



China is No Green Energy Darling

Facing Facts on the PRC's Environmental Realities
and How the U.S. Can Lead in Energy Dominance and
Environmental Progress

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In one of his first actions as president, Joe Biden signed an executive order suspending new oil and gas leases on federal lands and reviewing existing operations.¹ The alleged purpose was to restore balance to public lands operations and ensure the United States met its climate and clean energy goals.² Nearly four years later, President Trump's day-one executive order halted new renewable energy leasing on federal lands and waters to review "the questions in fact, law, and policy they raise."³

The subjective and unilateral decision by the Biden administration and the seemingly retaliatory move by the Trump administration symbolize the fundamental problems with U.S. energy policy. Resource and technology biases, policy favoritism, and regulatory pendulums that swing with party changes in the administration create uncertainty and distort well-functioning energy markets.



Despite these policy warts, American companies are global leaders in energy production and world-class innovators. Although the order of importance may differ, policymakers across the political spectrum have shared goals: Increasing energy reliability and security, making environmental progress, and out-competing China.

Policymakers must be realistic about China on multiple fronts. China is no green energy darling. The country produces and consumes massive amounts of fossil fuels, particularly coal, without adequately deploying pollution control technologies. The country has a terrible environmental record and is by far the world's largest carbon dioxide emitter.⁴ At the same time, China has strategically positioned itself to dominate clean energy markets by whatever means possible. Whether in solar photovoltaics, critical minerals processing, or nuclear energy, China has aggressively built out clean energy capabilities and is expanding investments worldwide. The PRC has also done a brilliant job at public relations, notably through its presence at the annual COP meeting, positioning itself as the planet's green savior.

Increasing energy affordability and security, empowering American-led innovation, and outperforming China require durable policy reforms. These reforms should open markets, reduce barriers to technological progress, modernize regulations, and support private and public innovation pipelines. Unleashing the private sector to meet our energy needs and environmental ambitions will maintain and expand America's economic and geopolitical leverage as an energy-dominant country.

ENERGY REALITIES AND THE FALSE DICHOTOMY OF THE ELECTROSTATE VS. THE PETROSTATE

Are global energy markets moving inexorably toward a green energy transition? Or is the clean energy economy essentially a house of cards propped up by government subsidies and political favoritism? And what does an energy transition mean for the United States, the world's largest oil and natural gas producer, vis-à-vis China, the world's largest greenhouse gas emitter?

In a recent Capital and Climate Media article, Danny Kennedy contrasts the U.S.'s Petrostate to China's Electrostate. He points to China's surge as a global clean energy producer and expresses the concern that "the US looks ready to walk off the track to rejoin Russia and other petrostates who are boycotting the race to a Net Zero world."⁵

The Petrostate vs. Electrostate rhetorical framing is captivating, but it oversimplifies the realities of the global energy landscape. With the global population expected to grow from 8 billion to nearly 10 billion by 2050, increased power demands from emerging economies, and higher load growth from artificial intelligence, the necessary energy expansion will require the colloquial "all of the above" energy sources.

The world will use more energy, even with significant energy efficiency gains. In its latest international energy outlook, the U.S. Energy Information Administration (EIA) projects that total global energy consumption will increase from 637.84 quadrillion British thermal units (quads) in 2022 to 854.74 quads in 2050, a 34 percent increase. Depending on the global economic growth rate, electricity generation could increase 30 percent to 76 percent over the same period.⁶

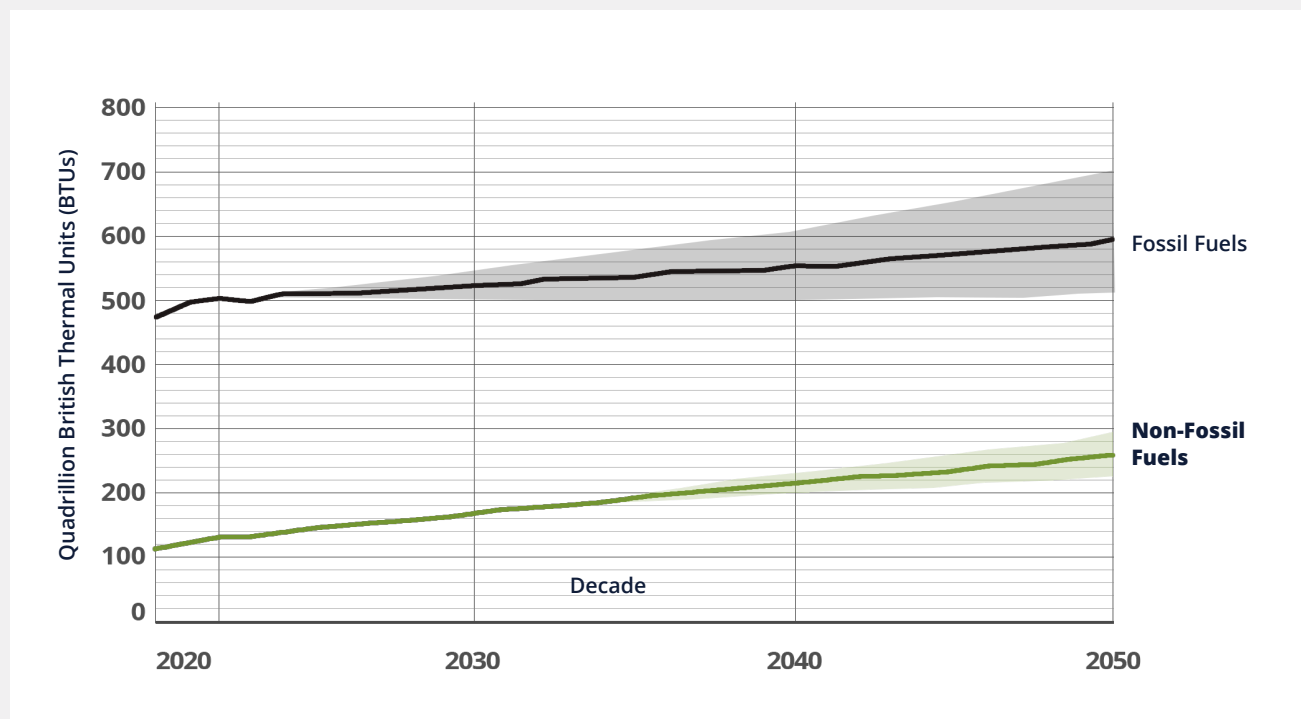
Much to the chagrin of staunch advocates for a rapid energy transition, fossil fuels will meet most of the

world's energy needs for decades—currently, coal, oil, and natural gas supply roughly 80 percent of the world's energy. The EIA projects that fossil fuels will still make up 70 percent of global energy consumption in 2050.⁷ Most energy demand growth will come from non-OECD countries, particularly in Asia, with India leading the way, where its natural gas consumption will triple.⁸

Figure 1.

Primary Energy Use, World

Fossil fuels will continue to meet most of the world's future energy needs. Given America's global leadership in oil and natural gas production, "keep it in the ground" policies will harm the U.S.'s economic and environmental advantage in energy production.



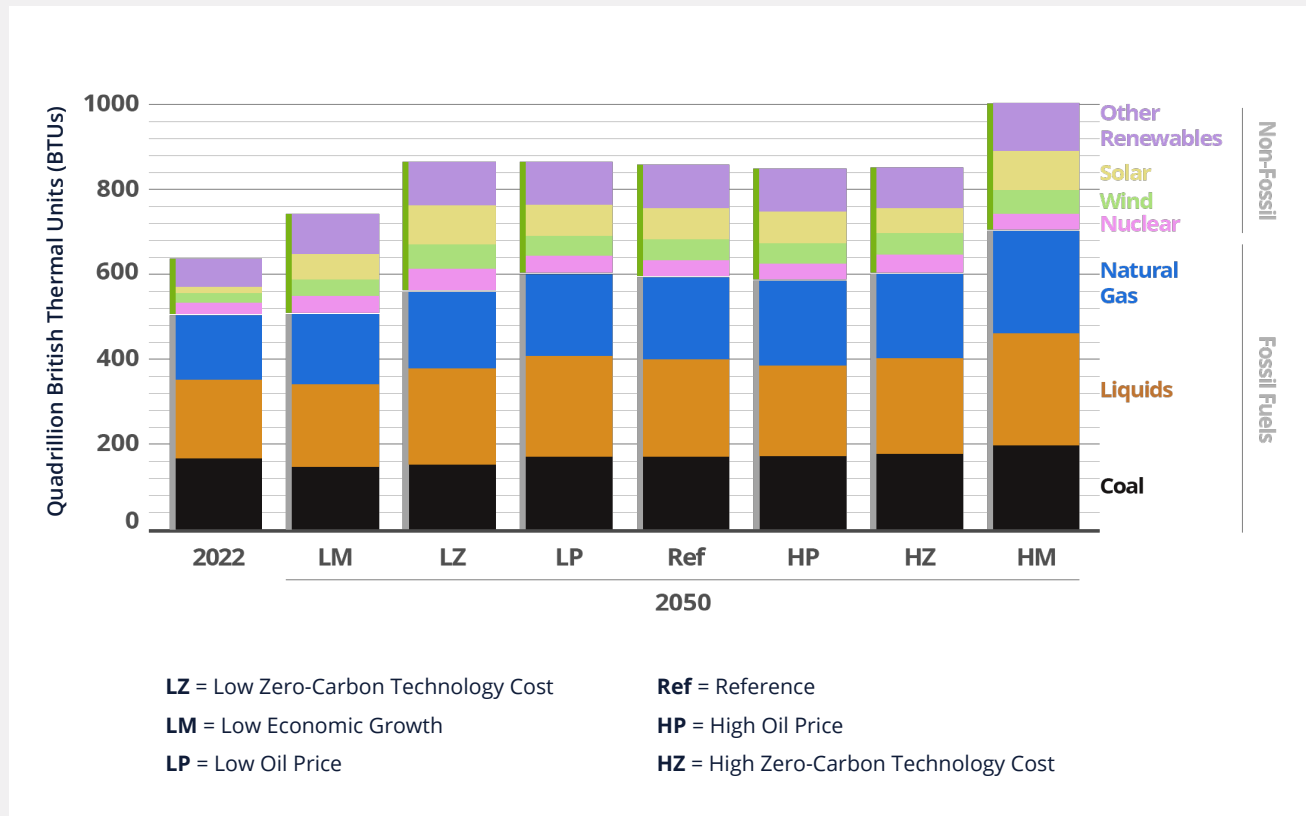
SOURCE: U.S. Energy Information Administration

However, to the concomitant chagrin of clean energy skeptics, most of the growth will be in renewable power, primarily wind and solar.⁹ While nuclear energy's projected generation remains small and flat, EIA expects that emissions-free power could provide nearly two-thirds of the world's electricity generation.¹⁰ While internal combustion engine cars will be on the road for decades, the International Energy Agency (IEA) projects that electric vehicles will comprise about 30 percent of the global fleet by 2050.¹¹ In the U.S., between 13 and 29 percent of new car sales could be battery electric vehicles or plug-in hybrid electric vehicles in 2050.¹²

Figure 2.

Primary Energy Use by Fuel, World

Meeting increasing energy demand will require increasing supply of all forms of energy. While oil, natural gas, and coal meet most of the world's future energy needs, renewable and non-fossil fuel energy will meet a larger share of future energy demand.



SOURCE: U.S. Energy Information Administration

Critically, there is ample evidence that renewable technologies are competitive with fossil fuels, even without subsidies.¹³ Technological advancements have significantly reduced costs for solar modules, onshore wind, and lithium-ion batteries.¹⁴ Even accounting for all-in costs (i.e., transmission, intermittency), renewable power can compete when considering the full cost of electricity.¹⁵

We provide this information with an important caveat: EIA's projections are not forecasts, and their reference case is a global trajectory based on current international trends.¹⁶ Game-changing innovations, changes in public policy, and population and economic growth can cause movement up and down energy supply and demand curves. Some outlooks may be more apparent than others, but policymakers should approach energy policy with humility and create an environment for one hundred technological flowers to bloom.

Given our understanding of current and future energy realities, it is unlikely that a net-zero by 2050 goal will be met regardless of whether one believes that is a laudable goal or not. Meeting that target would inevitably cause significant economic harm and perpetuate poverty. Even so, there is ample opportunity to increase energy access and affordability while reducing the risks of climate change.

CHINA'S ENERGY PORTFOLIO AND STRATEGY

China, unlike the U.S., has a clear national energy strategy under its brutal dictator, Xi Jinping, who has made himself President for life. The Centre for European Studies explains that “China aspires to be the leader of the global energy transformation” to bolster national security and make the green energy industry a key component of economic growth.¹⁷ China is greening its economy for energy self-sufficiency, fostering economic development, and dominating key global markets. The report also notes that China is still heavily spending on coal, noting that “any reductions in greenhouse gas emissions from clean energy investments] are merely a by-product of these processes; in fact, China has been a party to global climate agreements mainly for reasons of prestige.”¹⁸ Clean energy subsidies, mandates, and regulations could make the U.S. and other countries even more reliant on China if they pursue a government-forced shift to clean energy technologies rather than one driven by market competition.

Contrary to Danny Kennedy's claim, China is no Electrostade and will likely not be one for a very long time, if ever. In reality, China is a Petrostate slowly morphing into a hybrid PetroElectroState. While clean energy represents an impressive 35 percent (16 percent of which is wind and solar—compared to a 13 percent global average¹⁹) of its total electricity supply²⁰, coal remains king. The latest IEA report found that global coal consumption reached a record high in 2024, with China accounting for one out of every three tons of coal burned.²¹ In 2023, China mined 4.66 billion tons of coal²² and imported another 474.42 million tons, up 61.8 percent from 2022²³. China has built more than 1,000 coal-fired plants in the last 30 years and has more than five times the number of coal plants than the U.S.

The importance of coal to China cannot be underestimated. An Oxford Institute for Energy Studies report notes, “But coal is by no means unanimously viewed as the climate villain in China. Coal is an important source of government tax revenue, and the industry is also a powerful stakeholder that contributes to employment and secure energy supplies.”²⁴ China has 12 coal State-Owned Enterprises (SOEs)²⁵ that produce 52 percent of the world's coal.²⁶ By comparison, India is second at 9.3 percent, Indonesia is third at 8.8 percent, and the U.S. is fourth at 6.6 percent.²⁷ Production in China rose 3.3 percent in 2023.²⁸

If and when China reduces its coal consumption, it will be loath to reduce the mining capacity and jobs from its 12 coal SOEs. Rather, it will become a net exporter, bringing revenues into China. China is being very strategic, not ideological, in its use of coal. The EIA projects that coal will represent around 20 percent of the energy mix in 2050.²⁹ Even in EIA's low zero-carbon technology cost case, coal still supplies nearly 20 percent of the world's energy demand.³⁰ The vast majority of this will likely come from China. In effect, it will be replacing domestic coal consumption with coal exported outside of its borders. While China works to green its energy mix, the world ignores its role in providing coal to developing countries. These countries will heavily rely on coal to raise their living standards worldwide.³¹ Liberty Energy's “Bettering Human Lives” report offers a valuable exposition of the importance of fossil fuels to the world's poorest billion people and billions of others.³² Secretary of Energy Chris Wright, the founder and CEO of Liberty Energy, espouses a goal of Zero Energy Poverty by 2050 and embraces innovation to expand energy access and reduce emissions.

With respect to transportation, sales of hybrid vehicles, plug-in hybrid electric vehicles, and battery electric vehicles are rising in China. In October 2024, they made up more than half of all auto sales in China.³³ With massive government spending and subsidies for EV buyers, China has more than 100 EV brands offering lower sticker prices³⁴ than the U.S., and China has built 10 million charging stations in the last 15 years.³⁵

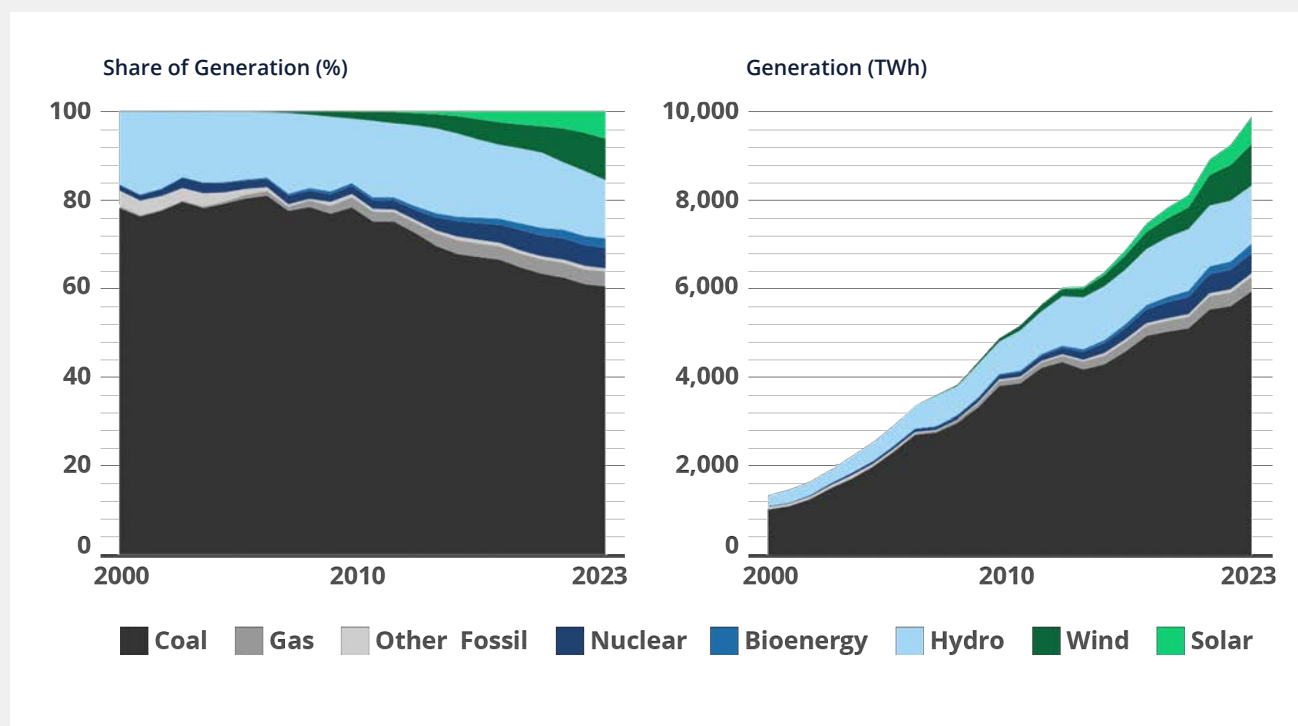
Despite its remarkable progress in the EV market, China is a significant oil consumer, accounting for about 50 percent of the world's oil demand growth over the last two decades and ascending to the world's second-largest consumer.³⁶ On the supply side, China is the home of the third and eighth-largest national oil companies (China National Petroleum Corporation and Sinopec, respectively). These companies exist to serve the interests of Mr. Xi and his Communist Party. The former produces 6.2 million barrels per day (bpd), and the latter 5.1 million. By comparison, ExxonMobil, the largest Western oil major, produces 3.8 million bpd, with Number 2 Chevron producing 3.1 million bpd.

But China lags far behind the U.S. in natural gas production. China ranks fourth in natural gas production at 243.3 billion cubic meters annually,³⁷ far below the world-leading U.S., which produces 1.35 trillion cubic meters annually. In between are two more hostile dictatorships, Russia (586.4 billion cubic meters) and Iran (251.7 billion cubic meters). However, despite its modest production, China was projected to consume 420-425 billion cubic meters of gas in 2024.³⁸ Between China's production of and reliance on coal and oil, and its natural gas consumption, it is far from a clean energy economy.

Figure 3.

Coal is Still the Dominant Power Source in China

Despite massive investments in renewable and nuclear energy, coal is by far the largest source of power consumption for China.



SOURCE: Ember

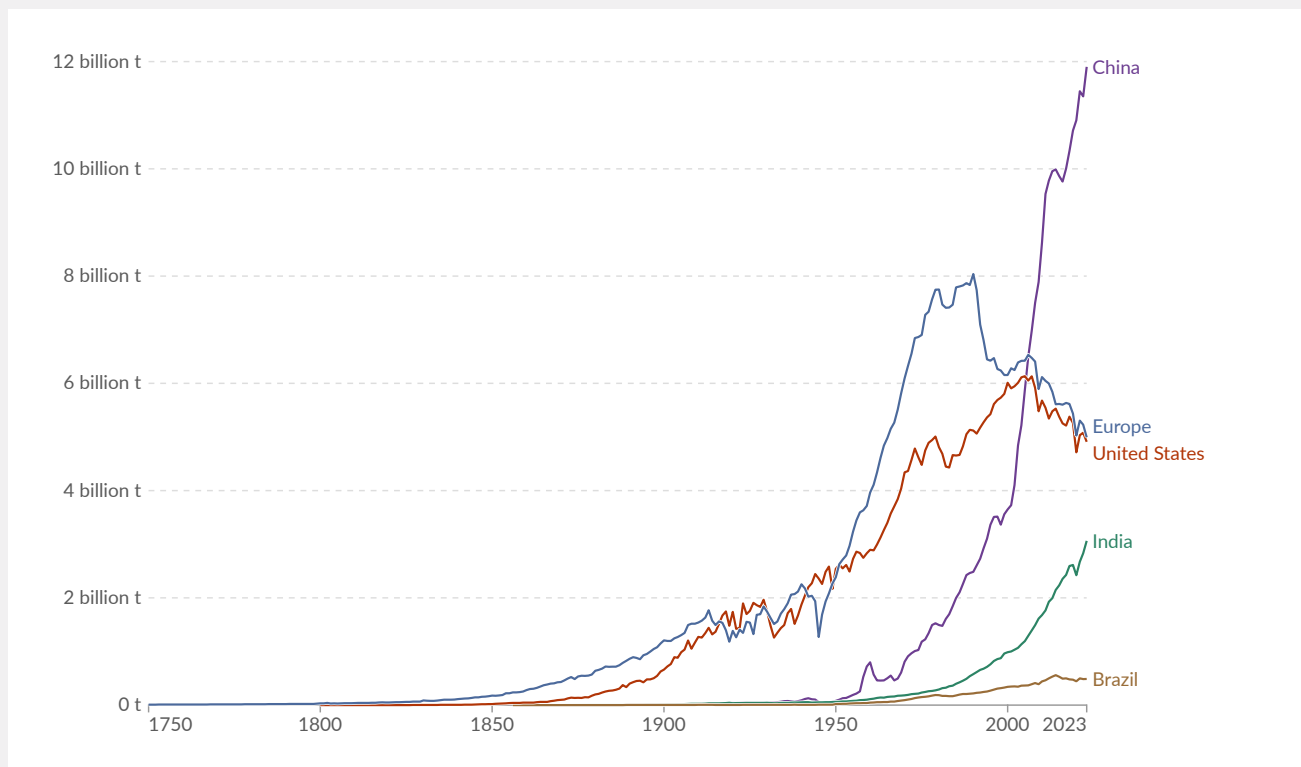
Consequently, China is by far the largest emitter of carbon dioxide emissions in the world. Despite the praise China is getting for greening its economy and the criticism America is getting for its reliance on fossil fuels, China is producing more than double the carbon emissions as the U.S. According to the IEA, China's carbon dioxide emissions increased in 2023 by 565 Mt in to reach 12.6 Gt, accounting for nearly one-third of global emissions.³⁹ That same year, the U.S.'s CO2 emissions fell slightly from 4.94 GT in 2022 to 4.81 Gt (only 38 percent of China's), which is impressive for an economy 60 percent larger than China's (\$27.7 trillion vs. \$17.8 trillion).⁴⁰ The U.S. has had the largest absolute decline in CO2 emissions over the last 15 years, demonstrating how to decouple growth from emissions.⁴¹

In addition to being the world's largest greenhouse gas emitter, China has a terrible environmental record. Its centrally managed industrial policy, without serious concern for the environment and people's health, has resulted in harmful air pollution, soil contamination, and poor water quality.⁴²

Figure 4.

Annual CO2 emissions

China is producing more than double the carbon dioxide emissions as the United States and accounts for nearly one-third of total global emissions.

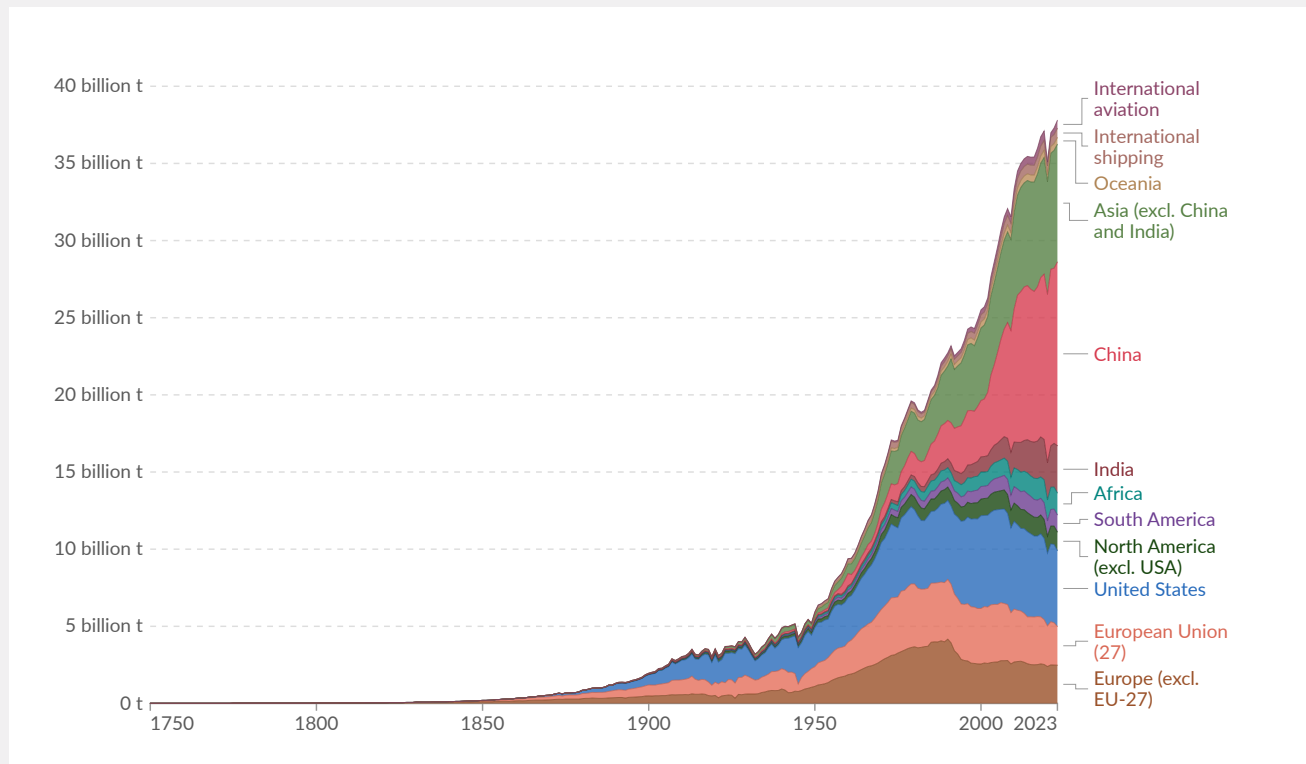


SOURCE: Our World in Data

Figure 5.

Annual CO2 emissions by world region

Particularly because of the shale gas revolution, the U.S. is a leader in reducing emissions. As other countries grow and emit more, America's percentage of global emissions has declined to about 13 percent.



SOURCE: Our World in Data, Emissions from fossil fuels and industry are included, but not land-use change emissions. International aviation and shipping are included as separate entities, as they are not included in any country's emissions.

CHINA'S STRATEGIC POSITIONING FOR CLEAN ENERGY GROWTH

Despite an extremely polluted and dirty environment and massively increasing greenhouse gas emissions, China has prioritized achieving dominance in green industries. It seeks to dominate the world's markets for critical minerals, nuclear energy, solar panels, wind turbines, batteries, and electric vehicles. And it is. For the major clean energy technologies, China already accounts for more than a quarter of global exports, compared to the U.S.'s six percent.⁴³ China is well-positioned to exploit the significant growth expected in these markets.

Over the past few decades, China has methodically and relentlessly built its clean energy industries through massive state subsidies⁴⁴ and forced human labor. Most of the world's polysilicon for solar panels comes from the Xinjiang province, where the Uyghur religious minority is used as slave labor.⁴⁵ China has 60 percent of the world's rare earth minerals essential for most modern technologies, including national defense, consumer electronics, and clean energy. China controls 70 percent of the world's production and nearly 90 percent of the rare earth processing market.⁴⁶ They have taken advantage of this and could gain an even greater

advantage through export restrictions. Furthermore, they are adding to their capacity by aggressively acquiring resources and investing in Africa.⁴⁷

China is already dominating the EV market in the Global South and is seeing tremendous growth opportunities.⁴⁸ Due to its large domestic market, China has a 76 percent global market share⁴⁹, making it well-positioned to dominate the global EV and hybrid vehicles market. While Western automakers may be able to compete at the luxury end, China is almost sure to capture the much larger market of low-priced EVs.⁵⁰ As CBS News stated, “The U.S. blinked, and China built an electric vehicle empire.”⁵¹

Yet another area of rapid growth for Chinese clean energy production is commercial nuclear energy. In the last decade, China added 34 gigawatts of nuclear capacity. The country has 55 reactors online, with another 23 under construction. The EIA points out that “The United States has the largest nuclear fleet, with 94 reactors, but it took nearly 40 years to add the same nuclear power capacity as China added in 10 years.”⁵² Moreover, China’s total R&D budget grew from \$246.5 billion in 2011 to \$668 billion in 2021, and by 2027 Chinese R&D spending will likely surpass the U.S.’s.⁵³

The U.S. is currently at a tax disadvantage concerning Chinese R&D. The lapsing of immediate expensing in 2024, or full expensing, which allows companies to deduct the totality of research expenses in the year they occur, has already decreased American R&D investment. A recent Chamber of Commerce analysis found that the “rate of growth of R&D spending has declined from 6.6% on average over the previous five years to less than 1% over the last 12 months—notably decreasing by 1.2% in the most recent quarter.”⁵⁴ On the other hand, Chinese tax policy provides a super deduction, allowing a company to immediately deduct twice the amount of R&D spending (an additional 100 percent).

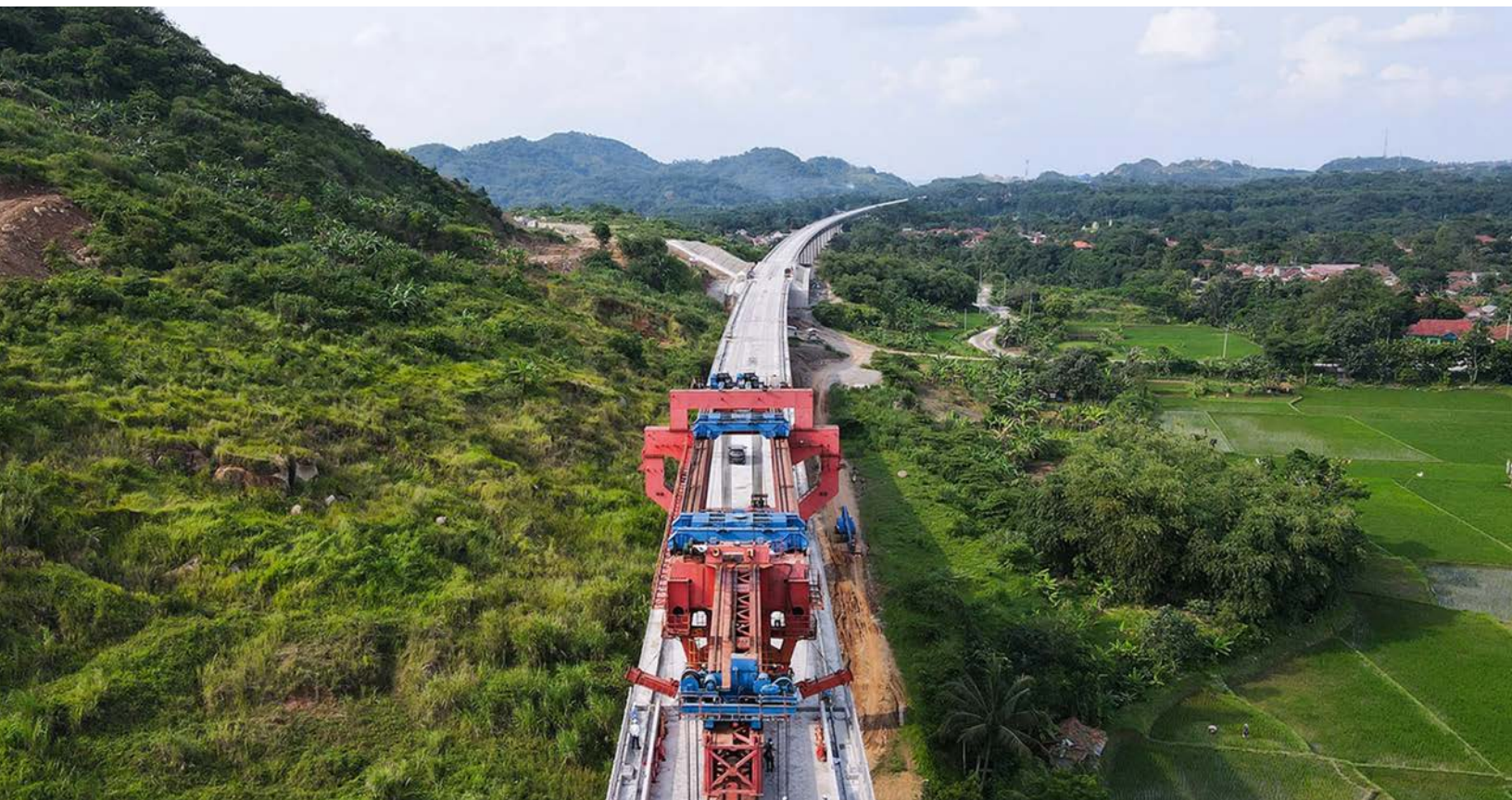
China also spreads its global dominance through its Belt and Road Initiative (BRI).⁵⁵ According to the Council on Foreign Relations, the “BRI presents significant risks for U.S. economic, political, climate change, security, and health interests.”⁵⁶ Over the past decade, China has invested \$1 trillion in 152 countries, financing everything from fossil fuel projects to building nuclear power plants. For example, in its 2023 annual report, the China National Petroleum Corporation (CNPC) touted its role in the 10th Anniversary of the Belt and Road Initiative.⁵⁷ It boasts that by the end of 2023, CNPC “has operated and managed 51 oil and gas projects

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in 19 countries along the Belt and Road” and has “built several modern oil fields and refineries in cooperation with Iraq, Kazakhstan, and other countries along the belt and road.”

These cooperations mean equity production “has remained above 80 million tons of oil equivalent for five consecutive years.”⁵⁸ So much for China only being about green energy. And while it’s true the BRI is tilting from fossil fuels to green energy through the Belt and Road Initiative International Green Development Coalition, it is doing so to strengthen its geopolitical standing in the world at the expense of the U.S., not out of a concern for advancing climate objectives.⁵⁹



COMPARING FUTURE ENERGY MIXES FOR CHINA AND THE U.S.

Time will tell how China’s and the United States’ energy needs will evolve by 2050, and the future of economic growth, technological advancements, and policy all remain uncertain. There are scenarios with more significant emissions-free electricity generation claiming a more considerable share of the energy mix and scenarios where it is more stagnant. Whatever the case, the China National Petroleum Corporation has no plans to exit the fossil fuel business. China will rely on low-cost power to fuel its industrial policy, including its green industrial policy.

Research firm DNV’s Energy Transition Outlook offers a glimpse into China’s energy consumption over the next decade.⁶⁰ China’s energy demand will peak around 2035, with coal peaking about 10 years earlier.

However, coal will still play a substantial role, about 16.8 percent, the same as wind. Solar energy will account for 20.1 percent of the total, and hydro for 3.4 percent. In sum, fossil fuels and renewable energy will each be 40.3 percent of China's energy mix.⁶¹ Based on an economic growth rate trajectory of 2.9 percent from 2022-2050,, 31 percent of which is coal.⁶² In BP's outlook, renewables comprise 32 percent.⁶³

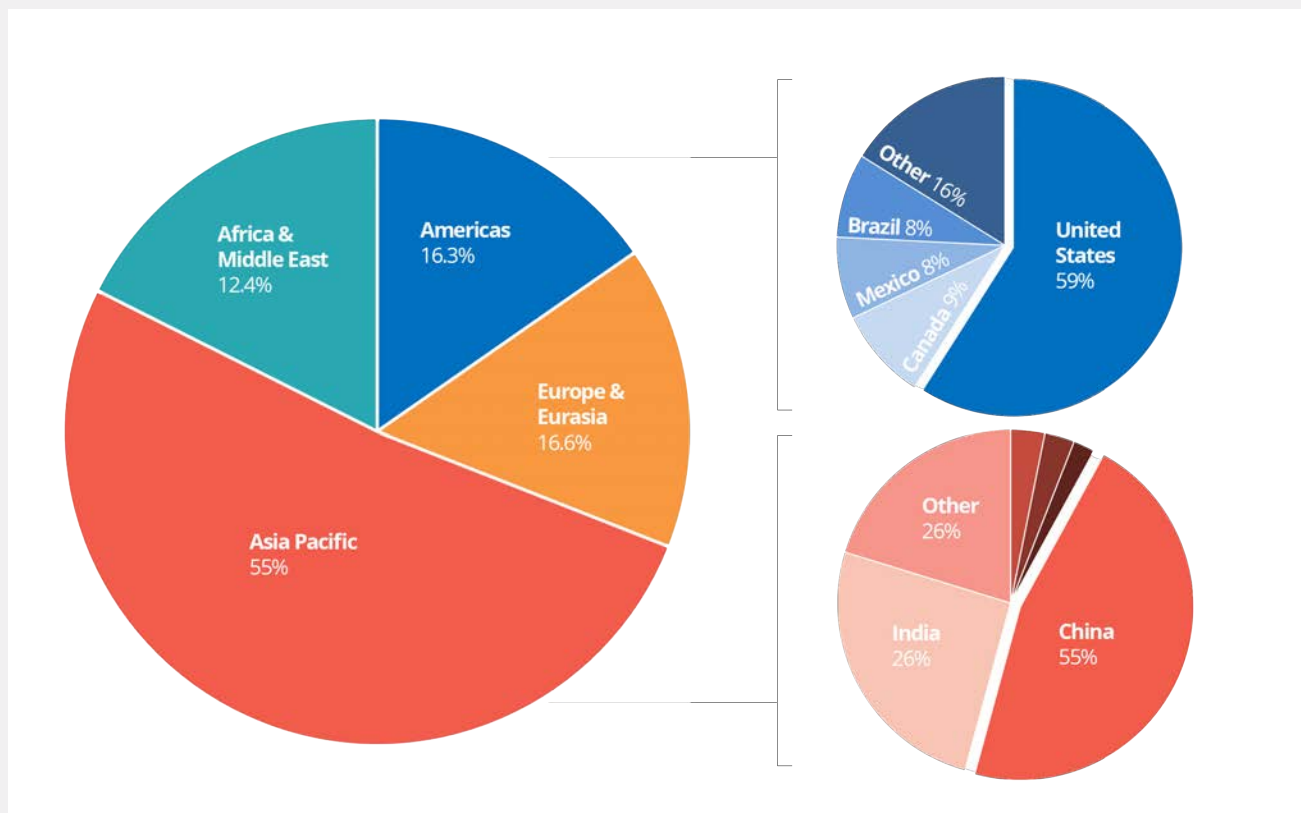
Contrast China's energy mix with America's projected energy consumption. According to the EIA, in 2050 the two largest sources will be petroleum and other liquids (34.0 percent) and natural gas (30 percent), or about two-thirds of the total.⁶⁴ Renewables, including hydropower, will be at 26.3 percent, nuclear at six percent, and coal at three percent. BP's outlook for the U.S. in 2050 projects more growth in renewables and less oil consumption. Renewables with hydropower (34.5 percent), natural gas (34 percent), and oil (27 percent) make up most of the energy mix, with coal use down to 1.6 percent of America's total share of energy consumption.⁶⁵

The comparison by volume, particularly for coal use, is stark. Based on BP's estimates, the U.S. could use three percent of the coal that China uses in 2050 while using roughly 2/3rds of the renewables.

Figure 6.

Projected world carbon dioxide emissions by region, 2050

While developed countries have been the largest historical emitters, developing countries made up 95 percent of emissions growth in the last decade. Developing countries will likely comprise the overwhelming majority of future emissions growth for decades.



SOURCE: U.S. Energy Information Administration

Barring dramatic technological innovation at scale, such as carbon capture storage and utilization, as a practical matter, it appears unlikely that either country will reach net-zero emissions by 2050. The reason is simple. Based on today's technologies and energy prices, the costs of achieving net-zero outweigh the benefits.

The same holds true for the rest of the world unless the price of clean energy technologies falls significantly to incentivize wide-scale deployment. Globally, EIA's scenarios of energy-related emissions vary from a two percent decline to a 34 percent increase compared to 2022 levels.⁶⁶ While developed countries have been the largest historical emitters, developing countries made up 95 percent of emissions growth in the last decade.⁶⁷ Developing countries will likely comprise the overwhelming majority of future emissions growth for decades.⁶⁸ Thus, policymakers should be wary of regulations that increase energy costs for negligible climate benefit and instead enact policies that remove barriers to energy investment, production, and deployment.

TO OUTCOMPETE CHINA, EMBRACE WHAT MAKES AMERICAN ENERGY GREAT

One should recognize that China has played an essential role in developing and driving down the cost of clean energy technologies that will replace fossil fuel carbon emissions. Reducing green premiums for innovative technologies will help deploy low-cost, affordable, reliable power worldwide. Doing so has created an enormous economic opportunity, and China is rapidly looking to leverage this for geopolitical advantage in many ways, with AI being the most recent and dramatic example. Consequently, we cannot be misty-eyed and naïve about China when it extols what it is doing in clean energy and wax enthusiastic about reaching peak coal as early as this year—as unlikely as that may be.⁶⁹

In recognizing China's role in advancing clean technology, we cannot overlook the fact that it has used forced labor from Uyghurs to manufacture solar panels.⁷⁰ China's overseas investments in mining and processing have resulted in human rights abuses and ecological damage.⁷¹ China's industrial policy has caused significant environmental damage, and legitimate national security threats like data security risks, protecting American energy infrastructure, and dependence on resources used for defense technologies must be taken seriously. Further, whether in traditional energy, clean energy, aviation, or AI, China is willing to go to great lengths to steal, copy, and scale these technologies.⁷² America must work with allies to hold China accountable.

For the United States, policymakers should approach energy policy with the following in mind. Oil and natural gas produced here have a better environmental record and emissions profile than most other countries. Chinese production processes are significantly more polluting and harmful than those in the U.S.⁷³ Recognizing that these resources will continue to be the largest share of future global energy consumption for decades, there are economic, geopolitical, and environmental advantages to using energy developed in the U.S. and exported to other countries. To do otherwise is to cede grounds to oil and gas-producing countries whose interests are hostile to the U.S. Not only will this disadvantage the U.S.'s economic and national security interests, but it will also hinder both U.S. and global environmental ambitions.

Similarly, the U.S. should not cede the innovation ground to China and other countries that threaten it. American companies can be leaders in nuclear, geothermal, carbon capture, and battery storage. We can expand wind and solar without dependence on subsidies and mandates. Other countries should not have to rely on Russia and China for their energy needs but should embrace American technologies, including its vast

reserves of natural gas and minerals. Whether you think net-zero targets for governments and companies are the most critical policy targets or merely a PR exercise, the world is moving forward with clean energy technologies. The U.S. should leverage its economic freedom, passion for entrepreneurship, and public and private research entities to lead the way.

That is not to suggest policymakers should raise tariffs on competitors or close to import cheaper energy inputs like steel and aluminum or clean energy technologies from America's trading partners (including from China). Economic isolation is the road to poverty. It does mean, however, that the U.S. must get out of its own way through a pro-growth, pro-environment, and pro-energy policy agenda. To that end, Congress and the Trump administration should:

Maintain competitive corporate tax rates and expand immediate expensing. Congress should resist any inclination to increase the corporate tax rate and make good on the president's campaign promise to lower the rate to 15 percent. Furthermore, Congress should remove biases against investment by making full expensing permanent (including for R&D expenses) and neutral cost recovery.⁷⁴ Such pro-growth tax reforms would drive investments in innovative and more efficient technologies, cleaner energy development, and minerals processing, and incentivize more research and development. Critically, these reforms would give America a competitive tax edge over China.⁷⁵ For industries worried about protecting their technology-specific tax credits, phasing out subsidies for all mature energy sources and technologies while instilling pro-growth tax reform would enable the most promising and economically viable energy sectors to thrive.

Open access to energy development and deliver on permitting reform. Administrations from either party should refrain from politicizing energy development and energy projects. Open, competitive markets and public policy should allow for access to energy development, whether it is a solar project on federal lands or a liquified natural gas export project. If a project is financially viable and meets rigorous environmental standards, the federal government should not arbitrarily stand in its way. Instead, policymakers should embrace an energy abundance agenda that makes it easier to invest and build to deliver affordable, reliable, and cleaner energy. Permitting reform should not tinker around the edges. The National Environmental Policy Act (NEPA) causes regulatory paralysis and allows litigious organizations to block projects even if the environmental assessment deems them safe.⁷⁶ Permitting delays and lawsuits slow clean energy projects disproportionately.⁷⁷ However, NEPA is far from the only problem. Congress must modernize all major environmental statutes, such as the Clean Water Act, the Clean Air Act, and the Endangered Species Act. Congress should also address the regulatory and policy barriers that adversely affect the competitiveness of specific energy technologies.⁷⁸

Support and strengthen the energy innovation pipeline. In addition to restoring immediate expensing for R&D, Congress should expand opportunities for the private sector to de-risk and scale up promising energy technologies. Programs such as Advanced Research Projects Agency-Energy, the Advanced Reactor Demonstration Program, and the Milestone-Based Fusion Development Program advance early-stage technologies that would otherwise not be profitable or receive private financing. To the extent allowed by law, Energy Secretary Chris Wright should streamline, reform, and standardize the processes and improve the coordination and efficacy of DOE's basic and applied programs. Congress and the private sector should also leverage the agency's new non-profit, the Foundation for Energy Security and Innovation (FESI). FESI should be instrumental in enhancing energy security, driving environmental progress, and accelerating the commercialization of transformative technologies. Policymakers and the agency should address the

bureaucracies that have stunted opportunities for innovation, and create more efficient and simplified communication with industry as well as more efficient interagency or across-agency collaboration.

Ensure a resilient and reliable grid. Affordable, reliable energy, particularly from cheap natural gas, has given America a competitive economic advantage. As manufacturers left Europe because of its energy policy, energy-intensive companies flocked to the U.S., and manufacturing exports grew 10 percent as a result.⁷⁹ The U.S. needs a reliable grid to meet the needs of energy-intensive artificial intelligence. Critically, a resilient grid is vital to keep the lights and heat on for American families, to power our hospitals, and to run the economy. Speaking to the forthcoming electricity demands, Energy Secretary Chris Wright emphasized in his Secretary's Order that the "Department will identify and exercise all lawful authorities to strengthen the nation's grid, including the backbone of the grid, our transmission system."⁸⁰ Permitting reform should include transmission and distribution to improve affordability and reliability at the lowest possible cost while ensuring that those who receive the benefits of transmission expansion and upgrades are the ones who pay for it.

Remove China's status as a developing economy from the United Nations environmental treaties. For the second time, President Trump has withdrawn the United States from the Paris Climate Agreement. In his first speech, Trump said, "The United States will not sabotage our own industries while China pollutes with impunity."⁸¹ Regardless of what one thinks of the efficacy of COP and the need for American engagement, President Trump is right. One reason China pollutes with such impunity is that the country still receives preferential treatment as a developing country under the United Nations Framework Convention on Climate Change (and other international agreements). Yet, China is the world's second-largest economy. The World Bank classifies China as an upper-middle-income country and will soon become a high-income country.⁸² Through separate measures, the Senate and the House unanimously voted to change China's classification.⁸³ While it will take more than

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reclassification to hold China accountable for its environmental calamities, it is an essential step in the right direction. Working with its allies, the U.S. could enact measures with more teeth to force China's hand on curtailing its pollution.

CONCLUSION

China has a determined, long-term, and aggressive energy strategy based on both fossil fuels and clean energy for both domestic use and export opportunities. They are achieving an enormous economic benefit in support of their national strategy to compete with America for global dominance. In the long run, they are going to have a positive impact on lowering emissions by lowering the cost of clean technologies. However, they are doing this to reduce their energy dependence on the West and gain a competitive advantage, not out of environmental concern. Importantly, we cannot overlook that their continued use of coal dwarfs that of other countries, and they have a terrible history of environmental and human rights abuses.

Today, the U.S. lacks a clear national energy strategy. An "America First" energy policy should avoid technological and resource biases. America will continue its energy dominance in oil and natural gas, but there are tremendous economic opportunities for emissions-free energy domestically and internationally. Developing a full range of energy sources that can compete in the market and building the necessary pipeline and transmission and distribution infrastructure will lower energy bills, drive deployment of cleaner technologies, and improve America's energy security and global standing.

Americans need stable, long-term policies ensuring energy access and security. These policies will unleash global leadership in technological advancements to reduce carbon emissions and to ensure we win in our competition against China. Doing this will require bipartisan efforts among people with different views on the direction of energy growth and the necessary and acceptable tradeoffs involved. Difficult though it will admittedly be, it's time to take the ideology out of the energy and climate debate, face the facts on our and the world's energy composition for decades to come, and focus on practical solutions that mitigate climate risks while ensuring that the less advantaged, in both developed and developing countries, have the energy they need to lead decent lives.

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WORKS CITED

- 1 "FACT SHEET: President Biden to Take Action to Uphold Commitment to Restore Balance on Public Lands and Waters, Invest in Clean Energy Future," U.S. Department of the Interior, January 27, 2021, <https://www.doi.gov/pressreleases/fact-sheet-president-biden-take-action-uphold-commitment-restore-balance-public-lands>.
- 2 "FACT SHEET: President Biden to Take Action to Uphold Commitment to Restore Balance on Public Lands and Waters, Invest in Clean Energy Future," U.S. Department of the Interior, January 27, 2021, <https://www.doi.gov/pressreleases/fact-sheet-president-biden-take-action-uphold-commitment-restore-balance-public-lands>.
- 3 "3415 - Temporary Suspension of Delegated Authority," U.S. Department of the Interior, January 20, 2025, <https://www.doi.gov/document-library/secretary-order/3415-temporary-suspension-delegated-authority>.
- 4 Hannah Ritchie, Max Roser and Pablo Rosado, "CO₂ and Greenhouse Gas Emissions," Our World in Data, <https://ourworldindata.org/co2/country/china?country=CHN~USA~IND~FRA~JPN>
- 5 Danny Kennedy, "US's Petrostate versus China's Electrostatic," Climate & Capital Media, January 23, 2025, <https://www.climateandcapitalmedia.com/petrostate-versus-electrostatic/>.
- 6 Michelle Bowman, "EIA projects global energy consumption will outpace efficiency gains in most cases," U.S. Energy Information Administration, October 11, 2023, <https://www.eia.gov/todayinenergy/detail.php?id=60642>.
- 7 "International Energy Outlook 2023," U.S. Energy Information Administration, October 11, 2023, <https://www.eia.gov/outlooks/ieo/>.
- 8 Neil Wagner Matt Skelton, "Industry to drive tripling of natural gas consumption in India by 2050," U.S. Energy Information Administration, February 14, 2024, <https://www.eia.gov/todayinenergy/detail.php?id=61423>.
- 9 Ibid.
- 10 Ibid.
- 11 Ibid.
- 12 Michael Dwyer, "Incentives and lower costs drive electric vehicle adoption in our Annual Energy Outlook | Today in Energy," U.S. Energy Information Administration, May 15, 2023, <https://www.eia.gov/todayinenergy/detail.php?id=56480#:~:text=According%20to%20our%20Annual%20Energy,%25%20and%206%25%20of%20on%2D>.
- 13 Max Roser, "Why did renewables become so cheap so fast?," Our World in Data, December 1, 2020, <https://ourworldindata.org/cheap-renewables-growth>
- 14 Ibid.
- 15 "Executive Summary: The Full Cost of Electricity," The University of Texas at Austin Energy Institute, April 2018, https://energy.utexas.edu/sites/default/files/UTAustin_FCe_Exe_Summary_2018_09_19.pdf.
- 16 "International Energy Outlook 2023," U.S. Energy Information Administration, October 11, 2023, https://www.eia.gov/outlooks/ieo/pdf/IEO2023_Release_Presentation.pdf.
- 17 Maciej Kalwasiński, "China on the road to 'green' energy security," Center for Eastern Studies (OSW), June 7, 2024, <https://www.osw.waw.pl/en/publikacje/osw-commentary/2024-06-07/china-road-to-green-energy-security#:~:text=Indeed%2C%20the%20idea%20to%20expand%20the%20country's,activity%20are%20all%20linked%20to%20energy%20transition.&text=In%202022%2C%20the%20government%20approved%20the%20construction,less%20than%2020%20GW%20the%20previous%20year>.

- 18 Ibid.
- 19 Colleen Howe, "China's 2023 coal output hits record high," Reuters, January 16, 2024, <https://www.reuters.com/markets/commodities/chinas-2023-coal-output-hits-record-high-2024-01-17>.
- 20 Muiyi Yang & Shiyao Zhang, "China: China is a leader in solar, wind and electric transportation, responsible for half of global growth in 2023," Ember, October 2, 2023, <https://ember-energy.org/countries-and-regions/china/#:~:text=China%20generated%2037%25%20of%20global,than%20double%20the%20global%20average>.
- 21 "Global coal demand is set to plateau through 2027," International Energy Agency, December 18, 2024, <https://www.iea.org/news/global-coal-demand-is-set-to-plateau-through-2027>
- 22 Amy Hawkins, "China's share of global electric car market rises to 76%," The Guardian, December 3, 2024, <https://www.theguardian.com/business/2024/dec/03/chinas-share-of-global-electric-car-market-rises-to-76#:~:text=Amy%20Hawkins,from%2025%25%20to%20100%25>.
- 23 "China's 2023 coal imports from Australia rise, but below pre-ban era," Reuters, January 21, 2024, <https://www.reuters.com/markets/commodities/chinas-2023-coal-imports-australia-rise-below-pre-ban-era-2024-01-20/#:~:text=Indonesia%2C%20which%20sells%20much%20of,Sign%20up%20here>.
- 24 Michal Meidan, "Glimpses of China's energy future," The Oxford Institute for Energy Studies, September 2019, <https://www.oxfordenergy.org/publications/glimpses-of-chinas-energy-future/>.
- 25 "What Investors Want to Know: Chinese Coal Mining State-Owned Entities," Fitch Ratings, February 5, 2024, <https://www.fitchratings.com/research/corporate-finance/what-investors-want-to-know-chinese-coal-mining-state-owned-entities-05-02-2024>.
- 26 "Coal and Lignite production," Enerdata, 2023 <https://yearbook.enerdata.net/coal-lignite/coal-production-data.html>.
- 27 Melissa Garside, "Global coal production distribution 2023, by country," Statista, October 28, 2024, <https://www.statista.com/statistics/265638/distribution-of-coal-production-worldwide/#:~:text=Globally%2C%20China%20is%20the%20greatest,at%20more%20than%20two%20terawatts>.
- 28 "Coal and lignite production," Enerdata, 2023, <https://yearbook.enerdata.net/coal-lignite/coal-production-data.html>.
- 29 "International Energy Outlook 2023," U.S. Energy Information Administration, October 11, 2023, https://www.eia.gov/outlooks/ieo/pdf/IEO2023_Release_Presentation.pdf.
- 30 Ibid.
- 31 Kara Anderson, "Coal: Consumption, Uses, Figures and Debates," Leaf, December 18, 2023, <https://greenly.earth/en-us/blog/ecology-news/coal-composition-uses-figures-and-debates>.
- 32 Liberty Energy, "Bettering Human Lives 2024" <https://libertyenergy.com/wp-content/uploads/2024/02/Bettering-Human-Lives-2024-Web-Liberty-Energy.pdf>
- 33 "What's driving decreasing gasoline consumption in China?," U.S. Energy Information Agency, November 20, 2024, <https://www.eia.gov/today-in-energy/detail.php?id=63764#:~:text=We%20estimate%20gasoline%20consumption%20in,China%20than%20the%20year%20before>.
- 34 Jennifer Pak, "How can China make EVs that sell for less than \$20,000?," Market Place, September 9, 2024, <https://www.marketplace.org/2024/09/09/how-can-china-make-evs-that-sell-for-less-than-20000/>.
- 35 Mary Cunningham, "How China came to dominate the electric vehicle market, and what the U.S. can do to catch up," CBS News, September 24, 2024, <https://www.cbsnews.com/news/ev-electric-cars-charging-china-us-competition/>.
- 36 Erica Downs & Abhiram Rajendran, "China's Slowing Oil Demand Growth Is Likely to Persist and Could Impact Markets," Center on Global Energy Policy at Columbia, November 13, 2024 <https://www.energypolicy.columbia.edu/chinas-slowing-oil-demand-growth-is-likely-to-persist-and-could-impact-markets/>.

- 37 Georgia Williams, "Top 10 Countries for Natural Gas Production," Investing News Network, October 28, 2024, <https://investingnews.com/top-natural-gas-producers/>.
- 38 Shangyou Nie and Erica Downs, "Rising Production, Consumption Show China is Gaining Ground in Its Natural Gas Goals," Center on Global Energy Policy at Columbia, October 2, 2024 <https://www.energypolicy.columbia.edu/rising-production-consumption-show-china-is-gaining-ground-in-its-natural-gas-goals/#:~:text=The%20report%20projects%20that%20China,rise%20to%20174%2D179%20bcm.>
- 39 "China: Emissions," International Energy Agency, 2022, <https://www.iea.org/countries/china/emissions.>
- 40 "U.S. Energy-Related Carbon Dioxide Emissions, 2023" U.S. Energy Information Agency, April 25, 2024, <https://www.eia.gov/environment/emissions/carbon/#:~:text=U.S.%20energy%2Drelated%20CO2%20emissions%20declined%20by%203%25%2C,remained%20like%20those%20in%202022.>
- 41 "bp Energy Outlook: 2023 edition," British Petroleum, July 2023, <https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/energy-economics/energy-outlook/bp-energy-outlook-2023.pdf> and Robert Rapier, "Why The U.S. Leads The World In Reducing Carbon Emissions," Forbes, February 4, 2024, <https://www.forbes.com/sites/rrapier/2024/02/04/why-the-us-leads-the-world-in-reducing-carbon-emissions/>
- 42 "Environmental Performance Index 2024," Yale Center for Environmental Law & Policy, October 7, 2024, <https://epi.yale.edu/country/2024/CHN.>
- 43 Catrina Rorke, Greg Bertelsen, and Matthew C. Porterfield, "Prioritizing American Interests: A New Strategy for Global Decarbonization," Climate Leadership Council, September 2024, https://clccouncil.org/media/2024/12/Prioritizing-American-Interests_Dec2024.pdf
- 44 Vera Wang, "China to offer over 2.7 billion subsidies for wind, solar power," Solarbe Global, June 29, 2022, [https://www.solarbeglobal.com/china-to-offer-over-2-7-billion-subsidies-for-wind-solar-power/#:~:text=On%20Monday%2C%20China's%20Ministry%20of%20Finance%20has,1.25%20billion%20yuan%20\(USD%20190%20million\)%20respectively.](https://www.solarbeglobal.com/china-to-offer-over-2-7-billion-subsidies-for-wind-solar-power/#:~:text=On%20Monday%2C%20China's%20Ministry%20of%20Finance%20has,1.25%20billion%20yuan%20(USD%20190%20million)%20respectively.)
- 45 Ana Swanson & Chris Buckley, "Chinese Solar Companies Tied to Use of Forced Labor," New York Times, January 8, 2021, <https://www.nytimes.com/2021/01/08/business/economy/china-solar-companies-forced-labor-xinjiang.html>.
- 46 Gracelin Baskaran, "What China's Ban on Rare Earths Processing Technology Exports Means," Center for Strategic & International Studies, January 8, 2024, <https://www.csis.org/analysis/what-chinas-ban-rare-earths-processing-technology-exports-means.>
- 47 "Rise of African rare earths bolsters supply pipeline for China and the West," Benchmark Source, June 24, 2024, <https://source.benchmarkminerals.com/article/rise-of-african-rare-earths-bolsters-supply-pipeline-for-china-and-the-west.>
- 48 Jacob Mardell, "In the Global South, Chinese EVs leave European Automakers in the Dust," Internationale Politik Quarterly, April 17, 2024, <https://ip-quarterly.com/en/global-south-chinese-evs-leave-european-automakers-dust#:~:text=Sebastian%20Galarza%20is%20the%20founder,in%20their%20competitive%20home%20market.>
- 49 Amy Hawkins, "China' share of global electric car market rises to 76%," The Guardian, December 3, 2024, <https://www.theguardian.com/business/2024/dec/03/chinas-share-of-global-electric-car-market-rises-to-76#:~:text=Amy%20Hawkins,from%2025%25%20to%20100%25.>
- 50 Mary Cunningham, "How China came to dominate the electric vehicle market, and what the U.S. can do to catch up," CBS News, September 24, 2024, <https://www.cbsnews.com/news/ev-electric-cars-charging-china-us-competitio>
- 51 Ibid.
- 52 Slade Johnson & Jonathan Russo, "China continues rapid growth of nuclear power capacity," U.S. Energy Information Administration, May 6, 2024, <https://www.eia.gov/todayinenergy/detail.php?id=61927.>
- 53 "China's Profile Investment in Science and Technology Threatens U.S. Global Leadership," Science & Technology Action Committee, 2024, <https://sciencetechaction.org/wp-content/uploads/2024/12/China-Leave-Behind-FINAL.pdf>.
- 54 Watson M. McLeish and Sarah Hoyt Corrigan, "Three Reasons Delaying Action on Tax Extenders Would Be a Mistake," U.S. Chamber of Commerce, December 12, 2023,

<https://www.uschamber.com/taxes/three-reasons-delaying-action-on-tax-extendere-would-be-a-mistake>.

- 55 Lihuan Shou & Ziyi Ma, "After a Decade of Fossil Fuel Investing, Can China Fulfill Its Promise of a Green Belt and Road Initiative?," World Resources Institute, October 24, 2023, <https://www.wri.org/insights/greening-chinas-belt-and-road-initiative>.
- 56 Jacob J. Lew et al., "Task Force Report No. 79; China's Belt and Road: Implications for the United States," Council on Foreign Relations, March 2021, <https://www.cfr.org/task-force-report/chinas-belt-and-road-implications-for-the-united-states/findings>
- 57 "2023 Annual Report: China National Petroleum Corporation," China National Petroleum Corporation, 2023, <https://www.cnpc.com.cn/en/2023enbyfgrme/202409/da926959d8a647839ac1eb87167bab19/files/fc39bc0021e94d99a444101bcfc1e5d9.pdf..>
- 58 Ibid.
- 59 "The Belt and Road Initiative International Green Development Coalition (BRIGC) | UN Environmental Programme," United Nations, April 2019, <https://www.unep.org/regions/asia-and-pacific/regional-initiatives/belt-and-road-initiative-international-green>.
- 60 This figure includes Taiwan. "China's energy transition outlook," Det Norske Veritas (DNV), 2024, <https://www.dnv.com/publications/china-energy-transition-outlook/>
- 61 Ibid.
- 62 bp Energy Outlook – 2024: Insight from China, <https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/energy-economics/energy-outlook/bp-energy-outlook-2024-country-insight-china.pdf>.
- 63 Ibid.
- 64 U.S. Energy Information Administration, "Annual Energy Outlook 2023," March 16, 2023, <https://www.eia.gov/outlooks/aeo/>
- 65 bp Energy Outlook – 2024: Insight from the US, <https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/energy-economics/energy-outlook/bp-energy-outlook-2024-country-insight-us.pdf>
- 66 Ibid.
- 67 Holly Rooper, "Emissions Growth in the Developing World," Climate Leadership Council, June 20, 2024, <https://clcouncil.org/blog/emissions-growth-in-the-developing-world/>
- 68 Ibid.
- 69 "China expected to hit peak coal consumption in 2025: report," France 24, November 27, 2024, <https://www.france24.com/en/live-news/20241127-china-expected-to-hit-peak-coal-consumption-in-2025-report>.
- 70 Philip Rossetti & Robert Eccles, "Policies Mean to Address Climate Change Can Worsen Human Suffering," R Street, November 1, 2023, <https://www.rstreet.org/commentary/policies-meant-to-address-climate-change-can-worsen-human-suffering/>.
- 71 Business & Human Rights Resource Centre, "Unpacking clean energy: Human Rights Impacts of Chinese Overseas Investment in Transition Minerals," July 2023, https://media.business-humanrights.org/media/documents/2023_China_TM_briefing.pdf
- 72 Nicholas Young, "Industrial espionage: How China sneaks out America's technology secrets," BBC, January 23, 2023, <https://www.bbc.com/news/world-asia-china-64206950>.
- 73 Polly Bindman, "Clean, cheap or fair - which countries should pump the last oil and gas?," Climate Home News, February 26, 2024, <https://www.climatechangenews.com/2024/02/26/clean-cheap-or-fair-which-countries-should-pump-the-last-oil-and-gas/#:~:text=It%20found%20that%20Norway's%20oil,to%20energy%20consultancy%20Wood%20Mackenzie>.
- 74 Erica York, "Answering Four Questions About How Neutral Cost Recovery Works in Practice," Tax Foundation, June 17, 2020, <https://taxfoundation.org/blog/how-neutral-cost-recovery-works-in-practice/>.
- 75 Adan Michel & Joshua Loucks, "The Case for Trump's 15 Percent Corporate Tax Rate," CATO Institute, January 8, 2025, <https://www.cato.org/>

blog/case-trumps-15-percent-corporate-tax-rate

- 76 James Coleman & Thomas Hochman, "The Energy Permitting Reform Act Doesn't Go Far Enough," AEI, October 29, 2024, <https://www.aei.org/op-eds/the-energy-permitting-reform-act-doesnt-go-far-enough/>.
- 77 Jennifer Morales & Steffen Rigby, "NEPA Timelines for Clean Energy Projects: Understanding Delays in Clean Energy Development," The Center for Growth and Opportunity at Utah State University, June 13, 2023, <https://www.thecgo.org/research/nepa-timelines-for-clean-energy-projects-understanding-delays-in-clean-energy-development/>.
- 78 "The Climate and Freedom Agenda: Policy Solutions for Energy Consumers, Energy Security and Climate Progress," C3 Solutions, June 2022, <https://www.c3solutions.org/wp-content/uploads/2022/06/C3-Solutions-Climate-and-Freedom-Agenda.pdf>.
- 79 Rabah Arezki, Thiemo Fetzner, and Frank Pisch, "On the comparative advantage of U.S. manufacturing: Evidence from the shale gas revolution," Journal of International Economics, July 2017, <https://www.sciencedirect.com/science/article/abs/pii/S0022199617300284>
- 80 U.S. Department of Energy, "Secretary Wright Acts to "Unleash Golden Era of American Energy Dominance" February, 5, 2025, <https://www.energy.gov/articles/secretary-wright-acts-unleash-golden-era-american-energy-dominance>
- 81 Nate Perez & Rachel Waldholz, "Trump is withdrawing from the Paris Agreement (again), reversing U.S. climate policy," NPR Climate, January 21, 2025, <https://www.npr.org/2025/01/21/nx-s1-5266207/trump-paris-agreement-biden-climate-change>.
- 82 "The World Bank in China | Overview," World Bank Group, October 24, 2024, <https://www.worldbank.org/en/country/china/overview>.
- 83 Dan Sullivan (R-AK) and Mike Lee (R-UT) offered an amendment to the Kigali Agreement and Rep. Young Kim (R-CA) introduced the "PRC Is Not A Developing Country Act" in 2023, <https://www.congress.gov/bill/118th-congress/house-bill/1107/all-actions>