S. RAJARATNAM SCHOOL
OF INTERNATIONAL STUDIES
A Graduate School of Nanyang Technological University

RSIS COMMENTARIES

No. 105/2013 dated 30 May 2013

New Energy Dynamics in a Changing World

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Synopsis

Be wary of the instant expert making long range predictions about the world. Changing dynamics in the energy sector that confounded pundits point to a need for reality-grounded analysis of world events.

Commentary

LONG RANGE projections such as those predicting the state of the world in 2050, I have found, reflect the prejudices and hopes of those making the forecasts rather than any well-considered assessment. Policymakers, scholars, businessmen and journalists tend to look at future trends and challenges conservatively. They assume that the present will continue into the future.

Changes are likely to be incremental and past behaviour will govern future actions. As John Maynard Keynes observed in 1937, "…the idea of the future being different from the present is so repugnant to our conventional modes of thought and behaviour that we, most of us, offer a great resistance to acting on it in practice."

Reality-grounded analysis

This has led me to place more emphasis on a five to 10-year time frame. A shorter time frame allows for an analysis which is more grounded in reality. We remain the victims of our own prejudices, training and experiences. This leads us to miss indicators of changing fashions, sharp breaks with current trends and revolutionary innovations.

In an article I wrote in 2009 on the likelihood of a decline of oil production outside of the Middle East and Russia over the next decade, I ventured that, as oil production levelled off, there will be growing utilisation of natural gas. However, the reserves were highly concentrated. Russia, Iran and Qatar held over 57% of global natural gas reserves and I suggested that alternative sources of energy would be developed. Like most observers, I did not immediately recognise the impact of the fracking revolution on shale oil and gas production in the United States ("fracking" is the procedure of creating fractures in rocks and rock formations). I wrongly assumed that the risk of water pollution when rock formations are fractured would lead to successful environment-lobby opposition to its widespread use.

Hydraulic fracturing and horizontal drilling, however, has led to an energy boom in the United States. It is assessed that the US will soon be self-sufficient in oil and natural gas, leading to a sharp decline in its dependence on Middle Eastern oil. Last November the International Energy Agency *World Energy Agency Outlook* forecast that the United States will outstrip Saudi Arabia as the world's largest oil producer in 2017.

The promise of natural gas

Countries like Singapore which import piped natural gas from our neighbours on long-term contracts at prices linked to current oil prices will find it much cheaper to import cheap US liquefied natural gas (LNG). The current US price for natural gas is around $4 (S$5) per million British thermal units (BTU) compared to around US$10 per million BTU in Europe and Asian spot prices of around US$15. The opening of the Jurong Island LNG Terminal in May 2013 will allow Singapore to import LNG from around the world, enhancing Singapore's energy security. As Asian importers turn away from long term contracts, Singapore is well positioned to emerge as a LNG trading hub for the Asian region.

Cheap natural gas will lower carbon emissions as it is cleaner than coal. There will be reduced pressure to develop alternative fuels such as hydropower, wind and solar energy. China, too, has large reserves of shale gas, and has been buying into shale gas companies in the US. But water scarcity will make exploitation of this resource within China more difficult. With one of the largest coal reserves, China is more likely to exploit clean coal technologies. Implementation will lag technological breakthroughs because of infrastructural costs and the time needed to replace existing technologies. There is strong domestic Chinese criticism of the levels of pollution arising from coal fired power plants, but the accelerated adoption of this emerging clean-coal technology will lead to public acceptance of the continued use of coal.

These examples from the energy sector highlight the lack of attention paid to the human capacity to innovate and adapt to new environments and new challenges. Pundits with big ideas and confident assessments may be wrong as often as they are right. Unfortunately, most of them only recall their correct judgements, ignoring their numerous failures. And 24-hour news channels provide space for such 'talking heads' who emerge as instant experts on the current issue of the day.

US role: A clear-eyed view

In recent weeks, cable television talk shows have focused on the Middle East and the red lines which would provoke a US intervention in the conflict in Syria -- because the Middle East has loomed large in American security calculations. But the decline in the significance of Middle Eastern oil will lead to a re-thinking on American security interests in that region. Israel will remain at the centre of US security policy in the Middle East because of the strong domestic lobby backing US support for Israel. However, the multiple conflicts in the region will increasingly be seen as a European problem and a regional headache as the US re-balances its capabilities to cope with a perceived emerging challenge from a rising China in the Asia-Pacific. The difficulties faced by the US in extricating itself from Afghanistan and Iraq have served to remind the world's sole superpower that it will not want to be bogged down in another conflict in the Middle East.

While attention is riveted on Iran's quest to develop a nuclear weapon capability and efforts by the major nuclear powers to foil Iran, less attention has been paid to the decline in the ability of Saudi Arabia and Iran to determine energy prices. OPEC's influence will diminish. Although Russia will retain its access to its principal energy export markets, a return to superpower status is unlikely. As these countries become aware of the decline in their capacity to influence and shape global developments, they will be resentful. New global alignments will emerge.

Our discussion of the energy outlook draws attention to the nexus between economics and security. As China increases its military capabilities commensurate with its growing economic power, the United States will no longer be the sole superpower. It will need to adjust to a world where the established powers of Europe and the Americas will have to deal with a motley group of emerging powers with divergent interests. It will be an untidy world with an ever growing number of states wanting to be consulted on global developments; networks and coalitions coalescing on specific issues; and different combinations of regional powers shaping global and regional trends.

New energy dynamics: more challenging environment

We are unlikely to return to a Cold War but the new energy dynamics will be part of a more challenging environment for policy makers. In the decades following World War II, alignments were firm and positions were clear as states took sides in the Cold War or remained non-aligned in this great conflict. With the collapse of the Soviet Union, the years since 1990 have witnessed a dramatic re-structuring in bilateral and regional relationships. Vietnam, a foe of the United States during the Cold War, has hosted port visits by the US Seventh Fleet and has uneasy relations with China because of conflicting claims in the South China Sea, including overlapping claims in areas rich in oil and natural gas. Australia, a US alliance partner, now has China as its largest trading partner and its energy and mineral resources boom depends on continued Chinese demand.

The US is the dominant power in the Asia-Pacific region today, but it is dependent on Chinese purchases of its Treasury bonds and China is now its second largest trading partner after Canada. China's growing investments in US shale gas operations reminds us of the inter-dependence of China and the US. While Sino-US relations will be a critical concern of policymakers, they will need to track a range of subjects. Although energy issues are only one aspect in a multi-dimensional approach, they offer a window to understanding the perspectives of different states in a rapidly changing environment.

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