

China can offer domestic emission cap-and-trade in post 2012

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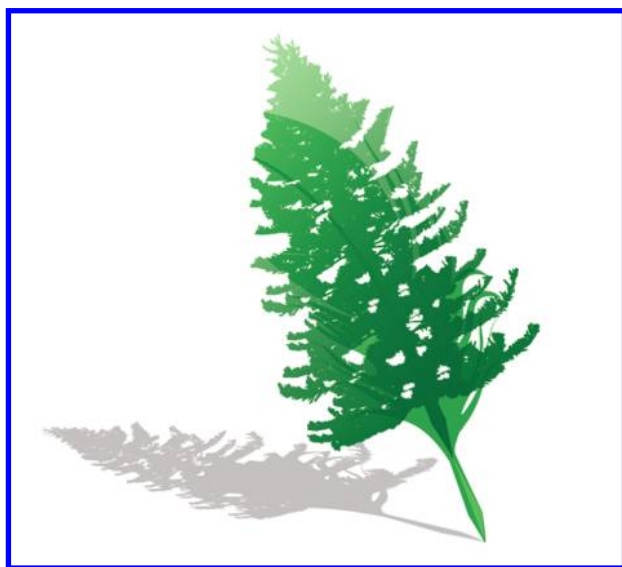
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Authors' Viewpoint



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There are clear signs that China feels challenged to take a quantitative emission cap in a post-Kyoto world and expects developed nations to lead on emission reduction (1), a view that was clearly expressed by Chinese authorities in Copenhagen. However, we think China carries part of the responsibility of global climate change and is capable to offer more.

China has been the world's top emitter since 2007 (2) and will continue to be the leading contributor to global carbon emissions over the next few decades. One can foresee that China can hardly escape an emission cap in the future as its economic development and citizens' lifestyles continue to mimic consumption and production patterns of developed countries but with much lower energy intensity levels. However, China would need some time to prepare for the day to come. China committed itself to reduce energy intensity by 20% from 2005 to 2010 in its 11th Five Year Plan (3) and, prior to Copenhagen, has extended its commitment to 40–45% of carbon intensity reduction by 2020 partly achieved through its rapid increase in electricity generation capacities from low-carbon energy sources (e.g., China has doubled installed capacity for wind power annually since 2005).

However, China failed to reduce its energy intensity since 2005, but instead had to admit to an increase of 4% prior to

2009, which casts severe doubts on the announced 20% reduction by the end of this year and increases the challenge to achieve the 2020 target. One of the key reasons is that there is no effective market-oriented mechanism in place given the great economic and technological disparities it has within the country. Although the country is not likely to agree to a reduction target in post-2012, a domestic emission “cap and trade” scheme implemented between Chinese regions could potentially help improve energy intensity in all regions and thus lead to an effective reduction of emissions in rich areas and increase efficiency levels for the poor. Furthermore, after “practicing” such an emission trading scheme at the domestic level, China will be familiar with the mechanism and prepared to join an international carbon trade market in the future.

The relative wealthier regions in China such as the coastal provinces usually possess relative advanced production technologies and could effectively be linked with emission caps and trade emission permits with the less developed regions such as the western provinces via a domestic “Clean Development Mechanism (CDM)”. This mechanism would stimulate green business investments in the field of wind farms and carbon capture and storage power plants as they would gain extra support in financial and technological terms. Further, it can also accelerate the increase of Chinese research and development investments in low-carbon technologies. While Eastern China becomes a source of innovation, Western China can provide a vast market to absorb and consume such technologies.

There were clear signals in Copenhagen that China is seen as less deserving of financial and technological aid from international channels as in the past and more resources should rather be made available for the least developed countries. Hence, within China, the wealthier regions are responsible and capable to play a leading role in helping the less developed regions to leapfrog from a carbon-intensive development path (4).

And finally, such a “cap and trade” scheme could potentially help the country in easing off regional economic disparities as well as accelerating the transition to a green economy. Western provinces would receive financial and technological aid to improve their economic conditions compared to the richer coastal areas.

Such an emission trading scheme between Chinese regions in a post Kyoto world would be very much in line with China's international manner of “..common, but differentiated responsibilities...” and would provide a “win-win” strategy in collaboratively tackling climate change (5).

Literature Cited

- (1) Pan, J. China expects leadership from rich nations. *Nature* **2009**, *461*, 1055–1055.
- (2) Guan, D.; Peters, G.; Webber, C.; Hubacek, K. Journey to world top emitter—An analysis of the driving forces of China's recent emissions surge. *Geophys. Res. Lett.* **2009**, *36*, L04709.
- (3) NDRC. *Overview of the 11th Five Year Plan for National Economic and Social Development*; National Development and Reform Commission: Beijing, 2006.
- (4) Guan, D.; Reiner, D. Emissions affected by trade among developing countries. *Nature* **2009**, *462*, 159.
- (5) Hu, J. United Nations General Assembly, New York.

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