ENVIRONMENT

China unveils green targets

Premier vows to improve energy efficiency and curb pollution and carbon emissions.

BY JANE QIU

Growing environmental costs and energy demands have persuaded China's leaders that the country cannot sustain its breakneck economic growth. In a speech on Saturday at the annual National Party Congress in Beijing, Premier Wen Jiabao announced ambitious five-year goals for increasing energy efficiency and curbing carbon emissions — and a reduced target for economic growth.

In the past five years, China's gross domestic product (GDP) has increased at an average rate of 11.2% a year. The country has reduced its energy intensity — or energy consumption per unit of GDP — by 19.1%, just short of a 20% target set five years ago. Emissions of chemical oxygen demand (a measure of organic pollutants in water) and sulphur dioxide per unit of GDP also dipped by 12.5% and 14.3% respectively, exceeding previous targets of 10%.

The latest five-year plan has lowered the economic-growth target to around 7% a year, and calls for energy intensity to decline by a further 16%. The plan is China's first to include targets for carbon emissions per unit of GDP — to be reduced by 17% — and total energy use, which will be capped at 4 billion tonnes of coal equivalent by 2015, compared with the 3.25 billion tonnes consumed last year (see 'Goals for 2015').

"The targets are very ambitious in global terms," says Antony Froggatt, a climate and environment policy expert at Chatham House, a think tank in London that focuses on international affairs. But because the country's imports of coal, oil and gas are increasing each year, he says, the goals "are crucial for China to become competitive on the global market".

The plans are in line with China's existing aim to reduce carbon intensity by 40–45% from 2005 levels by 2020 (see *Nature* 462, 550–551; 2009). Froggatt notes, however, that the commitments fall short of what some climate-policy experts regard as a sufficient contribution towards the current international

China plans to reduce its reliance on coal by upping energy efficiency and the use of non-fossil fuels.

goal of preventing the world's temperature from increasing by 2°C over the pre-industrial level. "But China is not alone in that," he adds.

To meet its targets, China will scrutinize its entire energy-production chain, from suppliers to transmission and end users, and will inspect industries sector by sector, looking for ways to increase efficiency. The country also aims to raise the proportion of its energy coming from non-fossil fuels — notably, wind energy, hydro-power and nuclear power — to 11.4% by 2015. The government hopes that plans to increase spending on research and development to 2.2% of GDP — significantly higher than today — will yield breakthroughs in clean energy.

Critics applaud China's plan to cut energy and carbon intensities, but say that the question is not just whether the targets will be enforced, but how. "Low-carbon economy is not just about number crunching," says Zou Ji, an environmental economist at Renmin University in Beijing. "There are different

FIVE-YEAR PLANNING

Goals for 2015

- Reduce energy and carbon intensity by 16% and 17%, respectively.
- Cap energy use at 4 billion tonnes of coal equivalent.
- Increase the proportion of non-fossil fuels to 11.4% from the current 8.3%.
- Reduce emissions of chemical oxygen demand and sulphur dioxide by 8%.
- Reduce emissions of ammonia and nitrogen oxides by 10%.
- Increase forest coverage to 21.7%.
- Increase timber reserve by 600 million cubic metres.
- Reduce water use per unit of industrial growth by 30%.
- Increase efficiency of irrigation to 53%.

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ways to meet the targets, and some are more cost-effective and sustainable than others."

Many say that China met the previous energy-intensity target largely through draconian government measures, such as strict quotas imposed on local governments and energy-intensive industries. Fear of missing their targets led some provinces to severely ration power in the latter half of last year. This "is not necessarily the most cost-effective approach," says Kelly Gallagher, who studies energy and environment policy at Tufts University in Medford, Massachusetts.

The transition to a low-carbon economy requires not only technological innovation, but also drastic reforms in energy pricing, along with mechanisms such as emissions trading and carbon taxation, says Zou. "These are on the agenda of the central government, in principle," he says. "Whether they can be implemented in the next few years will determine the future of China's economic competitiveness." ■

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