

# A New Coal Boom in China

## NEW COAL PLANT PERMITTING AND PROPOSALS ACCELERATE

### Summary

After years of the government putting the brakes on the amount of coal plants newly proposed and permitted for construction, Chinese coal industry is trying to step on the gas again, according to a survey of coal plant development in China from January 1 to June 15, 2020, by Global Energy Monitor and the Centre for Research on Energy and Clean Air.

China currently has 249.6 gigawatts (GW) of coal-fired capacity under development (97.8 GW under construction and 151.8 GW in planning), a 21% increase over end-2019 (205.9 GW). The amount of capacity under development (249.6 GW) is larger than the coal fleets of the United States (246.2 GW) or India (229.0 GW).

So far in 2020, the Chinese power industry has proposed 40.8 GW of new coal plants – an amount comparable to the entire coal fleet of South Africa (41.4 GW). Plans for new coal plants have steadily increased since 2019, after the central government began relaxing restrictions on new coal plant development.

More coal plants are also advancing in the permitting process. From January 1 to June 15 of this year, China permitted 17.0 GW of new coal-fired capacity for construction, more than the amount permitted in all of 2018 and 2019 combined (12.0 GW). Construction also began on 11.0 GW of new

coal plants, indicating that the surge in new projects is happening mainly on paper, for now.

Even China's state-owned holding company SDIC, which said in 2019 that it planned to [exit](#) the coal industry, sponsored 3.2 GW of new coal plants in 2020 – in what appears to be an unstated reversal in policy.

Nearly half (7.9 GW) of the 17.0 GW permitted in 2020 are reportedly to power long-distance transmission lines from coal and renewable power plants in the West to demand centres on the coast, meaning the remaining coal power will simply add to the country's coal overcapacity crisis.

On June 18, 2020, six Chinese ministries including the National Development and Reform Commission and the National Energy Administration [stated](#) that coal plants should only be built as needed, with priority given to clean energy, imports, and flexibility.

The statement suggests the central government has taken note of the recent province-level boom in coal planning and permits and wants to rein it in, although no concrete action is proposed to limit the proposals beyond the traffic light policy, which already authorizes new coal plants in most of the country.

## Coal Plants as Economic Stimulus

The resurgence in coal plant development is driven by a slew of misguided incentives, not by a need for more coal power generating capacity.

A race to grab market share in power generation and coal mining, and to prop up GDP numbers with megaprojects, has led to the runaway coal power expansion in China – enabled by state-owned banks that lend to state-owned utilities with little due diligence. The issue is likely made worse by increased local lending quotas and calls to boost spending in an effort to offset the economic impact from COVID-19.

Investment in utilities from January–May 2020 was 14% above the same period in 2019, even as overall capital spending fell by 6%, showing the power sector is in a relatively strong position to help buoy the economy amid the COVID-19 crisis. How this investment is directed obviously has long-ranging implications for energy and emissions.

The renewable energy sector appears optimistic that the increase in spending will revive wind and solar power installations, which tumbled last year: before

the project disruptions due to COVID-19, solar PV installations were expected to [increase](#) up to 50% year on year, regaining the drop in installations in 2019 when solar tariffs were cut. After the COVID-19 lockdowns, the industry is still projecting a 15-30% gain to [35-40 GW](#) installed. Combined total wind and solar capacity additions in 2020 [could climb](#) 25% to around 70 GW.

Yet coal also remains a significant part of the planning mix, led by local leaders eager to capitalize on the readily available credit and central government support for stimulus spending. [Research](#) by Greenpeace East Asia identified 48 GW of new coal projects from January to April 2020 on local government “key project lists” for the year.

Three-fourths (12.7 GW) of the 17.0 GW coal-fired capacity permitted for construction in 2020 are sponsored by local companies, and many are being fast-tracked: units 3–4 of the [Hohhot Jinshan coal plant](#) in Inner Mongolia went from announced to construction in just three months.

## Coal Overcapacity

The new coal proposals come as the country continues to deal with a coal power overcapacity crisis.

China currently has an estimated 400 GW of excess coal-fired capacity, compared with the amount of capacity needed to ensure stable power supply.<sup>1</sup>

The amount of excess capacity nationwide increased by 140 gigawatts from 2015 to 2019, as 160 GW of coal-fired power, 300 GW of non-fossil power

generation, and 40 GW of gas-fired power was added. Yet, peak demand for electricity only increased by 180 GW.

The 360 coal-fired plant units added from 2015 to 2019 represent at least 80 billion dollars of wasted investment, just in the form of construction costs. These costs represent a missed opportunity to invest in lower-carbon and increasingly cheaper renewables.

The extent of economic waste is clear in the utilization rates of the country’s vast coal fleet: in 2019, the average thermal power plant was generating electricity at [49%](#) of capacity, down from 50% in 2015 and 60% in 2011.

<sup>1</sup> The analysis is based on reported wintertime and summertime peak loads and power generating capacity for each of China’s six grid regions in 2015 and 2019. Each type of power generation was given a [capacity value](#) based on how likely it is to be available when power demand peaks. A capacity margin of 15% was considered adequate, meaning available capacity should be 15% larger than the highest peak load during the year – more was considered overcapacity. China’s average capacity margin is currently 40%, well above what is needed to ensure stable supply.

## Coal Plant Revival

New coal plant development had slowed in recent years as the central government dealt with a flood of 245 GW of coal plants permitted by the provinces for construction from late 2014 to early 2016.

In 2016, central government [restrictions](#) began putting the brakes on new coal plant proposals and permits, as the country dealt with the back-log of already permitted plants. The most prominent restriction was the traffic light policy, which limited new coal permits in most provinces.

While the amount of newly permitted capacity was curtailed, the country continued to construct and commission hundreds of new coal plants from the province permitting boom. In 2018 and in 2019,

China commissioned more coal power than the rest of the world [combined](#).

Now that many of the coal plants permitted during the 2014–2016 boom are commissioned or in advanced stages of construction, the country is adding new coal plant proposals to the pipeline.

In 2019, China's central government began [loosening](#) the traffic light policy. The amount of regions with a green light allowing for new coal plant permits went from three in 2016, to 15 in 2019, to 19 in 2020.

The central government is also debating a 100 to 300 GW [increase](#) in the country's 1,100 GW coal power cap after 2020.

## China Out of Step with the Rest of the World

Outside of China, newly proposed coal power capacity is [falling](#) throughout much of the world. In Southeast Asia, construction starts [decreased 85%](#) from 2016 to 2019, while capacity under development in South Asia has fallen by nearly [three-fourths](#) since 2015. Since 2017, India has [commissioned](#) more solar and wind power capacity than coal-fired.

Where new coal projects are still pursued globally, they are most often [bankrolled](#) by Chinese

financiers, exposing the country to overcapacity risks elsewhere in the world, in addition to the massive overcapacity at home.

China's increase in new coal plant development comes as the IPCC has found coal power needs to fall [80% by 2030](#) to keep global warming below 1.5°C. China's continued pursuit of new coal plants could put the IPCC target for reduced coal power out of reach, even if the rest of the world phased out all coal power by 2030.

## Background on Global Energy Monitor

Global Energy Monitor is a nonprofit research organization developing information on fossil fuel projects worldwide. Through its Global Coal Plant Tracker (GCPT) project, Global Energy Monitor has provided biannual updates on coal-fired generating capacity since 2015. GCPT data is used by the International Energy Agency (IEA), the OECD

Environment Directorate, UN Environment Programme, U.S. Treasury Department, and the World Bank. GCPT data is licensed by Bloomberg LP and UBS Evidence Lab, and is used by the Economist Intelligence Unit and Bloomberg New Energy Finance.

# Background on Centre for Research on Energy and Clean Air

Centre for Research on Energy and Clean Air (CREA) is a new independent research organisation focused on revealing the trends, causes, and health impacts, as well as the solutions to air pollution. CREA uses scientific data, research and evidence to support the efforts of governments, companies and campaigning organizations worldwide in their efforts to move

towards clean energy and clean air, believing that effective research and communication are the key to successful policies, investment decisions and advocacy efforts. CREA was founded in December 2019 in Helsinki and has staff in several Asian and European countries.

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