



## CHINA AND THE NEW CLIMATE ECONOMY

The New Climate Economy Report

### CHINA CASE STUDY - EXECUTIVE SUMMARY

The ultimate goals of economic growth are to expand human freedom and provide a better, safer and cleaner Earth for both present and future generations. The global economy has the potential to continue to grow 50% in the next 15 years. But the risk of environmental damage and climate change casts a shadow over the prospects for long-term growth. In the next 15 years, China has the potential to become the world's largest economy. As a result, more than any other country, it faces huge opportunities and challenges.

#### Economy

After 30 years of rapid economic growth, China's growth rate has been slowing down. China's GDP growth rate fell to around 7.7% in 2013, the lowest since the 1997 Asian financial crisis.

Capital and fixed asset investment have driven growth over the past 30 years. However, because of a decrease in the return of investment (ROI), such investment-driven rapid economic growth will not be sustainable. Meanwhile, resource constraints are now beginning to negatively impact economic growth. If these are not dealt with effectively, Chinese growth may stall and China will risk falling into the so-called "middle-income trap" (not becoming a high-income country). Technological innovation and improvements in resource productivity will therefore be critical for China's economic growth prospects. Analysis for the report suggests that China's economy could then still grow by 7-8% in the coming years, before falling to 5% in 2030.

#### Energy

China is in the final stages of industrialisation and is in the process of urbanisation. In recent years, China has undertaken huge efforts to increase energy productivity through increasing energy efficiency and developing renewable energy. However, due to rapid economic growth, China remains highly dependent on fossil fuels. While China is now the world's largest renewable energy producer, it is also the world's largest importer of fossil fuels.

Even taking into account current energy conservation policy, primary energy demand in China will exceed the capacity of energy supply. Dependence on foreign supply is also expected to reach 75% for oil and over 40% for natural gas by 2030, and carbon emissions from coal are expected to exceed the safe environmental capacity. Compared to developed economies, China's economy is more exposed to price volatility in the global energy market due to its fossil fuel dominated energy structure and high proportion of secondary industry. Sectors of the economy with high exposure to price risk account for about 20% of GDP, several times higher than that in the developed economies.

## Environment

Air pollution in East China is increasingly severe and has constrained China's economic and social development. The major characteristic is the high concentrations of particulate matter, leading to frequent smog in many regions. The most severe polluted regions are Jing-Jin-Ji region, Yangtze River Delta and Pearl River Delta. Coal burning is the major source of PM<sub>2.5</sub>. In Jing-Jin-Ji region, Yangtze River Delta and Pearl River Delta, coal burning is responsible for between 50% and 70% of PM<sub>2.5</sub> pollution.

Our analysis shows that targets for air quality are only achievable through a combination of accelerated economic restructuring, energy conservation, fuel switching and environmental policy. Energy conservation and emission reduction measures are especially important in the Jing-Jin-Ji and Yangtze River Delta regions.

Simply relying on end-of-pipe regulation will not be sufficient to tackle the air pollution problem in China. Even with the strictest end-of-pipe treatment measures, almost half of Chinese cities risk failing to meet air quality standards in 2030.

## Opportunities

Leaders and decision-makers in China are confronting the huge challenges including securing future economic growth, while at the same time ensuring a healthy environment and tackling climate change. In the next 15 years, China will face a series of important choices, which will shape both China's future and that of the world:

- China has the opportunity to become a high-income economy, but sustainable economic growth is needed over the next 20 years to avoid the middle-income trap.
- China has an opportunity to lead the world in developing new and renewable energy solutions, but will need major reform of the energy system to build safe, efficient, clean and low-carbon energy supply and consumption systems.
- China has the opportunity to play an important role in global low-carbon development and to move upstream in the industry chain, but will need to further limit greenhouse gas emissions and manage the risks of climate change.
- China has the opportunity to optimise economic growth through environmental improvement, but needs to improve environmental management.

Mindful of the close interactions between economy, energy and environment, this report integrates policy objectives and recommendations in these areas. It proposes the following recommendations for the next 15 years to achieve a transition towards green and low-carbon development using clear, consistent and progressive policy tools.

We recommend that China should set a medium/long term target for CO<sub>2</sub> emission reduction as soon as possible, and use the target as a guide and forcing mechanism to promote the transformation of economic and social development and to accelerate energy conservation and carbon reduction.

This report examines a target whereby energy-related CO<sub>2</sub> emissions stabilize and stop increasing around 2030 and then start to decrease as soon as possible, which would achieve a 58% reduction in CO<sub>2</sub> emissions per unit of GDP at 2030 from 2010 level. It would require China to implement further policies on economy restructuring, energy conservation, energy efficiency improvement, renewable energy development and air pollutants reduction.

Through synergy of these efforts, China can effectively balance multiple goals of economic development, energy security and environmental quality, and achieve multiple policy objectives simultaneously. We find that such a target can greatly reduce dependence on fossil fuels and imported energy, and improve energy structure without increasing energy cost.

In this scenario China's economy would be less susceptible to energy price changes as well. Combined with more stringent environmental policy, most Chinese cities could improve air quality and meet the air quality standards. With appropriate policy design, the target could be consistent with low GDP costs (i.e. under 1% of GDP), even before including the environment and health benefits of action. When the quantifiable benefits of reduced air pollution are considered, a large portion of GDP cost can be offset.

A transition to a low-carbon economy will not happen overnight. We propose a gradual approach to achieve a smooth transition. To promote structural adjustment and economic transformation, we recommend introducing a total emission reduction target first for industries that are overcapacity and have high-energy consumption and for those from the relatively developed economies of Eastern China. These targets should then be gradually expanded to all industries and all regions to set an emission reduction target for the whole economy.

To achieve low-carbon in energy structures, we suggest first limiting total coal consumption. Coal consumption should be stabilized around 2020. An absolute decline in total coal consumption should then occur as soon as possible.

A gradual approach can also be applied to carbon price policy. Through price reform, we aim to reflect the hidden cost of environmental externalities in fossil fuel prices. This would help to gradually establish a conducive market for clean energy and renewable energy, to direct investment to low-carbon infrastructure, to promote business to invest in low-carbon technologies and to stimulate innovation and development in these technologies.

Future international cooperation on climate change should provide equal opportunities for sustainable development for all countries in the world especially developing economies. Through international cooperation and technology transfer such a mechanism can achieve the triple-win of achieving global sustainable development, tackling climate change and improving regional environmental quality.

Ultimately our report finds that it is possible for China to achieve the goals of increasing people's standard of living, improving ecological and environmental quality and reducing the risks of climate change at the same time, providing a positive example to the rest of the world. We can expect better access to education in cities, more employment opportunities as well as better air quality and health. This is not only the 'Chinese Dream', but also the world's dream. China will lead the world to by providing a blueprint for a new climate economy.

The Global Commission on the Economy and Climate, and its flagship project The New Climate Economy, were set up to help governments, businesses and society make better-informed decisions on how to achieve economic prosperity and development while also addressing climate change. To read the full *Better Growth, Better Climate* report visit [www.newclimateeconomy.report](http://www.newclimateeconomy.report). For media and other inquiries, please email [info@newclimateeconomy.net](mailto:info@newclimateeconomy.net).