

Analysis of state-wise RPO Regulation across India

The Renewable Purchase Obligations (RPO) has been the major driving force in India to promote the renewable energy sector. But the State Electricity Regulatory Commissions (SERCs) have defined their respective RPO Regulations which may create a favorable and neutral/off-putting effect in the growth of renewable energy sector. The following table highlights analysis of RPO Regulation across the country.

States	Favourable	Neutral/off-putting
Andhra Pradesh	<ul style="list-style-type: none"> Renewable energy sources' means renewable sources such as <u>Co-generation (from renewable sources of energy like bagasse)</u>. The consumption of a Rural Electricity Supply Co-operative Society (RESCO) shall be taken into account for calculating the consumption of a distribution licensee for the purpose of these Regulations. There shall be no separate Renewable Power Purchase Obligation on the RESCOs. The State Agency shall submit quarterly status to the Commission in respect of compliance of Renewable Power Purchase Obligation (RPPO) by the obligated entity(s) 	<ul style="list-style-type: none"> Pooled Cost of Power Purchase <i>does not include purchases based on liquid fuel, from traders, and short-term purchases</i> The state has set a RPO target of 0.25% till 2012-13 in line with Tariff policy but it has set a flat target of 0.25% till 2016-17.
Assam	<ul style="list-style-type: none"> The State Agency shall submit quarterly status to the Commission in respect of compliance of renewable purchase obligation by the obligated entities in the format as stipulated by the Commission. `Average Pooled Power Cost` definition is in line with the CERC REC Regulation, 2010 	<ul style="list-style-type: none"> The state has set a RPO target of 0.15% till 2012-13 which is lower than Tariff policy targets. Also, the trajectory of RPO target is till 2014-15 which is 0.25%. The regulation does not specify the min capacity for Captive consumers for applicability of RPO.

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Bihar	<ul style="list-style-type: none"> • The Certificates purchased by the obligated entities from the power exchange in terms of the regulation of the Central Commission shall be deposited by the obligated entities to the Commission <u>within a month of the purchase of the certificate.</u> • The regulator has also defined a longer trajectory till 2021-22 for the solar RPO target with a base of 0.25% in 2012-13 and an increase of 0.25% every year till 2019-20 and 0.5% in 2020-21 and 2021-22. • If the distribution licensee is unable to fulfill the obligation, the shortfall of the specified quantum of that year would be added to the specified quantum for the next year. However, credit for excess purchase from renewable energy sources would not be adjusted in the ensuing year. • The State Agency shall submit quarterly status to the Commission in respect of compliance of renewable purchase obligation by the obligated entities in the format as stipulated by the Commission and may suggest appropriate action to the Commission if required for compliance of the renewable purchase obligation. • `Average Pooled Power Cost` definition is in line with the CERC REC Regulation, 2010 	<ul style="list-style-type: none"> • If solar certificates are not available in a particular year, then in such cases, <u>additional non-solar certificate shall be purchased for fulfillment of the Renewable Purchase Obligation (RPO).</u>

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Chhattisgarh	<ul style="list-style-type: none"> • The state has set a target of 0.5% for Solar RPO (by 2012-13) which is higher than that stipulated in the Tariff Policy. • `Average Pooled Power Cost` definition is in line with the CERC REC Regulation, 2010 • The State Agency shall develop suitable protocol for collection of information from various sources such as renewable energy generating companies, obligated entities, SLDC, chief electrical inspector etc., on regular basis and compile such information to compute the compliance of RPO target by such Obligated Entities. • In the event of non compliance of the RPO by distribution licensees by any of the modalities, from non-solar renewable energy plants or solar power plants in the State, the distribution licensee whose purchase of renewable energy is maximum during the year shall be compensated by other distribution licensees so that percentage of renewable energy consumption by all the distribution licensees functioning in the State become equal. 	<ul style="list-style-type: none"> • The state has set a very short trajectory for RPO targets i.e. till 2012-13.
Delhi	<ul style="list-style-type: none"> • The state has considered off-grid generation also for fulfillment of RPO. • There will an be automatic approval on year to year basis if tariff considering capital subsidies/GBI/Carbon credits etc. is less than Average Power Purchase Cost (APPC) during a particular year. • The Licensee(s) has/have to submit half yearly progress report to the Commission, on the capacity addition, generation and purchase of electricity from renewable energy sources in their area(s) of supply, which is used by generator itself or sold to the third party under open access, and also post them on their 	<ul style="list-style-type: none"> • In case the total off grid usage/generation capacity established under such schemes exceeds 10 percent of the total RPO obligation of Delhi Distribution Licensees in the relevant category, the Commission may re-fix the RPO obligations of the distribution licensees taking into consideration such off grid usage/generation capacity. • The regulator has also defined a lower level of Solar RPO target i.e. 0.15% (by 2012-13) and 0.35%(by 2016-17) of the total power procured.

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	<p>website.</p> <ul style="list-style-type: none"> • `Average Pooled Power Cost` definition is in line with the CERC REC Regulation, 2010 • The regulation has guided state agency to submit a summary statement of renewable energy procurement and RPO compliance by different obligated entities. The same needs to be published by the State Agency on a cumulative basis every month by 10th day of the next month on its website. 	
Gujarat	<ul style="list-style-type: none"> • The state has set a high Solar RPO target of 1% which is higher than Tariff policy targets. • `Average Pooled Power Cost` definition is in line with the CERC REC Regulation, 2010 • The State Agency shall submit quarterly status to the Commission in respect of compliance of renewable purchase obligation by the obligated entities in the format as stipulated by the Commission. 	<ul style="list-style-type: none"> • The RPO regulations are not applicable on captive as well as open access consumers. • As per the regulation the APPC of previous year would be applicable while determining the cost of power but in reality GUVNL freezes the APPC for the complete life projects. • If the mentioned minimum quantum of power purchase from solar is not available in a particular year, then in such cases, additional wind or other energy, over and above their RPO, shall be utilized for fulfillment of the solar RPO. • RPO trajectory beyond 2012-13 is not provided.

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Haryana	<ul style="list-style-type: none"> • It is clearly mentioned that Non-fossil fuel based co-generation project shall qualify for Renewable Energy source. • The State Agency shall submit quarterly status to the Commission in respect of compliance of renewable purchase obligation by the obligated entities in the format as stipulated by the Commission and may suggest appropriate action to the Commission • `Average Pooled Power Cost` definition is in line with the CERC REC Regulation, 2010 	<ul style="list-style-type: none"> • In case of genuine difficulty in complying with the renewable purchase obligation because limited availability of renewable energy or non-availability of certificates, the obligated entity can approach the Commission for <u>relaxation</u> or carry forward of compliance requirement to the next year. <i>This provision of seeking relaxation is not desirable.</i>
Himachal Pradesh	<ul style="list-style-type: none"> • The state has set RPO target in line with Tariff policy. • Also the state has defined a longer trajectory for RPO targets (till 2021-22) in line with the Tariff Policy • `Average Pooled Power Cost` definition is in line with the CERC REC Regulation, 2010 	<ul style="list-style-type: none"> • There is no provision requiring State Agency developing methodology/reporting to commission regarding RPO compliance.
J & K	<ul style="list-style-type: none"> • The State Agency shall devise appropriate protocol for collection of information from various sources such as renewable energy generating companies, obligated entities, SLDC, etc., on a regular basis and compile such information to compute the compliance of RPO target by such Obligated Entities. • `Average Pooled Power Cost` definition is in line with the CERC 	<ul style="list-style-type: none"> • There is no clarity on RPO targets beyond 2012-13. • RPO on any person owning Standby (or Emergency back-up) Captive Generating Plant facilities will not be subject to RPO.

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	<p>REC Regulation, 2010</p> <ul style="list-style-type: none"> • Generation from grid connected renewable energy sources with installed capacity of 250 kW and above shall alone be considered as eligible renewable energy sources. However, generation from grid connected renewable energy sources with installed capacity below 250 kW shall be considered as 'eligible RE source' provided suitable metering and communication arrangement with State Load Dispatch Centre is established by such renewable energy project 	
Jharkhand	<ul style="list-style-type: none"> • The state has defined a high Solar RPO (1% for 2012-13) compared to other states in the country. • The State Agency shall develop the formats for submission of quarterly progress report in respect of compliance of renewable purchase obligation by the obligated entities and get them approved by the Commission • `Average Pooled Power Cost` definition is in line with the CERC REC Regulation, 2010 	<ul style="list-style-type: none"> • The state has defined a very short trajectory for RPO targets till 2012-13. • In case of genuine difficulty in complying with the renewable purchase obligation because of non availability of Certificates, the Obligated entity can approach the Commission for carry forward of compliance requirement to the next year
JERC(Goa &UT)	<ul style="list-style-type: none"> • The commission has set a target higher (0.4% for 2012-13) than stipulated in the Tariff Policy. • The regulation mandates the State Agency to submit quarterly status to the Commission in respect of compliance of renewable purchase obligation by the obligated entities in the format as stipulated by the Commission and may suggest appropriate action to the Commission if required for compliance of the renewable purchase obligation. • `Average Pooled Power Cost` definition is in line with the CERC REC Regulation, 2010 	<ul style="list-style-type: none"> • There is no long term trajectory (beyond 2012-13) of RPO targets. • The regulation does not specify the min capacity for Captive consumers for applicability of RPO.

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States	Favourable	Neutral/off-putting
JERC(Manipur & Mizoram)	<ul style="list-style-type: none"> The regulator has defined a Solar RPO target of 0.25% for 2012-13 in line with the Tariff Policy. The State Agency shall devise appropriate protocol for collection of information from various sources such as renewable energy generating companies, obligated entities, SLDC, etc., on a regular basis and compile such information to compute the compliance of RPO target by such Obligated Entities. `Average Pooled Power Cost` definition is in line with the CERC REC Regulation, 2010 	<ul style="list-style-type: none"> There is no long term trajectory of RPO targets.
Karnataka	<ul style="list-style-type: none"> The State Agency shall submit quarterly status to the Commission in respect of compliance of renewable purchase obligation by the obligated entities in the format as stipulated by the Commission. `Average Pooled Power Cost` definition is in line with the CERC REC Regulation, 2010 	<ul style="list-style-type: none"> Solar RPO is applicable only on DISCOMS which is 0.25%. There is no trajectory defined. There is no separate solar RPO on Captive and Open Access consumers. A distribution licensee may in case of non-availability of solar power generated in the State of Karnataka procure from other renewable sources of energy or REC to the extent of shortfall in its RPO <u>in any year</u>. Captive users can sell their surplus power <u>only to the distribution companies (ESCOs)</u> at a price not exceeding the APPC RECs accreditation can be achieved only to the generators selling the power to ESCOMS at pooled cost of power purchase as approved by the Commission for the previous

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		year.
Kerala	<ul style="list-style-type: none"> • The state has set a longer trajectory for RPO (till 2021-22) targets which brings clarity to the investor. • The State Agency shall submit quarterly status to the Commission in respect of compliance of renewable purchase obligation by the obligated entities in the format as stipulated by the Commission and may suggest appropriate action to the Commission if required for compliance of the renewable purchase obligation. • `Average Pooled Power Cost` definition is in line with the CERC REC Regulation, 2010 	<ul style="list-style-type: none"> • The Solar RPO of the state is 0.25% constant till the end of the trajectory period. • The regulation does not specify the min capacity for Captive consumers for applicability of RPO.

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Maharashtra	<ul style="list-style-type: none"> • It is clearly mentioned that eligible renewable energy sources shall include <u>Non-fossil fuel</u> (including bagasse) based co-generation projects (both, qualifying and non-qualifying co-generation projects) • The summary statement of RE procurement and RPO compliance by different Obligated Entities shall be published by the State Agency on cumulative basis every month on its website. • The State Agency shall submit quarterly status to the State Commission in respect of compliance of renewable purchase obligation by the Obligated Entities • Each Distribution Licensee shall indicate, along with sufficient proof thereof, the estimated quantum of purchase from renewable energy sources for each year of the Operating Period under the Business Plan as well as under MYT Petition • `Average Pooled Power Cost` definition is in line with the CERC REC Regulation, 2010 	<ul style="list-style-type: none"> • Procurement of RE power generated within the State by Distribution Licensee at rate other than rate approved by the State Commission directly from generator or from trader shall not be considered as eligible quantum for fulfillment of renewable purchase obligation of such distribution licensee • Captive user(s) consuming power from grid connected fossil fuel based co-generation plants, are exempted from applicability of RPO target and other related conditions as specified in these Regulations. • The state has set a RPO target of 0.25% in line with Tariff policy but it has set a flat target of 0.5% till 2015-16.
Meghalaya	<ul style="list-style-type: none"> • The state has defined a high Solar RPO compared to other states in the country. • `Average Pooled Power Cost` definition is in line with the CERC REC Regulation, 2010 • The State Agency shall develop the formats for submission of quarterly progress report in respect of compliance of renewable purchase obligation by the obligated entities and get them approved by the Commission 	<ul style="list-style-type: none"> • The state has defined a very short trajectory for RPO targets till 2012-13 • If the distribution licensee is unable to fulfill the obligation, the shortfall in the specified quantum for the year shall be added to the specified quantum for the following year, and credit for excess purchase shall not be adjusted in the ensuing year. • The discoms are allowed for carrying forward the unfulfilled RPO but the captive and open access

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		<p>consumers are not allowed the same.</p> <ul style="list-style-type: none"> The regulation does not specify the min capacity for Captive consumers for applicability of RPO.
Odisha	<ul style="list-style-type: none"> The state declared a separate RPO for procurement from renewable energy as well as from cogeneration based stations. The state has defined a longer trajectory for RPO targets till 2015-16. Third Party Sale from renewable energy sources has been be exempted from the cross-subsidy surcharge The State Agency shall develop the formats for submission of quarterly progress report in respect of compliance of renewable purchase obligation by the obligated entities and get them approved by the Commission `Average Pooled Power Cost` definition is in line with the CERC REC Regulation, 2010 	<ul style="list-style-type: none"> The state has a lower solar RPO (0.15% in 2012-13) compared to the target as stipulated in the Tariff Policy of 0.25% by 2012-13.
Punjab	<ul style="list-style-type: none"> The State Agency shall develop the formats for submission of quarterly progress report in respect of compliance of renewable purchase obligation by the obligated entities and get them approved by the Commission `Average Pooled Power Cost` definition is in line with the CERC REC Regulation, 2010 	<ul style="list-style-type: none"> The commission has set a very low RPO target compared to the Tariff policy targets. The Solar RPO target for year 2012-2013 is 0.07% compared to the target as stipulated in the Tariff Policy of 0.25% by 2012-13. The RPO trajectory is till 2014-15. The commission has carried forward the non-compliance of RPO for 2011-12 to 2012-13.

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		<ul style="list-style-type: none"> • There is lack of clarity on the RPO applicable on the captive users in terms of capacity.
Rajasthan	<ul style="list-style-type: none"> • At the end of each financial year, each obligated entity shall submit a detailed statement regarding total electricity drawn / consumed and renewable energy /REC purchased and duly certified by the auditors to the State agency on or before ensuing 30th September. • Solar RPO target (on DISCOMS only) of 0.75% in 2012-13 is higher than Tariff policy target. • Each Distribution Licensee shall indicate, along with sufficient proof thereof, the estimated quantum of purchase of renewable energy for the ensuing year in tariff/ARR petition in accordance with Regulations notified by the Commission • The State Agency shall submit quarterly status to the Commission in respect of compliance of renewable purchase obligation by the obligated entities in the format as stipulated by the Commission and may suggest appropriate action to the Commission if required for compliance of the renewable purchase obligation. • The State agency shall develop methodology for collection of information from renewable energy generating company, obligated entities, SLDC etc. on regular basis, compile the information to compute the RPO fulfillment by the obligated entities indicating separately the direct purchase of renewable energy as well as purchase through REC mechanism. The information shall be placed on a cumulative basis for each quarter by the State Agency on its website. 	<ul style="list-style-type: none"> • As per, Rajasthan Electricity Regulatory Commission (Power Purchase & Procurement Process of Distribution Licensee) (2nd Amendment) Regulations, 2011 solar RPO in Rajasthan is applicable on DISCOMS only. • RPO targets are till 2013-14 only. A longer trajectory may be desirable • There is separate RPO for bio-mass and that can be fulfilled by purchase of power from biomass plant only and <u>not by purchase of REC.</u> • In case of genuine difficulty in complying with the renewable power purchase obligation because of non-availability of renewable energy and/or certificates, the obligated entity can approach the Commission to carry forward the compliance requirement to the next year or <u>seek its waiver.</u> • The shortfall in RPO obligation can be fulfilled by purchase of renewable energy and/or REC up to 30th June of the next financial year. • ‘Pooled Cost of Power Purchase’ means the weighted average price at which the distribution licensee has purchased the electricity including cost of self generation, if any, in the previous year from all the energy suppliers, <u>excluding short term power purchases and those based on</u>

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Tamil Nadu	<ul style="list-style-type: none"> The State Agency shall submit quarterly status to the Commission in respect of compliance of renewable purchase obligation by the obligated entities in the format as stipulated by the Commission. 	<p><u>renewable energy.</u></p> <ul style="list-style-type: none"> The state have set a very low solar RPO target for 2012-13 i.e. 0.1% The RPO targets set under TN Solar Policy 2012 and TNERC are conflicting to each other. The state has clarified that purchases made from co-generation units irrespective of the fuel type would be considered for fulfilling their RPO. The APPC defined as per TNERC <u>excludes</u> short term as well as purchases from liquid fuels for computation of APPC. Also according to draft amendment published by TNERC, <u>the APPC should not exceed 75% of the preferential tariff of the respective technology.</u>
Tripura	<ul style="list-style-type: none"> 0.1 (%) percentage point out the renewable purchase obligation so specified shall be procured from generation bases on solar. The State Agency shall develop the formats for submission of quarterly progress report in respect of compliance of renewable purchase obligation by the obligated entities and get them approved by the Commission `Average Pooled Power Cost` definition is in line with the CERC 	<ul style="list-style-type: none"> In case of genuine difficulty in complying with the renewable purchase obligation because of non availability of Certificates, the Obligated entity can approach the Commission for carry forward of compliance requirement to the next year There is no long term RPO trajectory beyond 2012-13.

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Uttarakhand	<p>REC Regulation, 2010</p> <ul style="list-style-type: none"> The State Agency shall develop the formats for submission of quarterly progress report in respect of compliance of renewable purchase obligation by the obligated entities and get them approved by the Commission `Average Pooled Power Cost` definition is in line with the CERC REC Regulation, 2010 	<ul style="list-style-type: none"> The commission has set a very low Solar RPO target of 0.05% for the year 2012-13. There is no long term RPO trajectory beyond 2012-13 Provided that in case of genuine difficulty in complying with the renewable purchase obligation because of non-availability of certificates, the Obligated Entity can approach the Commission for carry forward of compliance requirement to the next year. The regulation does not specify the min capacity for Captive consumers for applicability of RPO.
Uttar Pradesh	<ul style="list-style-type: none"> Solar RPO target of 1% in 2012-13 is higher than Tariff policy target. The renewable purchase obligation specified for the year 2012-13 shall continue beyond 2012-13 until any revision is effected by the Commission in this regard. All captive consumers irrespective of capacity will be RPO complaint. Every distribution licensee shall, on a yearly basis on or before 15th March, submit to the State Agency under intimation to the Commission, the details of the estimated quantum of purchase from renewable energy sources for the ensuing year. The distribution licensee shall submit quarterly status to the State Agency in respect of compliance of renewable purchase obligation 	<ul style="list-style-type: none"> If the obligated entity has established the fact that the minimum quantum of purchase from solar energy is not available in the market either in the form of solar power or solar certificate in a particular year and the Commission is satisfied with this fact, then <u>additional non-solar energy over and above current non solar RPO target shall be purchased</u> for fulfillment of total renewable purchase obligation. The Commission may, either on its own motion or on recommendation of the State Agency or on receipt of an application from the obligated entity, revise for any year the percentage RPO targets as deemed appropriate.

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West Bengal	<ul style="list-style-type: none"> • The regulator has clearly defined RPO target fulfillment by purchase of power both being originated from co-generation and/or renewable sources. • RPO trajectory till 2017-18 is defined. • To meet the RPO the licensee shall make advertisement in at least two widely published national English daily newspapers and at least one widely published Bengali daily newspaper every year. • `Average Pooled Power Cost` definition is in line with the CERC REC Regulation, 2010 	<ul style="list-style-type: none"> • The commission in its regulation have defined RPO target from 2013-14 onwards. • RPO targets till 2017-18 (0.6%) are not sufficient to meet Tariff policy targets • There is no provision requiring State Agency developing methodology/reporting to commission regarding RPO compliance. • The regulation does not specify the min capacity for Captive consumers for applicability of RPO.