

## Energy in China Newsletter

### Bimonthly news on China's latest regulatory, technological and industrial development in energy sector

A service of the Energy Sector in GIZ China

Dear readers,

Over the past month, the world's attention has been fixed on global climate negotiations in Glasgow. The conclusion of the COP (Conference of the Parties) with its new but ambiguous call to phase down coal now shifts the attention of low-carbon energy policy back to the actions of each country. China's policy makers and planners have been hard at work rolling out the first of around two dozen sectoral carbon peaking plans while also continuing to evolve sectoral five-year plans that will guide and determine much of China's energy future over the next decade.

In China's energy sector, 2021 has witnessed a stunning increase in electricity consumption, but this increase was weighted towards the first half of the year. Electricity shortages have been largely resolved in the past few months due to various actions to boost coal supplies. Promising reforms to power prices and encouraging more distributed renewable energy will take time to bear fruit. Ultimately, we continue to view markets and renewable energy as the long-term direction of China's energy policy, since these fields bring benefits for climate, security, and the economy and insulate the world's economy and physical supply chains from price and supply shocks. However, industry is accustomed to taking a passive role as an energy consumer, and this brings us back to the importance of sectoral plans for integrating renewables and boosting flexibility. While media and the public typically frame energy security and electricity shortfalls as a supply problem, we believe governments worldwide need to take a more holistic approach that boosts the emphasis on renewable energy, efficiency, and flexibility.

Kind Regards,  
**Yuxia Yin and Anders Hove**  
and the energy team at GIZ China

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## Project News

### Energy Partnership hosts China decentralized wind energy workshop

A large share of Germany's onshore wind turbines are distributed plants. Onshore wind is the single most important renewable energy source in Germany and accounted for almost 19% of electricity generation in 2020. Together with the China Wind Energy Association (CWEA), the Sino-German Energy Partnership supports the National Energy Administration (NEA) with the development of a policy framework for decentralized wind energy in China. To facilitate this work, on 9 November, GIZ and CWEA co-organized a workshop together with the China Renewable Energy Engineering Institute (CREEI). Experts from Agora Energiewende and the Bundesverband Windenergie (BWE) presented experiences on policy design and discussed their findings on distributed wind energy with Chinese experts from think tanks and private sector.

### Energy Transition project explores barriers to renewable energy in the cooling sector

Cooling workshop enables German and Chinese experts to exchange on barriers for coupling renewable energy and cooling in commercial applications

Buildings account for about 40% of energy consumption – while heating makes up a large part of that, cooling also requires significant amounts of energy. The sector is projected to especially grow fast in developing economies such as China. With rising temperatures due to global warming, demand for space cooling and cold chain technologies is also expected to grow worldwide. Using green or low-energy solutions to meet this new energy demand and making cooling zero-carbon is an important part of the energy transition.

On 22 October 2021, the GIZ implemented **Sino-German Energy Transition Project**, commissioned by the Federal Ministry for Economic Affairs & Energy, cooperated with the

#### About the projects

The **Sino-German Energy Partnership** is the central platform for energy policy dialogue between Germany and China on national level. It aims at accelerating the energy transition in the two countries by continuous political, economic, regulatory and technological exchange with focuses on energy efficiency and renewable energies. Furthermore, the Energy Partnership provides a platform for fostering private sector cooperation. As part of the Energy Partnership, the Sino-German Energy Transition project focuses on supporting research cooperation between German and Chinese think tanks on all aspects of the low-carbon energy transition. On behalf of the Federal Ministry for Economic Affairs and Energy (BMWi), Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH implements the Sino-German Energy Partnership (EP) and has established offices in Beijing and Berlin serving as an information platform and point of contact for all involved and interested parties. On the Chinese side, the Energy Partnership is chaired by the National Development and Reform Commission (NDRC) and the National Energy Administration (NEA).

#### Follow us on:

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- » **Twitter:** [Energy Transition in](#)

innovative Green Development Program (iGDP) to hold a small closed-door workshop about innovative solutions for coupling renewable energy (RE) and cooling, such as solar cooling. The workshop brought together German and Chinese experts to learn about their views on technological options, barriers, and measures to support the increased application of renewable cooling. Overall, the adoption of renewable energy for cooling faces numerous barriers in China, including low awareness and perception of poor economics. Workshop speakers presented their views on how to resolve these issues, including package solutions for reducing product complexity, as well as boosting administrative targets for renewable energy utilization in the cold chain sector.

[Read more](#)

## German heat pump experience helps China evaluate emission reduction potential

White Paper on Heat Pumps for Carbon Neutrality (2021) released

On 11 October, the Heat Pump Industry Committee of China Energy Conservation Association (CHPA) published its flagship publication White Paper on Heat Pumps for Carbon Neutrality (2021) at the China Heat Pump Annual Conference in Wuhan. Incorporating German and European experience, the white paper shows in detail where application potentials for heat pumps exist across various sectors and how much CO<sub>2</sub> could be saved by realizing these potentials. Moreover, it proposes ways in which policy and markets can promote the scaling up of this technology.

The White Paper analyzes the role of heat pump technology in achieving China's carbon peaking and carbon neutrality goal and concludes that heat pumps are the best technological option to achieve zero carbon in the heating field. The Sino-German Energy Partnership presented German and European experiences on promoting deployment of heat pump technology in Germany and Europe at the China Heat Pump Annual Conference, sharing about lessons learnt and best practices regarding supporting policy frameworks and the important role that Germany foresees for heat pumps in its own decarbonization efforts.

The Sino-German Energy Partnership is committed to continuously support the promotion and utilization of heat pumps, an energy-saving and emission-reducing heating technology, in China. In addition to co-drafting the White Paper on Heat Pumps for Carbon Neutrality (2021), the project has undertaken or plans to undertake further collaborations with heat pump industry associations,

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### Upcoming events

#### Scoping Sino-German cooperation potentials on energy sector decarbonization

**When:** 16 November 2021  
Under the framework of the Sino-German Climate Partnership, a project funded by the German Federal Ministry for the Environment's (BMU) International Climate Initiative (IKI), GIZ is exploring cooperation potentials for energy sector decarbonization with the China Electricity Council (CEC) and the China Association for Circular Economy (CACE). A first expert advisory workshop, with eight top experts on energy and climate from both Germany and China, will discuss cooperation potentials on energy sector decarbonization from the perspectives of 1) national-level policy design and implementation, 2) regulatory, technical exchange and international outreach and 3) energy-intensive provinces. For more information on the event, please contact Ms. Wang Hao ([hao.wang@giz.de](mailto:hao.wang@giz.de)).

#### Sixth German Local Business Advisory Council on decarbonization policy and strategy in China

**When:** 18 November  
The [German Local Business Advisory Council \(BAC\)](#) is an instrument for the business-to-government exchange between German companies and the German Federal Government supported by BMWi and the

enterprises, etc., this includes,

- Aligning heat pump industry standards by participating in the drafting and supporting the involvement of German companies and experts so that the resulting association standard could incorporate German and European best practices and experiences on heat pump standardization. [Read more here](#)
- Preparing a project under Germany's DeveloPPP Program, jointly implemented with German companies to showcase and support the development of heat pumps in China. The project launches in early 2022.

[Read more](#)

German embassy. The sixth meeting of the BAC will bring the German energy-related industry together in Beijing to discuss challenges and barriers on the Chinese market. This time, the exchange will focus on China's decarbonization policy and corporate decarbonization strategies of German companies in China. The hybrid event will be organized in Beijing and online on 18 November 2021. For further information about the event and the German Local Business Advisory Council of the Energy Partnership, please contact Mr. Tim Nees ([tim.nees@giz.de](mailto:tim.nees@giz.de)).

## Upcoming Events

### Work in progress: second expert consultation workshop on data centre flexibility

**When:** 23 November

Data centres account for over 2.5% of electricity consumption in both Germany and China, and growing rapidly. Depending on efficiency gains and growth of the computing industry, some studies project that data centres may make up 3-13% of global energy consumption by 2030. The data centre industry has focused on energy efficiency for years, but utilization of renewable energy is still rare. The BMWi-commissioned Sino-German Energy Transition Project is currently researching technical options and business models for data centres to participate in the power market and boost their flexibility to enable the coupling of renewables with industrial electricity loads. Researchers supported by the project have conducted interviews with data centres, grid operators, and academics in China and Germany, and identified challenges and barriers to increasing data centre flexibility. On 23 November, experts from the project partners German Energy Agency (dena) and North China Electric Power University will present their newest research progress, where Chinese and German experts will provide comments and share about practical implementation experiences that aid the finalisation of the research report aiming for the beginning of 2022. For more information on the topic, please contact Mr. Philipp Geres ([philipp.geres@giz.de](mailto:philipp.geres@giz.de)).

### Supporting power system flexibility in Chinese regions

**When:** 1 December 2021

Increasing power sector flexibility is key for a successful low-carbon energy transition with high shares of variable, renewable energy generation. Hence, GIZ and North China Electric Power University (NCEPU) will organize a joint workshop to introduce German experiences and best practices for enhancing system flexibility to Chinese regions and discuss cooperation potentials with Shanxi Province. Shanxi province, with its coal mining dominated industry, is one of the focus provinces of the Central Government's Energy Revolution. Provincial officials, power suppliers in Shanxi as well as Chinese and German power sector experts will attend the event. For more information on the topic and the event, please contact Ms. Wang Hao ([hao.wang@giz.de](mailto:hao.wang@giz.de)).

### Expert exchange on the climate impact of SF6 and SF6-free alternatives for the energy sector

**When:** beginning of December

Sulfur hexafluoride (SF6) is among the most potent greenhouse gases with global warming potential 24 times higher than that of carbon dioxide. To draw attention to the significant impact of SF6, which can be found in electrical equipment, the Energy Partnership organizes an online workshop in cooperation with Siemens Energy and Anhui Electric Power Research Institute in December 2021. In the workshop, experts from the private sector and think tanks will present the status-quo of SF6 in the energy sector and discuss best practices for promoting SF6-free alternatives in China.

### Discover and empower women's leadership: networking event *Women in Green Energy Initiative*

**When:** beginning of December 2021

Launched in December 2020 under the framework of the Energy Partnership, the *Women in Green Energy initiative* aims at connecting and empowering female professionals in China's energy sector, and fostering women's contribution to the far-reaching energy transitions in both countries. In early

December, the Energy Partnership will organize a networking event focusing on discovering and empowering women's leadership in the energy sector. For more information, please contact Ms. Lv Yanan ([yanan.lv@giz.de](mailto:yanan.lv@giz.de)).

### **Expert workshop on energy efficiency networks, demand response and flexibility**

**When:** 10 December 2021

GIZ, Fraunhofer Institute for Systems and Innovation Research ISI and Beihang University will jointly organize a closed-door expert roundtable on 10 December to discuss the topics of energy efficiency networks, demand-side response and power sector flexibility in the light of China's recent climate pledges. The workshop serves as the basis for a larger conference to be held in January 2022. The event is organized as part of the project "OPTRES100" funded by the German Federal Ministry for Education and Research and the Chinese Ministry of Science and Technology (MoST). The Energy Partnership supports and co-hosts the workshop.

### **Sino-German workshop on energy efficiency – best practices on policy, regulation and measures**

**When:** 15 December 2021

German and Chinese energy efficiency experts will come together on 15 December to discuss German experiences around energy efficiency and suggestions for China. The highlight of the workshop will be the dissemination of a report on energy efficiency policy, regulation and measures in Germany, prepared by the Sino-German Energy Partnership with support from Fraunhofer Institute for Systems and Innovation Research (ISI). The report will shed light on best practices for energy efficiency in the building, appliances, industry, and transport sectors and provide advice for China's energy efficiency policy in the context of China's 2030/2060 climate goals.

### **Workshop: Enhancing the role of green finance in the energy transition**

**When:** Mid-December (tbd)

The workshop Sino-German Green Finance Cooperation in the Context of the Energy Transition centres around the policy development of green finance, while drawing from European and German sustainable finance experiences. It aims to promote the policy dialogue and private sector exchange between China and Germany on the role of green finance for supporting the energy transition and, specifically, energy efficiency measures. The workshop will bring together representatives from research institutions, the financial sector, energy-related industries, and Chinese regions. GIZ and CECEP Consulting will jointly host the workshop in the framework of the Sino-German Demonstration Project on Energy Efficiency in Cities. For more information, please contact Ms. Yihui Wang ([yihui.wang@giz.de](mailto:yihui.wang@giz.de)).

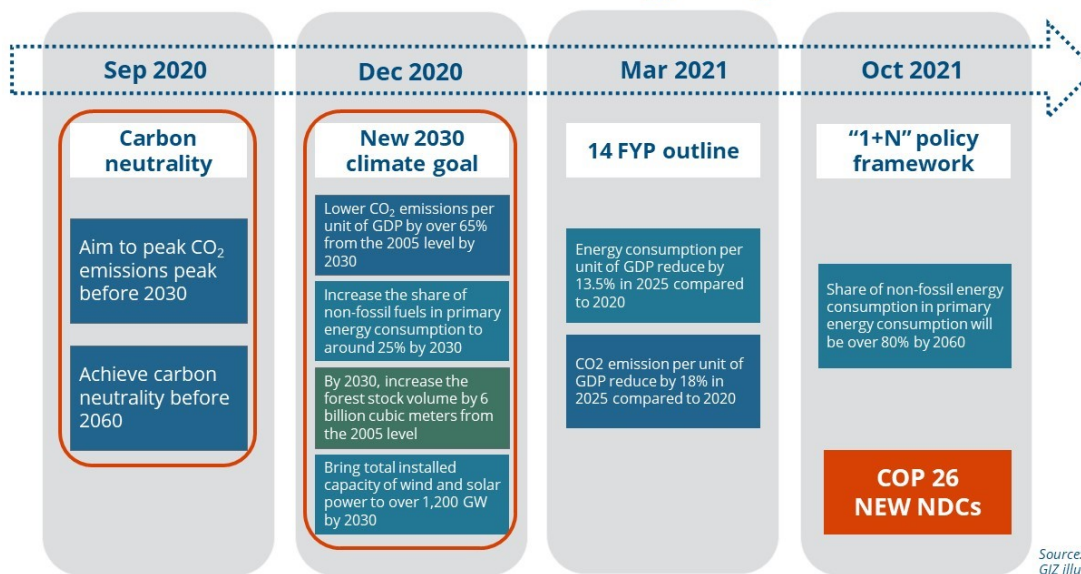


## **Special Focus**

Updated NDCs and several key policy documents point out the more ambitions and concrete road map towards China's carbon neutrality



# China's Climate & Energy Targets



Source: GIZ illustration based on NDRC, MEE official news

During the last week of October 2021, shortly before COP 26, the Chinese central government issued a series of policy documents responding to the country's climate commitment set in 2020 of peaking carbon dioxide emissions before 2030 and becoming carbon neutral by 2060. They include:

- A **working guidance** as the overarching plan for peaking carbon dioxide and achieving carbon neutrality (the 1 of the country's 1+N climate policy framework);
- An **action plan** aligning with the guidance but focusing on peaking emissions before 2030 with more concrete and detailed descriptions on relevant indicators and tasks;
- A **white paper** to respond the country's climate change policies and actions.

The guidance sets the main objectives, and mentions for the first time that China will achieve at least 80% non-fossil energy consumption in primary energy consumption by 2060, of which 67% will be renewables and 13% nuclear. As the only quantitative target for carbon neutrality, this target requires a rapid transition towards renewables in the country's energy structure. New items include:

- Introduce an absolute cap on CO<sub>2</sub>;
- Strictly control coal during the 14th Five-Year-Plan, and reduce coal in 15<sup>th</sup> Five-Year Plan; coal continues to form the basis of China's energy security and foundation of China's energy system and the guidance doesn't specify a year for peaking coal use;
- Peak oil consumption within the decade;
- Expand China's supply of unconventional gas;
- Introduce strict carbon accountability performance metrics (KPIs) for provincial and other officials.

Among the comprehensive coverage on various aspects ranging from different sectors, laws/regulation/standards, policy mechanisms, international cooperation, the guidance specified that the National Development and Reform Commission (NDRC) will lead coordination and implementation.

The Action Plan sets slightly different priorities in regards of the specific task focuses, as its major objective is to peak CO<sub>2</sub> emission by 2030 (covering the 14<sup>th</sup> and 15<sup>th</sup> Five-Year-Plan periods). Considering that energy and industry contribute the major CO<sub>2</sub> emissions in China, the Action Plan placed green and low-carbon transition in energy, energy saving and carbon efficiency reduction and carbon peak actions in industry are placed at the forefront.

**What's next:** As the start of the 1+N policy framework, industries await the other specific and detailed action plans covering individual sectors. This includes energy transition, energy efficiency, industry, urban and rural development (published on 21 October), transport, circular economy, low carbon technology innovation,

carbon sink, low carbon society and carbon dioxide peaking in all regions.

Following the release of national top-level policy guides, on 28 October 2021 China submitted its **updated NDC** to the United Nations Framework Convention on Climate Change as follows:

- Aim to peak CO<sub>2</sub> emissions peak before 2030 and achieve carbon neutrality before 2060,
- Lower CO<sub>2</sub> emissions per unit of GDP by over 65% from the 2005 level by 2030
- Increase the share of non-fossil fuels in primary energy consumption to around 25% by 2030,
- By 2030, increase the forest stock volume by 6 billion cubic meters from the 2005 level
- Bring total installed capacity of wind and solar power to over 1,200 GW by 2030

Click here for a more detailed [summary on the 1+N policy framework](#) focusing on the released guidance and action plan by the energy team in GIZ China.

Click here for [an overview of China's major millstones on climate policy development](#).

#### ■ Sources:

“China First NDC,” UNFCCC, 28 October 2021, at

<https://www4.unfccc.int/sites/ndcstaging/Pages/Party.aspx?party=CHN&prototype=1>.

“Full Text: Working Guidance For Carbon Dioxide Peaking And Carbon Neutrality In Full And Faithful Implementation Of The New Development Philosophy,” State council, 25 October, 2021, at

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“Full Text: Responding to Climate Change: China's Policies and Actions,” Xinhua Net, 27 October 2021, at

[http://www.news.cn/english/2021-10/27/c\\_1310272455.htm](http://www.news.cn/english/2021-10/27/c_1310272455.htm).



## Energy policy, reform & general

### To address power shortages, China NDRC adjusts industrial power prices to better reflect coal cost

In September 2021, power shortages spread to over 20 provinces in China, driven by several factors, including a runup in coal costs that could not be passed through to regulated electricity prices. The soaring coal price (thermal coal prices reached RMB 1,982/ton on 19 October, an increase of almost 130% compared to the price in early September) and fixed electricity prices made it difficult for thermal power generator to operate. In 2020, China's National Development and Reform Commission abolished a prior scheme in which coal and power prices fluctuated together; this change reduced the ability of generators to pass along coal prices to industrial consumers. Electricity demand had a 13% year-to-year rise in 3Q, and generators tried to cope with higher coal prices by drawing down inventories. Physical coal supply has also faced limitations. As part of the excessive capacity reduction process, China retired around 6,400 coal mines from 2016 to 2019.

Since the crisis began, the NDRC has adopted several measures to safeguard the power and heating supply in winter.

- Starting in October 2021, China has expanded the regulated range of coal power price fluctuation, raising the upward limit from benchmark coal power prices from the previous 10% to 20%. The central government will not set a cap for coal power price fluctuation for high-emissions and highly-energy intensive industries. (Residential and agricultural electricity prices remain unchanged.)

- Regulators will require that all commercial and industrial users purchase electricity via the wholesale power market, typically via mid-to-long-term bilateral power contracts. The retail electricity tariff catalogue will no longer apply. (Interviews with industrial customers suggest that in practice many industry parks and large consumers will negotiate these new contracts via the grid company at prices that closely follow prior fixed-price catalogs published by government officials.)
- NDRC requires coal mines to work in full capacity in 4Q and will also regulate domestic coal prices to allow only reasonable profit.
- Lastly, regulators will continue to promote renewable energy, including ensuring full utilisation of renewables and strict implementation of the priority dispatch plans.

#### ■ Sources:

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“国家发展改革委研究依法对煤炭价格实行干预措施,” National Development and Reform Commission, 19 October 2021, at [https://www.ndrc.gov.cn/xwdt/xwfb/202110/t20211019\\_1300083.html](https://www.ndrc.gov.cn/xwdt/xwfb/202110/t20211019_1300083.html).

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## New policy requires energy and emission reductions in steel, cement, and other energy-intensive industries

On 21 October, five Chinese ministries jointly issued a new policy forcing stricter energy reduction to promote more energy efficiency and emission reduction in energy-intensive industries by 2025. The policy emphasizes step-by-step actions to secure the supply chain. The policy targets eight industries: steel, electrolytic aluminum, cement, flat glass, oil refining, ethylene, ammonia, and calcium carbide. Data centers are also listed in the energy-intensive industries, but the goal for them is not to limit their scale but to improve their efficiency.

According to the policy, by 2025 over 30% of capacity on an energy basis in these industries should meet a benchmark level. By 2030 the coverage will increase, and the overall energy efficiency and carbon emission intensity of covered facilities should reach the highest level of international performance. The policy encourages industries to integrate new infrastructure such as green data centers to increase energy efficiency and reduce consumption. New large data centers should meet the power usage effectiveness (PUE, total energy consumption/data processing-related energy consumption) cap of 1.3. By 2025, all data centers shall reach PUE below 1.5.



■ **Source:**

“国家发展改革委等部门关于严格能效约束推动重点领域节能降碳的若干意见,” China National Development and Reform Commission, 18 October 2021, at [https://www.ndrc.gov.cn/xxgk/zcfb/tz/202110/t20211021\\_1300583.html](https://www.ndrc.gov.cn/xxgk/zcfb/tz/202110/t20211021_1300583.html).



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## New policy strengthens industrial and financial integration to promote green development in China's industry

On 5 November, the Ministry of Industry and Information Technology of China (MIIT), the People's Bank of China, and the various financial regulatory commissions jointly issued a policy document calling for better integrating the industry and finance sectors to promote green development in industry. The opinion sets the focus areas for green development in industry, including accelerating green and low carbon technology and green transformation/upgrade of industrial enterprises, supporting the green transition in industrial zones, and manufacturing clusters, further developing green supply chain, promoting green and low-carbon international cooperation through, for instance, building international green industrial parks for accelerated green and innovative technology conversion.

The opinion sets the objective that by 2025, the industry and finance sectors are interconnected in ways that systematically favor green industrial development. The document also sets a 2025 target for fully establishing the green finance standard system, with more financial products and services that contribute to the green industrial development. The opinion also encourages a steady increase in the green bond market, and an expansion of mid- to long-term green bond issuances. Eligible enterprises should receive preferential access to the stock market and refinancing.

■ **Source:**

“工信部等四部门联合发布《关于加强产融合作推动工业绿色发展的指导意见》”, the paper, 5 November 2021, at [https://m.thepaper.cn/baijiahao\\_15248209](https://m.thepaper.cn/baijiahao_15248209).



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## China's central bank rolls out new lending facility for carbon reduction

On 8 November, the People's Bank of China launched a supporting facility for carbon emission reduction as part of the effort to facilitate the country's climate goal. Through the tool, the central bank will provide low-cost loans for financial institutions and guide them to provide loans to firms in key carbon-reduction fields on the premise of independent decision-making and risk-taking. The loan interest rates provided by the financial institutions should be basically in line with benchmark lending rates or the loan prime rates. Financial institutions could apply for low-cost funding from the central bank after loans for carbon reductions are made. The facility will provide 60 percent of the loan's principal, made by financial institutions for carbon-emission cuts, with a one-year lending rate of 1.75 percent. The carbon emission reduction supporting facility will also help to mobilize social capital to promote carbon-emission cuts and will promote the development of China's key emission reduction fields, such as clean energy, energy conservation, and environmental protection.

■ **Source:**

“人民银行推出碳减排支持工具,” the paper, 8 November 2021, at [http://www.gov.cn/xinwen/2021-11/08/content\\_5649848.htm](http://www.gov.cn/xinwen/2021-11/08/content_5649848.htm).



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## China issues clean production plan during the 14th FYP requiring ultra-low emission retrofit of 530 mio. tons of steel

On 9 November, 10 Chinese ministerial departments including NDRC and MEE released the clean production plan for the 14<sup>th</sup> Five-Year Plan period (2020-2025). The plan posed the overall requirements, major tasks, and organizational safeguards for the implementation of cleaner industrial production. It determined the key areas, industries, and projects based on their resource and energy consumption and pollutant emissions. The Plan sets the objective that energy efficiency in industry will significantly improve by 2025 compared to 2020, overall clean production will increase significantly, along with energy efficiency and resource utilisation, and new buildings in urban areas will fully meet China's domestic green building standard.

The plan also calls for promotion of clean and low-carbon transformation in certain energy-intensive industries. It sets a target that 530 million tons of steel production capacity will be retrofitted to ultra-low emission (China produced 1.05 billion tons of crude steel in 2020). In the petrochemical and chemical industry, carbon reduction procedures such as green hydrogen refining, coupling carbon dioxide for methanol will compensate the regular clean processing transformation. In the building material sector, 850 million tons of cement clinker will go through clean production transformation (China produced 1.58 billion tons cement clinker in 2020). In addition, the plan selected 100 enterprises from steel, coking, building materials, non-ferrous metals, petrochemical, and chemical industries to pilot clean production transformation and promote a number of key enterprises to reach the leading level of clean production in international comparison

### ■ Sources:

“关于印发《“十四五”全国清洁生产推行方案》的通知,” China National Development and Reform Commission, 9 November 2021, at

[https://www.ndrc.gov.cn/xwdt/tzgg/202111/t20211109\\_1303468.html?code=&state=123](https://www.ndrc.gov.cn/xwdt/tzgg/202111/t20211109_1303468.html?code=&state=123)

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## NDRC releases energy efficiency benchmarks for key energy-intensive industries

Since the Chinese central government issued the 2030 Carbon Peaking Action Plan in late October (refer to Special Focus), the discussion around how to increase the energy efficiency and reduce carbon emission in the country's energy-intensive industries before 2030 has been again pushed to the forefront. On 15 November, NDRC, NEA, MEE and other two ministries jointly issued the 2021 edition notice of the energy efficiency benchmark and baselines for key areas of energy-intensive industries. The notice sets clear benchmark level and baseline level of energy consumption per unit for different classified industry types. According to the notice, projects to be built or under construction should be compliant with the respective benchmark levels. Stock projects with energy

consumption per unit below the benchmark should follow a rational transition period and firms shall carry out energy-saving and carbon-reducing technological transformation in an orderly manner with guidance. The transformation, upgrading and phase-out will be implemented in batches within a deadline (generally not exceeding three years). The above provisions will start taking effect from 1 January 2022.

■ **Source:**

“关于发布《高耗能行业重点领域能效标杆水平和基准水平（2021年版）》的通知,” China National Development and Reform Commission, 15 November 2021, at [http://www.gov.cn/zhengce/zhengceku/2021-11/16/content\\_5651180.htm](http://www.gov.cn/zhengce/zhengceku/2021-11/16/content_5651180.htm).



## Renewable energy

### China aims for 50 GW wind installation in rural areas during 14th Five-Year-Plan

On 17 October 2021, supported by 118 municipalities and 600 wind companies, the Wind Partnership Initiative published an action plan calling for the installation of 50 GW of wind in villages during China's 14<sup>th</sup> Five-Year-Plan (2021-2025), covering 5000 villages in 100 counties across China, benefiting over 3 million rural residents. Besides rejuvenation of rural areas with wind energy, the plan also supports zero-emission industries in urban areas. The plan aims to reduce the cost of onshore wind by 2025 to RMB 0.10/kWh in high wind areas, RMB 0.20/kWh in medium wind areas, and RMB 0.30/kWh in low wind condition areas, and also setting a goal for offshore wind price parity by 2024.

In April 2021, the National Energy Administration (NEA) published a draft policy on wind and PV expansion in 2021 that made wind expansion in rural areas one focus. Wind sector experts believe decentralized wind energy in rural areas is a major trend in China's future wind development. China in 2020 set a target of at least 1,200 GW combined wind and solar by 2030, and currently has around 250 GW of PV and 250 GW of wind, implying wind and solar would each grow by around 250 GW during the two five-year plans between now and 2030. In the 13th Five-Year Plan period just ended, China added 361 GW, or 72.206 GW per year.

■ **Source:**

“风电伙伴行动方案公布“十四五”风电下乡容量达50GW! ,” Chinapower, 19 October 2021, at <http://www.chinapower.com.cn/tynfd/hyyw/20211019/108378.html>.



### New solar and wind power bases are on the way with 100 GW

In the 14th Five-Year Plan (2021-2025), Chinese authorities announced plans to build large renewable energy bases equipped with energy storage. On 12 October, at the Leaders' Summit of the 15th Meeting of the Conference of the Parties to the Convention on Biological Diversity (CBD COP), President Xi Jinping followed up on the plan's progress, noting that the first phase had started with projects of about 100 GW capacity, among which, 10.9 GW is located in two bases in the south and west of Qinghai lake in Qinghai Province. As of the second half of 2021 there are also large-scale projects underway in Shaanxi province (12.5 GW), Inner Mongolia (5.4 GW), as well as Qinghai with 5.3 GW and Jilin province with 1.4 GW newly installed renewable capacity. The

expansion of renewables comprises 70% PV projects, 28% wind projects as well as 2% solar thermal and about half a percent hybrid wind and solar projects.

■ **Source:**

“100 GW wind and solar base started construction, and the development of wind and solar welcomes new momentum,” The Paper, 19 October 2021, at [https://www.thepaper.cn/newsDetail\\_forward\\_14950444](https://www.thepaper.cn/newsDetail_forward_14950444).



## Yangjiang in Guangdong approved as China's First International Wind Power City

In October the local government of Yangjiang, a coastal city in the south of Guangdong, approved plans to make Yangjiang the first International Wind Power City in China. According to the plan, Yangjiang will take a leading role in China's offshore wind industry by integrating the first complete wind power industrial chain from R&D to design, equipment manufacturing, project development, testing, and certification. The industry cluster is expected to attract a new wind power workforce and bring innovation to Yangjiang; the manufacturing base should be fully established by 2035. Yangjiang has approved 10 GW of offshore wind projects, of which 900 MW has been installed and another 3.5 GW is under construction, making Yangjiang the city with the largest offshore wind capacity in Guangdong.

■ **Source:**

“The first in China! Guangdong (Yangjiang) International Wind Power City Planning passed the expert panel review,” The Paper, 24 October 2021, at [https://m.thepaper.cn/baijiahao\\_15060093](https://m.thepaper.cn/baijiahao_15060093)



## Coal, oil, gas

### China could retrofit or upgrade 350 GW coal power plants during 14th Five-Year-Plan

On 3 November, the National Development and Reform Commission (NDRC) and the National Energy Administration (NEA) of China issued the implementation plan for retrofitting and upgrading the country's existing coal power units. It is expected that the average efficiency of China's coal power plants will achieve 300 grams of standard coal equivalent/kWh by 2025 versus 350 in 2020, representing a change from 40.23% thermal efficiency to 40.94%. As a response to this higher goal, the plan requires an up to 350 GW renovation and upgrade capacity in coal power units with coal consumption over 300 grams of standard coal equivalent/kWh. Units not eligible for retrofit shall gradually phased out or reclassified as reserve generation capacity. By 2025, China will meet a national average coal consumption for coal power below 300 grams of standard coal equivalent/kWh. New coal power units should meet a standard of below 250 grams standard coal equivalent/kWh. Furthermore, the plan also requires the internal integration and coordination among coal power units, heating and flexibilization. The plan encourages retired coal power units to replace small-scale heating facilities. During the 14th Five-Year-Plan period, China expects that the upgrading will involve coal power plan of 200 GW so that flexibility capacity of 30-40 GW will be

created, facilitating integration of renewables. At the beginning of 13<sup>th</sup> Five-Year-Plan (2016-2020), flexibility up-grading on 219 GW coal power plants was expected. However, it turned out to have achieved less than one third, i.e., 60 GW.

■ **Source:**

“关于开展全国煤电机组改造升级的通知,” National Development and Reform Commission, 3 November 2021, at [https://www.ndrc.gov.cn/xwdt/tzgg/202111/t20211103\\_1302857.html?code=&state=123](https://www.ndrc.gov.cn/xwdt/tzgg/202111/t20211103_1302857.html?code=&state=123).

“两部门：2025年全国火电平均煤耗降至300克标准煤/千瓦时以下,” 11 November 2021, CCTD Coal, at <https://www.cctd.com.cn/show-19-218726-1.html>.



## China in the world

### After nearly 18 months of work, EU and China publish common taxonomy for green finance

On 4 November 2021, the International Platform on Sustainable Finance (IPSF) jointly launched by economies including China and the EU, released the Common Ground Taxonomy: Climate Change Mitigation (the CGT) at an event held as a side event of the COP26. The IPSF established a working group on taxonomy in July 2020, with China and EU as co-chairs. The working group co-developed the CGT based on a comparison of China’s Green Bond Endorsed Project Catalogue and the EU Taxonomy Climate Delegated Act.

The release of the CGT marks the milestone of the cooperation on establishing international standards for defining green investments and guiding financial flows towards sustainable projects. It analyses 80 economic activities across six industrial sectors (energy, manufacturing, construction, transportation, solid waste management and forestry), with a focus on climate change mitigation, to improve the comparability and future interoperability of taxonomies around the world.

The CGT is expected to support China-EU green finance cooperation and mobilize cross-border climate financing by lowering the green certification cost for cross-border transactions. The CGT has no legal effect, but market participants can use it as a voluntary reference when issuing or trading green financial products. For the next step, the working group plans to expand the scope of the CGT to include more sustainable activities.

The release of the CGT also builds on recent domestic efforts in China to enhance its green finance regulations. In April 2021, China’s central bank published a revised version of the country’s Green Bond Catalogue that excludes coal-related projects (Read more in our [May Newsletter](#)). China’s latest climate policy package, published in late October, highlighted the need to supplement and improve the country’s green finance catalogues.

■ **Sources:**

“Common Ground Taxonomy published as part of the PBoC and EU Commission co-led work,” The People’s Bank of China, 5 November 2021, at <http://www.pbc.gov.cn/en/3688110/3688172/4157443/4382112/index.html>.

“EU and China signal points of agreement for defining green investment – but leave door open for fossil fuels,” E3G, 4 November 2021, at <https://www.e3g.org/news/eu-and-china-signal-points-of-agreement-for-defining-green-investment-but-leave-door-open-for-fossil-fuels/>.





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