



## FIGURES AND FACTS

	CHINA'S 2016 NDC (FIRST SUBMISSION) AND OTHER POLICIES	CHINA'S 2021 NDC (FIRST UPDATE) AND OTHER POLICIES	CONTEXT
<b>GHG Emissions Target</b>	<p>Peak CO<sub>2</sub> emissions <u>around</u> 2030 and make best efforts to peak early</p> <p>Lower CO<sub>2</sub> emissions per unit of GDP (carbon intensity) by 60–65% from 2005 levels</p> <p>Reduce carbon intensity by 18% by 2020 compared with 2015 levels (13th Five-Year Plan)</p>	<p>Peak emissions <u>before</u> 2030</p> <p>Lower CO<sub>2</sub> emissions per unit of GDP by <u>over</u> 65% from 2005 levels</p>	<p>Although China's official NDC does not directly mention GHGs other than CO<sub>2</sub>, the 14th Five-Year Plan and the Outline of Vision Goals to 2035 released in 2022 called for greater control of methane, hydrofluorocarbons, perfluorocarbons, and other GHGs.</p>
<b>Net Zero Goal</b>	N/A	Achieve carbon neutrality <u>before</u> 2060	<p>Chinese President Xi Jinping first announced China's carbon neutrality target at the UNGA in September 2020. China officially submitted its Long Term Strategy in October 2021 prior to COP26. While China's climate envoy, Xie Zhenhua, has said that China's net zero target covers all GHGs, the target in the official LTS covers only CO<sub>2</sub>.</p>
<b>New and Renewable Energy</b>	<p>Increase the share of non-fossil fuels in primary energy consumption to around 20% by 2030</p>	<p>Increase the share of non-fossil fuels in primary energy consumption to around 25% by 2030</p> <p>Increase the total installed capacity of wind and solar power to over 1200 gigawatts by 2030</p> <p>Increase the share of non-fossil fuels in energy consumption to over 80% by 2060 (LTS)</p>	<p>According to the National Energy Administration, China expects to raise the share of non-fossil fuels in its primary energy consumption to 18.3% in 2023, up from 17.5% in 2022.</p>
<b>Coal</b>	<p>Reduce the average coal consumption for newly built coal-fired power units to around 300 grams of standard coal per kilowatt-hour (2015 INDC)</p>	<p>Strictly control coal-fired power generation projects, and strictly limit the increase in coal consumption over the 14th Five-Year Plan period and phase it down in the 15th Five-Year Plan period</p> <p>Not build new coal-fired power plants abroad</p>	<p>China's commitments to strictly control coal projects and coal consumption were first announced by Xi at the US-hosted Leaders Summit on Climate in April 2021.</p> <p>"Not build new coal-fired power projects abroad" was announced by Xi in September 2021 at the UNGA.</p>
<b>Forest and Land Use</b>	<p>Increase forest stock volume by 4.5 billion cubic meters from 2005 levels</p> <p>Recover 666,000 hectares of farmland by 2020, and return around 5,000 square miles of polluted land to forest and grassland by 2020 (13th Five-Year Plan)</p>	<p>Increase forest stock volume by 6 billion cubic meters 2005 levels</p> <p>Increase forest coverage to 24.1% by 2025 (14th Five-Year Plan)</p>	<p>China has a strong track record in reforestation, with forest coverage officially increasing from 12% to nearly 22% between 1978 and 2020. China is also a signatory of the Glasgow Leaders' Declaration on Forests and Land Use.</p>

Sources: UNFCCC, National Development and Reform Commission, National Energy Administration

## BACKGROUND

China has experienced exponential growth since its economy underwent reforms and opened up in 1978. While growth has slowed dramatically in recent years – [in 2023, China's GDP is projected to grow by 5.6%](#), compared with a previous annual average of over 9% – China is still grappling with the environmental and climate implications of this expansion. The country's rapid industrialization and urbanization led to a surge in energy consumption, which caused a significant increase in greenhouse gas (GHG) emissions, largely attributable to China's reliance on coal. In 2021, China accounted for around [31%](#) of global carbon dioxide (CO<sub>2</sub>) emissions.

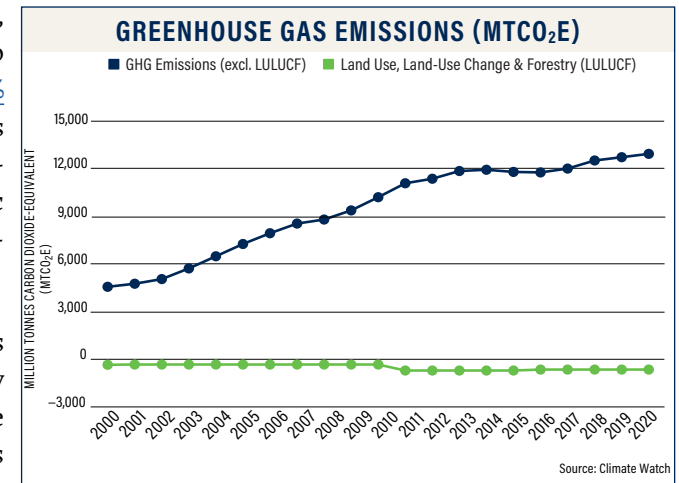
At the same time, China's environmental challenges, including air, water, and soil pollution, are significant factors that have shaped the country's climate policy. Public concern over air quality in particular has been a major catalyst for action. The detrimental health effects and environmental impacts of air pollution from coal combustion and other factors have led to a public outcry for cleaner air. The challenge that China now faces is decoupling its economic growth from its emissions, which means decarbonizing its economy and pursuing high-quality, low-carbon growth.

In 2007, China became the [first](#) developing nation to execute a [national program specifically designed to combat climate change](#), which set relevant targets such as reducing energy consumption per unit GDP by 20% by 2010. This initiative marked a significant step in China's environmental policy, demonstrating the country's initial commitment to mitigating the

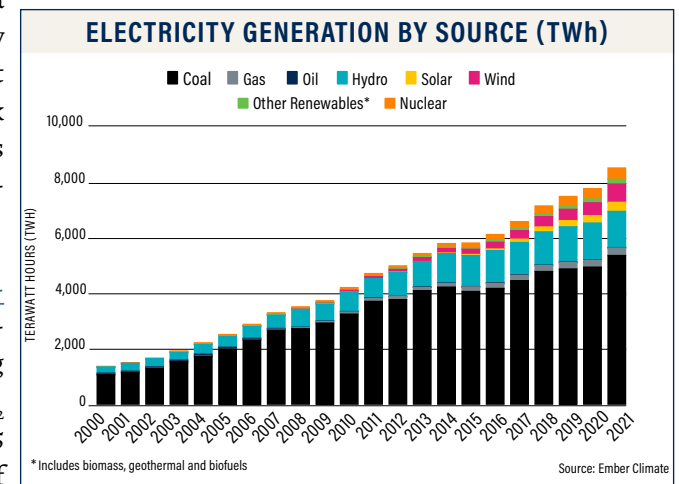
impacts of climate change. Subsequently, in 2009, China outlined new targets for GHGs, pledging to [reduce GHG emissions per unit of GDP by 40% to 45% by 2020](#) compared with 2005 levels. This goal reflects China's initial efforts to make climate strategy a significant national strategy for its social and economic development and transition toward a more sustainable development model.

In the lead-up to the 21st Conference of the Parties (COP21) in Paris, U.S.-China climate diplomacy helped lay the groundwork for the adoption of the Paris Agreement. The two countries, as the world's largest emitters of GHGs, set a powerful example by [jointly announcing their post-2020 climate actions](#) in November 2014. This was the first time that China agreed to peak its CO<sub>2</sub> emissions around 2030 and to make best efforts to peak early. China also pledged to increase the share of non-fossil fuels in primary energy consumption to around 20% by 2030. The joint announcement broke through a previous deadlock between the world's two largest emitters and thus paved the way for the Paris Agreement to be negotiated in December 2015.

In 2016, China submitted its [first nationally determined contribution](#) (NDC) under the Paris Agreement. The NDC set medium-term targets, including peaking emissions around 2030 and reducing CO<sub>2</sub> emissions per unit of GDP by 60% to 65% from 2005 levels. Additionally, it aimed to increase the share of non-fossil fuels in primary energy consumption to around 20% by 2030.



China's emissions began to rise rapidly around the beginning of the century. China has been the world's largest annual GHG emitter since 2005.



While coal remains the dominant source of electricity generation in China, the share of renewables has grown noticeably in the past decade.



CHINESE PRESIDENT XI JINPING AT COP21 IN PARIS, FRANCE (UNFCCC/FLICKR)

[The 13th Five-Year Plan](#) (2016–2020), the main pillar of China’s central planning system that outlines the country’s social and economic goals for a five-year period, further specified China’s climate targets. The plan aimed to reduce carbon intensity by 18% per unit of GDP and reduce energy intensity per unit of GDP by 15% by 2020 compared with 2015 levels. The 13th Five-Year Plan also [capped total annual energy consumption](#) at five billion tons of standard coal equivalent by 2020. During this period, [the share of non-fossil energy consumption would increase to more than 15%](#), and the share of coal consumption would decrease to less than 58%. The State Council also outlined the need for developing a national emissions trading scheme (ETS), set to be launched in 2018.

In 2020, [Chinese President Xi Jinping delivered a landmark speech](#) at the United Nations (UN) General Assembly, in which he surprised the world by announcing China’s carbon neutrality goal for

the first time. Xi pledged that China would peak CO<sub>2</sub> emissions before 2030 – as opposed to “around” 2030 – and achieve carbon neutrality before 2060. He also advocated a multilateral approach, with the UN at its core, as a crucial element in addressing global challenges. Furthermore, he called on leading economies to contribute more global public goods, emphasizing the collective responsibility of these nations in fostering global sustainability and resilience.

## RECENT DEVELOPMENTS

In March 2021, China introduced its [14th Five-Year Plan](#) (2021–2025), which outlines near-term targets for reducing CO<sub>2</sub> and energy intensity. The plan aims for an 18% reduction in carbon intensity and a 13.5% reduction in energy intensity per unit of GDP over the five-year period. While the plan stopped short of setting a specific “CO<sub>2</sub> emissions cap” for the first time, it did [allude to supplementing carbon intensity controls](#) with controls on total emissions.

In terms of renewable energy, the plan sets a target for [renewables to account for 33% of national power consumption by 2025](#). It also specifies that non-hydro renewables should contribute 18% to the energy mix. Unlike previous five-year plans, the 14th Five-Year Plan does not set a specific target for renewable power capacity. However, at the Leaders Summit on Climate, President Xi Jinping clarified that China would strictly control [coal-fired power generation projects](#) and limit the growth of coal consumption throughout the 14th Five-Year Plan period, before gradually reducing coal consumption during the 15th Five-Year Plan period

(2026–2030), as part of China’s efforts to reach peak of carbon emissions before 2030 and achieve carbon neutrality by 2060.

Beijing then introduced the [“1+N” climate policy system](#), a unique policy framework that, while aligning with the Five-Year Plan system, operates independently and is specifically designed to implement China’s comprehensive decarbonization strategy. The structure of this system begins with a principal, overarching guidance document, referred to as the “1.” From this central point, the system expands, creating increasingly detailed plans for each sector of decarbonization, referred to as the “N.” [Implementation plans have been released](#) for key sectors such as energy, industry, transportation, urban and rural development, and agriculture; key industries such as coal, oil and natural gas, steel, non-ferrous metals, petrochemicals, and building materials; and scientific and technological support, financial support, and statistical accounting.

China’s long-awaited [ETS officially entered into force in 2021](#), covering well over 2,100 power sector entities with annual CO<sub>2</sub> emissions of at least 26,000 tonnes of carbon dioxide equivalent (tCO<sub>2</sub>e), thus becoming the largest ETS in the world in terms of emissions coverage. China’s ETS is designed to be a key instrument in helping the country achieve its “dual carbon” goals of peaking CO<sub>2</sub> emissions before 2030 and achieving carbon neutrality by 2060. The plan expects to [broaden its scope to incorporate additional sectors](#) in the next two to three years, such as petrochemicals, chemicals, building materials, and steel. However, a specific

timeline for this expansion has not been established.

At the 2021 UN General Assembly, Xi announced that [China would stop building new coal-fired power stations abroad](#). China subsequently submitted its [updated NDC](#) in October 2021 on the eve of COP26. China's NDC mainly formalized already announced targets, which aim to peak the country's carbon emissions before 2030 and reduce CO<sub>2</sub> emissions per unit of GDP by over 65% from 2005 levels. Furthermore, China has committed to increasing the share of non-fossil fuels in primary energy consumption to around 25% by 2030. The country also plans to increase the total installed capacity of wind and solar power to over 1,200 gigawatts by 2030. China's [Long Term Strategy](#) (LTS) document was submitted at the same time to the UNFCCC, providing a road map for China's transition to carbon neutrality by 2060 and underscoring the country's long-term commitment

to addressing climate change. The LTS includes an updated target for non-fossil energy consumption, which will increase to over 80% by 2060.

At COP26 in Glasgow, China strongly opposed using the phrase coal “phaseout” in the [Glasgow Climate Pact](#) and instead called for a “phase down” of coal power. China did not sign the Global Coal to Clean Power Transition Statement. However, notable developments in U.S.-China climate cooperation were achieved in Glasgow. After extensive official exchanges between the two sides toward the end of COP26, the United States and China released the [U.S.-China Joint Glasgow Declaration on Enhancing Climate Action in the 2020s](#). This included plans to further collaborate on methane reduction and to establish a working group focused on climate cooperation this decade. This declaration reflected a “breaking of the ice” between the two countries in bilateral cooperation on climate action.

However, following U.S. House Speaker Nancy Pelosi's visit to Taiwan in August 2022, China moved to suspend official climate talks between the two countries – just before the climate change working group was set to be officially launched. Relations warmed somewhat after Joe Biden and Xi Jinping met in Bali at the G20 Summit in November 2022. The Summit saw some positive developments in terms of climate action, with the two countries reaffirming their commitment to cooperate on addressing climate change and to work toward a successful outcome at COP27.

In addition to overarching climate goals, China has

been making significant strides in the field of electric vehicles (EVs). [China's New Energy Automobile Industry Plan \(2021–2035\)](#) set an ambitious target for zero-emission vehicles (ZEVs) to make up 20% of total vehicle sales by 2025. This target aims to bolster the international competitiveness of China's ZEV industry. Furthermore, the [China Society of Automotive Engineers](#) set a goal for more than half of all vehicle sales to be EVs by 2035.

## READING BETWEEN THE LINES

China's latest NDC includes stronger commitments than previous versions and reflects China's progress. By 2020, it was estimated that jurisdictions accounting for [80% of China's emissions had either peaked or were projected to peak their emissions before 2025](#). However, there are still concerns regarding the adequacy of China's current climate targets in driving the decarbonization of the national economy in line with the Paris Agreement, according to [Climate Action Tracker](#) (CAT). China is expected to overachieve on its energy-related NDC targets, but there is a small risk that the country will fall short of its overall carbon intensity target. Although China has also made substantial strides in reducing carbon intensity and increasing the proportion of non-fossil fuels in the primary energy mix, the CAT analysis suggests that China could set more ambitious targets that exceed its current policy trajectory.

In terms of broader decarbonization targets, China's LTS includes a noteworthy target for peaking oil consumption. Specifically, the LTS specifies that oil con-



XIE ZHENHUA AND JOHN KERRY AT COP26 IN GLASGOW, U.K. (UK GOVERNMENT/FLICIKR)

sumption will reach a “peak plateau” during the 15th Five-Year Plan period. Within this time frame, land transport, which constitutes approximately 60% of China’s overall oil use, will aim to reach its peak by 2030.

Despite existing tools through the People’s Bank of China that encourage investment in decarbonization, there is a lack of clarity on the timelines and sources of financing for achieving China’s LTS targets. For instance, the LTS does not provide a clear timeline for phasing out fossil fuel subsidies, nor does it offer any indication of the financial support that China intends to provide for achieving its climate goals. It has been estimated that a [total investment of 487 trillion yuan](#) (about U.S.\$76 trillion) will be necessary for implementing green and low-carbon projects in China over the next 30 years.

At the same time, as China’s ETS enters its second compliance cycle this year, its current impact on reducing CO<sub>2</sub> emissions from the power sector remains somewhat limited. Its primary effects are to increase the efficiency of the coal fleet, promote a switch to cleaner coal, and encourage the closure of aging and inefficient coal plants. The potential for the carbon price to be passed on to electricity prices is currently limited, except for a small portion of generation covered by spot markets. This restriction hampers the ETS’s ability to make renewable energy sources more competitive against fossil fuel power generation and to drive demand-side reductions in electricity consumption, thus restricting the ETS’s role in reducing power sector CO<sub>2</sub> emissions.

China’s leadership was evident as the chair of the 15<sup>th</sup> meeting of the Conference of the Parties (COP15) to the Convention on Biological Diversity, which led to the agreement of the [Kunming-Montreal Global Biodiversity Framework](#) in December 2022 to protect 30% of the planet’s land and 30% of its oceans by 2030.

Top Chinese officials actively engaged with [COP28 President Sultan Ahmed Al Jaber during his visit to China](#) in March 2023 and joined the June [Summit for a New Global Financing Pact](#), where China urged for the strengthening of strategic relationships to maximize climate cooperation and financing. Given China’s economic influence and status as the world’s largest emitter of GHGs as well as its increasing role as a bilateral funder for climate finance, stronger climate leadership from China could help accelerate global efforts to combat climate change.

### WHAT TO WATCH FOR NEXT

In the first quarter of 2023, [China’s CO<sub>2</sub> emissions increased by 4%](#) compared with the same period in 2022, primarily due to economic growth after the COVID-19 lockdowns. This was a new record in emissions growth for the first three months of the year. Given China’s emphasis on economic growth, emissions could surpass the previous peak in 2021 and reach an unprecedented high in 2023. However, the continued expansion of low-carbon energy sources may still lead to a peak in emissions once the post-COVID recovery phase concludes, followed by a structural decline.

China also continues to lead the world in the development of renewable energy. The National Development and Reform Commission recently announced that non-fossil fuel energy sources now account for [over 50% of China’s total installed electricity generation capacity](#), meeting a target set for 2025 two years ahead of schedule.

It is worth noting that more frequent heat waves are placing considerable strain on China’s power grids. According to the [China Electricity Council](#), the national electricity load in 2023 could see an increase of 80 gigawatts. If extreme weather persists, this could rise by an additional 100 gigawatts above the levels recorded in 2022. In response to these challenges, the government has [emphasized the importance of having robust solutions for power security and supply](#), including ensuring the security of coal power and its supply. These measures could lead to an increase in coal use for electricity generation.

For similar motivations, China is also planning a significant [expansion of its coal power capacity](#), with a large pipeline of projects in the works. The first quarter of 2023 saw further approvals for new coal power capacity, following a sharp increase in 2022. The government asserts that these new plants will not be used frequently, and therefore will not significantly increase emissions. However, the actual impact on emissions once the plants are built and ready for use remains uncertain.

The national ETS will continue to be an important tool in China’s decarbonization if adequate policies and

regulations are rolled out according to the plan. One issue that requires attention is data transparency, which caused repeated delays in launching the ETS in the first place. The absence of a national law has resulted in insufficient penalties for data fraud, and the division of responsibilities for verification bodies are reportedly unclear. As a starting point, emitters are now [obligated to submit monthly activity data](#) and associated evidence documents before a specified deadline. However, it remains unclear whether and when China will shift from an ETS that relies on a benchmarking standard to one that employs an absolute emissions cap.

Diplomatic engagements with China continue to move in a positive direction, especially after China reopened to visitors following the COVID-19 lockdown period. Even after the postponement of U.S. Secretary of State Antony Blinken's visit to Beijing in January because of the balloon incident, [U.S. climate envoy John Kerry maintained communication](#) with his Chinese counterpart, Xie Zhenhua. [Blinken's June 2023 visit to China](#) will likely help open up more political channels for official exchanges, including on climate cooperation. Positive follow-on progress was already seen during U.S. Treasury Secretary [Janet Yellen's visit to China](#), the second by a Biden administration cabinet member in recent weeks. Yellen underscored the need for the two countries to work together

#### ABOUT THE ASIA SOCIETY POLICY INSTITUTE

With a solution-oriented mandate, the Asia Society Policy Institute (ASPI) tackles major policy challenges confronting the Asia-Pacific in security, prosperity, sustainability, and the development of common norms and values for the region.

*The Asia Society Policy Institute and the Asia Society take no institutional position on matters of public policy and other issues addressed in the reports and publications they sponsor. All statements of fact and expressions of opinion contained in this paper are the sole responsibility of its authors and may not reflect the views of the organization and its board, staff, and supporters.*

on climate finance and held a roundtable with relevant stakeholders.

[Kerry's most recent visit to China](#) in mid-July 2023 marked a significant step in resuming climate cooperation channels between the United States and China. Kerry engaged with high-level Chinese officials, and both sides reiterated their consensus on the urgency of the climate crisis. However, it's important to note that more concrete plans for cooperation, particularly regarding the U.S.-China Climate Working Group and methane reduction, were not explicitly shared, nor was there a joint statement. While [the balance between climate goals and political considerations](#) will likely shape the future of U.S.-China climate diplomacy, reaching substantive outcomes in the coming weeks and months could positively influence global climate action at COP28.

China's recent engagement with Germany is another example of the country's willingness to collaborate on climate action at a bilateral level. The establishment of the [Dialogue and Cooperation Mechanism on Climate Change and Green Transition](#) is a significant step toward addressing China's decarbonization challenges, for example, through the sharing of best practices, technological advancements, and policy innovations. China and Brazil released a [joint statement on combating climate change](#) in April 2023, and a [joint](#)

[statement between China and France](#) in the same month alluded to a number of cooperative outcomes relating to climate change.

China's climate policy is likely to continue evolving in response to competitive pressures and opportunities. China will host the Third Belt and Road Forum later in 2023, which may offer a platform for the country to expand its climate cooperation with developing and emerging economies globally, especially through the greater provision of climate finance. Another major test for China's future climate ambition will come in December of this year with the first Global Stocktake at COP28, which may set expectations for the next round of NDCs in 2025. China's next NDC will cover the period through 2035 and will address for the first time how fast China's emissions will decline after the country peaks its emissions. Thus, China will face increased pressure to put forth a strong absolute emissions reduction target. In the face of these challenges, President Xi Jinping recently emphasized that [China's commitment to reducing emissions is unswerving](#), and [China will continue to deepen reforms in its energy system](#) — but the country will determine its own path without being influenced by others. This is a clear signal of China's current stance on climate change. Regardless of China's climate policies, it will continue to play a crucial role in shaping global climate actions.

Cover image: WIKIMEDIA COMMONS