

China Energy Policy Newsletter: May and June 2019

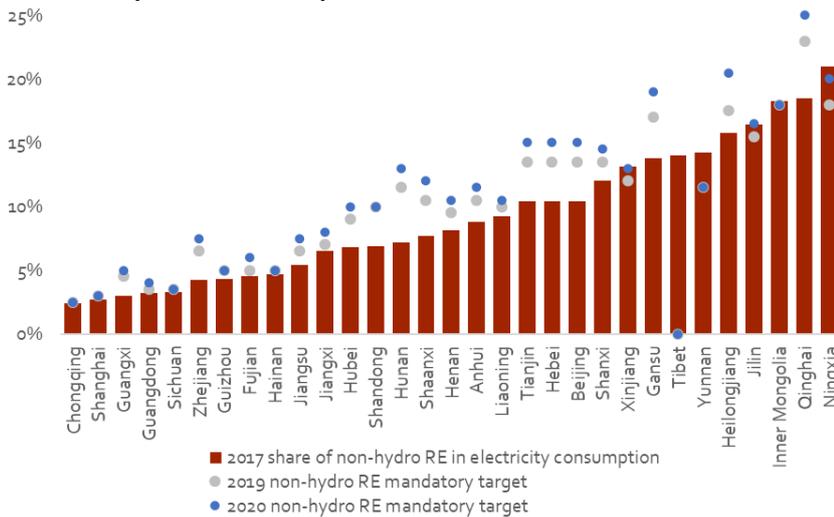
1. China energy transition updates

NDRC and NEA issue official renewable energy obligation policy

On 10 May 2019, the National Development and Reform Commission (NDRC) and National Energy Administration (NEA) jointly released the renewable energy obligation policy: Notice Establishing a Mandatory Renewable Electricity Consumption Mechanism, NDRC Energy [2019] No.807.1 Compared to the third policy draft issued in December 2018, there are three notable changes, while the main concept remains.² First, the government changed the description of the obligation from renewable electricity quota (可再生能源电力配额) to renewable electricity consumption quota (可再生能源电力消纳权重). Second, NEA will determine the provincial renewable consumption quotas instead of provincial energy administrative departments, and provincial energy administrations will lead the implementation process instead of provincial government. Third, NEA adjusted most of the provincial 2019 and 2020 quotas to a lower level keeping the incentive quota 10% or more above the provincial mandatory quotas. The official monitoring and assessment process will begin in 2020, each province should report the assessment results to NEA by February 2021.

Dr Shi Jingli, researcher at the China National Renewable Energy Centre (CNREC), provided her comments. A legally-binding obligation can accelerate renewable energy development. By increasing the quota year by year, the government could raise the renewable consumption proportion and help achieve mid-to-long term national non-fossil energy targets. The policy design requires electricity consumers to take equal responsibility for consuming renewables. Another highlight is the market: surplus quota can be traded, and the system can integrate into future spot power markets. It also considers the interaction with voluntary green certificates and energy consumption controls to make implementation more flexible.³ An additional assessment from the Deputy Director of CNREC, Dr Tao Ye, is available on the [Boosting RE website](#).

2019 and 2020 mandatory renewable power consumption quota and 2017 share of renewable power consumption



Source: 2017 data from China National Renewable Energy Centre, July 2018; 2020 targets from NEA, May 2019

¹“国家发展改革委 国家能源局关于建立健全可再生能源电力消纳保障机制的通知, 发改能源〔2019〕807号,” National Development and Reform Commission, and National Energy Administration, 10 May 2019, accessed at http://www.gov.cn/xinwen/2019-05/16/content_5392082.htm.

²“国家能源局综合司征求《关于实行可再生能源电力配额制的通知》意见的函,” National Energy Administration, 13 November 2018, accessed at http://www.nea.gov.cn/2018-11/15/c_137607356.htm.

³“创新性长效消纳保障机制: 为可再生能源电力持续健康发展、推进能源转型保驾护航,” China National Renewable Energy Centre, 15 May 2019, accessed at <http://solar.in-en.com/html/solar-2340445.shtml>.

21 GW subsidy-free wind and solar PV projects published

On 20 May 2019, NEA announced 20.76 GW of subsidy-free wind and solar PV projects, of which 4.51 GW were utility-scale wind power projects, 14.78 GW utility-scale solar PV power projects, and 1.47 GW distributed renewable market trading pilots.⁴ This is the first batch of subsidy-free renewable projects issued by NEA in 2019, consisting of 250 projects in 16 provinces. Majority projects are expected to complete construction and start to operate in 2020, the rest will be in 2019 or after 2020. Northeast China has the largest amount of subsidy-free projects as the local coal power benchmark FiT and solar resources conditions are both relatively good. Due to relatively lower grid-connected wind and solar PV capacity, the Northeast region has better grid access for new projects.⁵ The government will prioritize subsidy-free renewable projects, followed by subsidized projects acquired through tendering. The policy requires grid companies to sign long-term contracts of at least 20 years with subsidy-free projects at a price equal to the local coal power benchmark tariff.

2019 first batch of subsidy-free wind power projects



Source: NEA, May 2019

2019 First batch of subsidy-free solar PV projects



Source: NEA, May 2019

⁴“国家发展改革委办公厅 国家能源局综合司关于公布 2019 年第一批风电、光伏发电平价上网项目的通知, 发改办能源[2019]594 号,” National Energy Administration, 20 May 2019, accessed at http://www.ndrc.gov.cn/zcfb/zcfbtz/201905/t20190522_936543.html.

⁵“黑龙江: 至少 1.55 GW 平价上网项目完成备案,” Solarbe, 17 April 2019, accessed at https://m.sohu.com/a/308437944_418320.

NDRC issued new onshore wind feed-in tariff policy

On 21 May 2019, NDRC issued the new wind power feed-in-tariff (FiT) policy.⁶ The government renamed the description of FiT from *benchmark* wind power tariff to *guiding* wind power tariff, implying wind FiTs will serve as price caps instead of fixed on-grid tariffs after July 2019. The policy also requires all new wind project tariffs be set via tendering starting in 2019. The policy includes an explicit timeline for phasing out subsidies for onshore wind: new projects approved since 2021 will not receive any national subsidy. Although distributed wind power project participating market trading pilots cannot receive the national subsidy, they can apply to transfer to subsidy-free projects and enjoy incentive policies such as T&D fees and exemption from cross-subsidization. Such projects can earn extra revenue by selling voluntary green certificates.⁷ Other distributed wind power projects can receive utility-scale onshore wind power FiTs without tendering.

NDRC reduced the FiT for offshore wind for the first time, though the reduction is small. The price decreases by RMB 0.05/kWh for 2019 and by RMB 0.1/kWh in 2020 compared to 2018. As the coastal wind speeds and seabed conditions have large regional differences, the current levelized cost for offshore wind ranges between RMB 0.65/kWh and RMB 0.8/kWh. Compared to the 2019 FiT cap of RMB 0.8/kWh, the adjustment shows that the Chinese government will continue to support offshore wind.⁸

Another notable change is that project approval date and grid connection date will jointly decide the actual FiT of the project instead of approval date only. The new policy gives one to two years of buffer period for onshore wind and three years for offshore wind. "It considers a reasonable construction period for wind power plants in parallel to achieve the subsidy phase out targets in time," Dr Shi of CNREC said.⁹

Wind power project types	Regions by wind resources	Approved in 2018 and on grid by 2020	Approved in 2019 and on grid by 2021	Approved in 2020 and on grid by 2021	Approved since 2021/ approved in 2019 or 2020 but on grid since 2022
Utility-scale onshore wind	Type 1	0.4	0.34	0.29	Local coal power benchmark
	Type 2	0.45	0.39	0.34	
	Type 3	0.49	0.43	0.38	
	Type 4	0.57	0.52	0.47	
Distributed onshore wind to participate market trading pilots	Nationwide	N/A	Bilateral negotiation with electricity consumers, no national subsidy		N/A
Other distributed onshore wind	Type 1	0.4	0.34	0.29	Local coal power benchmark
	Type 2	0.45	0.39	0.34	
	Type 3	0.49	0.43	0.38	
	Type 4	0.57	0.52	0.47	

Source: NDRC, May 2019

Wind power project types	Regions by wind resources	Approved in 2018 and on grid by 2021	Approved in 2018 and on grid since 2022	Approved in 2019	Approved in 2020
Coastwise offshore wind	Type 4	0.85	FiT of on-grid year	0.8	0.75
Intertidal offshore wind	Type 4	0.75	FiT of on-grid year	0.52	0.47

Note: All coastal provinces are in Type 4 wind resources region. Source: NDRC, May 2019

⁶ "国家发展改革委关于完善风电上网电价政策的通知, 发改价格〔2019〕882号," National Development and Reform Commission, 27 May 2019, accessed at http://www.ndrc.gov.cn/zfwfzx/zfdj/jggg/201905/t20190524_936696.html.

⁷ Shi Jingli, "重磅解读 | 风电上网电价新政, 引导和护航实现陆上风电全面平价最后一公里," China National Renewable Energy Centre, 24 May 2019, accessed at <http://news.bjx.com.cn/html/20190524/982466.shtml>.

⁸ Shi Jingli, "重磅解读 | 风电上网电价新政, 引导和护航实现陆上风电全面平价最后一公里," China National Renewable Energy Centre, 24 May 2019, accessed at <http://news.bjx.com.cn/html/20190524/982466.shtml>.

⁹ Shi Jingli, "重磅解读 | 风电上网电价新政, 引导和护航实现陆上风电全面平价最后一公里," China National Renewable Energy Centre, 24 May 2019, accessed at <http://news.bjx.com.cn/html/20190524/982466.shtml>.

NDRC announces new solar PV feed-in tariff policy

On 30 April 2019, the NDRC issued a new solar PV FiT policy, cutting FiTs for utility-scale PV by 20% to 25% and feed-in-premium (FiP) for distributed PV by up to 69%.¹⁰ The government renamed the description of FiT from *benchmark* solar PV tariff to *guiding* solar PV tariff. It is the first time that residential PV projects will receive a unified subsidy nationwide. For utility-scale solar PV projects that fully feed electricity into grids after 1 July 2019, the FiTs decrease to RMB 0.4/kWh in Type I solar resource regions, to RMB 0.45/kWh in Type II, and to RMB 0.55/kWh in Type III resource regions. For projects connected to grids by 30 June 2019 and poverty alleviation solar PV projects, FiTs remain unchanged.¹¹ Commercial and industrial distributed PV that deliver 100% of output to the grid will apply utility-scale PV FiTs, others can receive a FiP of RMB 0.1/kWh. All residential distributed PV projects can receive a FiP of RMB 0.18/kWh.

Solar PV project types	Regions by irradiance resources	Connect to grids by 30 June 2019	Connect to grids since 1 July 2019	Change
Utility-scale PV, commercial and industrial distributed PV that 100% connected to grids (FiT)	Type 1	0.5	0.4	-20%
	Type 2	0.6	0.45	-25%
	Type 3	0.7	0.55	-21%
Self-consumed commercial and industrial distributed PV (FiP)	National	0.32	0.1	-69%
Distributed residential PV (FiP)	National	0.32	0.18	-44%
Poverty alleviation PV (FiT)	Type 1	0.65	0.65	N/A
	Type 2	0.75	0.75	N/A
	Type 3	0.85	0.85	N/A

Note: Solar PV Projects that applicable to receive subsidies must be included into the national subsidized lists.

Source: NDRC, April 2019

2019 wind and solar PV tendering policy is receiving public comments

NEA published the policy draft of the 2019 construction plan for wind and solar PV projects.¹² NEA plans to set a subsidy cap of RMB 3 billion for solar PV projects in 2019, of which RMB 750 million is specifically for household PV, implying 3.5 GW of construction quota for this category. The allocation of the remaining RMB 2.25 billion will be determined through national tendering by utility-scale PV, industrial and commercial distributed PV. Poverty alleviation PV projects will have additional quotas. All bids will be adjusted with a price correction factor and will then be ranked nationwide.¹³ Subsidized projects should connect to grid by 2019. For each quarter of delay, the subsidy will be reduced by RMB 0.01/kWh. Projects that are delayed for more than two quarters will see their qualification to receive national subsidies cancelled.

¹⁰ “国家发展改革委关于完善光伏发电上网电价机制有关问题的通知，发改价格（2019）761号，” National Development Reform Commission, 30 April 2019, accessed at http://www.ndrc.gov.cn/zwfwzx/zfdj/jggg/201904/t20190430_935312.html.

¹¹ “国家发展改革委 财政部 国家能源局关于 2018 年光伏发电有关事项的通知，发改能源（2018）823 号，” National Development Reform Commission, Ministry of Finance of the People’s Republic of China, and National Energy Administration, 31 May 2018, accessed at http://www.nea.gov.cn/2018-06/01/c_137223460.htm.

¹² “国家能源局综合司关于征求对 2019 年风电、光伏发电建设管理有关要求的通知（征求意见稿）意见的函，” National Energy Administration, 12 April 2019, accessed at http://www.nea.gov.cn/2019-04/12/c_137971108.htm.

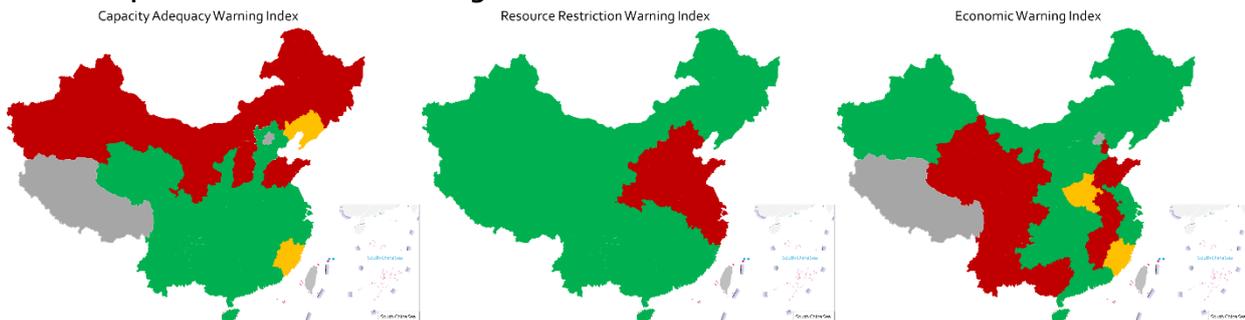
¹³ For utility-scale solar PV plants and industrial and commercial distributed PV projects that fully feed into the grid: the corrected bidding price for Type II irradiance resources regions = original bidding price - RMB 0.05/kWh, and the corrected bidding price of Type III irradiance resources region = original bidding price - RMB 0.15/kWh. For self-use industrial and commercial distributed PV projects: the corrected bidding price = original bidding price - coal benchmark FiT of the province + RMB 0.3/kWh. For regions with coal benchmark FiT less than RMB 0.3/kWh, the bidding price will not be corrected.

Coal power overcapacity is expected to ease in 2022

NEA published the 2022 coal power early warning results in May.¹⁴ Coal overcapacity in 12 provinces is expected to ease in 2022, but the Three North will still have a surplus in areas where the capacity adequacy index is red. The resource restriction category will be more severe in 2022, with four new provinces marked in red: Shaanxi, Shanxi, Henan and Anhui. The project economic index changed in four provinces. Jiangxi and Anhui changed from green to red and Hubei and Chongqing changed from red to green.

For provinces marked in red or yellow in capacity adequacy warning, the government should not approve, and not allow construction or grid-connection of new coal power plants for local consumption including captive units. For provinces in green to develop new coal power plants, local government should prioritize poverty alleviation projects, residential power and heat supply projects, CHP plants, and grid and industrial park captive power plant projects. For provinces in green for capacity adequacy warning but in red for resource restriction, the local government should strictly control the capacity of newly approved coal power plants.

2022 coal power construction warning index



Source: National Energy Administration, March 2019

Spot power market pilot completes one-day simulated transaction settlement

On 15 May 2019 and 16 May 2019, Guangdong Power Exchange Center completed the transaction settlement in Guangdong day-ahead and intra-day spot power market, a first for any of the country's eight spot market pilots.¹⁵ In the simulated day-ahead transaction for 16 May 2019, the average power price offered by power generators was RMB 0.297/kWh, the average clearing price was RMB 0.295/kWh, and the total amount of transaction reached 942 GWh. In intra-day trading, the average power price offer was RMB 0.276 /kWh, the average clearance price was RMB 0.289/kWh, and the total amount of transactions reached 968 GWh. The clearing price curves matched forecasted power demand curves.¹⁶ The graphs below show the result of the hourly clearing prices.

Clearing price curve in day-ahead spot power market, 16 May 2019 (RMB/MWh)



Source: Guangdong Power Exchange Center, May 2019

Clearing price curve in intra-day spot power market, 16 May 2019 (RMB/MWh)



Source: Guangdong Power Exchange Center, May 2019

¹⁴ “国家能源局关于发布 2022 年煤电规划建设风险预警的通知, 国能发电力 (2019) 31 号,” National Energy Administration, 27 March 2019, accessed at http://zfxqgk.nea.gov.cn/auto84/201904/t20190419_3655.htm.

¹⁵ “南方 (以广东起步) 电力现货市场 5 月 16 日日交易概况: 总成交量 9.42 亿千瓦时,” Guangdong Power Exchange Center, 16 May 2019, accessed at <http://shoudian.bjx.com.cn/html/20190516/980673.shtml>.

¹⁶ “广东电力现货市场首日试结算 日前市场正式出清 | 发电侧一夜回归理性,” Huidian Dianping, 15 May 2019, accessed at <http://shoudian.bjx.com.cn/html/20190515/980512.shtml>.

2019 overcapacity reduction targets issued for steel and coal sectors

Notice on Reducing Excess Capacity in Focus Areas, NDRC Operation [2019] No. 785

In 2018, the steel, coal and coal power industries had all achieved their 2020 overcapacity reduction targets ahead of schedule. In 2019, the government requires the steel industry to carry out emissions control programs such as the retrofit of ultra-low-emissions equipment and building coke oven exhaust gas treatment facilities. The coal industry should continue to improve the quality of coal production and coal power industry to retrofit ultra-low-emissions equipment for coal power units.

2019/04/30

http://www.ndrc.gov.cn/zcfb/zcfbtz/201905/t20190509_935869.html

NEA announces 1.67 GW poverty alleviation solar PV projects

Notice on the Second Batch of 13th Five-Year Plan Poverty Alleviation Solar PV Projects, NEA New Energy [2019] No.37

The installed capacity of the second batch of poverty alleviation solar PV projects in the 13th Five-Year Plan period is about 1.67 GW, located in 165 counties in 15 provinces or administrative regions. It consists of 3,961 village-level solar PV stations. The first batch of projects should be connected to the grid by 30 June 2019, and the second batch should be completed with full capacity by the end of 2019.

2019/04/19

http://zfxgk.nea.gov.cn/auto87/201904/t20190419_3652.htm

NEA drafting work plan for subsidy-free wind and solar PV projects

Notice of Work Plan to Promote Construction of Subsidy-free Wind and Solar PV projects (draft for comments)

Provincial energy administrative departments should submit the first batch of subsidy-free wind and solar PV projects to NEA by 25 April 2019. Local distributed renewable market trading pilots that have been submitted in 2018 will also be included after the review by NEA. The government encourages voluntary conversion of projects that have been approved or have been granted construction quotas before 2019 to subsidy-free projects, and grid companies should give power transmission priority to subsidy-free projects.

2019/04/08

http://www.nea.gov.cn/2019-04/10/c_137965487.htm

Wind power heating encouraged to participate in market trading

Notice on Improving the Power Trading for Wind Power Heating and Expanding Wind Power Heating, NEA New Energy [2019] No.35

Provincial energy administrative department should complete the provincial 2019-2021 *Wind Power Heating Development Plan* (or the implementation action plan) by June 2019, and improve market-based trading. The government encourages wind power generators to directly trade with consumers and to determine the price by negotiation or tendering.

2019/04/04

http://zfxgk.nea.gov.cn/auto87/201904/t20190419_3654.htm

Delayed incremental power distribution pilots may be cancelled

Notice on Issuing the Progress of Incremental Power Distribution Business Reform Pilots (Phase II), NDRC Institutional Reform [2019] No.375

The first batch of incremental power distribution pilots should start to operate by the end of June 2019.¹⁷ The second and third batches should determine the project developers and serving regions by May 2019, and construction should start by July. Incremental distribution projects that have faced severe delays will be barred from applying for new pilots, and projects may be cancelled if NDRC and NEA determine that they are no longer eligible.

2019/03/21

http://www.ndrc.gov.cn/zcfb/zcfbtz/201904/t20190403_932587.html

¹⁷ NEA issued the first batch of power distribution pilots in November 2016. It consisted of 105 projects in 29 provinces. The total investment is expected to be RMB 50 billion to RMB 100 billion, and 22 out of 105 pilots are in industrial zones. Source: "国家发展改革委 国家能源局关于规范开展增量配电业务改革试点的通知, 发改经体(2016)2480号," National Development and Reform Commission and National Energy Administration, 27 November 2016, accessed at http://www.sdpc.gov.cn/zcfb/zcfbtz/201612/t20161201_828814.html; "政策: 105个项目入选第一批增量配电业务改革试点名单公布," In-En.com, 1 December 2016, accessed at https://www.sohu.com/a/120411019_505851.