

Boom and Bust

2021

TRACKING THE GLOBAL COAL PLANT PIPELINE

Global Energy Monitor, Sierra Club, CREA, Climate Risk Horizons,
GreenID, Ekosfer



ABOUT THE COVER

The cover photo shows the Janschwalde coal-fired power station in Germany. Photo © Arterra Picture Library.



ABOUT GLOBAL ENERGY MONITOR

Global Energy Monitor (GEM) develops and shares information on fossil fuel projects in support of the worldwide movement for clean energy. Current projects include the Global Coal Plant Tracker, the Global Fossil Infrastructure Tracker, the Global Coal Mine Tracker, the Global Steel Plant Tracker, the Europe Gas Tracker, the CoalWire newsletter, and GEM.wiki. For more information, visit www.globalenergymonitor.org.



ABOUT THE SIERRA CLUB

The Sierra Club works to promote clean energy, safeguard the health of our communities, protect wildlife, and preserve our remaining wild places through grassroots activism, public education, lobbying, and legal action. For more information, visit www.sierraclub.org.



ABOUT THE CENTRE FOR RESEARCH ON ENERGY AND CLEAN AIR

The Centre for Research on Energy and Clean Air (CREA) is an independent research organization focused on revealing the trends, causes, and health impacts, as well as the solutions to air pollution. For more information, visit www.energyandcleanair.org.



ABOUT CLIMATE RISK HORIZONS

Climate Risk Horizons identifies and analyzes the financial impact that the climate crisis is having on India, and how this will play out over longer time horizons. These impacts arise directly from climate change itself, and from the disruption that will accompany transition. Recent work includes quantifying the financial benefits from an accelerated phase out of old coal plants. For more information, visit <https://climateriskhorizons.com>.



ABOUT GREENID

GreenID works to promote sustainable development in Vietnam and the larger Mekong region, and recognizes that to promote sustainability it must address constraints related to governance, organizational structures and social and technology integration. GreenID has project-specific experience coupled with cutting edge global knowledge and theory to help integrate sustainable solutions into policy and local communities. For more information, visit <http://en.greenidvietnam.org.vn>.



ABOUT EKOSFER

Ekosfer is an environmental organization focusing primarily on stopping the climate crisis by promoting the implementation of necessary policies, ensuring that economic activities do not disturb the balance of nature and protecting the right to life for all living things. For more information, visit <https://ekosfer.org>.

ABOUT THE GLOBAL COAL PLANT TRACKER

The Global Coal Plant Tracker is an online database that identifies and maps every known coal-fired generating unit and every new unit proposed since January 1, 2010 (30 MW and larger). Developed by Global Energy Monitor, the tracker uses footnoted wiki pages to document each plant and is updated biannually. For further details, see [Tracker Methodology](#).

EDITING AND PRODUCTION

Edited by James Browning, Global Energy Monitor. Design by Charlene Will and Mimi Heft. Additional design and page layout by David Van Ness.

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FURTHER RESOURCES

For additional data on proposed and existing coal plants, see [Summary Data](#) on the GEM website, which provides over 20 tables providing results from the Global Coal Plant Tracker (GCPT), broken down by province, nation, and region. For links to reports based on GCPT data, see [Reports & Briefings](#) on the GEM website. To obtain primary data from the GCPT, use the [Data Request Form](#) on the GEM website.

Boom and Bust 2021

TRACKING THE GLOBAL COAL PLANT PIPELINE

Global Energy Monitor, Sierra Club, CREA, Climate Risk Horizons, GreenID, Ekosfer

EXECUTIVE SUMMARY

A steep increase in coal plant development in China offset a retreat from coal in the rest of the world in 2020, resulting in the first increase in global coal capacity development since 2015. A record-tying 37.8 gigawatts (GW) of coal plants were retired in 2020, led by the U.S. with 11.3 GW and EU27 with 10.1 GW, but these retirements were eclipsed by China's 38.4 GW of new coal plants. China commissioned 76% of the world's new coal plants in 2020, up from 64% in 2019, driving a 12.5 GW increase in the global coal fleet in 2020.

The proposal and construction boom in China began taking off in March 2020 as provinces used coal projects to stimulate their economies in the wake of the economic slowdown from the Covid-19 pandemic. Although initiated at the province level, the boom was enabled by loosened restrictions on new coal plant permits and increased lending for coal mega-projects by the central government. Yet in 2021, China's Central Environment Inspection Group issued an unprecedented report criticizing the National Energy Administration for lax enforcement of the country's restrictions on coal development, suggesting China's coal boom may soon be clamped down. In late 2021, the central government is expected to release its targets for coal power in the energy sector plan, although the modest targets set for non-fossil energy in the country's 14th Five Year Plan (2021–2025) suggest coal power generation will continue to grow through 2025.

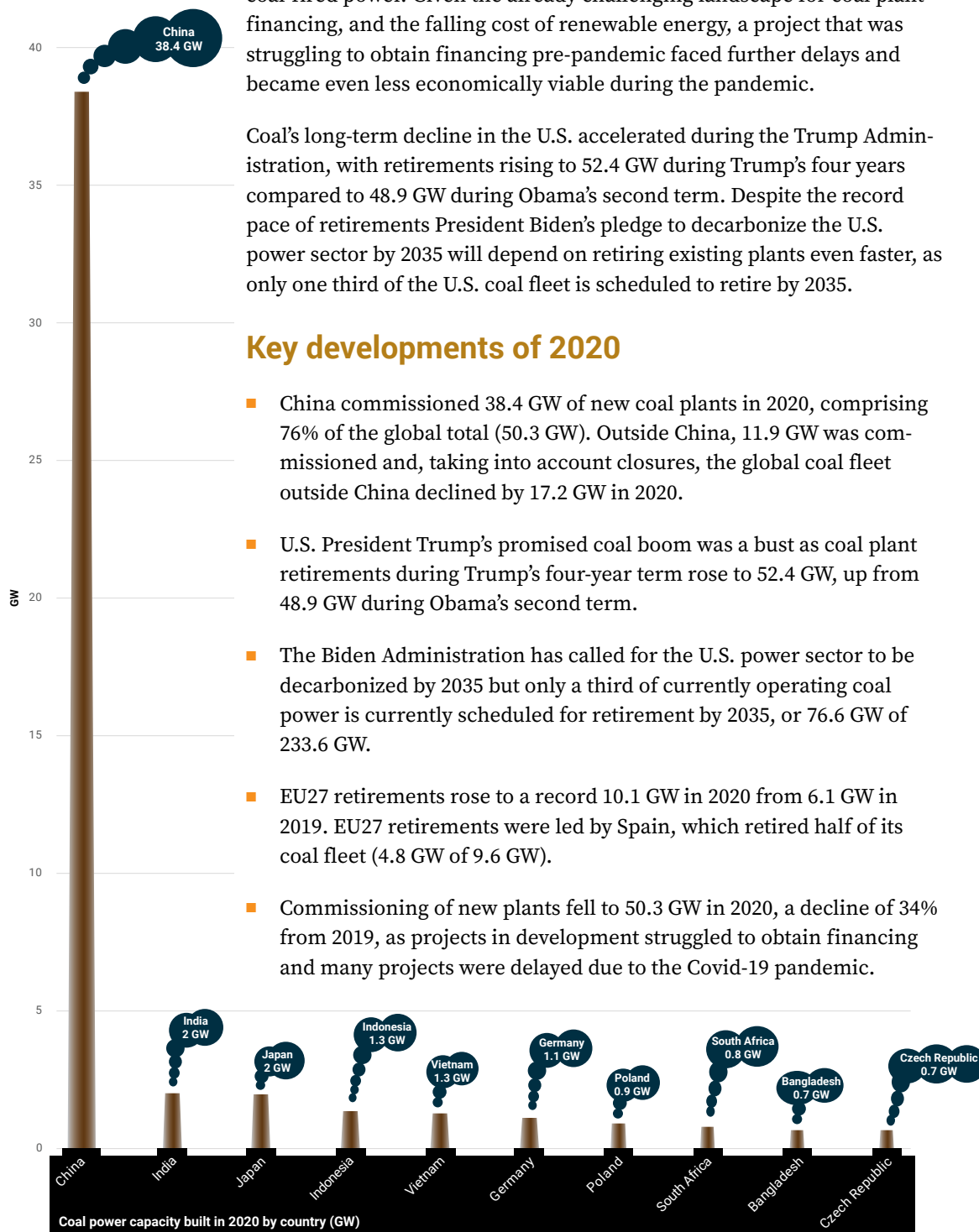
Outside China, several Asian countries announced that they are cancelling or reconsidering new coal power projects, while Japan and South Korea pledged to reach net zero CO₂ emissions by 2050. These policy shifts, along with the Covid-19 pandemic, contributed to a collapse of the coal plant pipeline in south and southeast Asia as the global demand for electricity shrank, national economies contracted, and coal plant projects struggled to obtain financing. Indonesia, Bangladesh, the Philippines, and Vietnam moved to cancel 62.0 GW of planned coal power capacity. The cancellations

will leave an estimated 25.2 GW in pre-construction planning in the four countries, an 80% decline from the 125.5 GW planned there just five years ago, in 2015. In addition, Pakistan announced it would not have any more coal-fired power. Given the already challenging landscape for coal plant financing, and the falling cost of renewable energy, a project that was struggling to obtain financing pre-pandemic faced further delays and became even less economically viable during the pandemic.

Coal's long-term decline in the U.S. accelerated during the Trump Administration, with retirements rising to 52.4 GW during Trump's four years compared to 48.9 GW during Obama's second term. Despite the record pace of retirements President Biden's pledge to decarbonize the U.S. power sector by 2035 will depend on retiring existing plants even faster, as only one third of the U.S. coal fleet is scheduled to retire by 2035.

Key developments of 2020

- China commissioned 38.4 GW of new coal plants in 2020, comprising 76% of the global total (50.3 GW). Outside China, 11.9 GW was commissioned and, taking into account closures, the global coal fleet outside China declined by 17.2 GW in 2020.
- U.S. President Trump's promised coal boom was a bust as coal plant retirements during Trump's four-year term rose to 52.4 GW, up from 48.9 GW during Obama's second term.
- The Biden Administration has called for the U.S. power sector to be decarbonized by 2035 but only a third of currently operating coal power is currently scheduled for retirement by 2035, or 76.6 GW of 233.6 GW.
- EU27 retirements rose to a record 10.1 GW in 2020 from 6.1 GW in 2019. EU27 retirements were led by Spain, which retired half of its coal fleet (4.8 GW of 9.6 GW).
- Commissioning of new plants fell to 50.3 GW in 2020, a decline of 34% from 2019, as projects in development struggled to obtain financing and many projects were delayed due to the Covid-19 pandemic.



- South and southeast Asia may be seeing their last new coal plant projects, as government officials in Bangladesh, the Philippines, Vietnam, and Indonesia have announced plans to cut up to 62.0 GW of planned coal power. GEM estimates the policies will leave 25.2 GW of coal power capacity remaining in pre-construction planning in the four countries—an 80% decline from the 125.5 GW planned there just five years ago, in 2015.
- Led by China, the total amount of coal plants in construction and in pre-construction development rose slightly, from 501.3 GW in 2019 to 503.1 GW in 2020, after a decline in each of the five previous years and a total decline of 66% since 2015. Outside China, the decline continued.
- The countries with the highest amount of coal plants in pre-construction development in 2020 were China with 158.7 GW, India with 29.2 GW, Indonesia with 22.2 GW, and Vietnam with 21.9 GW.
- After China's 38.4 GW of new coal plants, the country with the second-most commissionings in 2020 was India with only 2.0 GW. Among OECD countries, new commissioning was led by Japan with 2.0 GW, followed by Germany with 1.1 GW, Poland with 0.9 GW, and South Africa with 0.8 GW.
- In India coal power capacity rose by just 0.7 GW in 2020, net of 1.3 GW of retirements, after rising by 7.0 GW in 2019. At the height of the country's coal plant building from 2010 to 2017, the country increased its coal fleet by an average of 17.3 GW a year.
- In Turkey coal capacity in development fell 38% from 33.2 GW in 2019 to 20.4 GW in 2020, and has fallen 66% from 59.2 GW in 2015. No new coal plants in Turkey were commissioned in 2020.
- New construction starts fell 5% from 28.3 GW in 2019 to 27.0 GW in 2020. However, outside of China, new construction starts fell by 74%, from 21.1 GW in 2019 to 5.5 GW in 2020. In total, 2020 global construction starts were down 72% since 2015, when they were 96.2 GW.
- China's 14th Five-Year Plan targets non-fossil energy to grow from 16 to 20% of all energy consumption, a rate of increase that is unlikely to cover the growth in power demand, meaning an expansion of coal power is likely through 2025. However, the pace of coal plant development may slow if China's Central Environment Inspection Group forces the National Energy Administration to strengthen its enforcement of the country's restrictions on coal development.

GLOBAL DATA SUMMARY

China's surge in commissionings (38.4 GW) offset coal plant retirements in the rest of the world (37.8 GW) in 2020, resulting in an uptick in global capacity (Figure 1). In total, 50.3 GW of global coal power capacity was commissioned in 2020 while 37.8 GW of global coal power was retired, causing a net increase in the global coal fleet of 12.5 GW (black line).

China's 38.4 GW of new coal plants in 2020 made up 76% of the global total (Figure 1, blue bars). The country retired 8.6 GW of coal power in 2020, leading to a net 29.8 GW increase in China's coal fleet in 2020. Since 2016, the country has added an average of 34.0 GW of new coal power a year.

Outside China, most countries have been scaling back their coal plans, leading global coal power capacity outside China to decline since 2018 (dotted line). This trend accelerated in 2020, as the global coal fleet outside China declined by its highest rate ever at 17.2 GW, led by retirements in the U.S. (-11.3 GW), European Union (-10.1 GW), and UK (-3.3 GW).

Total coal power capacity under development (announced, pre-permit, permitted, and construction stages) rose slightly, from 501.3 GW in 2019 to 503.1 GW in 2020, reversing a trend of annual declines since 2015 when this figure stood at 1,480.4 GW (Table 1).

Figure 1: Global commissioning and retirements and the net change, 2000–2020 (gigawatts)

China = blue, India = purple, Other = orange, USA = red, EU27 = yellow,
Net change = black line, Net change without China = dotted black line

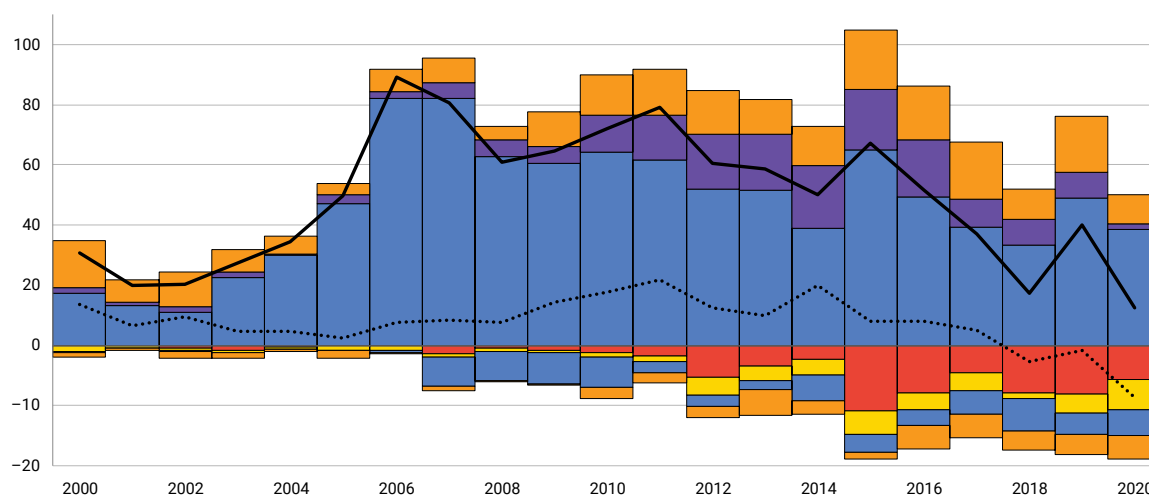


Table 1: Changes in the coal plant pipeline, 2015–2020 (megawatts)

	2015	2016	2017	2018	2019	2020	Change from 2019 to 2020	Change from 2015 to 2020
Announced	521,490	240,922	173,635	130,772	98,367	116,347	18%	-78%
Pre-permit	420,851	235,779	167,981	138,332	126,634	117,753	-7%	-72%
Permitted	223,053	130,828	116,956	87,432	81,417	89,364	10%	-60%
Announced + Pre-permit + Permitted	1,165,394	607,529	458,572	356,536	306,418	323,464	6%	-72%
In Construction	314,958	276,573	214,597	235,281	194,921	179,677	-8%	-43%
All development	1,480,352	884,102	673,169	591,817	501,339	503,141	0%	-66%
Started Construction (past 12 months)	96,198	78,157	44,424	25,698	28,334	27,038	-5%	-72%
Resumed Construction (past 12 months)	0	0	3,960	51,886	9,400	10,005	6%	0%
Completed (past 12 months)	104,872	86,250	67,643	52,096	76,271	50,283	-34%	-52%
Retired (past 12 months)	37,809	34,402	30,605	34,744	36,147	37,751	4%	0%
Net change in capacity	67,063	51,848	37,038	17,351	40,124	12,532	-69%	-81%
On Hold	213,434	561,630	607,795	481,400	281,051	151,932	-46%	-29%
Cancelled (since 2010)	615,748	884,527	1,065,698	1,271,366	1,528,431	1,646,466	8%	167%

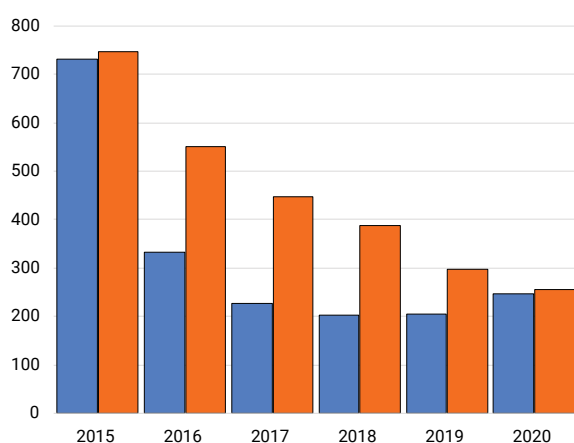
Much of this increase in capacity under development was driven by China's post-Covid-19 surge in new coal plant proposals. Chinese power companies initiated 73.5 GW of new coal plant proposals in 2020, over five times the 13.9 GW initiated in the rest of the world combined. Chinese provinces also granted construction approval to 36.9 GW of coal power

projects in 2020, over three times the capacity permitted in 2019 (11.4 GW).

As a result of China's activity, the amount of coal power under development in China grew from 204.8 GW in 2019 to 246.9 in 2020 (Figure 2, blue bars). Outside China, coal power under development has been on a continuous decline since 2015 (orange bars).

Figure 2: Global coal power under development, 2015–2020 (gigawatts)

China = blue, Non-China = orange

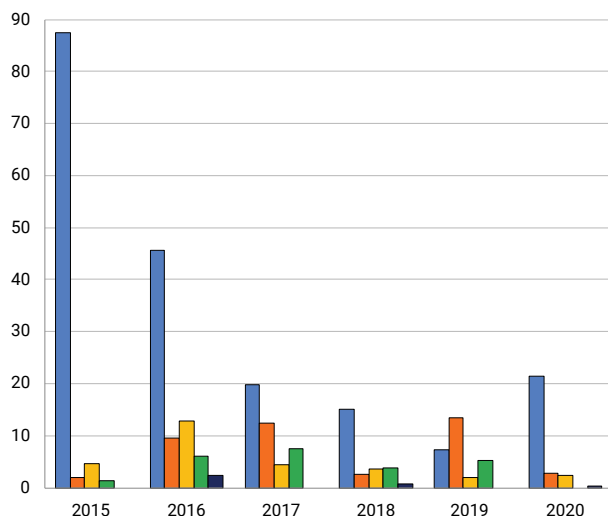


Global capacity under construction fell 8% from 194.9 GW in 2019 to 179.7 GW in 2020, and has fallen 43% since 2015 (Table 1). China's 19.7 GW in new construction starts made up 78% of the global total of 25.2 GW for 2020—although it is still far below its

construction boom of 2015–2016 (Figure 3, blue bars). No new construction occurred in the OECD in 2020 (green bars). Outside of Asia the only new construction start in 2020 was a 0.3 GW project in Zimbabwe (dark blue bar).

Figure 3: Global coal power construction starts, 2015–2020 (gigawatts)

China = Blue, South Asia = orange, Southeast Asia = yellow, OECD = green, Africa & Middle East = dark blue



U.S. Retirements Rose To Record Levels Under Trump

U.S. coal retirements rose to record levels under Trump, with 52.4 GW of coal capacity retired during Trump's single term (2017–2020) compared to 48.9 GW during Obama's second term (2013–2016). The record rate of retirements occurred despite the extraordinary access and influence that the coal industry enjoyed in the Trump Administration. Former coal lobbyist Andrew Wheeler served as Trump's EPA administrator, while coal baron Robert E. Murray's "[wish list](#)" formed the basis for Trump's coal policy. Trump promised to "bring back coal" and rescinded more than 100 Obama-era regulations on the environment, including rollbacks of stricter power plants emissions and limits on coal mining on federal land.

Failed federal and state attempts to prevent the retirement of the 1.2 GW third unit at [Paradise Fossil plant](#) in Kentucky show the severity of the coal industry's

struggles. After the Tennessee Valley Authority (TVA) [found](#) that the Paradise plant was unreliable, no longer needed, and too expensive to repair and operate, Trump and Sen. Majority Leader Mitch McConnell (R-KY) urged the TVA to refrain from voting to close it until additional Trump appointees could be seated on the TVA's board. These efforts were unsuccessful and the plant was shut down in February 2020. Paradise bought most of its coal from the since [idled](#) Paradise mine, owned by Robert E. Murray's company.

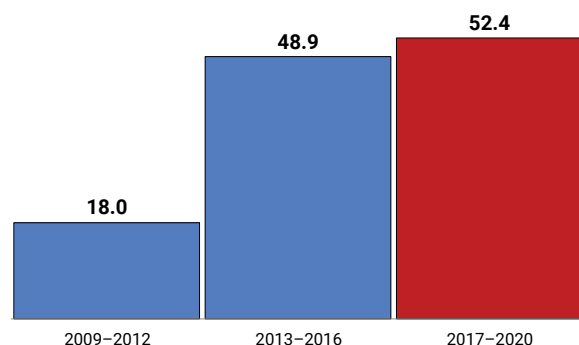
Trump's heavy reliance on executive orders rather than legislation to promote his agenda means that much of his legacy on fossil fuels may be fleeting. In January 2021 a Federal court [invalidated](#) a Trump regulation that allowed power plants to monitor their own voluntary reductions of emissions, giving Biden a chance to craft a new, stronger rule. Obama's Clean

Power Plan aimed to cut emissions by about 32% compared with 2005 levels by 2030, while Biden has pledged to completely eliminate the sector's contribution to climate change by 2035, reaching net zero carbon emissions. Achieving this goal will necessitate accelerating scheduled coal plant retirements.

One-third of currently operating coal power (76.6 GW of 233.6 GW) is scheduled for retirement by 2035. An additional 13.2 GW is scheduled for retirement between 2036–2040, while 141.1 GW of operating plants currently lack retirement dates.

Figure 4: U.S. retired capacity, 2009–2020 (gigawatts)

Obama's terms = blue, Trump's term = red



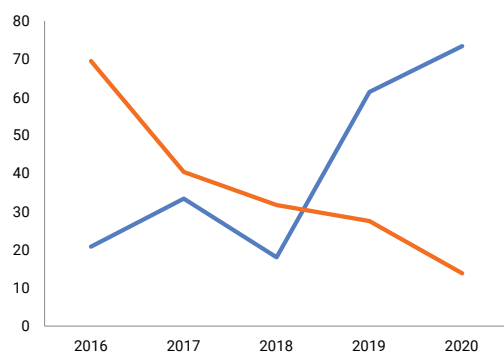
China Prolongs The Age Of Coal

While appetite for new coal power development slowed throughout most of the world in 2020, it ramped up in China. The country was home to 85% (73.5 GW) of the 87.4 GW of proposed new coal fired capacity throughout the globe in 2020, leading to the first annual increase in the amount of global coal power under development since 2015.

The 73.5 GW of proposals is a 20% increase over new coal proposals in 2019 (61.5 GW) in China, and four times the 18.0 GW proposed in 2018 (Figure 5, blue line). Meanwhile, new coal plant proposals outside China have steadily declined since 2016, from 70.0 GW in 2016 to 13.9 GW in 2020 (orange line).

Figure 5: New coal plant proposals inside and outside China (gigawatts)¹

China = blue, Non-China = orange



1. New coal plant proposals include both new coal proposals and proposals that had been shelved or cancelled but were reactivated.

In total, China has 88.1 GW of coal power under construction and another 158.7 GW proposed for construction, totaling 246.8 GW of development—half of all global coal plant development (503.1 GW).

Coal development in China has grown as provinces use coal proposals to [stimulate](#) their economies in the wake of the economic slowdown from the Covid-19 pandemic. The growth has been enabled by the central government, which has [loosened](#) restrictions on new coal plant permits and [increased](#) lending to grow the national economy, including for coal-intensive megaprojects.

In 2020, 36.9 GW of coal power was permitted for construction in China by the provincial Development and Reform Commissions (DRC), exceeding the previous three years combined (28.5 GW permitted from 2017–2019).

While encouraging coal plant development, the central government also recently [pledged](#) that China will aim to reach net zero carbon emissions by 2060. Yet coal and power interests are pushing to [increase](#) the country's coal fleet from the current [1,080 GW](#) to 1,200 GW or more by 2030.

In March, the Chinese government [released](#) the key targets of the country's 14th Five Year Plan (2021–2025). The plan's targets through 2025 for reducing carbon intensity by 18% and energy intensity by

13.5%, and for raising the share of non-fossil energy consumption (renewables and nuclear) from 16% to 20%, are likely [insufficient](#) to peak CO₂ emissions during the plan period, absent an economic policy shift or slowdown. Targets to reduce the share of coal power and to limit the total amount of coal consumed are expected to be set in the energy sector plan in late 2021. A [recent statement](#) by the China Coal Association indicates that China could target zero growth in coal consumption over the period, however the low targets for non-fossil energy mean that coal power generation is still likely to grow, unless electricity demand grows at significantly lower rates than in past years. Notably, however, several of the country's largest utilities such as China Huadian have recently [announced](#) targets to peak CO₂ emissions by 2025 or earlier.

In a potentially hopeful sign that the central government may choose to rein in rather than encourage further coal development, China's Central Environment Inspection Group recently [issued](#) an unprecedented, highly critical report of China's National Energy Administration (NEA). The report criticized the NEA for lax enforcement of the country's restrictions on coal development, and suggested controls on new coal plants may soon be tightened, retirements accelerated, and some already permitted projects suspended or cancelled—although whether and at what scale remains an open question.

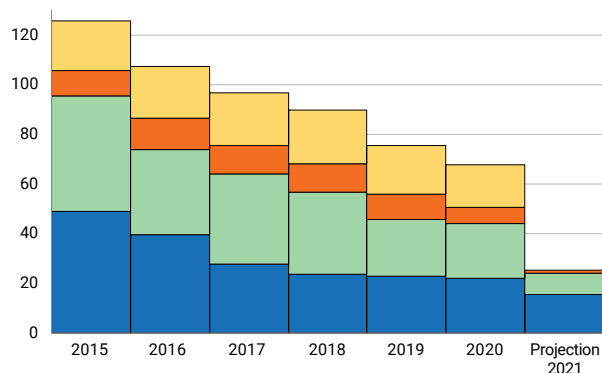
New Coal Pipeline Collapses In South and Southeast Asia

South and Southeast Asia may be seeing their last new coal plant projects, as government officials in Bangladesh, the Philippines, Vietnam, and Indonesia have announced plans to cut up to 62.0 gigawatts (GW) of planned coal power (Figure 6). In addition, Pakistan Prime Minister Imran Khan [announced](#) at the Climate Ambition Summit in December 2020 that the country “decided to not have any power based on coal,” which could imply a significant number of cancellations in the future, although details remain vague.

The announcements are notable as South and Southeast Asia have long been regarded as the next center for coal power growth, after China. Yet lower power demand and slowed coal plant development from the Covid-19 pandemic, coupled with tightened financing for coal plants and decreasing costs for solar and wind power, are closing the door on coal in the regions.

Figure 6: Coal-fired capacity under development in South/Southeast Asia (gigawatts)

Indonesia = blue, Vietnam = green, Philippines = orange, Bangladesh = yellow



Indonesia

Much of Indonesia’s short-term and long-term energy plans were on hold in 2020 as at least eleven projects worth US\$13.1 billion experienced pandemic-related [delays](#), and the annual update to the country’s RUPTL energy plan was never released. Delays [included](#) over 8.0 GW of coal power projects. In November 2020 Indonesia’s Energy Ministry [said](#) it will cancel or postpone up to 15.5 GW of planned power plants in its next energy plan (RUPTL 2021–2030), although about 2.3 GW of this total will be renewable projects.

Indonesia has commissioned 22.7 GW of coal power capacity since 2010 and currently has 10.7 GW under construction—amounts that exceed all other countries except China and India.

Most coal plants in the country have been built with [guaranteed tariffs](#) that have locked the state-owned power company, PLN, into fixed payments for decades, long after just running a coal plant is projected to [cost more](#) than building new wind and solar power. As the amount of coal plants increases, so too do the subsidies needed to cover the growing payments, projected to reach an estimated US\$6.5 billion in 2020 and US\$11.4 billion by 2022, [according](#) to financial think tank IEEFA.

Of the 19.7 GW of planned coal plants currently without a license, just 20% (3.9 GW) has reached financial close.

Bangladesh

In Bangladesh, 7.3 GW of coal plants were cancelled in 2020 while 1.2 GW entered construction and 0.7 GW were commissioned. In November the Bangladesh Energy Ministry finalized plans to cancel all coal plants not currently under construction. Early [reports](#) suggested all but four coal plants would be cancelled by government officials, although [recent reports](#) suggest just two coal plants will remain in development. The exact details are [expected](#) this summer, when the government outlines its next power sector master plan.

The move marks a significant change for the country's energy plans. Under the 2016 [Power System Master Plan "Revisited"](#), released in November 2018, coal power was projected to grow from 0.5 GW in 2019 to 25.5 GW by 2040, whereas renewable capacity would rise from 0.3 GW to just 7.9 GW over the same period. Yet many of the coal projects struggled to get off the

Vietnam

The coal fleet in Vietnam has grown faster than in almost any other country, adding two-thirds (11.8 GW) of its current 18.0 GW of operating coal power capacity since 2015. Yet at least 6.0 GW of coal projects in the country have been stalled, according to local environmental group GreenID, often owing to strong public opposition and difficulty securing financing. The long development times for coal projects have raised concerns that such projects won't be built quickly enough to meet Vietnam's growing power demand. The difficulties in implementing its coal projects have led the country's leaders to reconsider its energy plans.

In February 2020, the Politburo of Vietnam [signalled](#) a shift away from coal in Vietnam's long-term energy strategy, and promoted a strategy for 2030–2045 based on replacing fossil fuel sources with renewables. From 2016–2020 renewable energy [increased by 484%](#), or double the rate which had been planned, while non-hydro renewable energy rose to 26% of the country's total power mix by the end of 2020.

A [preliminary draft](#) of Vietnam's next energy plan for 2021–2030 (PDP 8) proposes 37 GW of coal power by

ground, with only five projects totaling 4.7 GW currently under construction, and operating coal power capacity rising to just 1.2 GW as of 2020.

Public opposition to building large coal power complexes in the densely-populated country has been fierce. Four people have been killed by police and more than 100 injured protesting the [S. Alam coal plant](#). The economic outlook for coal projects that have advanced is increasingly dim. The decline in power demand from the Covid-19 pandemic means the Bangladesh Power Development Board (BPDB) is now paying capacity payments for idled coal plants, leading to [significant losses](#) for the BPDB and the need for large government subsidies and power tariff increases. Government officials also [cited](#) difficulties in securing imported coal and shortages of domestic coal as reasons for transitioning away from the fuel.

2030, a 51% decline from the 75 GW proposed in Vietnam's Power Development Plan 7 ([PDP 7](#)), published in 2011, and a 33% decline from the 55 GW planned in the [revised PDP 7](#), published in 2016. If enacted, the draft PDP 8 will cancel seven coal plant projects totaling 9.5 GW and postpone six coal projects totaling 7.6 GW to after 2030. Provincial governments, including the [Mekong Delta planning region](#) and [Nghe An province](#), have requested that 11.6 GW of coal power be cancelled or shifted to other fuel sources. New coal plants will also be subject to stricter efficiency standards. Meanwhile, projects such as the [Nam Dinh coal plant](#) are struggling to get construction off the ground before the PDP 8 is finalized.

Most coal plants with a license will still need to secure financing, as only 22% (1.9 GW) of the 8.7 GW of licensed capacity in the country has reached financial close. In the latest sign that financing for coal projects is getting difficult to secure as investors and companies retreat, Japanese trading house Mitsubishi [withdrew](#) from Vietnam's [Vinh Tan 3](#) coal plant project in February 2021, saying the coal project is too harmful to the environment.

Philippines

In October 2020, the Philippine Department of Energy declared a [moratorium](#) on new coal plants that were not already in the permitting pipeline. The policy appears to shut the door on any future coal plant proposals, as well as many current proposals—although the exact amount of cancellations will be determined by a set of guidelines that will be released soon. The move is a milestone for the country, which has added half of its 10.3 GW of operating coal plants since 2015.

Like Bangladesh and Vietnam, the country's recent and aggressive pursuit of coal power has led to fierce public opposition, often [involving](#) members of the country's powerful Catholic Church. Many provinces have [banned](#) coal plants within their borders. As a

result, the amount of coal power in pre-construction declined 33% from 10.3 GW in 2019 to 6.7 GW in 2020, with more plants expected to be cancelled once the moratorium is finalized. In November 2020, an expansion of the existing [Calaca power station](#) was cancelled, with the president of Meralco noting the recent moratorium on coal projects

Any coal plants not cancelled by the DOE policy will likely still need to obtain financing: only 0.3 GW of coal power not under construction in the country has reached financial close. In December, Rizal became the first bank in the Philippines to [declare](#) it will no longer finance new coal-fired power projects.

India

In 2020, India was second only to China in terms of commissioning and development of coal power. However, the difference between the two countries is large and growing: while China continues to grow its coal power capacity and proposals, India may well be on the verge of shrinking its coal fleet.

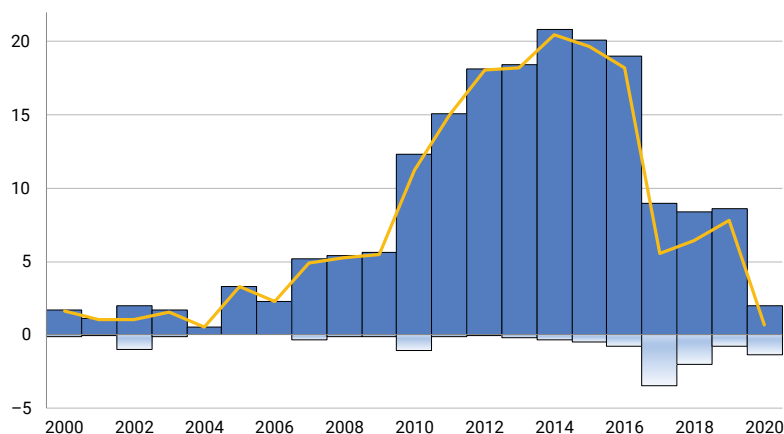
In 2020, India commissioned 2.0 GW of coal power. Taking into account 1.3 GW of retirements, India's coal fleet grew by only 0.7 GW in 2020—the lowest since 2004 (Figure 7, yellow line). Coal power

commissionings in India fell steeply in 2016 and shows no signs of rebounding (dark blue bars).

India's operational coal fleet has been running at capacity factors below 60% for several years, as effective demand has been far lower than projections. Many private plants have struggled to secure power purchase agreements and coal supplies, and often see much lower utilization factors than government-owned plants that receive preferential access. There has also been relatively [little progress](#) on resolving financially

Figure 7: Commissioning and retirements in India and the net change, 2000–2020 (gigawatts)

Additions = dark blue, Retirements = light blue, Net change = yellow



insolvent private coal power projects totaling 50 GW, which are again struggling due to lack of coal supplies or power purchase agreements.

Meanwhile, 2020 saw new records with winning tariff bids for new solar PV plants down to [Rs 1.99/kWh](#) and [renewables with storage at Rs.3.6/kWh](#). These represent electricity costs below most operational coal, and well below the level that any new coal power plant, including pithead plants, would be able to provide.

The declining cost of clean energy alternatives in India has helped drive down the amount of coal power under development. From 2015 to 2020, coal power capacity proposed for construction in India decreased nearly 90%, from 238.2 GW to 29.3 GW. Coal power under construction has been halved, from 71.4 GW in 2015 to 36.6 GW in 2020 (Figure 8).

Low coal power capacity factors and competition from alternatives have driven the private sector to withdraw almost entirely from new coal plant construction. Almost all the coal plants under active construction are public sector units, owned by state or federal government entities. Of the 36.6 GW under construction in 2020, at least 14.1 GW were in relatively early stages—completing these projects will risk an [estimated 92,000 crores \(US\\$12.6 billion\)](#) of public money. This represents a significant use of public

South Korea

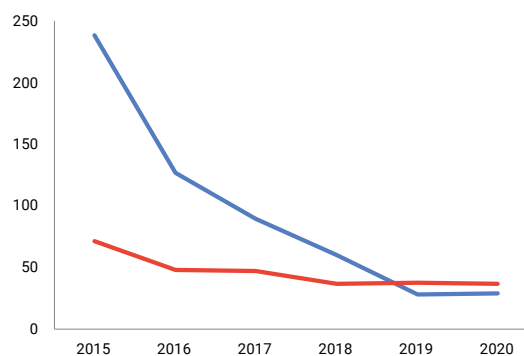
In December the South Korean government's 9th Basic Plan for Electricity (BPE) called for the closure of 20 coal plants by 2034, in addition to the ten coal plants scheduled for closure in the 8th BPE. Under the 9th BPE, coal capacity would be [cut](#) from the current 35.6% (36.4 GW) of total capacity to 15.1% in 2034 (18.8 GW). According to Greenpeace Korea, the 9th BPE includes only [old power plants that have reached the end of their 30-year life](#), meaning that the Korean government is effectively guaranteeing the lifespan of coal-fired power plants for 30 years. The 9th BPE also does not call for the closure of two units at the [Boryeong power station](#) and two units at the [Donghae](#)

finance on electricity projects that will be uncompetitive with newer, cleaner sources.

In 2020 electricity generation in India from coal power dropped for the second consecutive year, leading to [suggestions](#) that coal power generation in the country might be on the decline. A sharp economic recovery in 2021 could change that, but it seems clear that the peak in coal power capacity and generation is certainly close, if not already past. The [National Electricity Plan](#) identified 48 GW of coal for retirement by 2027, and recent analyses have suggested that there are [significant financial benefits](#) to retiring old coal plants and [repurposing](#) plants for renewables, battery storage, and grid stability.

Figure 8: Coal-fired power capacity under development in India

Pre-construction = blue line, Construction = red line



[power station](#) that will be 30 years old in 2023 and 2029, respectively.

President Moon Jae-in has pledged to achieve carbon neutrality by 2050, but Korea's plans to develop additional domestic capacity undermines this pledge. Coal plants currently under construction would add 7.3 GW of capacity, while 24 of the 30 coal plants scheduled for closure by 2034 are currently planned to be [converted](#) to run on gas instead of being shut down or replaced by renewables.

South Korea also continues to be a [leading funder](#) of coal plant development in other countries. In 2020

Korean Electric Power Company (KEPCO) purchased a 15% share in the 2.0 GW [Jawa-9 and Jawa-10](#) power stations, and purchased a 40% share in Vietnam's 1.2 GW [Vung Ang-2 power station](#). The Export-Import (Ex-Im) Bank of Korea plans to provide [800 billion won](#) (US\$700

million) in financing to Vung Ang 2, while the Ex-Im Bank, the Korea Trade Insurance Corporation, and the Korea Development Bank plan to provide loans and guarantees of [1.7 trillion won](#) (US\$1.5 billion).

Paris climate goals remain elusive

In 2018, following the release of the [IPCC 1.5 Degree Special Report](#), Global Energy Monitor and Greenpeace [developed](#) coal phase-out pathways consistent with the projected coal-fired generation in the IPCC scenarios for holding global warming to 1.5 degrees Celsius, in line with the UN Paris climate agreement.

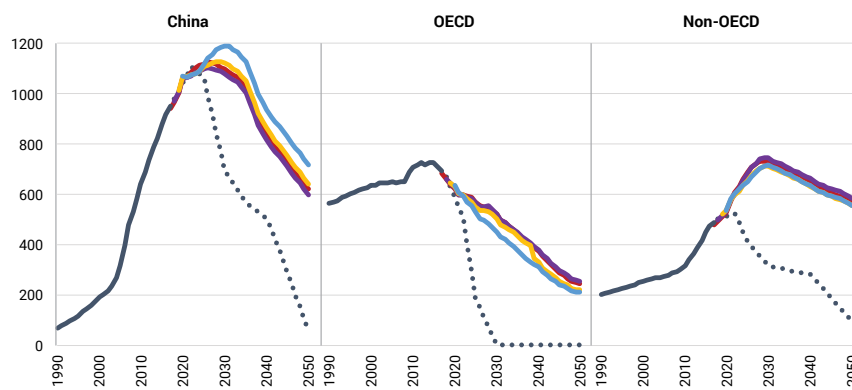
Two and a half years later, both OECD countries and non-OECD countries, with the exception of China, have made modest progress in aligning their plans for coal power retirement and newbuild with the 1.5 degree pathways. Figure 9 looks at the expected coal power capacity in these regions based on announced national phase-outs and business-as-usual retirements of old plants, as well as projects under construction and planned capacity coming online over the next 10 years.² Although there has been modest

progress outside China, no region is close to meeting the required reductions for the 1.5 degree pathway (dotted line).

At the end of 2018 (purple line in middle panel), OECD's coal power capacity stood at 670 GW, and was expected to fall to 523 GW by 2030. By the end of 2020 (blue line), national and operator phase-out decisions in OECD countries have seen projected coal capacity in 2030 fall by 74 GW, to 449 GW. Although a marked reduction, the 1.5 degree pathway requires a complete coal power phase-out in OECD countries by this date. The OECD countries with the largest projected coal power capacity in 2030 are the U.S., Turkey, Japan, South Korea, Poland, Germany, and Australia. Out of these, Turkey and Japan are still planning a sizable coal power expansion.

Figure 9: Historic and projected coal power capacity by region (1990–2050) and the gap to 1.5 degrees (gigawatts)

Panels: China = left, OECD = middle, Non-OECD = right. Lines: Historic capacity = gray line, 1.5C target = dotted line, Total capacity expected by year = colored lines (2017 = red, 2018 = purple, 2019 = yellow, 2020 = blue)



2. We projected the development of coal-fired capacity using the versions of Global Coal Plant Tracker data at the end of each year (2017–2020). The projections assume that all coal power projects in active development are realized, and retirement of plants that don't have an announced retirement date and are not covered by a national phase-out follows the practice in each region to date, based on average age of coal power plants at retirement, or the 90th percentile of the age of operating plants, whichever is greater. For new projects without an announced commissioning date, we spread commissioning over the next 10 years, differentiating by the current status of the project. The projections incorporate national phase-out decisions included in the Europe Beyond Coal [Coal Exit Tracker](#), as well as those by [Powering Past Coal Alliance members](#). Colombia joined the OECD after 2018 and is included in the non-OECD grouping in these projections.

COAL FINANCE: BANKS FAILING TO MIND THE GAPS

In 2020, the door continued to close for new coal plant investments. According to the Institute for Energy Economics and Financial Analysis, globally significant financial institutions announced [73 new restrictions on coal financing](#), the most in a single year. These restrictions involved mostly enhancements to existing policies made by Wall Street and other major international commercial banks, but also included a [January 2020 commitment from BlackRock](#) to remove from its active investment portfolios any companies generating more than 25% of revenues from thermal coal production. While undoubtedly a highly significant policy shift from the world's largest asset management firm, the finance campaign groups Reclaim Finance and Urgewald have shown that, one year on from its pledge, BlackRock continues to hold [investments worth US\\$85 billion in thermal coal companies](#) such as India's Adani Group and Germany's RWE because they fall under the 25% revenue threshold—despite the companies owning 12.0 GW and 14.1 GW of coal power, respectively.

Direct financing for new coal power plants has become vanishingly thin at the global level, but the BlackRock conundrum shows how plant technology restrictions or “ratio-based” policies still allow for significant coal funding. In June, the promoters of the planned [Ostrołęka C](#) project in Poland decided belatedly to proceed with it as a gas plant rather than a coal plant, [citing](#) the “significantly greater availability of financing for energy projects based on gas combustion than for coal projects.” Difficulties in securing financing are also behind the Bangladesh government being on the verge of scrapping at least nine large coal plant projects and converting them into liquefied natural gas or renewable energy plants, according to recent [reports](#).

Yet the latest [NGO research](#) published in February 2021 shows that, in spite of the wide range of policy restrictions for thermal coal introduced by global financial majors in recent years, close to US\$500 billion in debt financing facilitated by commercial banks filtered through to companies intent on developing new coal plants in the first three quarters of 2020. This came largely in the shape of corporate loans and underwriting, and predominantly from Chinese and Japanese banks. However, western banks with

relatively advanced coal policies continue to be prominent coal collaborators due to the still half-baked nature of their policies. Among those which are failing to cut ties with an industry [they say](#) is responsible for driving climate change are Barclays, Citi, and JPMorgan Chase, three of the [largest financiers of Duke Energy](#) which owns 17 GW of coal power in North America.

Certain restrictions on coal plant financing have been enacted already by [18 Japanese financial institutions](#) and the pace of progress is increasing in Japan. In March 2021 the governor of the Japan Bank for International Cooperation (JBIC), Maeda Tadashi, announced that the state-owned financial institution will [no longer provide funding for coal plant projects overseas](#). JBIC's decision will put pressure on the country's private sector banks, such as major coal power financiers Mizuho, Mitsubishi UFJ Financial Group, and Sumitomo Mitsui Banking Corporation to follow suit and end their support for overseas coal plants. Tadashi indicated that the 1.2 GW [Vung Ang-2](#) coal plant in Vietnam, which JBIC, Export-Import Bank of Korea, and several Japanese commercial banks supported in 2020 with US\$1.7 billion in project financing, will be the final overseas thermal coal project to receive public and private funding from Japanese sources.

Due to China's now dominant role as the key driver of coal plant development, both [domestically](#) and internationally, a major consideration will be the extent to which Chinese finance is further mobilized to support the plans of Chinese coal companies overseas. A landmark upset for Chinese coal plant finance in 2020 saw International and Commercial Bank of China (ICBC), the world's biggest bank in terms of assets, [pull out](#) of a planned US\$1.2 billion loan deal for the [Lamu Coal Plant](#) in Kenya. However, ICBC continues to consider project financing for various overseas coal plants, including the proposed, mega 2.8 GW [Sengwa plant](#) in Zimbabwe. As a signatory to the UN's [Principles for Responsible Banking](#) initiative, future financing for coal plants is supposed to be off limits for ICBC—the bank should rule out all further coal plant financing. That instruction should also be communicated to other national financial institutions by the Chinese government if it is fully intent on becoming carbon-neutral by 2060.

The projected 2030 coal power capacity in non-OECD countries excluding China (right panel) has fallen by 29 GW since 2018, with the largest reductions taking place in India (18 GW), Egypt (13 GW) and Vietnam (3.5 GW)—although Vietnam’s future capacity is expected to fall further once its latest energy plan is finalized. Remarkably, the projected capacity in the Africa and Middle East region fell by 24 GW, led by Egypt and the UAE (3 GW). The largest increases took place in Indonesia (10 GW) and Bangladesh (8.0 GW), although reductions in both countries are expected this year.

New coal power projects initiated and restarted in China since 2018 (left panel) mean that the country’s projected coal power capacity increased by no less than 112 GW, more than offsetting the reductions in the rest of the world. As a result, the world as a whole

is no closer to the 1.5 pathway than it was two and a half years ago.

Globally, the projected coal-fired capacity in 2030, if all proposed projects are realized and retirements are not accelerated further, is almost 2,400 GW, while the amount of capacity consistent with the IPCC 1.5 degree pathways would be 1,100 GW. An additional 1,350 GW will therefore need to be cancelled or retired to meet the emission budgets consistent with 1.5 degrees, totaling 450 GW in the OECD, 500 GW in China, and 400 GW in the rest of the world.

Similarly, a recent [UN report](#) found that current country commitments under the Paris agreement will reduce emissions no more than 2.1% over the next decade, with major emitters such as the U.S. and China still needing to put forward their updated commitments, which were due in 2020.

REGIONAL AND COUNTRY SUMMARIES

EU27 + UK

Operating coal capacity in the EU and UK fell by a record 10.9 GW in 2020. Retirements in the EU and UK were driven by the rising price of [EU carbon allowances](#) and [tightening pollution regulations](#), both of which have cut into the profitability of coal plants. Renewables [generated more electricity](#) than fossil fuels across the EU for the first time in 2020, spurred on by new solar and wind power projects. The Covid-19 pandemic led to lower power demand which [primarily affected coal](#) plants due to their higher operating costs.

While Spain has not yet committed to a coal phase out, the country retired half its fleet in June 2020 (4.8 of 9.6 GW), before the [expiration](#) of exemptions from EU pollution limits. EDP’s [Abono 2](#) and Soto de Ribera are the only coal plants in Spain without a closure plan, although the company has announced it will be coal-free before 2030. Spain’s retirements were preceded by a [58% annual drop](#) in Spain’s coal power generation,

from 8.0 terawatt-hours (TWh) in H1 2019 to 3.3 TWh in H1 2020.

Citing the declining profitability of its coal plants, EDP recently [announced](#) two coal plant closures in Portugal, putting the country on track to be coal-free by 2021—two years ahead of schedule. Romania’s last new coal project was cancelled, leaving Serbia and Bosnia and Herzegovina as the only countries in southeastern Europe still planning to build new coal plants.

Altogether, 19 EU countries and the UK have committed to [phase out coal](#) power generation by 2030, with Germany targeting 2038. In the Czech Republic a state commission has recommended a 2038 phase-out, and a draft environmental impact plan in Slovenia recommended a phase out date between 2033 and 2042. Four other member states do not have a coal phase out plan: Poland, Romania, Croatia, and Bulgaria.

Turkey

In Turkey the coal industry faced a reckoning in 2020, as a number of long-planned plants were officially cancelled, several existing plants were mothballed for failing to comply with new emissions standards, and a package of financial incentives failed to attract investors for new coal projects.

Coal capacity in development fell 38% from 33.2 GW in 2019 to 20.4 GW in 2020, and has fallen 66% from 59.2 GW in 2015. Cancellations included 2.0 GW of new coal development in the Thrace region ([Eren-1 power station](#), [Çerkezköy power station](#), and [Vize power station](#)) and a proposed 4 GW expansion of the [Afşin-Elbistan power complex](#). The 1.1 GW [Eskişehir Alpu coal plant project](#) has been tendered seven times without securing investors.

The decline in coal power under development is due to several factors, including [widespread public opposition](#) from environmental groups and local communities, [decreasing funds](#) to support coal plants—which are [heavily subsidised](#)—and a [weakening national currency](#). The declining value of the Turkish

Japan

In July 2020, Japan announced that it would close 100 of its older, most inefficient coal plants. However an [analysis](#) by Kiko Net found that while 20 GW would be retired under this plan, 35 GW would remain in operation beyond 2030, suggesting the move is in part to make room for the country's larger and more expensive coal plants to operate, including 9.6 GW of coal power currently under development. These plans are inconsistent with Prime Minister Suga's pledge to achieve carbon neutrality by 2050.

Among OECD nations Japan had the most commissions in 2020 with 2.0 GW, and the most coal

lira means some utilities are now facing the prospect of receiving earnings [lower](#) than the costs of foreign-denominated debt finance and coal imports.

As opposition grows and interest from investors flags, Turkish authorities are looking to China to finance Turkey's coal projects. Construction of the 1.3 GW [EMBA Hunutlu power station](#) is proceeding with US\$1.38 billion in Chinese investment and financing. Chinese construction and mining companies are reportedly interested in financing the 1.6 GW [Kirazlıdere power complex](#), and the Turkish Wealth Fund is trying to [attract](#) Chinese companies for a 2021 tender for the 1.8 GW [Afşin C coal plant project](#) in Kahramanmaraş.

No new coal plants in Turkey were commissioned in 2020, and the country's coal-powered capacity fell for the first year on record, from 19.5 GW in 2019 to 18.1 GW in 2020, as units at five power plants were mothballed for failing to meet a January 2020 deadline to install new air filtrations systems.

capacity under construction with 7.3 GW. Japanese financial institutions were also among the leading backers of foreign coal projects in 2020, with the Japan Bank for International Cooperation (JBIC) signing a US\$636 million loan for the 1.2 GW [Vung Ang 2 power station](#) in Vietnam. The Japan International Cooperation Agency (JICA) is also considering a capital expenditure of US\$1.8 billion on the 1 GW [Indramayu power station](#) in Indonesia. As of July JICA had provided US\$2.8 billion in loans for the 1.2 GW second phase of the [Matarbari power station](#) in Bangladesh.

Australia

Despite the existence of proposals for two new plants totaling 3.0 GW, Australia has not commissioned a new plant since [Bluewaters power station](#) in 2009, and that plant was recently declared worthless by one of its part-owners, Sumitomo, which wrote off its US\$250 million investment due to the difficulty of obtaining refinancing loans for coal projects.

A proposed 2.0 GW Kurri Kurri coal plant is on shaky ground as the builder China Energy Engineering

Group (CEEC) is under sanctions from the World Bank for committing fraud in a power project in Zambia. The proposal has also been made moot by a plan to build a gas-fired plant in Kurri Kurri to replace the Liddel power station, which will be retired in 2023. Shine Energy's proposed 1.0 GW [Collinsville power station](#) received an A\$3.6 million grant for a feasibility study despite the fact that Shine has never developed a power plant.

Africa and Middle East

Coal capacity in development in Africa and the Middle East fell from 34.3 GW in 2019 to 21.1 GW in 2020, a one-year decline of 39%, and a decline of 64% since 2015, when it was 59.3 GW.

In Egypt the proposed 6.6 GW [Hamarawein IPP coal project](#), which would have been the second-biggest coal plant in the world, was shelved in 2020 by the Ministry of Electricity in favor of a renewable energy project. The plant's sponsors had previously received an offer of US\$3.7 billion in financing from the Chinese Development Bank. With the decision, Egypt has shelved or canceled all 15.2 GW of new coal power it had previously planned.

In South Africa, 3.8 GW of coal power projects were cancelled in 2020 as lawsuits and public opposition have stalled progress on the proposed coal plants under the country's Independent Power Producer Procurement Programme, leaving 8.0 GW of coal power under development. Half of the development (4.0 GW) consists of the long delayed and over budget [Kusile](#) and [Medupi](#) coal plants, with a new 0.8 GW unit of Kusile commissioned in 2020. Much of the remaining capacity is made up of the country's largest new coal

project, the 3.0 GW [Musina-Makhado power station](#) backed by the Bank of China, which is planned for a special economic zone that received a positive EIA in September 2020.

Zimbabwe has the second most coal capacity under development in Africa with 5.2 GW, most of which is dependent on Chinese financing. The 0.7 GW [Binga power station](#) has been permitted and is backed by US\$950 million in debt finance via Sinasure Buyers Credit Facility with Bank of China. The Industrial and Commercial Bank of China has given a formal expression of interest in the 2.8 GW [Sengwa power station](#) and is negotiating with Sinasure to cover country risk insurance costs. In July construction began on the 0.3 GW [ZhongXin power station](#) which would have been powered by coal mined in Hwange National Park—home to one of Africa's largest populations of elephants and more than 100 different species of mammal and 40 different bird species—until the mining license was successfully overturned by environmental groups.

Latin America

Latin America had 4.2 GW of coal power in development in 2020, the same as 2019, however many of these projects have been struggling to obtain financing for years and there is a long-term decline of 59% from the 10.1 GW that was in development in 2015.

In the Dominican Republic the 752 MW [Punta Catalina power station](#) was fully commissioned amidst ongoing allegations about excessive payments made by the government to the plant's builders and mismanagement of its ash disposal facility. In Brazil, Engie secured US\$163 million in financing for its proposed [Pampa Sul power station](#) in a move that appears to violate Engie's 2015 pledge to stop developing new coal plants, although the company said it plans to sell the project.

In Chile a 128 MW unit was retired at the [Bocamina power station](#) and a 120 MW unit was retired at the

[Ventanas power station](#). Chile has accelerated its [decarbonization goals](#), with plans to retire six more coal-fired units with a combined capacity of 1.2 GW between 2021 and 2024.

In Mexico President Manuel Lopez Obrador has [reversed](#) a shift toward renewables by canceling renewable energy auctions and promoting a bill that would require the Federal Electricity Commission to buy power from its own facilities, including coal plants, before renewables.

Overall, the amount of coal power capacity under construction in Latin America fell to zero in 2020, down from 752 MW in 2019 and 2.8 GW in 2015, suggesting that the region may already have seen its last new coal plant.

APPENDIX

Coal power capacity in development and operating by country (megawatts)

Country	Pre-construction	Construction	All Active Development	Shelved	Operating	Cancelled (2010–2020)
Albania	0	0	0	0	0	800
Argentina	0	0	0	120	350	0
Australia	3,000	0	3,000	2,220	25,107	8,716
Austria	0	0	0	0	0	800
Bangladesh	16,950	4,754	21,704	5,915	1,185	10,090
Belarus	0	0	0	0	0	1,400
Belgium	0	0	0	0	0	1,100
Bosnia and Herzegovina	3,530	0	3,530	550	2,073	1,020
Botswana	1,650	0	1,650	2,100	732	4,504
Brazil	1,327	0	1,327	600	3,149	4,690
Brunei	0	0	0	0	220	0
Bulgaria	0	0	0	0	4,829	2,660
Cambodia	700	1,065	1,765	2,400	655	2,480
Canada	0	0	0	0	8,333	1,500
Chile	0	0	0	0	4,882	9,527
China	158,734	88,130	246,864	38,755	1,042,947	609,742
Colombia	1,425	0	1,425	300	1,634	950
Croatia	0	0	0	0	210	1,300
Czech Republic	70	0	70	0	8,007	1,310
Democratic Republic of Congo	0	0	0	500	0	0
Denmark	0	0	0	0	1,180	0
Dominican Republic	0	0	0	0	1,057	2,040
Egypt	0	0	0	12,600	0	2,640
El Salvador	0	0	0	0	0	370
Eswatini	300	0	300	500	0	1,600
Ethiopia	90	0	90	0	0	0
Finland	0	0	0	0	1,558	385
France	0	0	0	0	3,029	0
Georgia	0	0	0	300	0	0
Germany	0	0	0	0	42,528	20,413
Ghana	0	0	0	0	0	2,100
Greece	0	660	660	0	2,575	1,250
Guadeloupe	0	0	0	0	102	0
Guatemala	0	0	0	0	1,010	300
Guinea	0	0	0	80	0	250

(continued on next page)

Coal power capacity in development and operating by country (megawatts) – *continued*

Country	Pre-construction	Construction	All Active Development	Shelved	Operating	Cancelled (2010–2020)
Honduras	0	0	0	0	105	0
Hong Kong	0	0	0	0	6,110	0
Hungary	0	0	0	0	944	3,520
India	29,288	36,635	65,923	36,806	229,247	564,761
Indonesia	22,210	10,739	32,949	5,550	33,966	30,270
Iran	0	0	0	650	0	0
Ireland	0	0	0	0	915	0
Israel	0	0	0	0	4,900	1,260
Italy	0	0	0	0	7,892	6,795
Ivory Coast	700	0	700	0	0	0
Jamaica	0	0	0	0	0	1,140
Japan	2,500	7,318	9,818	0	47,872	9,565
Jordan	0	0	0	0	30	0
Kazakhstan	0	636	636	0	12,704	1,320
Kenya	1,050	0	1,050	1,024	0	666
Kosovo	0	0	0	0	1,290	830
Kyrgyzstan	0	0	0	1,200	910	0
Laos	4,000	0	4,000	626	1,878	700
Latvia	0	0	0	0	0	435
Madagascar	60	0	60	0	120	0
Malawi	520	0	520	0	0	3,100
Malaysia	0	0	0	0	13,529	2,100
Mauritius	0	0	0	0	195	110
Mexico	1,400	0	1,400	0	5,378	1,850
Moldova	0	0	0	0	1,610	0
Mongolia	6,630	200	6,830	2,000	816	2,060
Montenegro	0	0	0	0	225	1,664
Morocco	0	0	0	0	4,257	1,320
Mozambique	800	0	800	2,110	0	2,070
Myanmar	0	0	0	2,560	160	18,665
Namibia	0	0	0	0	120	550
Netherlands	0	0	0	0	4,152	1,311
New Zealand	0	0	0	0	500	0
Niger	0	0	0	100	0	600
Nigeria	0	0	0	2,430	0	2,115
North Korea	0	0	0	0	3,700	300
North Macedonia	0	0	0	0	800	730

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Coal power capacity in development and operating by country (megawatts) – *continued*

Country	Pre-construction	Construction	All Active Development	Shelved	Operating	Cancelled (2010–2020)
Oman	0	0	0	1,200	0	0
Pakistan	4,148	3,300	7,448	760	5,090	23,270
Panama	0	0	0	0	426	0
Papua New Guinea	60	0	60	0	0	0
Peru	0	0	0	0	135	135
Philippines	6,720	1,906	8,626	4,244	10,289	8,324
Poland	500	560	1,060	0	30,200	22,383
Portugal	0	0	0	0	1,978	0
Reunion	0	0	0	0	0	0
Romania	0	0	0	0	4,675	5,705
Russia	1,696	335	2,031	326	44,845	12,738
Senegal	0	0	0	125	30	850
Serbia	1,350	350	1,700	375	4,405	1,070
Slovakia	0	0	0	0	769	885
Slovenia	0	0	0	0	1,069	0
South Africa	4,050	3,974	8,024	1,710	41,904	12,320
South Korea	0	7,260	7,260	0	36,380	7,500
Spain	0	0	0	0	4,875	800
Sri Lanka	2,100	0	2,100	300	900	3,500
Sudan	0	0	0	0	0	600
Sweden	0	0	0	0	0	0
Syria	0	0	0	0	60	0
Taiwan	0	0	0	0	18,873	14,000
Tajikistan	0	0	0	300	400	350
Tanzania	300	0	300	990	0	1,075
Thailand	655	0	655	3,726	5,933	8,000
Turkey	18,731	1,665	20,396	2,940	18,113	76,337
Ukraine	0	0	0	660	22,265	2,060
United Arab Emirates	0	2,400	2,400	3,000	0	1,270
United Kingdom	0	0	0	0	6,328	9,968
United States	0	0	0	0	233,621	28,168
Uzbekistan	150	0	150	0	2,522	300
Venezuela	0	0	0	0	0	2,800
Vietnam	21,880	6,820	28,700	4,750	20,317	43,715
Zambia	0	0	0	1,240	330	1,000
Zimbabwe	4,190	970	5,160	3,290	950	3,600
Total	323,464	179,677	503,141	151,932	2,059,358	1,646,466