

ChinaFAQs

The Network for Climate and Energy Information



Taking Stronger Action on Climate Change: China and the United States



Key Questions:

1. Is it true that China is not doing anything to address climate change?
2. Is it true that China's coal use and greenhouse gas emissions are inevitably going to continue to rise throughout the 21st century regardless of what China tries to do?
3. What are the signs that China's carbon dioxide emissions will peak?
4. Does it make sense for the U.S. to take climate action given what we know about China's next steps on climate?

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The U.S. and China are moving forward to fulfill their 2020 greenhouse gas reduction targets and they are beginning to plan for action beyond 2020. Together the U.S. and China make up over 40% of global greenhouse gas emissions,¹ so action on the part of both countries is critical to adequately address climate change. Mutual understanding and action by both countries is important. ChinaFAQs offers this Q&A as part of an occasional series to help inform the discussion regarding next steps.

Q: Is it true that China is not doing anything to address climate change?

A: No, it is not true. China is taking action on multiple fronts to address the climate problem.

China has been investing heavily in renewable energy. In 2013 China was once again the world's number one investor in renewable energy, investing \$54.2 billion, or 21% of the world's total.² 2013 saw China install 12 GW of solar photovoltaic projects, 50% more than any country had previously ever installed in a single year.³ China also has the world's most installed wind power capacity, and has been the world leader in installed wind capacity since 2009.⁴

Along with promoting renewables, China has targets for reducing the energy and carbon intensity (energy consumed or carbon emitted per unit of GDP) of its economy.⁵ In China's 11th Five Year Plan, which covered 2006-2010, China successfully reduced the energy intensity of its economy by 19.1%,⁶ a feat not accomplished in any of the other major emerging economies.⁷

Recently, China launched a \$277 billion investment in improving air quality and regional bans on new coal-fired power plants.⁸ Finally, China has set up seven pilot cap-and-trade programs for carbon emissions throughout major cities and provinces in China. In terms of total carbon emissions regulated, the Chinese carbon market pilots already make up the second largest amount of regulated carbon emissions, following only the European Union.⁹

Q: Is it true that China's coal use and greenhouse gas emissions are inevitably going to continue to rise throughout the 21st century regardless of what China tries to do?

A: No. China's carbon emissions and coal use rose significantly in the 2000s, but have begun slowing down in recent years.

New installation of coal power in China peaked in 2006 at over 90GW,¹⁰ but since then the number has fallen dramatically to just 36.5 GW in 2013.¹¹

China is also trying hard to control coal for air pollution reasons. In July of 2013, China announced an investment of \$277 billion over five years in curbing air pollution.¹² Then, in September 2013, China announced their Clean Air Action Plan, which included regional bans on new coal plants.¹³

One challenge will be to ensure strong action is taken not only regionally, but also nationally, to ensure China meets its national targets.¹⁴ Despite this and other challenges, however, the natural progression of China's economic development and its efforts to control coal give reasons for optimism. In fact, Lawrence Berkeley National Laboratory (LBNL) says that, given current trends and market policies, China's coal use is projected to peak in 2020.^{15,16} A debate is also taking place about when China's carbon dioxide emissions will peak, with studies projecting that China's CO₂ emissions could peak between 2025 and 2035.¹⁷

China and other developing countries are working to shift to a low carbon path while also trying to lift their people out of poverty and provide the basics for a decent living standard achieved decades ago in more affluent countries. For these reasons developing country emissions are not expected to peak immediately, but China and other developing countries are beginning to shift in that direction. However, having made tremendous economic progress, China is now at a point where stronger and sustained measures are needed to cope with climate and other environmental consequences of growth. This has been dramatized by the urban air pollution crisis. The coming decade will be a critical testing time when China, like other major emitting countries, will need to take much stronger action to achieve and sustain a low-carbon trajectory.

China is now moving to fulfill targets under its 12th Five Year Plan and it is beginning to work on its 13th Five Year Plan. Chinese leaders and energy experts are suggesting strong new measures to limit energy use and improve efficiency,¹⁸ just as planning is moving forward in the U.S. and other countries.¹⁹ China, like the US, can take credit for

progress made, but both countries have much more work to do.

Q: What are the signs that China's carbon dioxide emissions will peak?

Expert projections of a peak in China's carbon emissions are supported by several major building blocks. In addition to the development of renewable energy²⁰, these include improvements in energy efficiency, placing a price on carbon, and the rebalancing of China's economy from heavy industry toward services. Progress has been made in these areas. China has set targets for further improvements, and is working on including further steps in its next Five Year Plan.

Researchers from MIT and China's Tsinghua University find that by continuing current efforts to reduce carbon intensity, emissions will level off between 2030 and 2040.²¹ In an accelerated effort scenario, emissions will level off between 2025 and 2035 and slowly decline after that.²² Professor He Jiankun of Tsinghua University, a climate adviser to the Chinese government, says China should "strive to achieve peak emissions around 2030" by deploying energy efficient technology, rebalancing its economy, promoting renewables, reducing urban energy demand, pricing carbon, and setting a carbon peak target.²³ Jiang Kejun, a leading researcher for China's economic planning agency, finds that if China aggressively pursues these policies and others such as promoting carbon capture and storage, China's emissions could peak before 2025.²⁴ Reportedly, China is considering a scenario where greenhouse gas emissions will peak in phases. China's chief climate negotiator Xie Zhenhua suggests the developed east coast would peak around 2017, middle-income regions around 2020 to 2025, and other regions around

2030.²⁵

With respect to the energy efficiency building block to support emissions reductions, China has recognized the importance of improving the energy efficiency of its economy. It has set targets for energy intensity reductions and established demand-side regulations to promote energy saving in the electricity sector.²⁶ China's "Top 1,000 Energy-Consuming Enterprises Program", designed to conserve energy among Chinese companies, has been expanded to roughly 17,000 companies during the 12th Five Year Plan.²⁷ Officials and energy experts are also discussing proposals for increased market-oriented measures governing electricity.²⁸

The carbon pricing building block supporting emissions reductions entails either a carbon tax or a national cap-and-trade system.²⁹ China has cap-and-trade pilots in seven cities and provinces³⁰, and is making plans to begin to establish a national cap-and-trade policy in 2016.³¹ Jiang Kejun has said that China is considering launching a carbon tax pilot program.³² Another economy-wide policy option under discussion is a measure to set a stronger limit on coal or energy use.³³ The State Council has initiated consideration of a national cap on coal consumption.³⁴

Beyond energy policy reform, changes in China's broader economic landscape could bend the curve of China's emissions growth downward. Expected economic trends and statements by high-level officials indicate China is seeking to restructure its economy by reducing the share of energy-intensive industry and expanding the share of services.³⁵ China has set a target to increase services as a share of GDP to 47% by 2015.³⁶ In 2013, officials announced plans for market-based fiscal, financial and service sector reforms that could spur this shift.³⁷

As services generally require less energy than the industrial sector, a rebalance toward services should have an emissions reduction benefit.³⁸

In sum, analysts find that given economic trends and policies, China is taking or considering steps which if pursued vigorously could result in a peak in CO₂ emissions in the decade following 2025.

Q: Does it make sense for the U.S. to take climate action given what we know about China's next steps on climate?

A: Yes. China is now at a turning point regarding air quality and climate action.

China is at a turning point. The evolving air pollution problems in China have focused the highest level of attention on environmental issues, and China's self-interests³⁹ now strongly align with ambitious climate action.

As former Secretary of the Treasury Henry Paulson said regarding China's action on climate and air, the Chinese see there is a huge need. "If you look at what they are doing, they are doing important things with resource taxes and experimenting with taxing carbon, they are doing a lot of things. And so there is no doubt they are serious about it."⁴⁰

The recent Intergovernmental Panel on Climate Change's report shows that the planet is already experiencing the impacts of climate change,⁴¹ and the effects are projected to become more severe unless serious action is taken soon.⁴² It is therefore in the interests of all countries to act to avoid huge costs, but they won't if each country sees everyone else stopping. The fact is that all major emitters are taking some action, the U.S. and China included, but none is doing enough.⁴³ The way to accelerate action is for each country to move forward on its own and develop an understanding internationally that encourages everyone to do the same.

The Bottom Line

U.S.-China cooperation on climate, as already seen through smaller scale collaborative efforts that have been embraced by China,⁴⁴ can and has galvanized proponents of climate action in China. With measures such as the \$277 billion investment in improving air quality, regional bans on new coal-fired power plants, and pilot cap-and-trade systems for carbon emissions, China is ramping up from what they were already doing on air and climate. China is at a pivotal moment where it can be expected to keep doing more. However, this depends in part on their seeing that the U.S. and other countries are also serious about the problem.

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