

Singapore's Role in tackling Climate Change in the Post-2012 Regime

Sherman Tan

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The unsettling road to Copenhagen

This December, 192 nations will meet in Copenhagen to negotiate and agree on the framework ⁽¹⁾ to reduce and avoid the dangerous impacts of climate change. Although governments and people around the world are convinced that without rapid action, the world will face catastrophes affecting agriculture, water resources, energy supplies, transportation and international trades, there exists huge gaps between commitments by developed and developing countries that many see this Post Kyoto negotiations on future climate regime as the one of most important challenges faced by our generation.

Earlier this month, UN negotiators met in Bangkok over two weeks but failed to narrow the deep divides between developed nations and the developing countries. One key issue that exists even under the Kyoto regime is the unwillingness of United States to commit to cut carbon emissions despite President Obama's keen support of the initiative. On the other hand, China and India; the two largest developed countries in Asia accounting for 24.5% of the global carbon emissions are unwilling to commit until the US has made her commitments. Many developing countries argued that the industrialised nations are totally responsible for the state that we in now and hence should take the lead to cut emissions and finance those activities to do so. However, any form of carbon emission reduction targets will definitely have an impact on cost of conventional energy storage, production and distribution and finally on economic growth. According to a recent article by Professor Nicholas Stern ⁽²⁾, developed nations will have to collectively provide annual financial support of US\$100 Billion for adaptation and US\$100 Billion for mitigation by the early 2020s.

Considering that the US is beginning to see the positive results of its financial rescue package, President Obama will have an increasing challenging task to convince the Senate to push through the bills to impose a cap-and-trade regime on carbon emissions.

Implications for Asia

Many Asian countries are very vulnerable to climate change. Coastal cities such as Bangkok, Jakarta, Manila and Shanghai are increasingly vulnerable to sea-level rise, as well as flooding and storm surges due to unpredictable weather patterns. Besides these coastal cities, some 2.2 Billion Asians rely on the food sector for their livelihoods which are threatened by falling crop yields caused by floods, droughts, erratic rainfall and other climate change impacts.

In a study by the International Research Institute (IFPRI), USA; The Energy and Resources Institute (TERI), India; and the University of Adelaide, Australia, food prices may increase sharply by 2050 due to climate change: rice prices by 29%-37%, maize by 58%-97% and wheat by 81%-102%. Since Asian's rapidly growing population is already home to over 50% of the world's poorest people, the increase in food prices and impacts from climate change will likely put many Asian countries here back into the poverty trap.

While there is increased awareness of climate change in Asia, the perspective and priorities given to address issues on climate change are very diverse due to the stage of economic development, political stabilities and ecological conditions in these countries. On the one end are the large developing countries like China and India that are currently responsible for nearly a quarter of the GHG emissions. Indonesia, Philippines, Vietnam and Bangladesh form the other end of the highly vulnerable countries. Japan and South Korea are the developed and energy efficient countries in Asia with Singapore and Malaysia as the in-between states.

First, let's look China and India who are currently the largest emitters of GHG in Asia. Although China is the fastest growing economy in recent years with double-digit GDP growth until the global economic crisis last year, there are about 65 million people living in poverty or have low income in various rural areas of China (per capita net income below 944 RMB yuan or less than US\$138 per year). According to the China State Council Leading Group Office of Poverty Alleviation and Development in 2006, another 20 millions who are currently well-off may fall into poverty any time due to disasters, diseases and other factors. As part of her economic development plan, China placed high priorities to alleviate poverty in these areas and will adhere to the established development-oriented poverty alleviation policy (2001-2010). Hence, sustained economic growth will continue to be China's main focus while reducing its reliance on coal generation energy sources. Likewise, India has often maintained their stands that while the country is a large emitter of GHG, their emission per capita of carbon is only 1.2 tonnes compared to US' 20 tonnes (China currently emits about 4 tonnes of carbon per capita).

Notwithstanding these national policies, most countries in Asia (excluding Japan) share three common points in their perspective on climate change and binding reduction targets (3):

- Production, consumption and emissions from the developed world are responsible for the current impacts of climate change and will continue to be more responsible in the near and medium term (This common view is the basis on which developing countries in the world are emphasizing their right to growth and the establishment of the principles of "common but differentiated responsibilities" under the Kyoto Protocol).
- Although overall emissions of some Asian countries may be on par with developed countries, per capita emissions remain much lower (This is the point raised by both China and India on their rights to economic development to alleviate poverty in their respective countries).
- Many technological solutions proposed by developed countries involved advanced technologies that are not easily or cheaply available in many parts in developing Asia (These vast technological disparities between developed and developing countries are the drivers behind why Asian countries are pushing for technology transfer by the developed nations as part of the mitigation commitments for developing countries in a post-2012 regime).

So until the developed nations and developing countries are prepared to address these different perspectives, no progress will be achieved come December in Copenhagen.

Singapore's Role?

I had previously mentioned that Singapore has one of the highest per capita of carbon emission in the world. According to IAEA (International Atomic Energy Agency), Singapore's Carbon emissions per capita in 2003 was 27.89 tonnes ⁽⁴⁾ while the CO2 emission per capital for some major developed countries are: Australia (19.1), Canada (19.1), Japan (9.44) and the United States (19.95). In an online article published by Low Carbon Singapore (www.lowcarbonsg.com) in May 2009, Singapore's total CO2 emission has risen by 83% since 1990 to 39.9 million tonnes in 2007. However, the carbon emissions per capita for Singapore in 2007 was only 8.7 tonne and about 9 tonne in 2003 which is substantially different from statistics of 27.89 tonne in 2003 compiled by IAEA.

One of the reasons for the major difference could be due to the inclusion of carbon emissions generated by marine bunkering oil industry. Singapore which is the largest marine bunkering oil centre in the world supplied 21 million tonnes of bunker oil to ships

in 2003 alone. Notwithstanding this difference, the international community will likely pressurize Singapore during the discussions in Copenhagen into committing to emission cuts thereby impeding economic growth for the island.

Addressing one of the questions by a student on Singapore's respond to climate change at the National University of Singapore Kent Ridge Ministerial Forum on 19 Oct 09, Minister Mentor Lee noted that it is unfair for Singapore to make a firm commitment on reducing emission and hence lower the country's growth. Mr. Lee also shared that the bulk of the carbon emissions are caused by manufacturing goods for export for which these are consumed elsewhere. Mr. Lee also did not believe that a global deal for reducing GHG emissions could be found at the Copenhagen summit as major countries like the US and China are waiting for each other to move before they commit to specific targets.

Mr. Simon Tay, former chairman, National Environment Agency (NEA) and current chairman of the Singapore Institute of International Affairs however is more optimistic of the role that Singapore can play in the coming December Summit. In an interview with the Straits Times earlier this month, Mr. Tay is of the view that Singapore being an in-between state in Asia could play a role in facilitating the discussions in achieving a deal amongst the US, China, India and the South-east Asian countries. Moreover, Singapore has voluntarily transit from an oil-reliant energy source to natural gas. In terms of energy intensity ⁽⁵⁾, Singapore has already reduced this by 15% from 1990 to 2005. In addition, the Sustainable Development Blueprint that was released in Apr 2009 has set a target to reduce Singapore energy intensity by 20% from 2005 levels by 2020 and by 35% from 2005 levels by 2030. Other energy related initiatives launched by the NEA and other ministries were highlighted in my last month article "[Energy Efficiency Initiatives in Singapore](#)".

Mr. Tay is also optimistic that Singapore can play a key role at the Summit but was quick to point out that given the country's limited land and territorial sea, Singapore has more constraints in pursuing other alternative energy sources such as wind power and tidal waves; even the wide spread use of solar energy is questionable given the excessive cloud coverage over the island. Notwithstanding these limitations, Singapore has demonstrated its ability to become a technological leader in the area of water security given the island's limited water supply. Leveraging on these technological leadership, Singapore will do the same for energy-saving and low carbon technologies. However, Singapore should not be pressurized to do more that harm her economy or making promises that cannot be realistically achieved.

Notes:

⁽¹⁾ *The Kyoto Protocol implemented in 2005 sets binding targets for industrialised countries for reducing Green House Gases (GHG). The targets amount to an average of 5.2% reduction against the 1990 baseline levels over the period 2008 to 2012. The talks in Copenhagen are to negotiate the post-2012 commitments on cutting GHG.*

⁽²⁾ *Chairman of the Grantham Research Institute on Climate Change and the Environment and Professor of Economics and Government at the London School of Economics, and a member of the British House of Lords.*

⁽³⁾ *Politics, Positions and Policy-Making on Climate Change in Asia by Simon Tay & Phir Paungmalit (Chapter 2, Climate Change Negotiations: Can Asia Change the Game, Civic Exchange 2008)*

⁽⁴⁾ <http://www.iaea.org/inis/nkm/nkm/aws/eedrb/data/SG-enemc.html>

⁽⁵⁾ *Energy intensity is usually used as an indication of the level of energy efficiency in a country and is measured in terms of energy consumption per dollar of gross domestic product (GDP). Low energy intensity means that the country is able to produce each unit of output using less energy.*

The writer is the Principal Consultant & Director at Innovar Pte Ltd (www.innovar.com.sg). He can be contacted at office@innovar.com.sg.