (PLF) levels significantly dropping vis-à-vis the P-90 estimates as well as the FY20 PLF levels. Uncertainty with the availability of wind resource led to negative deviation in the actual wind generation performance in FY21.



Source: CARE rated wind portfolio

The deviation in wind PLF levels was largely consistent across all states with PLF down by 10%-16% except for Andhra Pradesh wherein it was doubly hit by low wind availability along with grid curtailment issues.

However, solar generation performance continues to be largely stable with both positive and negative deviations limiting between 1%-4% in majority of the states as indicated in the chart below. FY21 was a relatively better year for solar generation as compared to FY20.



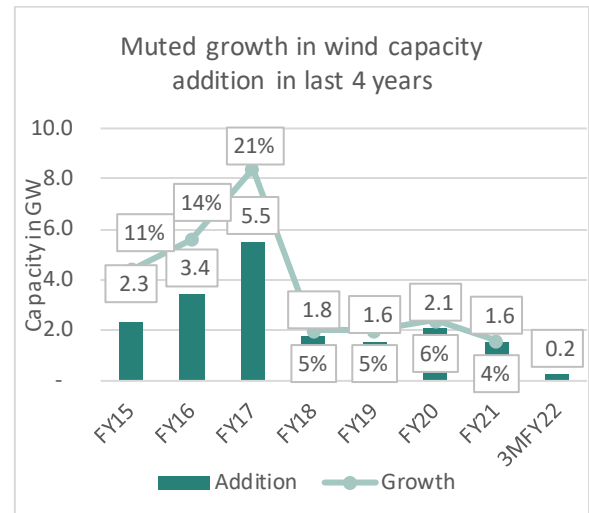
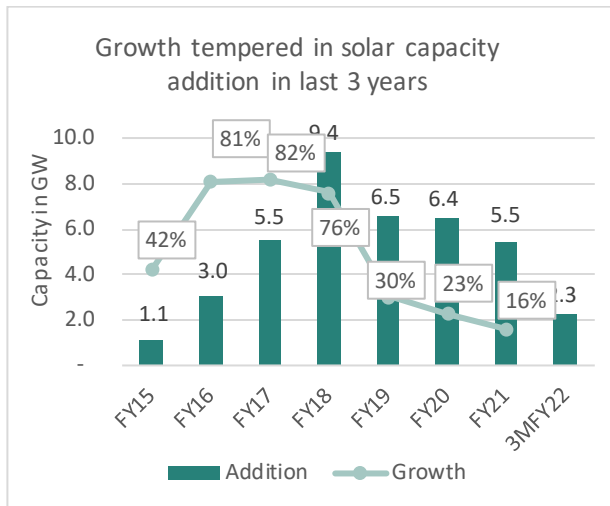
Source: CARE rated solar portfolio

¹ P 90: For solar, P90 means probability of 90% that the plant would generate the indicated CUF in the first full year of operation

In FY21, around 91% of the CARE rated wind portfolio reported lesser generation than P-90 estimates as compared to 56% in FY20 while only 41% of the CARE rated solar portfolio reported less than P-90 capacity utilisation factor (CUF) levels in FY21 as compared to 54% in FY20.

Capacity addition in solar outpaced wind

India has made substantial growth in renewable energy (RE) space and has crossed the milestone of 100 GW in August 2021 leading to its place at fourth position globally in terms of installed RE capacity. As depicted below, since FY18, the capacity additions in solar power have been more than the additions in the wind power despite the tempered growth witnessed in solar segment during the past few years. The slowdown in growth was led by regulatory uncertainties, erratic payments from Discoms, shift in wind sector from feed-in-tariff regime to auction-based mechanism and disruptions caused by COVID pandemic.



Source: NPP, MNRE, as on June 30, 2021

While some of the issues like delay in payments from Discoms and grid curtailment are common amongst wind and solar projects, more predictable nature of generation in solar power plants augurs well from its credit perspective.

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