

RERC (Renewable Energy Obligation) (Seventh Amendment) Regulations, 2021 [Draft]

RERC has issued the Draft RERC (Renewable Energy Obligation) (Seventh Amendment) Regulations, 2021 on August 2021. The key highlights of the draft are as below:-

- Hydro Power Obligation (HPO) is met with power from Large Hydro Power (LHP) projects including Pump Storage Projects with capacity greater than 25 MW, commissioned between 8th March 2019 and 31st March 2030, w.r.t 70% of total generated capacity for 12 years from the date of commissioning. **(Regulation (3) (a))**
- Free power from LHPs will be provided as per agreement with the State. Power for Local Area Development Fund (LADF) is not included in the 70% of total generated capacity limit. **(Regulation (3) (a))**
- To meet HPO liability, free power provided by LHPs can be used, excluding power used for LADF contribution, if consumed within the State.
HPO benefit is eligible for free power (excluding LADF contribution), up to the HPO liability of State/DISCOMs. **(Regulation (3) (b))**
- Imported Hydro Power from foreign nations is not eligible for HPO. **(Regulation (3) (c))**
- After 80% and more Solar/ Non-Solar Renewable Power Obligation (RPO)/ HPO target is met, the remaining shortfall, if any, may be met by excess procurement of Non-Solar/ Solar or Hydro Energy/ Solar or Non-Solar Energy, respectively consumed beyond the specified Solar, Non-Solar RPO and HPO targets for the particular year. **(Regulation (3) (d))**

Table 1: Percentage of RPO targets **(Regulation (3))**

S. No.	Year	Non-solar			Solar	Total
		Wind	Biomass	HPO		
1	2021-22	8.90%	0.90%	0.18%	8.50%	18.48%
2	2022-23	9.10%	1.00%	0.35%	9.50%	19.95%
3	2023-24	9.40%	1.10%	0.66%	10.50%	21.66%

Note: RPO expressed as percentage of energy consumption (%) excluding consumption met from hydro sources of power

It is observed from figures (1-4) that the Wind, Biomass and Solar RPO Targets have been kept unchanged from the 5th Amendment to the 7th Amendment. Total RPO Target has been increased due to the incorporation of HPO Targets in the 7th Amendment, in accordance to Renewable Purchase Obligation (RPO) Trajectory, 2021.

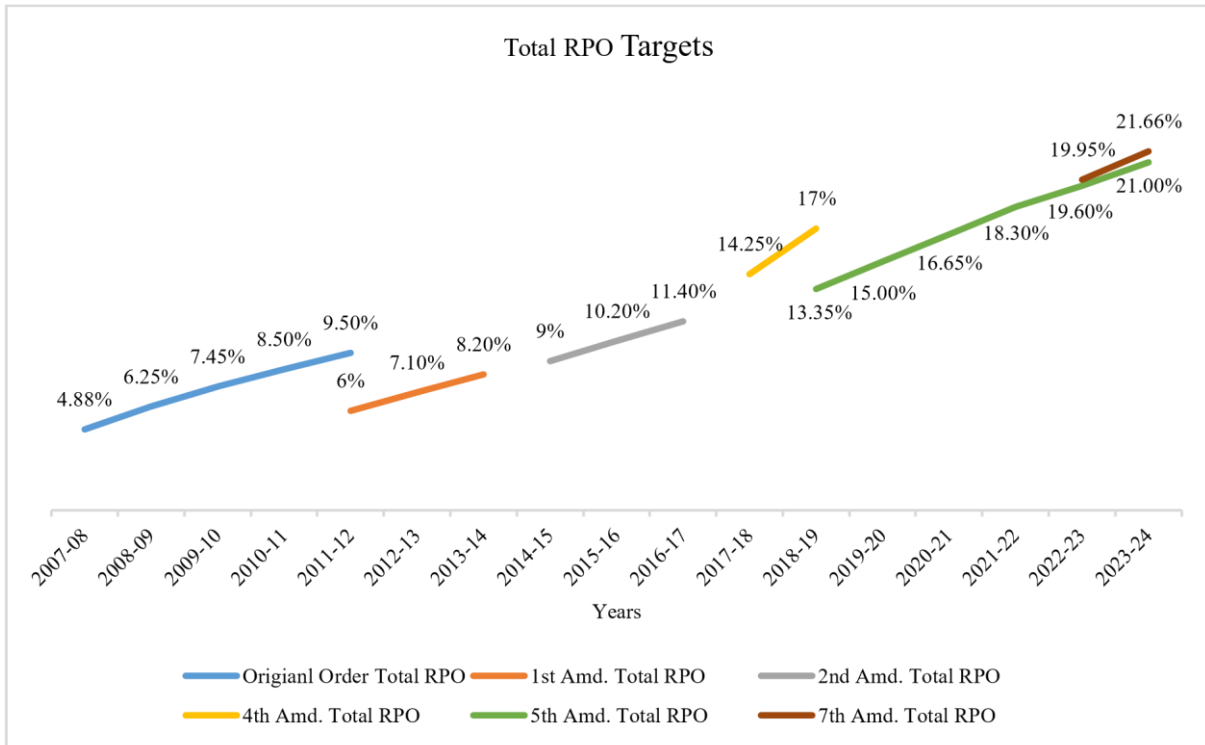


Figure 1: Total RPO Targets w.r.t RPO Amendments

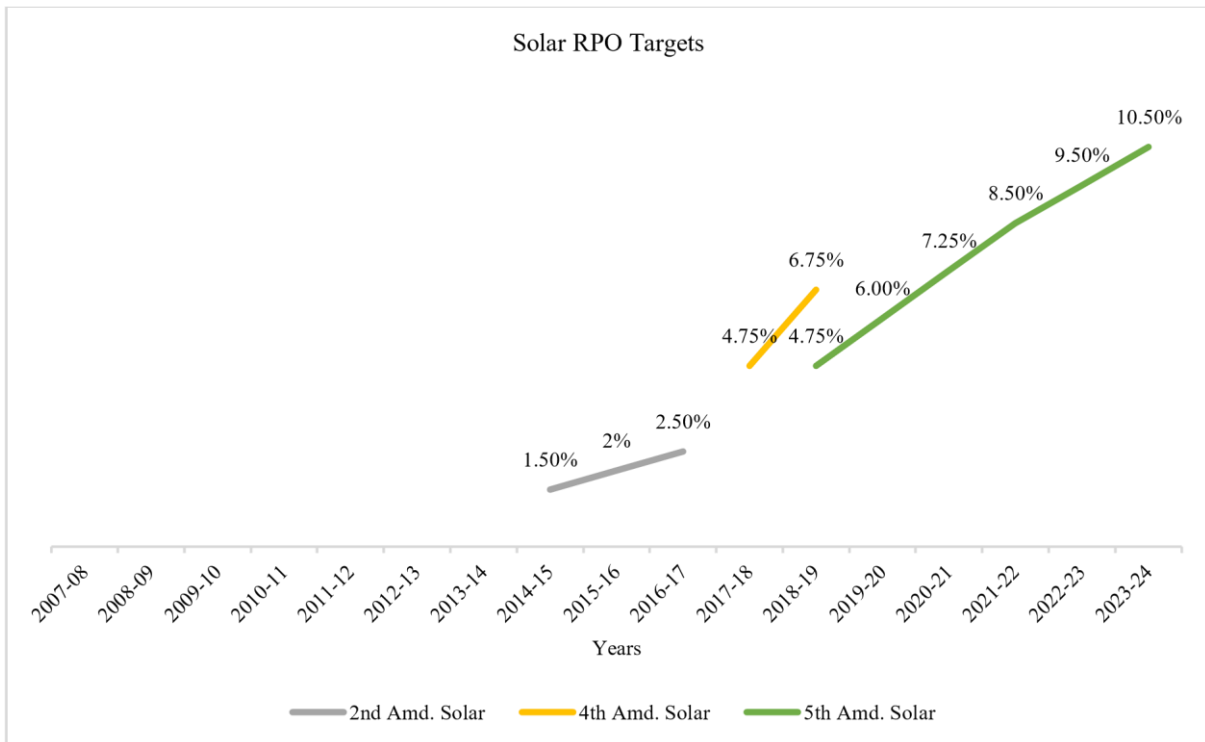


Figure 2: Solar RPO Targets w.r.t RPO Amendments

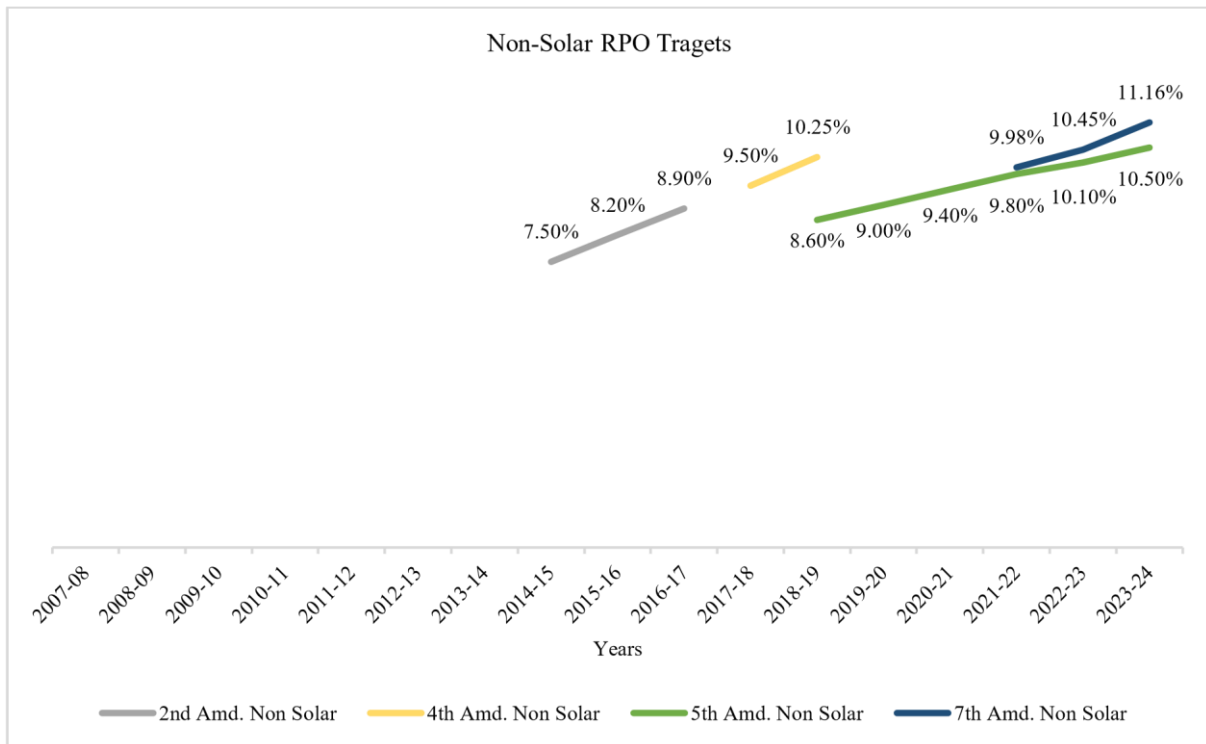


Figure 3: Non- Solar RPO Targets w.r.t RPO Amendments

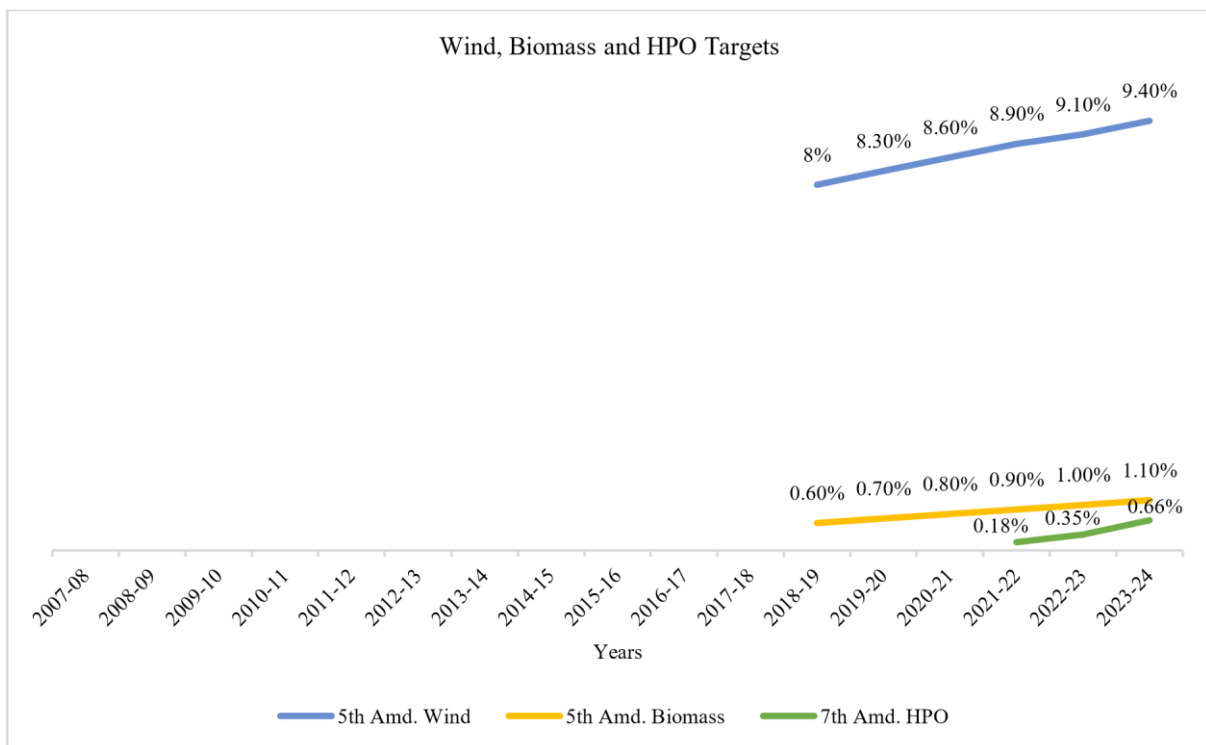


Figure 4: Wind, Biomass and HPO Targets w.r.t RPO Amendments

The draft amendment can be accessed [here](#)

CER Opinion

- 1. Technology Neutral RPO:** The whole idea of differentiating Solar and Non solar RPO are economically unjustified, it leads to economically inefficient decisions for investment. The cost of procurement from solar power plants has been on a decline, and is now even less than other RES. It would be appropriate to dispense with technologywise RPO differentiation as solar and non-solar RPO. This would reduce the overall cost of compliance for the obligated entities¹.
- 2. Definition of RPO obligation:** Section 86 (e) of Electricity Act 2003 states, “*promote co-generation and generation of electricity from renewable sources of energy by providing suitable measures for connectivity with the grid and sale of electricity to any person, and also specify, for purchase of electricity from such sources, a percentage of total consumption of electricity in the area of a distribution licensee*”. This section empowers the SERCs to specify purchase of electricity from renewable energy sources. It is noted that the RPO in the draft regulations, defines the same w.r.t the consumption of electricity excluding those from HPO, as such it does not seem to be in line with the above provisions of the Act.
- 3. Hydro Power Obligation (HPO) Targets (Regulation 2 (3)):** As per draft regulation, the HPO targets have been incorporated in the existing RPO target structure. According to the current practice adopted by the Commission, when more number of technologies will be incorporated in the pool of RPO then total RPO target will rise again in future.

It is important to emphasize that the HPO targets are an add-on obligation over and above the existing RPO from Others from the Renewable Energy sources. Given that the DISCOMs are obligated to meet the existing level of RPO, it is important that a study be undertaken to assess the ability of Rajasthan’s Grid to absorb various level of RPO in the future and fix the targets appropriately². To ensure that the target so estimated may be further enhanced by the commission so as to promote consumption of renewable energy sources in the state of Rajasthan.

In the current framework, there is a lack of scientific basis to estimate the target of RPO obligation that is fixed for the obligated entities (DISCOMs, Open Access Consumers and Captive Consumption). Therefore, it is suggested that the determination of total RPO target should be based on a scientific study², as there is a requirement for technoeconomic analysis, binding to an economical limit that comes from the supply curve/ function². Thus, the overall limit should not be based on number of technologies that are being incorporated,

¹ Please refer to Anoop Singh (2009), “A market for renewable energy credits in the Indian power sector”, Renewable and Sustainable Energy Reviews 13 (3), 643-652. See <https://www.researchgate.net/profile/AnoopSingh-28>

² Please refer to Anoop Singh (2011), “Directions for Effective Regulation for Renewable Energy: An Analysis of Renewable Energy Certificates”, India Energy Security Summit: Energy Security for a sustainable future, IPPAI. See <http://dx.doi.org/10.2139/ssrn.3440341>

² Please refer to Anoop Singh (2010), “Economics, Regulation, and Implementation Strategy for Renewable Energy Certificates in India”, India Infrastructure Report 2010, Oxford Univ. Press. See <https://ssrn.com/abstract=3440253>

all technologies that might be incorporated in the future could be accommodated by adjusting the others so that total RPO target should remain same.

In order to ensure economic efficiency, it is important to specify an overall target for RPO and allow the obligated entities to procure renewable energy from alternate technologies based on their relative economics. Separate categorization and specification of targets for specific technologies, add rigidity in the decision making of the DISCOMs and also increase the overall cost of obligation.

4. Market Design: The DISCOMs in Rajasthan already procured hydroelectricity (Table 30: Energy Availability (MU) and Cost (Rs. In Cr.) for FY 2019-20)³ which is over and above the targets proposed in the draft regulation. It is also important to highlight that other obligated entities, for example, Open Access Consumers and Captive Consumers may not have access to hydropower in a similar manner especially, due to the absence of any market specific for procurement of hydroelectricity. For example the market for RECs and GTAM enables the obligated entities to specifically procure Renewable power so as to meet their obligation. The competitive platform like power exchanges (DAM, TAM, etc.) do not offer the choice of source of electricity and hence will not help these obligated entities, which exclude the DISCOMs, to procure hydroelectricity to meet their obligation, such entities will in-turn have to procure the hydroelectricity through bilateral arrangement or through traders which may not be as cost effective as the competitive platform. Furthermore the absence of any certificate market for hydropower also does not enable such entities to procure such certificates to meet their HPO obligation. It is suggested that if HPO is also included as a qualifying technology for crediting the REC the same would be available to the obligated entities to meet their obligation in a cost effective manner.

5. The DISCOMs in Rajasthan are already procuring significantly higher hydropower than the obligation proposed in the draft regulation (Regulation 2 (3)): As per the draft regulation, HPO targets for Rajasthan is 0.18%, 0.35% and 0.66% for 2021-22, 2022-23 and 2023-24 years, respectively. It is observed from Rajasthan 2019-20 Tariff order that Rajasthan procures 6.14% Hydro power already⁴.

In the absence of any separate market for hydropower, or the certificates associated with it, the DISCOMs in Rajasthan will not be able to 'offload' the excess HPO to such market mechanisms.

³ Please refer to Tariff Order 06.02.2020 in the matter of ARR & Tariff for FY 2019-20. See https://energy.rajasthan.gov.in/content/raj/energy-department/en/departments/avvnl/news/TARIFF_ORDER_06-022020_IN_THE_MATTER_OF_ARR_and_TARIFF_FOR_FY_2019-20.html#

