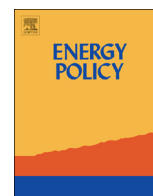




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## Communication

# Reflections on the international climate change negotiations: A synthesis of a working group on carbon emission policy and regulation in Brazil



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## H I G H L I G H T S

- The work presents results of a recent climate change mitigation policies workshop.
- It assesses Brazil's potential role in shaping future policies and negotiations.
- Policies are evaluated based on domestic and international effects.
- Suggests how Brazil's national effort could leverage the international processes.

## A R T I C L E I N F O

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## A B S T R A C T

This short communication presents a synthesis of a Working Group on Carbon Emission Policy and Regulation held at the University of Sao Paulo, in Brazil. The document looked at the problems with the international negotiations, the options for Brazil as it attempts to control emissions, and ways to leverage the mitigation process. Several options are currently being proposed, but these are neither clear in order to support a solid polycentric approach with adequate metrics, nor a robust international coordination and a sound scientific communication. Brazil has a central role in this process, for having successful initiatives on renewable energy and deforestation control. Its leadership can demonstrate how such policies might take shape. However, the country's future is uncertain in terms of low carbon development. Although the country is still well positioned among BRICS to find practical solutions to the stalemate in international cooperation, several internal challenges need to be harmonized.

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## 1. Introduction

This short communication presents a synthesis of a working group on carbon emission policy and regulation held in Sao Paulo, Brazil in March 2013. The panels have convened scholars and international practitioners in the area, aiming to openly discuss on how to further induce GHG emission reductions and promote a more effective participation of Brazilian representatives in international forums where climate policies take place. Focus was on three main issues: (i) international negotiations dilemmas, (ii) options for Brazil as it attempts to control emissions, and (iii) ways that Brazil's national effort could leverage the international climate change mitigation process. The working group elicited participant's perspectives on how policy makers could better design and

implement public policies to effectively tackle climate change, both globally and locally.

## 2. Climate policies and mechanisms: past and future

For more than two decades international negotiations have been trying to design and implement treaties to control climate change, with modest practical results in terms of curbing emissions. Future climate regimes are uncertain and challenged by factors such as the global financial crisis, soaring emission trends in emerging economies, little ambition of Annex I countries, and loopholes in existing pledges. Currently, tracks are being pursued simultaneously. Firstly, the international community has agreed to an interim system of voluntary pledges under the UNFCCC's Copenhagen and Cancun Agreement (IISD, 2010). Second, national governments are imposing domestic policies that could evolve into linked cross-national systems (Michonski and Levi, 2010). Third, States like California and Sao Paulo are putting forward

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ambitious emission reduction policies, raising the bar for national initiatives (Stavins, 2012, Lucon and Goldemberg, 2010, FAPESP, 2010). Fourth, the international community has set a goal of re-negotiating a new, large scale, binding treaty by 2015 through the Durban Platform for Enhanced Action (UNFCCC, 2011). Because metrics differ considerably amongst such systems, making it less clear which approaches might be the most successful, a solid polycentric approach will depend on a robust international coordination and sound scientific communication.

The UNFCCC talks have stalled in large part because while there is much agreement that more needs to be done, there is no agreement on how new efforts should be internationally coordinated, how the atmospheric budget should be allocated, and how burdens should be shared. Although negotiations in the next two Conferences of the Parties to the UNFCCC will certainly address carbon budgets, emerging economies (especially the BRICS) remain attached to the principle of common but differentiated responsibilities (CBDR), which allows for these countries to over-estimate their future emission trend lines, making it doubtful whether mitigation efforts are additional or business-as-usual. Annex I pivotal countries are at the same time required to commit to more ambitious goals, beyond those from the Kyoto Protocol's first commitment period, but have taken relatively little to the table.

Many countries face a critical challenge with their energy system: increasing incomes in growing economies; providing energy access to the poorest, and bringing them towards meeting the common climate change objectives (International Energy Agency, 2012). Others struggle to cope with their climate law with new realities, such as the phase-out of nuclear power or land use change impacts. In this complicated gridlock, practical solutions need to emerge from both OECD and BRICS, in order to steer the international negotiation process (Keohane and Victor, 2011, Mattoo and Subramanian, 2012).

Brazil has potentially a central role in this process for several reasons. It is a large democracy, with a considerable agricultural frontier and still many natural resources for a clean economy. The country has a proven record of leadership among the BRICS on a wide range of topics in international diplomacy—not just climate change but also international trade, among others. Compared to other BRICS, Brazil has already achieved the most demonstrable progress in reducing emissions, notably from avoided deforestation. Brazil can develop further policies to control emissions and also demonstrate how such policies might shape how the international community engages other emerging countries. Participation of China and India, as well as other large emitters, will be needed for a successful international coordination — but still Brazil is very well positioned to find practical solutions to the stalemate in international cooperation.

Technology developments and grassroots policies are paving the way for sectoral approaches. Many countries have fuel decarbonization and energy efficiency policies without compromising their economic competitiveness e.g. new model vehicle efficiency levels, renewable energy projects, system integration through smart grids, information technology and communications, and urban systemic approaches (IPCC, 2007, 2011, IASA, 2012). Policies to reduce GHG emissions can be based on a series of tools mainly through regulation (which some experts criticize based on economic inefficiency), taxes (definition of a carbon price resulting from the implementation of positive or negative taxes), cap-and-trade (or the allocation of permits traded in carbon markets), the development of low carbon-intensive energy technologies focused on energy efficiency, and addressing alternative behavior and lifestyles (Stern, 2007, IPCC, 2011).

Individually, market mechanisms will not solve problem, but the experience acquired shows that private-sector flexibility and

innovative initiatives are required to complement the role of governments in establishing the proper institutional and financial framework for performance-based activities. Over the past years, a learning-by-doing process along with the development of CDM projects in developing countries has supported capacity building and the creation of accounting and monitoring methodologies. Even considering that the use of these market mechanisms has demonstrated limited efficacy, this legacy might tailor future initiatives that might contribute to future mitigation goals. Over the last 5 years until 2012, CDM has avoided 1.15 Gt CO<sub>2</sub>e (gigatonnes, or billion tonnes of carbon dioxide equivalent), which equals to 1.15 billion issued CERs - certified emission reductions (CDM EB, 2013). To put this value in perspective, according to UNEP's scientific panel, the gap between expected emissions and targets in line with the 2° warming limit in 2020 stands between 4.7 and 7.1 Gt CO<sub>2</sub> e per year, (UNEP, 2010). Moreover, carbon markets are facing a considerable downturn, with Certified Emission Reductions (CERs), which are priced at EUR 40 cents for 2013 and EUR 1 for 2020 (EEX, 2013). Moreover, CDM projects are focusing on least developing countries, which makes sense in terms of equity but not in terms of mitigation, because these countries have extremely low baselines.

### 3. Future emission scenarios and climate change mitigation in Brazil

Leadership and technology innovation are needed to move from the current gridlocked negotiations to a more positive agenda, and instead of simply replicating past unsustainable pathways, societies may learn from mistakes and leapfrog to enhance their economic systems. Examples of alternative trajectories include solar panels in China and sugarcane ethanol fuel in Brazil (InterAcademy Council, 2007). All end use sectors can achieve substantial savings through dematerialization, fuel decarbonization and overall efficiency, by factors of 10 or more (Lovins, 2011). Such efforts should be made by both private and public sectors, backed up by strong policy frameworks (Mitchell et al., 2011).

The inclusion of programmatic mechanisms and more comprehensive regulatory tools could contribute to the international climate change regime. Nationally Appropriate Mitigation Actions (NAMA's) created during the 13th UNFCCC Conference of Parties (COP-13 held in 2007 in Indonesia) through the Bali Road Map (UNFCCC, 2007) seems to be a more feasible option to foster national efforts and to influence other countries to tackle climate change. Brazil has presented its NAMA's through voluntary pledges during the 15th UNFCCC Conference of Parties, held in 2009 in Copenhagen. The National Policy on Climate Change (PNMC, 2009) sets voluntary reduction targets of 36.1–38.9% based on a Business as Usual (BAU) scenario by 2020, and most reductions rely on land use change and deforestation. However, the Brazilian baseline has changed from 2009 to 2010: around 533 million tonnes of CO<sub>2</sub> were added (Brazil, 2009, 2010). Also, the Brazilian premises are based on a quite high GDP growth (around 4% per year), with very little efficiency decoupling (Brazil, 2010 and MME, 2011). The country needs to address these loopholes in order to keep the credibility of its pledges.

Land use change (LUC), mostly due to deforestation in the Amazon Region, was the main emitting sector in Brazil (MCT, 2010). While the deforestation rate in the Amazon Region reached 19,014 km<sup>2</sup> in 2005, the rate decreased to 4,656 km<sup>2</sup> in 2012 (INPE PRODES, 2012), which means that only 225 million tonnes of CO<sub>2</sub> were emitted to the atmosphere from deforestation in Amazon. However, even considering that over the last 5 years, deforestation rate has decreased by 20% per year, achieving a zero

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