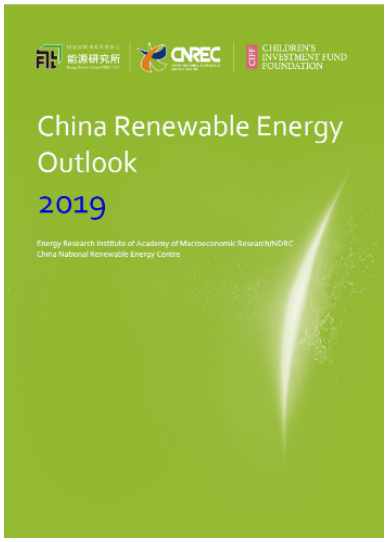
APRIL 2020

CHINA ENERGY POLICY
NEWSLETTER

Boosting Renewable Energy as Part of China's Energy Revolution

1. Project activities

The full report of China Renewable Energy Outlook 2019 released



The full *China Renewable Energy Outlook 2019* (CREO 2019) is now available for download on the **Boosting RE website**. It illustrates how China can accomplish its long-term goal of creating a clean, low-carbon, safe, energy efficient and cost efficient energy system by 2050 while achieving economic growth. Two energy system scenarios provide clear and consistent visions for the long-term development as basis for short-term decisions. The main scenario, Below 2 °C, shows a pathway for China to achieve the ambitious vision for an ecological civilization and the role China could take in the fulfilment of the Paris Agreement. The report illustrates how China can achieve a system with 65% non-fossil capacity, while lowering their cost of energy.

The *China Renewable Energy Outlook* is an annual flagship publication of the China National Renewable Energy Centre (CNREC). CREO 2019 was jointly produced by CNREC, the Danish Energy Agency (DEA), Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, German Energy Agency (dena), Agora Energiewende, Energinet and Ea Energy Analysis.

2. China energy transition updates

The State Council delegates the approval of farmland conversion to provincial level

The State Council announced in March 2020 that apart from the permanent capital farmland[1], provincial governments will be responsible for approving land use conversion from farmland to land for project construction. Besides, the government will kick off a one-year pilot program to convert some of the permanent capital farmland to land for construction; local governments will carry out the approving process with commission of the State Council. The pilot regions include Beijing, Tianjin, Shanghai, Jiangsu Zhejiang, Anhui, Guangdong and Chongqing, as they are economic developed regions but with high pressure on resource constraint.[2] The new regulation implies that in the future, local governments will play more important roles in filing, approval, land use and grid connection of new renewable projects. However, for project developers, land taxes and fees are still the key policies.

China accounted for 76% of global offshore wind turbine orders in 2019

Global wind turbine orders in 2019 reached nearly 100 GW, an increase of 39 GW compared to 2018, with orders worth USD 78 billion. Overall, Chinese developers accounted for nearly half of this volume. Wood Mackenzie believes that the expiration of the offshore feed-in tariff policy, operation of new power transmission lines and lifting restrictions on wind power investments in the North-Eastern provinces all have some impact. Specifically in offshore wind industry, China alone placed orders for 76% of global offshore wind turbines in 2019, roughly equivalent to 13 GW. In terms of the average size of all turbines, demand for 4 MW and above increased by 202% year-on-year, with China purchasing 8 GW. China's demand for 6 to 8 MW turbines is also growing and pulling up the rated power of offshore wind turbines.[3]

[1] The farmland that is not allowed to use for any other purposes or to change to other types of land. According to the Chinese policy, the area of permanent capital farmland in China in 2020 should be no less than 1.546 billion mu. "中华人民共和国土地管理法," The National People's Congress, 5 September 2019, accessed at **http://www.npc.gov.cn/npc/c30834/201909/d1e6c1a1eec345eba23796c6e8473347.shtml**; "国土资源部解读《关于全面实行永久基本农田特殊保护的通知》," Former Ministry of Land and Resources, 27 February 2018, accessed at **http://www.gov.cn/zhengce/2018-02/27/content_5269128.htm**.

[2] "国务院关于授权和委托用地审批权的决定, 国发〔2020〕4号," the State Council, 1 March 2020, accessed at **http://www.gov.cn/zhengce/content/2020-03/12/content_5490385.htm**.

[3] "2019年全球风机订单量近100GW 中国市场占一半," Wood Mackenzie, 11 March 2020, accessed at **http://news.bjx.com.cn/html/20200311/1053084.shtml**.

3. Overview of the 2020 Wind and Solar PV Construction Plan

The National Energy Administration (NEA) published the *2020 Wind and Solar PV Construction Plans* in March 2020.[4] The policy direction remains the same compared to 2019. Subsidy free projects, projects subsidized via tenders, and subsidized projects which voluntarily opt to be subsidy-free in the future are the three key focus areas. The government aims to carry out a strict monitoring process and enforce power transmission and consumption capacity to support. In general, the continuation of policy aims to be conducive to transitioning to subsidy-free wind and PV in the beginning of the 14th Five-Year period.

Power grid operators (TSOs)[5] together with the China Renewable Energy Monitoring Centre are responsible to measure and evaluate the 2020 consumption capacity by province. The results will be the foundation to determine the 2020 incremental wind and PV power capacity and it applies to both subsidy-free and tendering projects. NEA aims to share the information with public in March 2020.

Considering the impact of COVID-19 outbreak on the delay of the administrative process, NEA extends the application deadline of new wind and PV subsidy-free projects from mid-February in the policy draft to the end of April in the official document. Nevertheless, new projects should still commence construction in 2020.

The 13th Five-Year (2016-2020) development targets and 2020 consumption capacity by province are the two pre-evaluation criteria to determine the newly added capacity of subsidized projects, while there is no construction limit on subsidy-free projects.

Utility-scale onshore and offshore wind

It is mandatory to determine the developers and feed-in tariffs (FiTs) of new subsidized utility-scale onshore and offshore wind power project through tenders. Moreover, in provinces that have achieved the *13th Five-Year Plan* capacity targets[6], local governments are not allowed to kick off tendering process.

Distributed onshore wind

Distributed onshore wind projects do not need to participate in tenders to enjoy subsidies, but the construction capacity is under control. For those who participate in distributed power market trading pilots (subsidy-free), the construction capacity has no limit.

The total subsidy budget for new PV projects in 2020 is RMB 1.5 billion, of which RMB 1 billion is for utility-scale PV and commercial and industrial distributed PV determined through tenders. The remaining RMB 500 million is for household PV.

Utility-scale PV, commercial and industrial distributed PV

The subsidized projects will be determined through tendering in a national ranking system. The subsidy for a single project is calculated as *required subsidy/kWh*[7] *x installed capacity x utilization hours determined by NEA*. Bidders should be new projects located in provinces that have been labeled with orange or green in the latest PV market early warning results and with land use conditions.

Household PV

Subsidized household PV are not supported via tenders but will receive feed-in premiums (FiPs) based on the first come first served principle depending on the date of grid-connection. The subsidy for a single project is calculated as *subsidy/kWh which is yet to be published x installed capacity x 1000 hours*.

[4] "国家能源局关于2020年风电、光伏发电项目建设有关事项的通知, 国能发新能〔2020〕17号," National Energy Administration, 5 March 2020, accessed at http://zfxxgk.nea.gov.cn/2020-03/05/c_138862190.htm; "《国家能源局关于2020年风电、光伏发电项目建设有关事项的通知》解读," National Energy Administration, 11 March 2020, accessed at http://www.nea.gov.cn/2020-03/10/c_138862170.htm.

[5] State Grid Corporation of China, China Southern Power Grid and Inner Mongolia Grid.

[6] The targets exclude subsidy-free projects and nominated projects binding with the inter-provincial and inter-regional power transmission channel.

[7] Required subsidy = the guiding feed-in tariff – the bidding feed-in tariff.

Expert commentary on 2020 and 2021 wind and solar PV development

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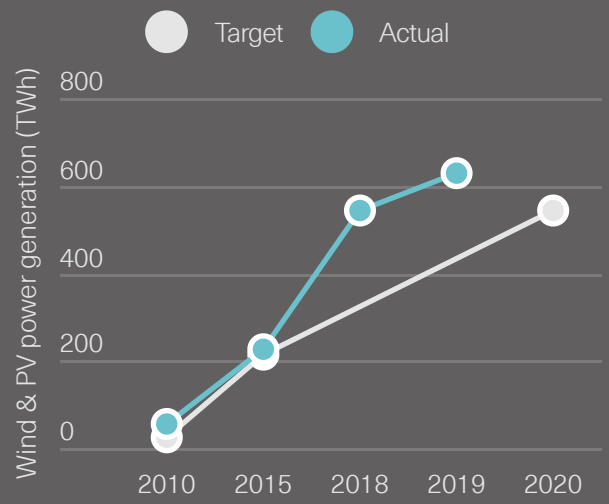
Professor Shi started to work in ERI since 1995. Her research focuses on renewable energy policies, regulations, planning and strategy. Shi's latest projects include assessment of the *Renewable Energy Law*, study and draft of the *13th Five-Year Plan for Renewable Development*, improvement of renewable pricing and incentive policies and establishment of green certificate trading mechanism. She holds a master's degree in electrical engineering from the North China Electric Power University and a bachelor's degree in the same major from the Tsinghua University.



Source: Energy Research Institute of National Development and Reform Commission (ERI of NDRC), April 2019

Capacity forecast

According to the current policy environment and preparation status of new projects, it is expected that in 2020, the incremental wind power capacity will exceed 30 GW and solar PV will be over 40 GW. However, as COVID-19 has affected the import of wind turbine components and export of PV model components, as well as the application process of new projects, the government may have follow up policies.[8] If the deadline of grid-connection is extended, there will be less newly installed capacity in 2020.

Policy trends analysis

It is clear that from 2021, new onshore wind power projects will be subsidy free and offshore wind power subsidies will be covered by local provinces. It is expected that solar PV will have achieved nationwide subsidy-free in two years, possibly in 2021. Therefore, non-incentive policies will be more significant in facilitating renewable energy development in the future. The mandatory renewable consumption mechanism is a major measure to maintain the growth of installed capacity by increasing the quota targets year by year. Evaluation of provincial consumption capacity to absorb additional renewable power generation may become a long-term measure, as it is an important reference for both project approval and investment decisions. The wind power and solar PV market early warning results are expected to be published annually, while the government may update the evaluation index based on the new subsidy-free environment.

Policy reflections

An increasing number of new installed wind power and solar PV projects will participate in power markets when the sectors become completely subsidy-free after 2021. As PV projects mostly bid daytime hours, it will receive relatively high market prices and be more competitive compared to wind. So in order to reduce the economic risks for wind power, there is a possible and feasible way, namely to continue adopting tendering mechanism to determine FiTs which may be same or even lower than coal power FiTs, and carrying out tendering FiTs under the mandatory purchase of minimum utilization hours. In addition, in order to expand the scale of distributed power market trading, the pricing department should firstly set up a clear standard to calculate transmission and distribution tariffs in power distribution grids without considering the cost of high-voltage grids.

[8] "《国家能源局关于2020年风电、光伏发电项目建设有关事项的通知》解读," National Energy Administration, 11 March 2020, accessed at http://www.nea.gov.cn/2020-03/10/c_138862170.htm.

4. Policy monitoring

13 March 2020
https://www.ndrc.gov.cn/xxgk/zcfb/fzggwl/202003/t20200316_1223371.html

NDRC removes 30% of items from government pricing list

The Chinese Government Pricing List, NDRC Order No. 31

The NDRC revised and amended the *Chinese Government Pricing List (2015 version)*. The 2020 version removes the government pricing items by 30% (16 items) and the document will become effective from 1 May 2020. The "power pricing" is renamed to "power transmission and distribution pricing" and "natural gas pricing" is renamed to "oil and gas pipeline transportation pricing". This reflects the liberalization direction of feed-in tariffs, electricity prices and gas selling prices in China.

11 March 2020
https://www.ndrc.gov.cn/xxgk/zcfb/tz/202003/t20200317_1223470.html

Hydrogen energy supporting policies should be ready by 2021

Notice to Facilitate the Establishment of Green Manufacture and Consumption Law and Regulation System, NDRC Environment and Resources [2020] No, 379

The government will increasingly focus on formulating policies relevant to distributed energy, smart grid, energy storage technology and multi-energy complimentary system. Meanwhile, six authorities will jointly research and develop new energy standards and supporting policies by 2021, especially for hydrogen energy and marine energy.

29 February 2020
http://shupeidian.bjx.com.cn/html/20200304/1050255.shtml

NDRC provides an outline for provincial mandatory renewable consumption plans

Notice to Issue the Outline to Guide the Formulation of Provincial Renewable Power Consumption Plans, NDRC Energy [2020] No. 181

The policy aims to guide provincial governments to formulate local implementation plans to accomplish the mandatory renewable power consumption targets. Referred to this *Outline*, local policy makers is allowed to decide specific terms such as distribution method of quotas, regulatory authorities, trading mechanisms of surplus quotas and punishment measures based on local circumstances. Nevertheless, it is clear that green certificate trading will be a supplement measure to achieve compliance, and the starting date will be 1 January 2021.

28 February 2020
https://www.ndrc.gov.cn/xxgk/zcfb/tz/202003/t20200306_1222531.html

"Beautiful China" evaluation index system settled

Notice to Issue the Evaluation Index and Implementation Plan for the "Beautiful China" Construction Program, NDRC Environment and Resources [2020] No. 296

The NDRC proposed an evaluation index system for the construction of a "Beautiful China", the five categories are air quality, water cleanness, soil security, ecological environment and residential cleanness. From 2020, the Chinese Academy of Sciences (CAS) will conduct assessments twice in every five years for all provinces as a third party, one in the middle and one in the end of each five-year period. However, the government will not rank the results and do not use them as a reference for local governments' KPI.[9]

[9] The Chinese government proposed the "Beautiful China" concept in 2012, which aims to bring about an ecological civilization mainly covering the economic, political, cultural and social aspects. In 2015, "Beautiful China" was included in a five-year plan (the *13th Five-Year Plan*) for the first time.