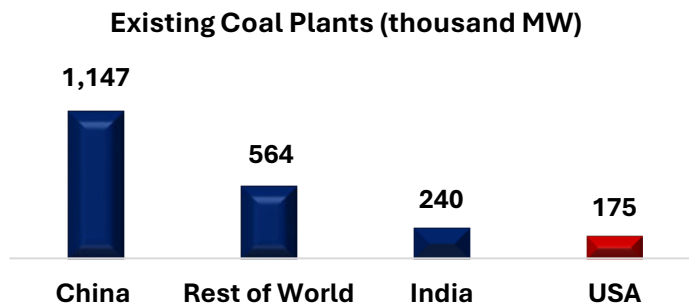


Global Coal Expansion
January 2025

This paper provides some context for President Trump’s decision to withdraw from the Paris Agreement¹ and shift toward prioritizing American energy independence, technological development, and economic growth over restrictive international climate commitments. Despite commitments by many countries to reduce greenhouse gas (GHG) emissions, global thermal coal use grew to an estimated all-time high of 8.4 billion tons in 2024,² driven by other nations, especially China and India, which are expanding their reliance on coal to support economic growth. On the other hand, federal and state policies over the past four years have attempted to reduce the use of coal in the U.S. and force the retirement of coal-fired power plants. Among other consequences, these retirements have left more than half of the U.S. at risk of electricity shortages over the next five years.

China and India’s coal fleets are far larger than the U.S. and still growing.

- China has the world’s largest coal fleet, totaling 1.147 million megawatts (MW) of coal-fired generation capacity. This is over half the world’s coal fleet (2.126 million MW)³ and almost the same size as the entire U.S. electric generating fleet.⁴
- The chart below shows the coal capacity in (1) China, (2) the rest of the world minus China, India and the U.S., (3) India and (4) the U.S.



- China has grown its coal fleet by almost 267,000 MW since 2015, and India has grown its fleet by over 50,000 MW.⁵ The U.S. retired just over 100,000 MW of coal over the same period.⁶
- Globally, slightly more than 600,000 MW of coal-fired generation are under construction or in various stages of development. China has more than 421,000 MW of this total, and India is currently developing almost 100,000 MW.⁷ The existing U.S. coal fleet totals roughly 175,000 MW, but 59,000 MW have announced plans to retire by 2030.⁸

- China is a major developer of coal plants in other countries. In 2021, Chinese President Xi Jinping told the UN General Assembly that it would end building new coal-fired power plants abroad.⁹ Nonetheless, 50,000 MW of Chinese-backed, coal-fired power plants remain in development across nearly two dozen countries.¹⁰

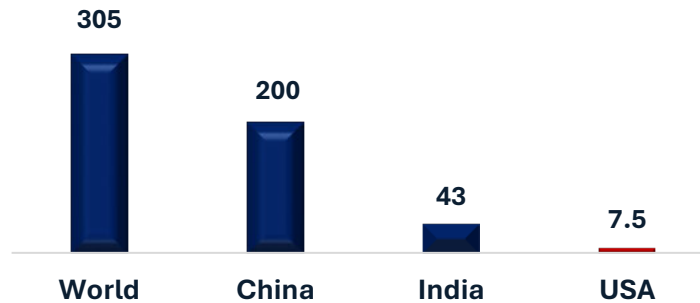
China and India’s coal consumption is increasing.

- China consumed 55% (4.6 billion tons) of the world’s thermal coal (8.3 billion tons) in 2024, while India consumed 1.3 billion tons. U.S. thermal coal consumption was 390 million tons in 2024.¹¹ U.S. thermal coal consumption peaked at just over 1 billion tons in 2007.¹²
- One-third of global coal was burned in Chinese power plants in 2024.¹³
- In 2027, China’s thermal coal consumption is projected to be 4.7 billion tons, more than 13 times greater than projected U.S. thermal coal consumption (349 million tons). India’s thermal coal consumption will grow to over 1.4 billion tons, a 7.5% increase from 2024.¹⁴
- China’s 14th Five-Year Plan for the energy sector, released in March 2022, identifies coal as “the backstop of supply security” and does not include any limits on coal capacity or consumption.¹⁵

Global emissions are increasing, especially from China.

- In 2023, global GHG emissions rose to 53 billion tonnes of CO₂-equivalent (CO_{2eq}). China alone represented 30% (15.9 billion tonnes) of this total, while the United States accounted for 11% (5.9 billion tonnes), less than half that of China. The U.S. coal fleet represented 1.5% of global emissions in 2023.
- The next largest emitters were India, with almost 8% (4.1 billion tonnes), and the EU (3.2 billion tonnes), with just over 6% of global GHG emissions.¹⁶
- Since 2000, the U.S. and EU have decreased their GHG emissions by 17% (1.2 billion tonnes CO_{2eq}) and 28% (1.3 billion tonnes CO_{2eq}), respectively. Over the same time, China’s emissions have increased by 200% (10.7 billion tonnes CO_{2eq}), and India’s have increased by over 124% (2.3 billion tonnes CO_{2eq}).¹⁷
- Below are the estimated lifetime CO₂ emissions from (1) the world’s coal fleet (both existing and under development), (2) China’s current and under-development fleet, (3) India’s current and under-development fleet, and (4) the U.S. coal fleet. Lifetime CO₂ emissions from a coal plant refer to the total amount of carbon dioxide released over the entire operational lifespan of the plant.¹⁸

Lifetime CO₂ Emissions (billion tonnes)



- Almost 80% of lifetime CO₂ emissions from coal power plants are from China and India, while the U.S. accounts for less than 3% of lifetime CO₂ emissions.
- Last year, in the United States, coal was the third largest source of energy-related CO₂ emissions (15%) after petroleum (47%) and natural gas (37%).¹⁹

¹ The White House. Executive Order: *Putting America First in International Environmental Agreements*. January 20, 2025.

² International Energy Agency (IEA), *Coal 2024 analysis and forecast to 2027*, December 2024.

³ Global Energy Monitor, *Global Coal Plant Tracker*, data as of October 2024.

⁴ U.S. electric generating capacity totals 1.2 million MW of natural gas, coal, nuclear, renewables, etc. U.S. Energy Information Administration (EIA), *Short-Term Energy Outlook Data Browser*, Release Date: January 14, 2025.

⁵ Global Energy Monitor, *Global Coal Plant Tracker*, data as of October 2024.

⁶ EIA, *Short-Term Energy Outlook Data Browser*, Release Date: January 14, 2025.

⁷ *Ibid.*

⁸ EIA, *Preliminary Monthly Electric Generator Inventory EIA-860M*, November 2024. America's Power uses a database maintained by EVA that tracks announced coal retirements. Retirements are based primarily on public announcements or IRPs.

⁹ BBC, "China pledges to stop building new coal energy plants abroad," September 22, 2021.

¹⁰ Centre for Research on Energy and Clean Air (CREA), *Three Years Later: Impacts of China's Overseas Coal Power Ban*, October 2024.

¹¹ IEA, *Coal 2024*, December 2024.

¹² EIA, *Monthly Energy Review*, Table 6.2, June 2023.

¹³ IEA, *Coal 2024*, December 2024.

¹⁴ *Ibid.*

¹⁵ S&P Global, "China's 14th Energy Five-Year Plan: Pivoting toward a "modern energy system," April 13, 2022.

¹⁶ European Commission. *GHG emissions of all world countries, 2024 report*. GHG emissions by country (CO_{2eq}): China, 15.9 billion tonnes. U.S., 5.9 billion tonnes. India, 4.1 billion tonnes. EU, 3.2 billion tonnes.

¹⁷ *Ibid.*

¹⁸ Global Energy Monitor. *Coal Plants by Country: Lifetime CO₂, Global Plant Tracker*, July 2024. Global Energy Monitor estimates the lifetime emissions of coal plants based on their assumed operating life, heat rate, and emission factor of the coal used. These estimates assume a 40-year life span. For plants already older than 40 years, 5 more years of operation are assumed.

¹⁹ EIA. *Short-Term Energy Outlook*, January 14, 2025.