

Discussion paper on redesigning the Renewable Energy Certificate (REC) Mechanism

The energy mix in India is rapidly changing from fossil fuel dominance to increasing non-fossil fuel share. At the time of inception of REC Mechanism, Renewable Energy (RE) technologies viz. solar, wind, etc. faced limitations namely, high cost, absence of National Level Renewable Energy market, absence of expertise in the forecasting and scheduling, and issues related to large scale grid integration of Renewable. With an impetus on promoting RE, Pan-India market-based REC Mechanism was introduced to enable the buyers to meet their Renewable purchase obligations (RPO).

2. The scenario has changed over the years. The cost of solar power has reduced to around Rs 2 per unit, wind power is around Rs 3.50 per unit. The prices are even less than the variable charge of most of the coal based stations. Further, declining trend of the prices of solar and wind energy is to continue. Renewable Energy Management centres (REMCs) have been commissioned for better forecasting and scheduling. Power exchanges are in place for an alternate mechanism to sell and buy RE power through various products viz Day Ahead Market (DAM), Term Ahead Market (TAM), Green Term Ahead Market (GTAM), Real Time Market (RTM) etc., in addition to REC mechanism. The GDAM is also being developed. A number of new technologies are also emerging in the Renewable Space. These are Off-shore wind, Pumped Hydro power stations, Hydrogen etc, whose initial cost of generation is going to be high. Accordingly, a discussion paper on the requirement of redesigning the REC Mechanism has been prepared in order to align it with the emerging changed power scenario and to promote new renewable technology.

3. Key objectives:

- (i) Contribution towards the green planet: Increasing the non-fossil fuel share in the electricity energy basket in order to meet the international commitment. There is a commitment to integrate more renewable energy in the electricity grid. Target: 175 GW by 2022 and 450 GW by 2030.
- (ii) Be a leader in new technology to maintain the future energy security. Hence promote the new technology like offshore wind, Hydrogen, Pumped storage hydro plant (PSP) etc.

4. RE Sector: Evolution from promotion stage to growth stage

During the inception stage of promoting RE, the impetus was to compensate for the high cost of RE Technologies. However, in the present context, the thrust is to support the growth of the RE Generation. Further, it was mentioned that promotion of RE Power is pivotal for India to achieve its Intended Nationally Determined Contributions (INDCs). In present scenario, maturity of technologies like solar PV etc., due to technology advancement, economies of scale and market competitiveness has been witnessed. On the other hand, to increase the penetration of the less mature and high cost RE technologies like Off-shore wind, Pumped Storage Hydro power Station, Hydrogen, etc., it may require larger support depending upon their relative maturity, development cost and associated risk. It is also observed that cost of power from conventional sources is on the rise due to increasing cost of fuel and the railway freight etc., whereas the cost of power from RE sources like Solar PV etc., is witnessing down trend.

5. Based on the above scenario, the following aspects for redesign of REC Mechanism are proposed to be considered:

5.1 Validity period of RECs; Floor & Forbearance Price

At present the validity period of RECs is of 1095 days (approx. 3 years) from the date of issuance though depending on situation, the validity period, from time to time, has been extended by CERC to avoid expiry of any REC(s).

CERC determines the floor and forbearance price for control period(s) specifying the effective period which, till date, has been revised 4 to 5 times for non-solar and solar RECs respectively. It is pertinent to mention that, on request, of the RE Generators, longer time period for the floor and forbearance price was provided in the second control period (1st April 2012 to 31st March 2017). However, due to drastic downward trend in tariff of solar power, the solar REC(s) prices were revised as they were becoming a deterrent for their off-take. Revised solar RECs, notified by CERC, were effective from 1st January 2015 to 31st March 2017 and a vintage multiplier of 2.66 was provided to solar projects which were registered under REC Mechanism prior to the former date (a copy of the floor and forbearance prices of the non-solar and solar prices notified by CERC is attached for reference).

The latest order of CERC notifying the floor and forbearance price, effective from 1st July 2020, is sub-judice and no trading session of RECs has been held from July 2020 onwards.

Following is proposed