

Reducing the energy intensity of China's economic growth

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Having experienced over 30 years of rapid growth, China's economic development is entering a 'new normal' featuring increasing optimisation of the economic structure by lowering the speed of growth and shifting it from a factor-driven to an innovation-driven pattern. In adapting to this new normal, the Chinese government has put forward a development concept summed up as "innovative, coordinated, green, open, and shared", and it has been committed to facilitate supply-side structural reforms. In the next 5-10 years, China's economic development mode and pattern will undergo profound changes.

China's development has been a process of accelerated industrialisation, and its economic growth heavily depends on energy consumption. In 2015, the country's total energy consumption was 4.3 billion tons of standard coal equivalent, of which oil consumption was about 521 million tons, representing increases, respectively, of 90 per cent and 30 per cent, compared with the year 2000. In the face of growing energy and resources constraints and serious environmental challenges, the Chinese government proactively advocates energy reform. In June 2014, President Xi Jinping proposed the energy sector should achieve a revolution in the four areas of "consumption, supply, technology and institutions", and should strengthen international cooperation in a comprehensive way. Tackling climate change, promoting green and low-carbon development as well as constructing an ecological civilisation should be included in the national economic and social development plan, from which a concrete programme can be drafted on the following lines.

First, prioritise energy-saving, improve energy efficiency, and control total consumption. Statistics from China's National Energy Administration show that the country's energy consumption elasticity coefficient dropped to 0.13 in 2015 from its peak of 1.67. During the period of 2011-2015, energy consumption per unit of GDP was reduced by 18.2 per cent, and the average annual growth rate of oil consumption dropped to 4.2 per cent from 6.4 per cent in the period of 2006-2010, though this is still notably higher than that of some developed countries. China needs to pursue rational control of overall energy consumption, in such a way to achieve a rather faster and less energy-intensive development. By 2020, the country's total primary energy consumption will be controlled at 4.8 billion tons of standard coal equivalent, of which oil demand will be 608 million tons,

and will reach 680 million tons in another 10 years, which means that, in the period of 2016-2020 and 2021-2030, China's annual oil demand growth will decline to 2.4 per cent and 1.1 per cent respectively.

Second, focus on domestic supply, strengthen international cooperation and ensure energy security. According to the "Energy Development Strategic Action Plan (2014-2020)" by the Chinese government, China must depend on domestic supply as the main channel to ensure its energy security. In the field of oil and gas, we will intensify domestic exploration and production activities to achieve strategic replacement of hydrocarbon reserves and steady growth of production according to the overall plan of "proceeding with development of eastern and western China onshore, expanding to the offshore, growing oil and gas in parallel, and strengthening unconventional based on conventional". Meanwhile, we will be committed to international cooperation for energy security by accelerating the construction of strategic oil and gas pipelines. It is expected that by 2020, total domestic production of primary energy will reach 4.2 billion tons of standard coal equivalent. The energy self-sufficiency rate will be kept at 85 per cent.

Third, stick to low carbon energy, optimise energy mix, and cut pollution emissions. China's energy mix is dominated by traditional fossil fuels, especially coal. We need to focus both on the development of non-fossil fuels and efficient use of fossil fuels to form a rational energy mix through reduction of coal, increase of natural gas, wind, solar, geothermal and other renewable energies as well as nuclear power. According to major energy research institutions, non-fossil fuels' share in the primary energy mix will reach 15 per cent by 2020. As a relatively green and low-carbon fossil fuel, the natural gas share in China's energy mix is less than 6 per cent, but will rise to 10 per cent by 2020. Natural gas enjoys great potential for rapid growth with possible demand of 350 billion cubic metres in 2020.

Fourth, insist on innovation, deepen reform, and promote technological revolution. China will deepen the reform of the energy sector, in particular on oil and gas, in an effort to deregulate market access of all segments in the whole industrial chain and make the market play the decisive role in resource allocation. In technological innovation, we strive to surpass while catching up with our peers through



Drilling at CNPC's Southwest Oil and Gas Field

building up a technological innovation system. Green, low-carbon, and intelligent development will be the strategic targets. We will dedicate more efforts in the exploration and development of unconventional and deep water resources, efficient use of coal, as well as innovation in distributed energy, smart grid, renewable energy, and energy storage by carrying out major pilot projects.

CNPC, as China's largest oil and gas producer and supplier, upholds the mission of "Caring for Energy, Caring for You" and sticks to the strategy of "resources, market, internationalisation and innovation". CNPC is committed to build itself into a world-class integrated international energy company. In recent years, CNPC has been pursuing the rapid growth of natural gas as a strategy to achieve

green development. We strengthened gas cooperation with energy companies in neighbouring countries and have built a cross-border gas transmission network. Natural gas' share in our domestic oil and gas production rose to 41 per cent in 2015 from 36 per cent in 2011. Over 70 per cent of the gas production and supply comes from CNPC. With the gas pipeline network covering 30 provinces nationwide, CNPC plays a strong role in promoting China's less energy-intensive growth as well as a less carbon-intensive energy mix. Looking ahead, we are ready to join hands with international peers in making new contributions to the sustainable development of human society through building mutually-beneficial partnership and a global energy security community. ●