Int Environ Agreements (2011) 11:205–208
DOI 10.1007/s10784-011-9160-z

EDITORIAL

Editorial

Carlo Carraro · Emanuele Massetti

Accepted: 27 June 2011 / Published online: 10 July 2011

It is unanimously recognized that emissions from China and India will be responsible for a large fraction of the incremental growth of Greenhouse Gases (GHGs) in the atmosphere in the next decades (IEA 2010; EIA 2011; Clarke et al. 2009). This explains, at least partly, the reluctance of the United States to take on any binding commitment to reduce GHGs emissions if China and other major developing economies do not make any steps to reduce their own GHGs emissions. At the same time, major developing countries are not willing to make costly efforts to reduce GHG emissions if developed economies do not rapidly commit to drastic emissions reductions. This contraposition has been one of the causes of the lack of substantial progress in international climate change negotiations.

The Copenhagen Summit has marked a change. For the first time, all major developing countries have pledged to take steps to control the growth of their GHGs emissions. The "Copenhagen Pledges", although informal and insufficient according to some critics (UNEP 2010), have been confirmed at the Cancun climate talks in December 2010 and will very likely characterize the post-Kyoto climate agenda until 2020.

This special issue collects a set of articles that take stock of the current status of the negotiations and suggest an unconventional, pragmatic way forward. All the articles recognize that China and India will not enter a textbook-style international climate agreement soon. They are also aware that the future international climate architecture will be fragmented and incomplete at least until 2020 (Carraro and Massetti 2011; Aldy and Stavins 2007). Therefore, the inability to build a large binding agreement with absolute targets is not seen as a tragedy, but rather as a fact that should be considered as a starting point for future steps toward global emission reductions. For this reason, all articles take a long-term perspective. As Zhang notes in his article, the real question when dealing with China and India is *post*-2020 and not *pre*-2020.

C. Carraro (✉)
University of Venice, Fondazione Eni Enrico Mattei (FEEM) and Euro-Mediterranean Centre for Climate Change (CMCC), Venice, Italy
e-mail: carlo.carraro@feem.it

E. Massetti
Fondazione Eni Enrico Mattei (FEEM) and Euro-Mediterranean Centre for Climate Change, Milan, Italy

This special issue traces a well-defined pathway to include China and India in the international effort to control global warming. With a more active participation of the two large developing economies, developed countries would find it hard to avoid a more active engagement and the Gordian knot of climate policy could be cut. Let us summarize this pathway through six key messages.

First, at least in the next decade, negotiators should focus more on sustainable development goals than on targets and timetables. The "climate-centric" approach has not worked so far and has pushed developing countries to take a defensive strategy. The focus should rather be on actions that align national development and global climate goals. This is the key message of the article by Shukla and Dhar. India has already made important steps in this direction. The National Action Plan on Climate Change released by the Prime Minister's office in June 2008 has established eight National Missions that reconcile development and mitigation actions (for a detailed list see Table 2 of Shukla and Dhar's article). Price signals alone would achieve these targets only at very high costs due to market imperfections and institutional barriers. Also the Clean Development Mechanism has limits because it cannot sponsor the best sustainable development initiatives—such as infrastructure building—due to measurement and verification problems. Only a truly sustainable development strategy has the chance of bringing India, and other developing countries alike, to a "low-carbon" society. This ought to be the center of the discussion at the next negotiations rounds.

Second, China and India will have a remarkably different impact on global climate change for several decades to come. At the same time, they follow different development paths and therefore should proceed along different negotiating trajectories. Examining historical data and scenarios developed using the WITCH model, Massetti shows that India's CO_2 emissions in 2050, both in absolute and in per capita levels, would be comparable to China's emissions in 2005. *Chindia*—as many commentators now refer to the two Asian giants—is certainly a powerful image in the geo-political debate but should not condition climate negotiations. Linking the fate of China and India would be counterproductive for the international climate agenda.

Third, China may take on absolute emissions caps around 2030. In his article, Zhang lays down an innovative roadmap for China's climate commitment until 2050. The first phase, which would last until 2020, would see China focussing on intensity targets, which can serve both domestic goals and the international climate agenda. Starting from 2018, China could take voluntary, "no lose" emissions targets. China could then take binding carbon intensity targets starting 2023. Finally, China would be ready to adopt an absolute emissions target in 2030, if carbon capture and sequestration is commercially exploitable. A commitment to take on absolute emissions caps would entitle China to ask high-income economies to deliver the promised 80% reduction of GHGs emissions in 2050 and other major economies to have emissions per capita below the world's average at that time, according to Zhang. With this level of effort, the discounted cost of climate policy is estimated by Massetti in the range of 1% of GDP, a threshold that is judged politically feasible.[1] Therefore, the roadmap of Zhang appears politically feasible and deserves further quantitative assessments.

Fourth, there are many opportunities in China and India to reduce emissions by a large amount, and at low cost, between 2020 and 2050. Massetti shows that a set of domestic

[1] The scenario suggested by Zhang implies that China must cut emissions in 2050 by 50% with respect to the Business as Usual scenario, or by 25% with respect to 2005. That requires a tax on emissions of about 100$ per tCO_2-eq in 2050.

policies that establishes in China and India an implicit or explicit tax on all GHGs equal to 10 US$ per tonne of CO_2-eq in 2020 and then increases to 50 US$ in 2050 would cut emissions by roughly 30% with respect to the BaU of both countries. Global emissions would be 8% lower in 2050 with respect to the BaU. The estimated cost of these policies would be roughly equal to 0.5% of GDP, slightly lower in India than in China. It is therefore possible to conceive a "broad-and-deep" agreement that overcomes the traditional contraposition between the "narrow-but-deep" and the "broad-but-shallow" agreements (Aldy et al. 2003). "Broad-and-extremely deep" agreements, instead, have little chances of success in China and India. Again, the work of Massetti shows that the G8 and MEF global emissions reduction target of 50% would fall in this last category. Therefore, future climate negotiations should openly acknowledge and solve the trade-off between very deep emissions cuts and equity, as stressed in the next message.

Fifth, in order to achieve consensus on very ambitious climate agreements, it is necessary to agree on a new, shared definition of the "common but differentiated responsibilities" (CBRD) principle. In this special issue, Walsh and co-authors explain why future negotiations will make little progress if they fail to establish a new, firm, effective, and mutually acceptable bedrock definition of the scope and depth of developing countries' involvement. A new interpretation of the CBDR should rely on greater flexibility on the negotiating instruments, on the timetable with which binding targets are taken, on the base year to calculate emissions targets, units of measurement, length of commitment periods, associated supporting mechanisms, and new rules governing intellectual property rights.

Sixth, clear rules that deal with the non-compliance of OECD countries with Kyoto and other climate commitments must be established. A pre-requisite for broader mitigation action in China and India—but also in all developing countries in general—is certainly a serious commitment of high-income economies, starting from the Kyoto Protocol, following with the emissions reductions and the financial support pledged in the Copenhagen Accord (Walsh et al., this issue). A failure to meet those promises will reduce any chance that developing countries—that still face tremendous development challenges—will take on binding emissions reduction targets.

Acknowledgments We are indebted to Joyeeta Gupta for continuous support throughout the duration of this project. We are also grateful to Agni Kalfagianni and to Harro van Asselt for having made invaluable comments to all articles collected in this special issue. We also thank all participants of the international workshop on "Reconciling Domestic Needs and Global Climate Policy: Challenges and Opportunities for China and India" organized by FEEM, CMCC, and the ICCG, where all papers have been presented and discussed, for valuable comments. We are particularly grateful to the eleven referees from major research centers and universities for providing a rigorous and timely review of the papers and to Barbara Racah and Amy Jackson for editorial work. Financial support from the EC2 Europe–China Clean Energy Centre, the International Centre for Climate Governance, and the Climate Policy Outreach project is gratefully acknowledged.

References

Aldy, J. E., Barrett, S., & Stavins, R. N. (2003). Thirteen plus one: a comparison of global climate policy architectures. *Climate Policy, 3*, 373–397.

Aldy, J. E., & Stavins, R. N. (2007). *Architectures for agreement: Addressing global climate change in the Post-Kyoto World*. Cambridge, UK: Cambridge University Press.

Carraro, C., & Massetti, E. (2011). *Beyond copenhagen: A realistic climate policy in a fragmented world.* FEEM Note di Lavoro No. 136.2010. Forthcoming in climatic change.

Clarke, L., Edmonds, J., Krey, V., Richels, R., Rose, S., & Tavoni, M. (2009). International climate policy architectures: Overview of the EMF 22 international scenarios. *Energy Economics, 31*(2), 64–81.

EIA. (2011). *Annual energy outlook 2011*. Washington, DC: U.S. energy information administration, office of integrated and international energy analysis, U.S. Department of Energy.
IEA. (2010). *World energy outlook*. Paris: International Energy Agency.
UNEP (2010). The emissions gap report—are the copenhagen accord pledges sufficient to limit global warming to 2°C or 1.5°C*?* A preliminary assessment. united nations environment programme, November 2010.