

## **China's energy dynamics and global implications in the 21<sup>st</sup> century**

### ***Abstract***

*As signaled by a pivotal role at the Paris Climate Summit, China has reached a turning point in her development, moving away from energy-intensive rapid growth towards a low-carbon future with slower but more sustainable development. Half of China's energy use today is subject to mandatory efficiency standards, with a national emissions trading scheme expected in 2017, paving the way for 85% less energy-intensity compared to the past 25 years. With large-scale deployment of wind, solar, hydro and nuclear power, China's CO<sub>2</sub> emissions are expected to flatten and then peak around 2030.*

*According to a roadmap of the Chinese Academy of Sciences, renewable energies are to grow from just 6.5% of total energy supply in 2007 to about 40% by 2050, on par with a declining share of fossil fuels, while nuclear energy is expected to expand from 0.8% to about 10% over the same period.*

*However, with massive urbanization and transportation networks, China's total energy demand in 2040 is expected to double that of the United States. Over this period, China's coal consumption for power generation is expected to rise to a plateau before a slow decline. As for shale gas, China has 1,275 TCF of technically recoverable reserve compared with US's 862 TCF. However, China's reserve is in much more difficult topography. Moreover, hydraulic fracturing is highly water-intensive and vulnerable to aquifer contamination. Shale gas is therefore a mixed blessing to a water-scarce and polluted China.*

*As the world's largest enduring energy customer, China benefits hugely from collapsing energy prices. China is also gaining geopolitical influence as large energy-producing countries in the Middle East, Central Asia, Russia, Africa and Latin America increasingly turn to China. Most evident are Russia's recent massive energy deals with China. Under Western economic sanctions, Russia's ties with China are likely to deepen. In addition, more energy contracts are likely to be priced in the Chinese currency following IMF's recognition of the Renminbi as the world's no. 3 leading world currency.*

*Energy security informs much of China's geopolitical calculus. Balancing against the US "Pivot to Asia" and the China-excluding Trans-Pacific Partnership (TPP), both perceived as China-containment strategy in all but name, China is playing a trump-card of global economic connectivity. Embracing Europe and Eurasia, this takes the form of a One Belt, One Road blueprint, backed by a massive Silk Road Fund and a new Asia Infrastructural Investment Bank (AIIB). This Silk Road initiative will reinforce China's expanding energy pipelines across Eurasia, capitalizing on China's leading role in the Eurasia-centric Shanghai Cooperation*

*Organization (SCO). For example, China is becoming a lynchpin in the Iran-Pakistan (IP) and Turkmenistan-Afghanistan-Pakistan-India (TAPI) gas pipelines. Both are likely to connect to the China-Pakistan economic corridor, linking Xinjiang (China's energy base) to the Persian Gulf.*

*Last but not least, anticipating the impact of Climate Change on the Arctic in opening alternative maritime passages and opportunities for energy exploitation, China has gained permanent Observer Status in the Arctic Council, in addition to deepening trade and investment ties with the Nordic countries.*

## **Key Words**

COP21, Energy efficiency, 2050 Roadmap, Coal, Shale Gas, Urbanization, Energy Security, Geopolitics, Eurasian pipelines, Shanghai Cooperation Organization, Arctic

## **Biography**

Prominent international and independent China Strategist with over 40 years of experience in senior Hong Kong Government positions involving Mainland China. Chairman of Andrew Leung International Consultants Limited founded in London now based in Hong Kong, providing strategic advice on China globally. Helped set up Standard Chartered Bank's first merchant banking subsidiary in Hong Kong. Helped established Hong Kong's first technology centre. Oversaw transmigration of Hong Kong's industries into the Pearl River Delta, now the "Factory of the World". Invited by the US government to brief Fortune 50 CEOs on China post-1989. Advised on cross-cultural management in Lenovo's take-over of IBM Computers. Editor-at-Large of a major international consultancy on China's energies. Numerous presentations on China at conferences, universities, business schools and on live television across the globe. Topics include the role of science and technology in China's sustainable industrial development and China's roadmap to a low-carbon future. China Futures Fellow selected worldwide by Berkshire Publishing Group, Massachusetts, USA. Brain Trust Member of Evian Group, a think-tank founded at IMD, Lausanne, Switzerland. Council Member of Gerson Lehrman Group, USA. China expert with Thomas Reuters. Senior Analyst with Wikistrat, a global online strategic consultancy. Elected Member of Royal Society for Asian Affairs. Governing Council, King's College London (2004-10); Advisory Board Member of China Policy Institute, Nottingham University (2005-10); Founding Chairman of China Interest Group, UK's Institute of Directors City Branch (2006-10); Executive Committee of RSA London Region (2006-10). Visiting Professor, Sun Yat-sen University Business School (2005-10). Visiting Professor, London Metropolitan University Business School. Graduate qualifications from University of London, postgraduate qualifications from Cambridge University, PMD from the Harvard Business School, and solicitors' qualifying examination certificate from Law Society, London. Included in UK's Who's Who since 2002. Awarded the Silver Bauhinia Star (SBS) in the July 2005 Hong Kong Honours List.

