

CHINA BRIEFING: ISSUE 1

The Climate Group's China Briefing, published every other month, will update you on efforts underway to tackle climate change in China and the challenges ahead. The aim is to highlight key opportunities for working with China to achieve low carbon growth and tackle global climate change.

This issue is an introduction to climate change in the Chinese context and looks at:

- The impacts of climate change on China, including increasingly warm temperatures and extreme weather
- Trends in energy use and greenhouse gas (GHG) emissions in China
- Specific steps being taken to tackle GHG emissions in China, including those outlined in the 2007 National Climate Change Program
- An analysis of China's position on climate change in the international context
- A summary of The Climate Group's aims and objectives in China.

INTRODUCTION

“Climate change has become a social and environmental problem for China.” This acknowledgement made last month by China's leaders represents a stark milestone in global efforts to combat climate change.

On 4 June, 2007 with the publication of China's National Climate Change Program, the world's most populous country began to embrace the concept of a low carbon economy. For the first time, China outlined how it aims to improve overall energy efficiency by 20 percent by 2010, compared with 2005 levels.

IMPACT OF CLIMATE CHANGE

China's climate has been changing: the first ever National Assessment Report on Climate Change published at the end of 2006, shows that China has been experiencing increasingly warm temperatures and extreme weather:

- Between 1986 and 2005 there were 20 consecutive warm winters
- Rainfall levels have fallen in Northern China leading to droughts, while the South and South West have seen significantly more rain and flooding
- Glaciers have been retreating, especially in the Qinghai-Tibetan Plateau, the major freshwater source for 2 billion people in South East Asia and China.

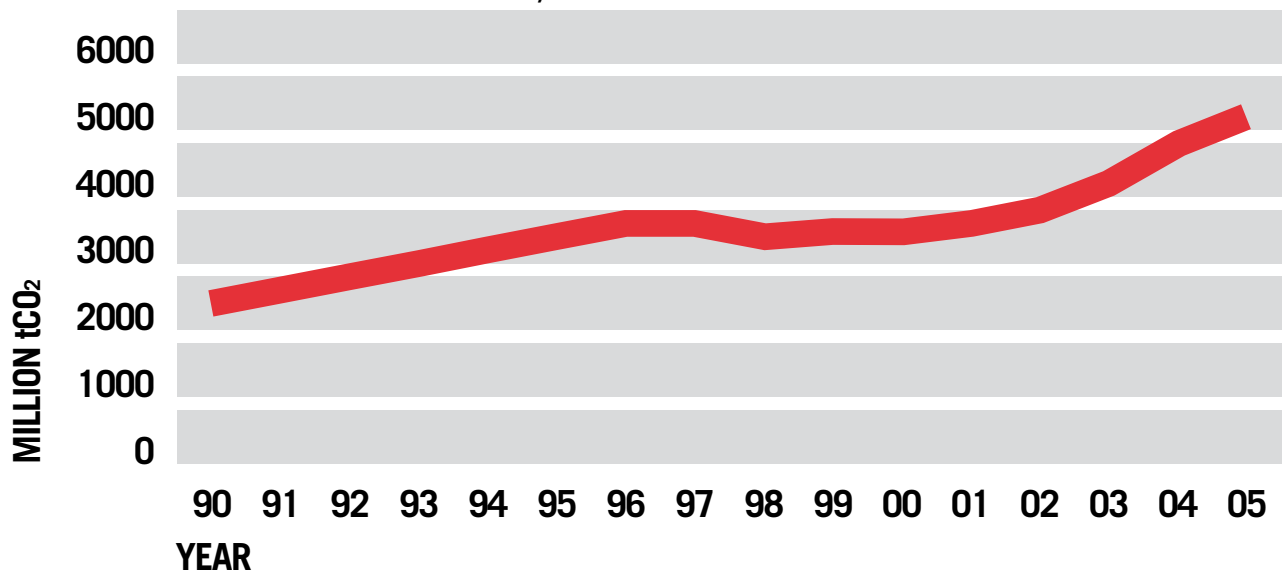
Looking forward, the report observes that by 2050 the annual average temperature in China will rise by as much as 3.3°C (5°F) and national annual average precipitation will rise by 7 percent. Extreme weather events will be increasingly frequent.

The report also analyses all-around impact of climate change on China's natural ecosystem and socio economic sectors, and it concludes that 'the future impact could be enormously destructive'.

CONTINUED GROWTH OF GHG EMISSIONS

From 1994 to 2004, China's annual average growth rate of GHG emissions has been around 4 percent, according to the National Climate Change Program. Some recent studies are forecasting that China's GHG emissions will continue to grow until about 2050, when the curve is expected to flatten out and even start to show a downward slope.

CO₂ EMISSIONS IN CHINA, 1990 – 2005



There are several reasons for the upward trend. First, demand for energy is rising at such a rate that growth in supply can hardly keep up. Second, coal continues to be the dominant source of energy, though it is now showing a slight decrease. Third, outdated technologies and processes make China's current use of energy very inefficient. Finally, at its current stage of development and industrialisation China is rapidly increasing its energy intensive manufacturing capacity and building huge numbers of roads and buildings, especially in its growing cities.

FACT: CHINA'S CUMULATIVE EMISSIONS OF CO₂ FROM FOSSIL FUEL COMBUSTION ACCOUNTED FOR 9.33 PERCENT OF THE WORLD TOTAL FROM 1950–2002

SIGNS OF HOPE

The Chinese government's goal is to build a resource efficient and environmentally friendly society. This requires it to modernise and develop its economy along totally different lines to the traditional pattern of industrialisation followed in the 19th and 20th Centuries by western countries. China is aiming for a 'circular economy' – one in which materials (and knowledge) are used to their fullest extent, and recycled wherever possible. If China achieves this goal, it will have forged a new route to a developed economy, by breaking the strong historical link between rising gross domestic product (GDP) per person and rising energy consumption per person.

Specific targets have been set to address problems of low energy efficiency and high levels of pollution. Before 2010, the country aims to improve its energy efficiency per unit of GDP by 20 percent compared to 2005. It has also set national targets to increase its use of renewable energy by 10 percent by 2010 and 20 percent by 2020.

“IN ITS COURSE OF MODERNISATION, CHINA WILL NOT TREAD THE TRADITIONAL PATH OF INDUSTRIALISATION, FEATURING HIGH CONSUMPTION AND HIGH EMISSIONS. IN FACT, WE WANT TO BLAZE A NEW PATH TO INDUSTRIALISATION.”

MA KAI, HEAD OF CHINA'S NATIONAL DEVELOPMENT & REFORM COMMISSION

STEPS TOWARDS A LOWER CARBON ECONOMY

To accomplish all this, China is taking rather aggressive steps. There are new laws, regulations, policies, and more stringent standards, as well as financial drivers and investment, and measures to gear the country towards a future of high energy efficiency, lower emissions and eventually a low carbon economy.

TOWARDS AN ENERGY-WISE ECONOMY

The government has developed an economic policy framework to promote energy efficiency and pollution reduction. Specific policy measures gradually being adopted include investment in priority energy sectors (see below) and tariff and pricing mechanisms. The government is also using contracts to make sure local decision makers and large state-owned enterprises comply with new standards.

PUTTING MONEY INTO RENEWABLES

Investment from both public and private sectors in alternative and renewable energy has been rising. Developing cleaner and more efficient coal, renewable energy, nuclear energy, fuel cells and ethanol has become one of China's top priorities, alongside oil and gas exploration, carbon sequestration, and, of course, energy efficiency. There are at least 250 research projects on this topic now in China.

Investment in wind and solar energy in particular has been growing very rapidly. For example, the National Development and Reform Commission

plans to invest 1.5 trillion RMB Yuan (about \$US200 billion) on renewable energy between now and 2020. Last year, a total of 1,454 sets of newly established wind power generators were installed, with total added capacity of 1,337 MW – more than the total in the past 20 years.

FURTHER SPECIFIC MEASURES

Last month the Netherlands Environmental Assessment Agency published figures showing that China has already taken the United States' title as the world's largest emitter of CO₂ (although China's cumulative contribution to climate change will not surpass that of the West for many years to come). Against that background here are just some of China's most recent measures:

- On May 22–23 2007, at the second US/China Strategic Economic Dialogue, the two nations agreed to cooperate on advancing clean coal technology, proposing up to 15 large-scale coal mine methane capture projects in China, with the first two now ready for development
- In June 2007, the government set up a 'National Leading Group' on climate change, energy conservation and pollution control, directed by Premier Wen Jiabao, (though critics point out that there is still no energy ministry)
- On June 3 2007, the State Council issued notice to implement China's national climate change programme
- On June 14, 2007, the Ministry of Science and Technology of China launched China's scientific and technological actions on climate change. The programme has set six goals by the end of 2020:
 - To advance and implement key technology to control GHGs and mitigate climate change;
 - To enhance adaptive capacity for key industries and vulnerable areas;
 - To improve capacity of scientific support for international cooperation and strategy;
 - To advance education and research on climate change;
 - To improve public awareness on climate change.
- China to amend the law on energy conservation to reduce energy consumption, hopefully to get approval by the National People's Congress later this year. Industrial energy-saving will be further strengthened, while transportation, building and government energy use will be regulated by the amended law
- China to step up supervision of energy-saving and pollution reduction performance. The government is actively establishing a monitoring and assessment system of energy intensity per GDP unit. A detailed 2007 action plan for energy-saving and pollution control is also being discussed for each sector.

BUILDING ON PAST ACHIEVEMENTS

Between 1991 and 2005, China achieved an annual GDP growth rate of 10.2 percent with an annual growth rate of 5.6 percent in energy consumption. During these 15 years China is estimated to have avoided about 1.8 billion metric tons of CO₂ emissions through economic restructuring and energy efficiency improvement.

- By the end of 2005, renewable energy accounted for about 7.5 percent of total energy consumption, equivalent to about 380 million tons of CO₂.
- Between 1980 and 2005, through forestry management and conservation, as well as planting trees, about five billion tons of CO₂ emissions were absorbed or avoided.
- With 452 Clean Development Mechanism (CDM) projects approved by mid-May 2007, about 156 million tons of CO₂ emissions are being reduced every year.

FACT: CHINA EXPERIENCED 20 CONSECUTIVE WARM WINTERS FROM 1986 TO 2005.

HOW CHINA SEES THE GLOBAL ISSUES

With China undergoing such massive modernisation, there is an unprecedented window of opportunity to move to a lower carbon pathway. But with 150 million Chinese still living on less than US\$1 a day, and the average Chinese carbon footprint still barely one sixth that of the average American, China is still resistant to set a timetable for a specific GHG reduction target. The country holds fast to the terms of the 1992 UN Framework Convention on Climate Change (UNFCCC), which stressed that reversing global warming should not mean a stark choice for developing countries: prosperity or protecting the climate.

There are also challenges within China to carrying out the new environmental objectives. Growing decentralisation of Chinese government means that national policies are not always easy to enforce – regional leaders may pioneer the new environmental practices but they may choose to ignore them. Likewise the booming private sector may not take kindly to what it perceives as curbs on its rampant growth.

THE °CLIMATE GROUP

The °Climate Group's aim in China is to accelerate the uptake of solutions and to build the case for leadership by supporting companies, regions and cities that are cutting greenhouse gases. With offices in Beijing and Hong Kong we will conduct in-depth research and analysis and share information through an energy-saving and low carbon forum. We will also actively involve the Chinese and international media in the climate debate. We believe that engaging Chinese business, provincial leaders and all levels of government and setting up networks for the sharing of best practice are essential to meet the challenge of decarbonising China's growth.

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