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# China's Renewable Portfolio Standard: What is it and what does it mean for the corporate renewable energy transition?

**In Part 2 of our series, we focus on the 'RPS Target', a market mechanism which underpins China's carbon reduction targets.**

The Renewable Portfolio Standard is an evolving legislation created to steer entities towards consuming renewable energy and increasing demand to drive new generation.

We look at the target in detail and consider the interactions between impacted entities and how this might affect the corporate renewable energy transition.



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## China set zero carbon target for 2060 and expects to increase the in-country non-fossil fuel consumption to around 20% by 2025.

Since 2017, the National Development and Reform Commission (NDRC), National Energy Authority (NEA) and other major regulatory parties and market entities have been circulating publications about 'Renewable Portfolio Standard' (RPS) targets. The latest announcement, published in May 2021, NDRC released a publication on RPS targets, clearly listing every region's target for 2021 and 2022. As a nation, China has a target of **29.4%** for total renewable energy and **12.9%** for non-hydro renewable energy.

### There are two classifications of in the context of the RPS targets:

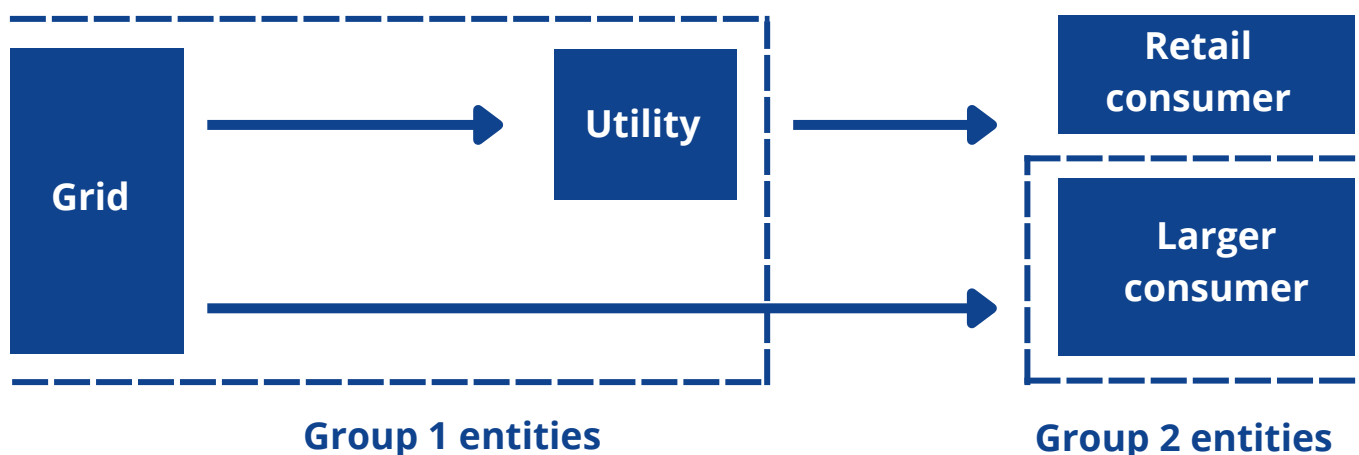
- 1- total renewable energy including hydroelectricity, and
- 2- renewable energy excluding hydroelectricity.

Some provinces have already significant infrastructure for hydroelectricity, for example the Three Gorges Dam in Hubei, the largest facility in the world. As China is promoting new, additional wind and solar power, it needs to take create a market mechanism to incentivize this, hence the creation of a non-hydro quota. From a corporate perspective, acquiring renewable energy from hydro would mean they will not be making gains against their non-hydro RPS targets, rather new generation is incentivised.

## Who are the market entities responsible for the RPS target?

For each province to reach its quota, market entities are obliged to support via a contribution to the targets. There are two groups for obligated entities under the RPS, as shown in the diagram below and the targets for each province for 2021 and 2022 at the end of this report.

<b>Group 1 entities</b>	Market entities (electricity-selling entities): Power grid companies, independent power sales companies, incremental power distribution companies
<b>Group 2 entities</b>	Market entities (electricity off-takers): Electricity users who purchase electricity through the electricity market (excluding electricity users who purchase electricity on behalf of electricity sales companies) and entities who own power plants.



For all responsible entities, all sold and transferred RE quota is not counted towards the RPS target. As stated in the guideline, for obligated entities that are not fulfilling their targets, they will be penalized. However, currently there are no clear framework of how the penalty will be charged.

Given that the main goal is to achieve targets by 2025, if a province is not able to achieve their annual target due to local hydro power, nuclear power production or other factors, the remaining quota can be rolled over and added onto the coming year's target. Each province's energy management department should report to the NDRC and the NEA by the end of 2022. Some provinces are currently consuming a lot of hydro (e.g. Xichuan near the Three Gorges Dam) and nuclear (e.g. Guangdong). In this case it is not as 'urgent' or less incentivised to transition into RE/reach the target since their carbon footprint is relatively lower than provinces depending on coal and gas, for example.

Moving forward, the NEA will summarize and evaluate the feedback collected from stakeholders (including national and southern grid, provincial energy administrations), and announce next year's target at the latest by the end of March every year.

## Reporting results

Towards the end of Apr 2022, the NEA published a report stating the progress against target:

- China (as a nation) has reached both of their total RE and non-hydro RE targets.
- Total RE % has reached 29.4% in 2021 and non-hydro RE % was at 13.7%, an increase of 0.6% and 2.3% from 2020 respectively.
- 28 provinces reached their total RE targets, except of Gansu and Xinjiang, missing by 2.6 and 1.8% respectively
- 29 provinces reached their non-hydro RE targets, except for Xinjiang, missing by 0.6%.

According Peng Peng, Secretary General of China New Energy Investment and Finance Alliance (CNIFA), this year's weather is relatively dry in Gansu, without much rainfall. RE production from hydro plants is not as high as the previous years', hence total RE target could not be reached. Although both Gansu and Xinjiang Uyghur Autonomous Region are with large RE capacity, given the abundant natural resources in the northwest, a lot of the RE output is delivered to other provinces and thus cannot be counted towards their own RPS targets.

Both provincial governments of Gansu and Xinjiang Uyghur Autonomous Region are required to submit a remediation report to the NEA by the end of April 2022. The remaining quota will be postponed to next year, i.e., to be achieved along with targets in 2022.



## How can corporates achieve RPS target?

**As electricity offtakers, there are 3 ways to achieve the RPS target:**

### GEC procurement

GEC is the renewable certificate system issued by the Chinese government. We generally consider this the safest option for certificate procurement in China. Being their national system, it is expected that GECs will be favoured over the more global I-REC standard.

Procurement of GECs is relatively straightforward, however the risk of certificate double counting is an important consideration. It is vital to ensure that the renewable energy is traceable to a single procuring entity and adheres to best practices set by the likes of CDP, SBTi, WRI.

### Green electricity trading scheme

The Green electricity trading Scheme is relatively new and only possible in some provinces. It is essentially the contractual mechanisms for securing longer-term procurement of renewable energy in China. Buyers typically enter a 1-month, multiple-months or 1-year contract to procure. Transactions are encouraged to extend to 5-10 years in the future.

In terms of corporate access, coverage is still evolving and the scheme is not yet available in all provinces. Energy is procured via an online platform, and template contract exist. Flexibility around contractual terms remains an unknown, therefore corporates should be prepared by being clear on what they are and are not able to accept.

### Remaining grid distribution

Grids have been prioritised in renewable energy allocation, and in many provinces, there is a guaranteed percentage that is first allocated to the grid. When grids have achieved their own RPS targets, they will distribute the remaining RE quota to consumption groups procuring through the grid, including large consumers.

However, this quota is not promised by the grid, and the amount of renewable energy distributed is often minimal. It cannot actively be procured or planned for, meaning it is challenging for corporates to incorporate this into a renewable energy transition plan.

While the grid distribution mechanism may support decarbonisation of China's grid, corporates should consider further mechanisms to support the generation of additional renewable energy capacity.



## Summary

- The main driver for RPS is to support China to reach approximately 20% renewable electricity share by 2025, as a stepping stone to the ultimate goal of net zero by 2060.
- Apart from the RPS targets to be achieved as a nation, China also set up targets for each province, depending on their natural resources (land, wind/solar) and potential renewable energy capacity to be installed.
- RPS is a rather new policy, still in the pilot phase, and needs a clearer framework. As we see with provinces that missed their targets in 2021, the remaining portion will be rolled over to 2022, and only remediation reports are requested.
- There is no strict penalty or consequences stated in the guideline, for example, we don't know what are the consequences if targets are not reached after remediation, or how to calculate the penalty.
- The RPS seems to still be in testing phase, to evaluate whether the targets set are realistic, achievable and it's efficacy as a market mechanism.
- Corporates should bear in mind that penalties for missing their RPS target may be imposed in the future, when the government has enough confidence (through data and experience) to support targets are achievable.

### RPS targets across China's provincial regions for 2021 - 2022

The incremental rises in different provinces' target indicate that testing is still underway to establish the optimal target to align with China's national goal.

Regions	2021		2022	
	Total Renewable Energy Target (%)	Non-Hydro Renewable Energy Target (%)	Total Renewable Energy Target (%)	Non-Hydro Renewable Energy Target (%)
Anhui	16.0	14.0	17.34	15.25
Beijing	18.0	17.5	19.44	18.75
Chongqing	43.5	4.0	45.50	5.25
Fujian	19.0	7.5	19.96	8.75
Gansu	49.5	18.0	50.00	19.25
Guangdong	29.0	5.0	31.09	6.25
Guangxi	43.0	10.0	47.92	11.25
Guizhou	35.5	8.5	36.00	9.75
Hainan	16.0	8.0	16.65	9.25
Hebei	16.5	16.0	17.93	17.25
Heilongjiang	22.0	20.0	23.40	21.25

Henan	21.5	18.0	22.77	19.25
Inner Mongolia Autonomous Region	20.5	19.5	21.87	20.75
Jiangsu	16.5	10.5	17.71	11.75
Jiangxi	26.5	12.0	32.39	13.25
Jilin	28.0	21.0	29.29	22.25
Liaoning	15.5	13.5	16.90	14.75
Ningxia Hui Autonomous Region	24.0	22.0	25.40	23.25
Qinghai	69.5	24.5	70.00	25.75
Shaanxi	25.0	15.0	25.89	16.25
Shandong	13.0	12.5	14.44	13.75
Shanghai	31.5	4.0	32.45	5.25
Shanxi	20.0	19.0	21.41	20.25
Sichuan	74.0	6.0	70.00	7.25
Tianjin	17.0	16.0	18.42	17.25
Tibet Autonomous Region	N/A	N/A	N/A	N/A
Xinjiang Uyghur Autonomous Region	22.0	12.5	22.88	13.75
Yunnan	75.0	15.0	70.00	16.25
Zhejiang	18.5	8.5	19.46	9.75

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As an established member of our PPA team, Chelsea supports our international PPA implementation projects, overseeing the developer contracting process, including PPA financial analysis and market assessments. Chelsea heads up our China renewable energy steering group, managed in collaboration with RESET Carbon to drive our capabilities in the rapidly evolving Chinese renewable energy sector.