



A RESILIENT FUTURE

China's path to carbon neutrality



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Key messages

- China has committed to achieving carbon neutrality before 2060 and peaking CO₂ emissions before 2030.
- The commitment by China is fundamental to ensuring the success of limiting global warming to well below 2°C.
- To meet its commitments, China will need to act today on all key areas, which could necessitate significant changes to its economic structure.
- This is an opportunity for insurers to align their China strategy with decarbonisation, mitigate climate risks and support the transition to a renewable energy future.

Carbon Neutral 2060

A major milestone in global climate mitigation was reached in late 2020. In September last year, Chinese President Xi Jinping announced that China will aim to hit peak emissions before 2030 and achieve carbon neutrality before 2060. This was further amplified in an announcement in December on specific emission targets before 2030 (see Table 1 below¹). China is expected to be among the main contributors to global economic growth, and greenhouse gas (GHG) emissions, in the coming decade. The commitments made by China to peaking emissions in 2030 and turning net zero before 2060 will thus have an enormous impact in limiting global warming. Avoiding the worst impacts of climate change will require limiting warming to well below 2°C, and to be even safer, closer to 1.5°C. China's commitment to reaching carbon neutrality before 2060 (CN60) is fundamental to achieving this aim.

Table 1: China's 2020 Nationally Determined Contributions (NDCs)¹

2020 NDCs	Previous commitments
<ul style="list-style-type: none"> ▪ Peaking of CO₂ emission before 2030 	<ul style="list-style-type: none"> ▪ Peaking of CO₂ emissions at around 2030, and making efforts to peak earlier
<ul style="list-style-type: none"> ▪ Reducing carbon intensity (emissions per unit of GDP) by more than 65% from 2005 levels by 2030 	<ul style="list-style-type: none"> ▪ The previous target set in 2015 aimed at lowering carbon intensity by 60-65%
<ul style="list-style-type: none"> ▪ Increasing the share of non-fossil fuels in primary energy consumption to around 25% by 2030 	<ul style="list-style-type: none"> ▪ The previous commitment was 20%, current level is at around 15%
<ul style="list-style-type: none"> ▪ Increasing the forest stock volume by 6 billion cubic meters by 2030, from the 2005 level 	<ul style="list-style-type: none"> ▪ Previously committed to increasing 4.5 billion cubic meters by 2030, compared to 2005
<ul style="list-style-type: none"> ▪ Boosting wind and solar power generation capacity to more than 1 200 gigawatts (GW) by 2030 	<ul style="list-style-type: none"> ▪ New commitment, current capacity (2019) is reportedly at 414 GW

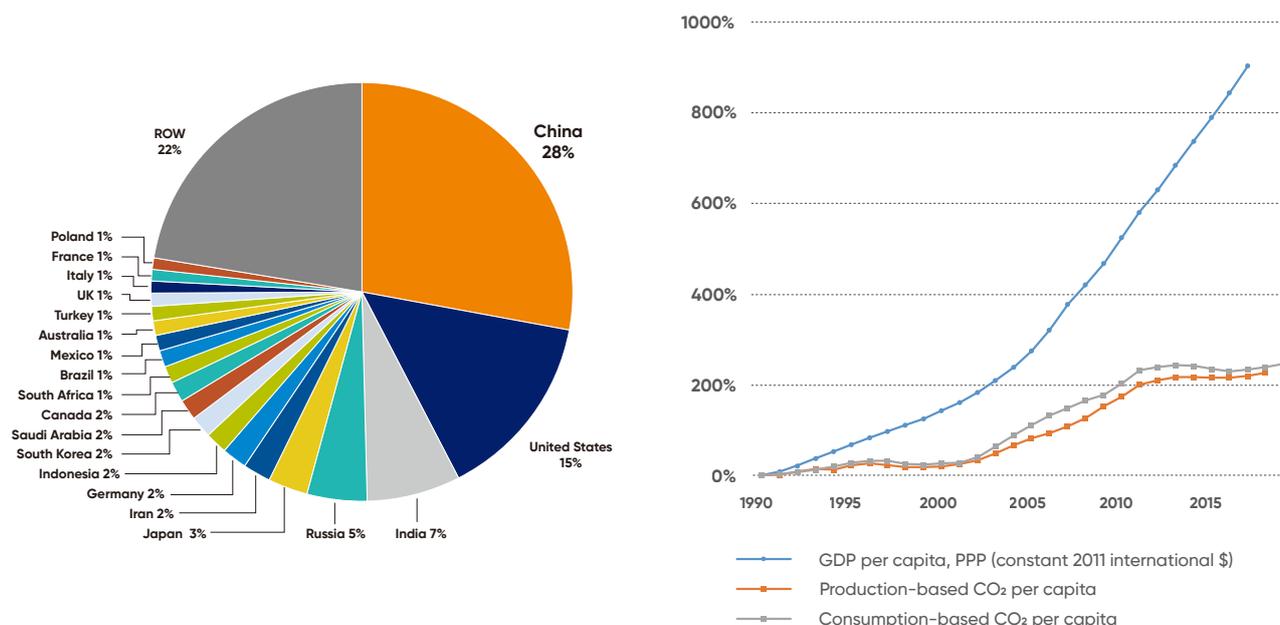
Note: China's commitment to CN60 was announced in September 2020 but not ratified or included in the country's NDCs under the Paris Agreement.
Source: Factiva, Peak Re

¹ Nationally determined contributions (NDCs) represent efforts by each country to reduce national emissions and adapt to the impacts of climate change. The Paris Agreement of 2015 requires each Party to prepare, communicate and maintain successive NDCs that it intends to achieve. See "China's Xi targets steeper cut in carbon intensity by 2030", Reuters.com, 13 December 2020. Also "China's new 2030 climate commitments: Beyond peak emissions", IHS Markit, 15 December 2020.

The significance of China's pledge to CN60:

China is responsible for 28% of global CO₂ emissions (see Figure 1), followed at a distance by the US at 15%. India is the third biggest emitter, though with a share of "only" 7%.² Reducing global emissions and limiting warming to below 2°C would not be achievable without a major contribution from these large emitters, in particular China.

Figure 1: Global CO₂ emission 2019 (LHS) and Change in per capita CO₂ emission in China, 1990-2019 (RHS)



Note: LHS – This measures CO₂ emissions from fossil fuels and cement production only, while land-use change is not included. Source: Our World in Data based on the Global Carbon Project.

RHS – Annual consumption-based emissions are domestic emission adjusted for trade. If a country imports goods, the CO₂ emissions needed to produce such goods are added to its domestic emissions; if it exports goods then this is subtracted. Source: Our World in Data based on Global Carbon Project, UN Population, and World Bank.

The path to achieving carbon neutrality will entail major changes to China, given the economy is still highly energy-dependent, with 85% of the energy generated through the use of fossil fuels. To achieve CN60, China will need to act now and significantly reduce fossil energy consumption, to be replaced by renewable or nuclear power. Meanwhile, decarbonisation is not just eco-altruism, it adds to economic growth (albeit only over the long term), for example through accelerating technological innovation and transformation/ upgrading of industry structures. Various studies have attempted to quantify the benefits, with some putting the boost to GDP by as much as 5% partly reflecting the massive scale of investment needed to achieve the target.³

² Source: Global Carbon Project (<http://www.globalcarbonatlas.org/en/CO2-emissions>). On a per capita basis, China ranked 13th globally, higher than the UK (14th) but lower than the US (4th), South Korea (6th), and Japan (8th).

³ See "China's net zero ambition could boost GDP by 5% during this decade", Cambridge Econometrics, 24 September 2020.

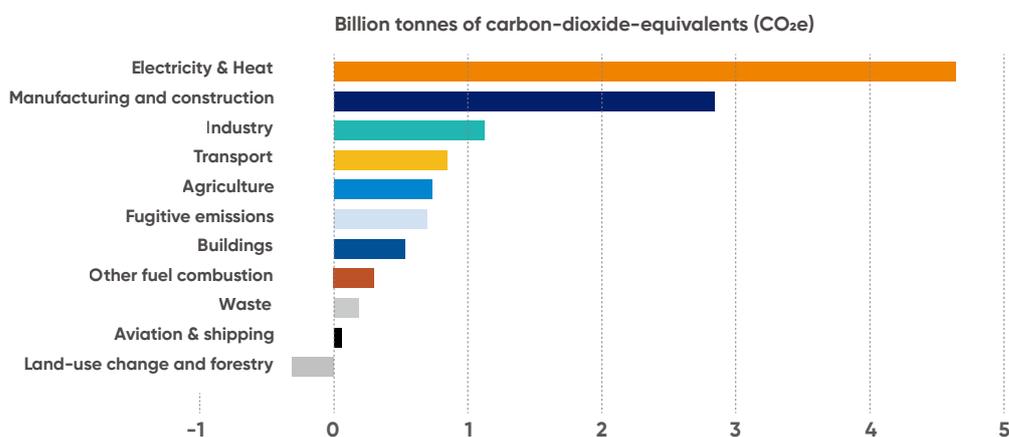
⁴ Japan's Prime Minister Yoshihide Suga declared in October 2020 that Japan aims to become carbon neutral by 2050. Japan has earlier only pledged to become carbon neutral in the second half of the century. See "Japan aims for zero emissions, carbon neutral society by 2050 – PM", Reuters.com, 26 October 2020. Similarly, South Korea's President Moon Jae-in announced a net-zero commitment by 2050 in October 2020, thus reaffirming a key pillar of his signature Green New Deal. See "South Korea formally commits to cutting emission to net zero by 2050", [climatechangenews.com](https://www.climatechangenews.com), 28 October 2020.

Importantly, China is setting an example for others to follow. Shortly following China's announcement of CN60, Japan and Korea both committed to achieving net-zero GHG by 2050.⁴ These three countries collectively account for one-third of global gas emissions in 2019. Some major markets in the Asia-Pacific region still have yet to commit to carbon neutrality, including Vietnam (new 2020 NDC of a 9% reduction by 2030 compared to business-as-usual, including industrial processes was proposed), India, and the Philippines.⁵ One should note that while some countries have not committed to a date for net-zero, they have set targets for emission reduction by 2030 that are "2°C compatible". (See Appendix A for country commitment to net zero).

Beginning the decarbonisation revolution

Even though the target date for carbon neutrality is four decades away, China will need to take action now to ensure meeting the target. The cut in carbon emissions will be significant for China, which traditionally is highly carbon-dependent and energy-intensive in its growth model.⁶ According to BCG, in a business-as-usual (BAU) scenario, China will only manage a reduction in carbon emissions by a little over 10% by 2050, against a requirement of 75–85%

Figure 2: Greenhouse gas emissions by sector, China, 2016



Source: CAIT Climate Data Explorer via. Climate Watch, Our World in Data.

under CN60 and following a 1.5°C path.⁷ The impact will be largely felt in sectors that are responsible for the most GHG emissions (see Figure 2).

Announcing China's 14th Five-Year Plan (FYP) on 5 March, Premier Li Keqiang emphasised the need to expedite the transition to a green development model with a major push on renewable and new energy sources. More details can be expected in the forthcoming detailed plans for the energy sector in the second half. Interestingly, the FYP only includes a GDP target for 2021, as opposed to the previous practice of a target over the next five years. This highlights the elevated level of uncertainty over the medium-term outlook, also easing the pressure to achieve growth targets without regarding the emission impact.

⁵ "Which countries have a net zero carbon goal?", Climate Home News.

⁶ For each USD1 000 of GDP in 2019, China needs 1 metric ton of CO₂e (carbon dioxide equivalence). The global average in 2016 (the latest year available) was 0.4 metric tons of CO₂e. Indeed, among countries of a similar level of per capita income, China has a higher level of CO₂ emission per capita. Source: Our World in Data (see link).

⁷ Different models yield different reduction requirements to get to a 1.5°C scenario but the minimum reduction is still at least halving the baseline (2015) level by 2035. See Figure 3-3 of Synthesis Report 2020 on China's Carbon Neutrality, Energy Foundation China, December 2020.

Beginning the effort today, many energy-intensive sectors in China will see major changes and restructuring. Energy production will shift decidedly towards renewables and nuclear, with increasing risks of stranded assets. Urbanisation has fast progressed over the past decade but has also been a major contributor to carbon emissions. New modes of urban development, building, and construction are needed to accommodate more urban centres while limiting the negative impact on emissions. Similarly, manufacturing and industrial production will need to consider energy-efficient process innovation and applications.

Insuring a zero-carbon future

China is the world's second-largest insurance market with around 240 insurers collecting a total premium income of CNY 4 525 billion (USD 700 billion) in 2020.⁸ Insurance assets rose to CNY 23 870 billion (USD 3 672 billion or 23% of nominal GDP) at the end of last year. This highlights the rising importance of insurance in managing risks and steering resource allocation in China. A strong partnership between the insurance and the business sectors will be needed in order to decarbonize the most polluting sectors: Energy, Manufacturing, Transportation, Construction and Agriculture. Enterprises that dominate these sectors are springing into action on energy conservation, development of alternative energy sources and emission reductions. Insurance should play a conducive role in enabling the transition to a zero-carbon future.

- Insurers as risk experts have strong expertise in areas of physical and transition risks, which they can leverage to better inform clients about emission reductions.
- As key risk carriers, insurers play a silent but critical role in directing energy investment, through the provision or otherwise withdrawal of insurance covers. Insurers can work together with clients to chart a sped-up pathway to alternative energy sources and exiting from carbon-intensive activities.⁹
- Insurers are major institutional investors with approximately USD30 trillion of investible assets globally and can influence behaviours of their invested companies (for example through supporting shareholder resolutions that call for climate action).

Recently, six Chinese state-owned utilities and infrastructure companies have joined hands to issue the country's first batch of carbon-neutral bonds totalling CNY 6.4 billion.¹⁰ The depth and breadth of green financing will continue to expand in the coming years, thus offering more venues for institutional investors to partake and drive zero emissions in China.

⁸ 2021年1月保险业经营情况表, China Banking and Insurance Regulatory Commission (CBIRC).

⁹ Appendix B provides a scorecard on global insurers' stance towards insuring coal. Significantly, by mid-November 2019, 17 insurance companies globally, including all leading European insurers except for the Lloyd's market, had stopped insuring new coal projects. In comparison, it was noted that Asian insurers are almost completely missing in action.

¹⁰ "Chinese companies borrow \$992 million in 1st issue of carbon-neutral bonds", Caixin, 10 February 2021.

Partnering in the decarbonisation path also brings additional business opportunities to insurers in China (see Table 2). The expected investment in green and climate-resilient infrastructure could bring along significant re/insurance business, while new and renewable energy has already established itself as a key client segment. Liability insurance will also see increasing demand, partly in response to more climate litigation¹¹ but also to support the introduction of new technology and business models. There will also be secondary rippling impacts. For example, the drive towards net zero will bring benefits in reducing emissions and pollutions (and likely also in heat waves and sand storms). This will impact positively on mortality and morbidity risks and thus reduce claims from life and health insurance. The mitigation of climate risks could also improve agricultural output and national food security.

Table 2: Stylized impact on CN60 on China's non-life insurance sector

Main GHG emitting sectors in China	New insurance products for new technologies	Heightening regulatory risks	Risk of stranded assets	Rapid shifts in insurance demand vis-à-vis BAU	New insurance investment opportunity	Expertise requirement (e.g. modelling of new risks)
Energy						
▪ Carbon capture and storage (CCS)	○	○			○	○
▪ Expansion of nuclear power (to eventually 1/3 of total energy mix)		○				
▪ Expansion of renewables	○	○	○	○	○	○
Manufacturing						
▪ Decarbonisation of industrial production (e.g. in electricity and heat generation)	○	○		○	○	○
Transportation						
▪ Shift to electric vehicles (EV) including commercial trucking	○	○	○	○	○	
▪ Promotion of public transportation					○	
▪ Commercialization of hydrogen cells alongside batteries	○				○	
▪ Decarbonizing marine and aviation transport		○	○	○	○	○
Agriculture						
▪ Carbon sink, biogas tank, and fertilizer reforms	○				○	○
▪ Innovation in waste treatment	○				○	○
Construction						
▪ Energy-efficient buildings		○			○	○
▪ Green infrastructure			○		○	○

Source: Factiva, Nature.com, Peak Re

China's pledge to CN60 shows the country's commitment to a resilient future. Insurers should live up to be a strong partner through the net zero journey.

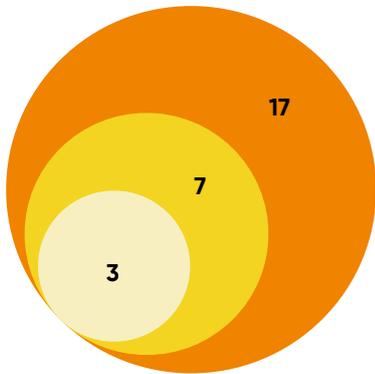
¹¹ As of May 2019, more than 1 300 climate lawsuits have been brought against governments and companies in at least 28 countries (but none in China). See Joana Setzer and Rebecca Byrnes, Global trends in climate change litigation: 2019 snapshot, July 2019.

Appendix A: Commitments to net zero by country

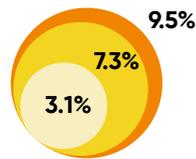
Country	Target date for net zero	Status
Argentina	2050	Submission to the UN
Austria	2040	Policy position
Brazil	2060	Submission to the UN
Canada	2050	Draft law
Chile	2050	Policy position
China	2060	Statement of intent
Colombia	2050	Submission to the UN
Denmark	2050	In law
European Union	2050	Submission to the UN
Finland	2035	Coalition agreement
France	2050	In law
Germany	2050	In law
Japan	2050	Statement of intent
New Zealand	2050	In law
Norway	2030/2050	Policy position
Singapore	As soon as viable in the second half of the century	Submission to the UN
South Africa	2050	Policy position
South Korea	2050	Submission to the UN
Sweden	2045	In law
Switzerland	2050	Submission to the UN
UK	2050	In law
US	2050	Statement of intent

Source: Climate Home News, Factiva, Peak Re

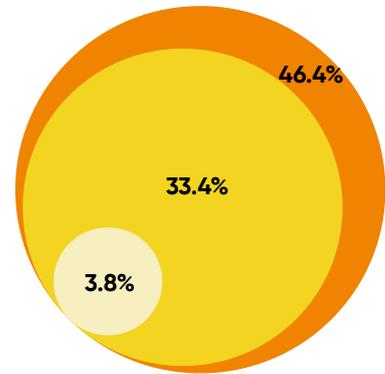
Appendix B: Global re/insurers insuring and investing in coal



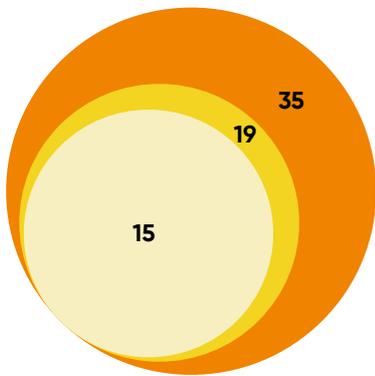
Re/Insurers
Limiting Coal Insurance
(Number)



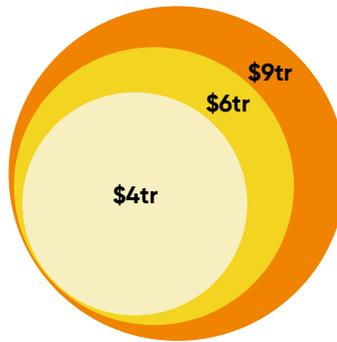
Primary Insurers
Limiting Coal Insurance
(Share of Global Non-life Premiums)



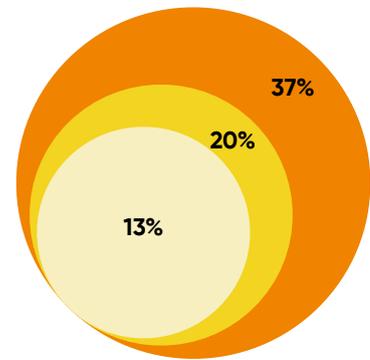
Re/Insurers
Limiting Coal Insurance
(Shares of Global Non-life Premiums)



Re/Insurers
Divesting from Coal in Some Form
(Number)



Re/Insurer Assets
Covered by Divestment Policies
(approximate)



Re/Insurer Assets
Covered by Divestment Policies
(approx. Share of Global Insurance Assets)

Source: The 2019 Scorecard on Insurance, Coal and Climate Change, Unfriend Coal, December 2019.

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