



## SINO-GERMAN ENERGY PARTNERSHIP

# Energy Transition Policies 2019: Summary of Important Policies for China's Energy Revolution

In 2019, Chinese authorities issued numerous policies and regulations promoting the country's Energy Revolution. This report compiles important energy policies in the fields of energy efficiency, renewable energies and power market reform as issued by the National Development and Reform Commission (NDRC), the National Energy Administration (NEA) and the Ministry for Industry and Information Technology (MIIT), amongst others. The list of policies presented herein does not claim to be exhaustive but shall rather provide an overview of important policy developments in 2019.

### Ecological Environment



NDRC and MEE:



**Notice on further promoting third-party environmental pollution control in industrial parks** (Department of Resource Conservation and Environmental Protection NDRC [2019] No. 785, released on July 11th)

The policy intends to promote third-party (i.e., third-party environmental consultancies or similar entities) environmental pollution control in industrial parks, with the aim of reducing overall pollutant emission levels. The notice outlines, amongst others, a performance-based remuneration for third parties, as well as guidelines for government monitoring and supervision. The notice specifies regional and industrial focuses regarding its implementation, including the Jing-Jin-Ji area (Beijing-Tianjin-Hebei region), the Yangtze River Delta, and the Guangdong-Hong Kong-Macao Greater Bay Area. For the Jing-Jin-Ji region, focus industries include iron and steel, metallurgy, and building materials, amongst others. Approved third parties benefit from a 15 percent tax cut.



MEE and 15 other government agencies:



**Action plan for comprehensive air pollution control in the autumn and winter of 2019-2020 in the Beijing-Tianjin-Hebei Region (Jing-Jin-Ji) and nearby areas** (Department of Atmospheric Environment [2019] No. 88, released on September 25th)

The main target is to reduce PM2.5 levels by four percent and the number of heavily polluted days by six percent between 1 October 2019 and 31 March 2020, through continuous air quality improvement. For the targeted "2+26" cities (including Beijing and Tianjin), main tasks include 1) adjusting industrial structure and retiring heavily-polluting facilities, shutting down enterprises below environmental and security standards; 2) improving the energy mix to promote clean heating and replacing dispersed coal with alternatives such as electricity and gas; 3) adjusting transportation structure by

the development of railway lines and increasing freight volumes; 4) optimizing land use; 5) developing coordinated mechanisms between national and local authorities to deal with heavy pollution during the heating season; 6) strengthen capacity building to improve

monitoring of major industrial districts and parks, ports and airports and build an integrated monitoring system. The policy also includes specific air quality improvement targets for the "2+26" cities. Similar action plans were issued for other regions, such as the Yangtze River Delta.

## Green Industry Policy



MIIT, NGOA and NEA:



**Guiding opinions on strengthening the construction of green data centers** (released on January 21th)

The main target of the guiding opinions is to establish and improve standardized evaluation criteria for green data centers and respective energy supervision systems, create a batch of advanced green data centers, and promote innovative green technology products and solutions. It is estimated that by 2022, the average energy consumption of data centers will reach internationally advanced levels. Measures include the decommissioning of out-of-date equipment with high energy consumption, increasing water use efficiency and clean energy shares, and efficient recycling of electrical equipment and electronic products. Data centers and energy service companies (ESCOs) are encouraged to expand energy management contracting (EMC), advance energy-saving trading mechanisms, and explore new financial service models.

30 industrial sectors and 211 subindustries in six categories (energy efficiency and environmental protection, clean production, clean energy, ecological environment, green services and green infrastructure improvement).



NDRC and MoST:



**Guiding opinions on building a market-oriented green technology innovation system** (Department of Resource Conservation and Environmental Protection NDRC [2019] No. 689, released on April 15th)

The guiding opinions clarify the definition of "green technology". According to the guiding opinions, "green technologies" refer to emerging technologies that reduce energy/resource consumption, reduce pollution, improve the ecology, promote the construction of ecological civilization, and realize the harmonious coexistence of man and nature. They include, amongst others, energy conservation and environmental protection, clean production, clean energy, ecological protection and restoration, urban and rural green infrastructure, ecological agriculture. The main target of the guiding opinions is to establish a market-oriented green technology innovation system by 2022, strengthen the status of enterprises as innovation drivers for green technology, and create a range of leading companies. Industry, schools and academia, finance, and other intermediaries shall be integrated to facilitate an efficient innovation system. The opinions further comment on the establishment of green technology demonstration zones, dedicated research and innovation centers, and ensuring an optimized legal, political and financial framework conditions for green technology innovations.



NDRC, NEA and five other ministries and commissions:



**Green industry guidance catalogue (2019 edition)** (Department of Resource Conservation and Environmental Protection NDRC [2019] No. 293, released on February 14th)

China published a Green Industries Guidance Catalogue to help promote green development through clarifying the definition "green industry", as well as harmonizing different sustainability standards. Seven ministries, including NDRC, NEA as well as the People`s Bank of China developed the Catalogue. This new catalogue, basically a small industrial plan, is supposed to be an important step in stimulating growth in China`s sustainable industry and services sectors. The catalogue comprises



NDRC and six other ministries and commissions:



**Action plan for green and efficient refrigeration** (Department of Resource Conservation and Environmental Protection NDRC [2019] No. 1054, released on June 13th)

The action plan was established to improve energy efficiency in refrigeration appliances. The plan states that, due to its high energy consumption and fast growth rates, the refrigeration industry offers large potentials for energy conservation and emission reductions.

Currently, major refrigeration products offer energy saving potentials of up to 30-50%. The main target of the action plan is that by 2022, the energy efficiency level of household air-conditioning, amongst other products, will increase by more than 30%, the market share of green and efficient refrigeration products will increase by 20% (2030: 40%), and respective electricity consumption will be reduced by about 100 TWh annually (2030: 400 TWh). By 2030, the energy efficiency of large-scale public buildings shall be increased by 30%, and the overall energy efficiency of refrigeration shall be increased by more than 25%.

## Industrial Energy Saving and Energy Efficiency Improvement



MIIT and China Development Bank:



**Notice on accelerating industrial energy conservation and green development** (released on March 19th)

The notice aims at supporting energy conservation and consumption reduction and achieving green development through green finance measures. The notice emphasizes the supporting role of green finance for industrial energy conservation and green development and identifies key areas for green financial measures: improving industrial energy efficiency, clean production, increasing resource efficiency and developing green manufacturing systems. China Development Bank is to become a main domestic bank for green credits. Green development and industrial energy efficiency measures should be supported in a market-driven manner and in accordance with major national plans, key strategies, and local industrial development frameworks.

with mandatory energy conservation standards. Areas of supervision are: a) supervision of energy consumption in major high-energy consuming industries; b) supervision of the staggered electricity price policy; c) supervision of efficiency improvements for major energy-consuming products and equipment; d) supervision of data center energy efficiency.



MIIT:



**Work plan on key points of industrial energy conservation supervision 2019** (released on March 25th)

According to the requirements published by the Ministry of Industry and Information Technology (MIIT), measures should be taken to supervise energy conservation in key energy-using enterprises, in accordance



NDRC and SAMR:



**Notice on accelerating the construction of an online monitoring system for major energy-consuming units** (Department of Resource Conservation and Environmental Protection NDRC [2019] No. 1696, released on April 4th)

The notice aims at accelerating the construction of an online energy consumption monitoring system for energy-intensive entities. Measures include, amongst others, strengthening inter-departmental communication and coordination of involved regional/local authorities, establishing and improving working mechanisms, accelerating the construction of the online monitoring system, and ensuring the connection of all energy-intensive units to the system by the end of the 13th five-year plan period.



MIIT:



**Notice on issuing the action plan for industrial energy-saving diagnose services** (released on May 16th)

The notice aims at strengthening industrial energy saving diagnoses services, hence improving energy efficiency and reducing industrial production costs. The notice differentiates enterprises by their annual energy consumption and industry sectors: 1) Annually, 3000 enterprises in mechanical engineering, electrical and electronics industry, light manufacturing, and textile, with an annual energy consumption between 5000 and 10,000 tce will receive diagnoses services; 2) All energy-intensive enterprises with an energy consumption above 10,000 tce, in iron and steel, building materials, petrochemicals, non-ferrous metals and other advanced industries with and energy management systems, will receive diagnoses services. Service providers shall assist in analyzing results, evaluating benefits, and tracking the progress of implemented energy efficiency projects.



MIIT:



**Notice on issuing a guideline for electricity demand side management in industry** (released on July 19th)

The guideline aims to establish and improve operational guidelines for demand-side management in industry, guide energy-consuming entities to carry out demand-side management, strengthen energy management, improve energy efficiency, and optimize resource allocation, amongst others. The guideline applies to public buildings, industrial enterprises, industrial parks, the power sector, amongst others.



MIIT and SAMR:



**Notice on organizing the selection of energy efficiency frontrunners in key energy use industries in 2019** (released on October 28th)

The Ministry of Industry and Information Technology (MIIT) issued a notice on organizing the selection of energy efficiency frontrunners in major energy consuming industries, based on criteria such as energy consumption, energy saving potential, monitoring, and energy efficiency standards. The 2019 selection will focus on the following industries: iron and steel, aluminum, copper, chemical and oil, coking, cement, and glass. Companies with high energy efficiency standards can submit applications.



Source: Shutterstock / zhangyang13576997233

## Energy Conservation and Efficiency Improvement in Public Organizations



 NGOA:

 ***Guidelines for the development and application of energy consumption quota standards for public institutions (on trial)*** (released on January 21th)

The guidelines require that each region should attach great importance to the development of energy consumption quota standards for public institutions, conduct in-depth analyses of the energy consumption characteristics of different types of public institutions (including schools, hospitals, etc.), and complete the development of respective standards by June 2020.

## Electric Power System Reform and Renewables



 NDRC and NEA:

 ***Notice on actively promoting the work related to wind power and photovoltaic power generation without subsidy and grid parity*** (released on January 7th)

According to the notice jointly published by NDRC and NEA, China plans to pilot wind and solar energy projects without state subsidies for the first time. The aim is to increase the competitiveness of renewable energies and to reduce financial subsidies for the renewable energy sector. Individual provinces are responsible for the planning and implementing of pilot projects. Local governments are encouraged to support such projects by providing cheap land and reducing administrative costs. The green certificates market shall provide additional revenues to renewable power generators.

See "Energie in China" Newsletter Issue No. 40, German, Page 5

 NGOA:

 ***Notice on the implementation of a pilot project on energy management contracting for centralized and unified organizations in counties (districts)*** (released on April 4th)

In order to further promote energy conservation and environmental protection in public institutions, and promote energy management contracting (EMC), the National Government Offices Administration decided to carry out EMC pilot projects at a number of centralized and unified public organizations on county and district level. Public organisations shall implement energy saving measures via EMC, gain experiences with EMC, promote energy saving in public institutions and increase the level of environmental protection. Pilot district and counties shall complete preparations and enter pilot implementation by the end of 2019 and implement at least one EMC project by the end of 2020.

 NDRC:

 ***Notice on reducing electricity prices for general industrial and commercial uses in response to the reduction of the value-added tax rate of power grid enterprises*** (released on March 27th)

Addressing the National People's Congress in March 2019, Prime Minister LI Keqiang announced to cut average electricity prices for general industrial and commercial customers by 10 percent. Already in 2018, electricity prices were reduced from an average of 0.8 RMB/kWh to 0.65 RMB/kWh (about 9 EUR-ct/kWh). Shortly after Li's speech, NDRC issued a notice to announce the three key measures for reducing electricity prices, including 1) an expansion of market-based electricity trading, 2) a strengthening of cost control, and 3) the reduction of VAT for network operators. The latter fell from 16% to 13% effective April 1 2019.

See "Energie in China" Newsletter Issue No. 41, German, Page 7



NDRC:



**Notice on improving solar PV power FiT policy** (released on April 30th)

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%. 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. 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.

See [China Energy Policy Newsletter: May and June 2019, English, Page 4](#)



NDRC and NEA:



**Notice on first batch of grid parity wind and PV project construction in 2019** (released on May 15th)

On 20 May 2019, NDRC and 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. This is the first batch of subsidy-free renewable projects issued by NEA in 2019, consisting of 250 projects in 16 provinces. Majority of 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. 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.

See [China Energy Policy Newsletter: May and June 2019, English, Page 2](#)



NDRC and NEA:



**Notice on establishing a mandatory renewable electricity consumption mechanism** (released on May 10th)

Compared to the policy's earlier draft issued in December 2018, there are three notable changes, while the main concept remains. First, the government changed the description of the obligation from renewable electricity quota to renewable electricity consumption quota. 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.

See [China Energy Policy Newsletter: May and June 2019, English, Page 1](#)



NDRC:



**Notice on improving wind power FiT policy** (released on May 21st)

On 21 May 2019, NDRC issued a new wind power feed-in-tariff (FiT) policy. 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 in 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. 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. 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.

See [China Energy Policy Newsletter: May and June 2019, English, Page 3](#)



NEA:



**Notice on the expansion of wind and PV projects in 2019** (released on May 28th)

On May 28, NEA published a "Notification on the expansion of wind and PV projects in 2019". According to the notice, the future funding for wind and PV projects is to be determined in national tendering procedures. Bidders participating in the tendering procedure will be registered by the local energy authorities into an online system, which will automatically rank bidders, starting with the lowest bid, taking into account local correction factors. In 2019, the amount of subsidies for solar projects will amount to a maximum of RMB 3 billion (approx. EUR 400 million), with RMB 750 million (approx. 3.5 GW) to be spent on the expansion of decentralized, small-scale PV systems ("residential PV"). The remaining funds (RMB 2.25 billion) will be awarded in national tender procedures for other large-scale PV projects. This policy contained no information on the upper limit of subsidies for wind power.

See "Energie in China" Newsletter Issue 42, German, Page 12



NDRC and NEA:



**Opinions on establishing spot power market pilots** (released on July 31st)

NDRC and NEA jointly issued the principles of establishing spot power market pilots on 31 July 2019. Mid-to-long term contracts will be the dominant trading market, while day-ahead and intraday trading will supplement. A few specific rules were clarified: 1) The government has set the amount of non-hydro renewable power that under the minimum mandatory purchase hours is allowed to declare its volume without offering price bids to participate in the market. 2) The market price cap should follow three main principles: promoting peak load shifting, consuming clean energy, and preventing abnormal price fluctuations. 3) The counterparties of mid-to-long-term priority contracts for inter-regional and inter-provincial power transmission should agree in advance on the transaction curve, as a

reference for settlement. 4) The government suggests provinces use location-based marginal price in areas with severe power grid congestion, while using zonal marginal prices or system marginal prices in other areas – without specifying a precise rule for what constitutes severe congestion. 5) The ancillary service market should act as a supporting mechanism for spot power market, and ancillary services should include both electricity loads and energy storage facilities.



NEA:



**Notice on Guiding the Enforcement of Supervision of Mid-to-long Term Power Trading** (released on September 4th)

According to the policy, the National Energy Administration (NEA) and its local supervisory authorities should jointly lead electricity exchanges and market management committees in drafting market trading rules. Electricity exchanges and power dispatch centers are on duty of accomplishing information publication and reporting. Any unfair competition such as cheating on bidding prices is forbidden within market entities. Grid companies should meter and charge T&D tariffs based on the settlement rules. NEA and its local supervisory authorities can partially or fully stop trading if market entities do not obey the market rules or their market shares are too high to enable real price competition.

See [China Energy Policy Newsletter: October 2019, English, Page 5](#)



NDRC:



**Guiding opinions on deepening the reform of the feed-in tariff formation mechanism for coal-fired power generation** (released on October 21th)

Starting in 2020, China's coal power prices will shift from fully government regulated to partially market based, though they will remain capped. The current benchmark coal power feed-in tariff (FiT) has two parts, a baseline tariff plus a floating tariff, both set by the National Development and Reform Commission (NDRC). The NDRC adjusts the floating tariff depending on the price of raw coal, implying power generators and electricity consumers share the risk of fluctuation in coal prices, while maintaining relatively stable power prices. The share of market trading electricity from coal based on monthly and annual contracts has now reached 50% and coal power contract prices have been significantly lower than the benchmark coal power FiTs. In September 2019, the State Council announced a shift to a "baseline tariff + market-based floating tariff" mechanism instead of the benchmark FiT for coal power plants that have not yet

joined market trading. Power generators, electricity retailers, and large electricity users will determine the proportion of floating tariff through negotiation or bidding. The floating tariff can rise by a maximum of 10% (after 2021) at most and the downside shall not exceed 15%. To prevent price increases for industrial and commercial customers, tariffs are allowed to increase only after 2021 – so for now, only the downside price adjustment will be permitted.

See [China Energy Policy Newsletter: October 2019, English, Page 2](#)



MoF:



**Notice on additional subsidy funding for renewable energy tariff in 2020** (released on November 20th)

In November, the Ministry of Finance (MoF) published a statement on reducing subsidies for renewable energy (namely wind, PV and biomass) in 2020, with a total reduction from CNY 8.1 billion, in 2019, to CNY 5.7 billion (equivalent to 1.1 billion and 0.7 billion euros). This represents a reduction of around 30%. MoF's decision is based on continuous LCOE reductions of renewable

energies, and an increasing share of projects reaching grid parity. The notice reflects earlier announcements by NEA to switch from subsidized to a subsidy-free renewable energy market until 2021.

See [“Energie in China” Newsletter No. 45, German, Page 4](#)



NDRC and nine other ministries and commissions:



**Guideline on promoting the development of the biogas industry** (released on December 6th)

The guideline calls for establishing an industrial system regarding the production and consumption of biogas. Biogas is expected to play an increasingly important role in sustainable heat generation in northern China. China's annual biogas shall reach over 10 billion cubic meters by 2025, and over 20 billion cubic meters by 2030. Furthermore, priority regarding the utilization of biogas and tax concessions shall be put in place to promote the sector's development.

See [“Energie in China” Newsletter No. 45, German, Page 4](#)

## Energy Storage and Hydrogen Energy



NDRC and three other ministries and commissions:



**Action plan on promoting energy storage technology and industry development 2019-2020** (NDRC [2019] No. 725, released on June 25th)

The action plan defines six key tasks for promoting energy storage technologies and industry development in China, including: strengthening R&D across the value chain; improving framework conditions for industry development and applications; improving planning processes for pumped hydro storage; implementing pilot projects, such as integrating renewable energies and energy storage; utilizing new energy vehicles (NEVs) for energy storage; standardization across the value chain. Within five to ten years, China aims at becoming a technology leader in energy storage.

See [“Energie in China” Newsletter Issue No. 43, German, Page 9](#)



NDRC:



**Catalogue for guiding industry restructuring (2019 edition)** (released on October 30th)

The 2019 edition of the catalogue has added 60 terms in the encouraged category, including the whole field of biomass energy engineering projects and equipment manufacturing, such as crop straw comprehensive utilization, rural biomass energy clean heating and biogas power generation, complete equipment for power generation through waste incineration and coal-fired coupled biomass power generation. Furthermore, the catalogue encourages the development and application of hydrogen energy, wind power, and solar PV. The catalogue will take effect in 2020.

See [China Energy Policy Newsletter: December, English, Page 6](#)



NDRC and 14 other government agencies:



**Implementing opinions on promoting the in-depth integration of advanced manufacturing and modern service industries** (Department of Industry NDRC [2019] No. 1762, released on November 11th)

The National Development and Reform Commission has called for strengthening the use of new energy by the manufacturing industry, including the development of distributed energy storage services and scaling up

hydrogen energy. China will improve and upgrade facilities and services for the manufacture, storage, transportation and refueling of hydrogen. The notice also calls for accelerating the design of electric vehicle charging facilities. It encourages the development of electricity exchange and battery rental services and the establishment of the power battery recycling management system.

See [China Energy Policy Newsletter: December, English, Page 6](#)

### LIST OF ABBREVIATIONS:

MEE	Ministry of Ecology and Environment
MIIT	Ministry of Industry and Information Technology
MoF	Ministry of Finance
MoST	Ministry of Science and Technology
NDRC	National Development and Reform Commission
NEA	National Energy Administration
NGOA	National Government Offices Administration
SAMR	State Administration for Market Regulation

## ABOUT THE SINO-GERMAN ENERGY PARTNERSHIP

The Sino-German Energy Partnership links three levels of action: high-level policy dialogue, business-to-government exchange and an exchange of experiences on technical and regulatory solutions that promote the energy transition. The main aim of the partnership is to foster and advance the far-reaching and profound energy transitions ongoing in both countries by exchanging views, best practices and knowledge on the development of a sustainable energy system, primarily centered on improving energy efficiency and expanding the use of renewable energy. For China, the National Development and Reform Commission (NDRC) and the National Energy Administration (NEA) oversee the partnership, while the Federal Ministry for Economic Affairs and Energy (BMWi) takes the lead on behalf of Germany.

### CONTACT US:



Yin Yuxia  
Project Director  
Sino-German Energy Partnership  
Deutsche Gesellschaft für Internationale  
Zusammenarbeit (GIZ) GmbH  
yuxia.yin@giz.de  
www.energypartnership.cn



Website



Wechat

