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Veröffentlichungsversion / Published Version Arbeitspapier / working paper

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#### **Empfohlene Zitierung / Suggested Citation:**

Fraundorfer, M., & Rabitz, F. (2015). *Brazil and the Durban Platform: ambitions and expectations.* (GIGA Focus International Edition, 8). Hamburg: GIGA German Institute of Global and Area Studies - Leibniz-Institut für Globale und Regionale Studien. <a href="https://nbn-resolving.org/urn:nbn:de:0168-ssoar-449096">https://nbn-resolving.org/urn:nbn:de:0168-ssoar-449096</a>

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Number 8

2015

ISSN 2196-3940

# Brazil and the Durban Platform. Ambitions and Expectations

Markus Fraundorfer and Florian Rabitz

Brazil, together with other emerging powers, has repeatedly made headlines over the last few years as a serious player in international climate change negotiations. In December 2015 states will convene at the UN Climate Change Conference in Paris to agree on a new international climate treaty. What can we expect from Brazil at the upcoming climate summit? What can we expect from the negotiations on a new climate treaty in the context of the Durban Platform?

#### **Analysis**

This issue of the GIGA Focus discusses Brazil's potential role at the upcoming UN Climate Change Conference, analysing if Brazil's expected contributions can keep up with its ambitious rhetoric.

- Brazil's presently low emissions trajectory is a result of reduced deforestation rates. With greenhouse gas emissions from all other sources increasing, an ambitious contribution to global post-2020 mitigation requires more stringent action. However, it is unlikely that Brazil will take ambitious measures in areas other than forestry.
- While Brazilian climate diplomacy puts a rhetorical premium on historical responsibility, its substantive contribution to the negotiation process is only moderately progressive. The proposal of "concentric differentiation" offers a way to implement the principle of common but differentiated responsibility in line with current realities while allowing for the obligations of Annex I (mostly developed countries) and major non–Annex I parties (mostly developing countries) to converge in the long term.
- The present context of the international negotiations is generally favourable to-wards Brazilian participation. The main challenge will be to conclude a transparency regime which facilitates collective action by allowing for adequate international review of domestic policies. To that end, the principle of common but differentiated responsibility should be implemented under the Paris agreement in a manner which aligns with the convention's long-term objective.

Keywords: Brazil, Durban Platform, greenhouse gas emissions, Paris, UN Framework Convention on Climate Change ERNATIONAL



#### Introduction

At the 17th Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC) in Durban in 2011, parties agreed to negotiate a new legally binding international climate treaty by the end of 2015 called the Durban Platform (UNFCCC 2014). With only months left until the 21st Conference of the Parties in Paris, the role and contribution of major emerging economies under a post-2020 climate agreement remains one of the most critical issues. The new agreement, "a protocol, another legal instrument or an agreed outcome with legal force under the Convention applicable to all parties," is to be based on parties' nationally determined contributions (NDCs)1 and has the ultimate objective of holding global average temperature increases below 2°C relative to pre-industrial levels.

The role of the new emerging powers will be critical to any international climate deal. These new powers demonstrated their political clout for the first time at the 2009 climate change conference in Copenhagen, when they formed the BASIC group (Brazil, South Africa, India, and China) and negotiated the final wording of the Copenhagen Accord with the United States. Given that these emerging countries have further intensified their coordination in order to exercise more influence in the context of international climate change policy, no deal will be possible without them. This paper assesses the role of Brazil within the ongoing negotiation process of the Durban Platform and attempts to draw conclusions about what we may expect from this country at the Paris climate change summit later this year.

Brazil's prospects for inspiring international action are currently clouded by domestic turmoil and a paralysed government. Brazil's incumbent president, Dilma Rousseff, has largely failed to build on her predecessor's national and international successes, which contributed to establishing Brazil as a promising new player on the international stage. The spirit of optimism from the Lula years (2003–2010) has largely evaporated, and the Brazilian government under Rousseff has been fighting a stubborn economic recession. In addition, the government has been facing countrywide civil society

mass protests fuelled by Brazilians' dissatisfaction with the dire state of Brazil's infrastructure, public health system, and public education system. If this were not enough, the government has been weakened by a gigantic corruption scandal involving the ruling Workers' Party, the state-controlled oil company Petrobras, and various other leading construction companies. Heavily besieged at home and lacking Lula's extraordinary leadership qualities, Rousseff has been unable to further Brazil's position on the international stage.

With Brazil's government and president under extreme pressure, what can we expect from the country during this pivotal moment in the climate treaty negotiations? In the following analysis, we ask three interrelated questions: First, to what extent does Brazil's domestic context align with the objective of the negotiation process? Second, to what extent is the international context conducive to Brazilian participation in the agreement? Third, what is Brazil's role in the ongoing diplomatic process?

#### The Domestic Context

Brazil is quite vulnerable to climate change and is already experiencing shifts in precipitation patterns and changes in regional temperatures (IPCC 2014). Recent droughts and floods have been partially attributed to the consequences of climatic change, and their frequency is expected to increase in the future (INPE and Met Office 2011). Climate-related GDP losses could amount to BRL 719 billion (in 2008 prices) by 2050 according to optimistic estimations or BRL 3.655 trillion according to pessimistic estimations (Margulis and Dubeux 2010: 52–54). The Amazon region is particularly sensitive to climate change, with temperatures estimated to increase by 2.3°C-8.9°C by the 2090s (INPE and Met Office 2011: 41). Brazil's position as a leading exporter of agricultural products represents another Achilles' heel. Should temperatures increase by 3.5°C, farm property values would be expected to drop by up to 38.5 per cent (Sanghi and Mendelsohn 2008). Such an impact on the agriculture sector would negatively affect both Brazil's balance of trade and domestic food prices (World Bank 2013). In addition, the production of both biofuel and hydropower, the mainstays of Brazilian clean energy, would likely suffer (CEBDS 2013).

<sup>1</sup> After the successful conclusion of the negotiations for a treaty the so-called INDCs (intended nationally determined contributions) become NDCs (nationally determined contributions).

Historically, the lion's share of Brazilian emissions came from deforestation. The country's improved regulation of deforestation has thus resulted in its presently low emissions trajectory. The 2004 Plan of Action for the Prevention and Control of Deforestation in the Amazon strengthened enforcement of forest regulations and allowed for the use of satellites to track deforestation in real time. In 2008 the National Congress established the Amazon Fund to improve forest management and conservation. Mainly financed by Norway and, to a lesser extent, Germany and Petrobras, the fund has so far approved 50 projects with a total volume of USD 329 million; it is considered one of the most ambitious projects of its kind (Amazon Fund 2014). However, the anti-deforestation movement suffered a major setback in 2012 following the National Congress's decision to modify the 1965 Forest Code – legislation designed to protect Brazil's rainforests (Tollefson 2013). The revised code has been criticised due to its amnesty provisions and lax restoration requirements for illegally deforested land (Soares-Filho et al. 2014).

Given the reduction in deforestation, emissions from land-use change and forestry have declined accordingly, from 816 MtCO<sub>2</sub>e in 1990 to 476 Mt-CO<sub>2</sub>e in 2012. In the same period, however, emissions from energy and agriculture grew from 195 MtCO<sub>2</sub>e to 440 MtCO<sub>2</sub>e and from 304 MtCO<sub>2</sub>e to 440 MtCO<sub>2</sub>e, respectively (OC 2014). Sizeable increases from fugitive emissions, transport, and industrial processes are expected in the near future (MME 2013: 346). Increased emissions from energy are due to the growing share of oil and gas in the national energy mix. While electricity from hydropower still accounts for 64 per cent of installed capacity (EPE 2014: 45), fluctuations in supply caused by droughts have led to a stronger reliance on natural gas. Proven domestic oil reserves have doubled between 1998 and 2010 (Costa et al. 2015), and the transport sector's demand for fuel is only partially being met through biofuels. Yet, despite the bioethanol sector facing headwinds due to a price cap on petrol, domestic production is expected to reach 50 billion litres in 2020 – up from 16 billion in 2005 (OECD / FAO 2011: 84).

A further challenge is energy efficiency. Losses from transmission and distribution amounted to 16 per cent of total output in 2011. Although this is in line with the regional average, it compares unfavourably to other upper middle-income countries. The development of non-hydropower re-

newables remains sluggish. In 2011 the installed capacities of wind energy and photovoltaic energy amounted to 2,202 MW and 5 MW, respectively (EPE 2014: 45). However, significant scope for expansion exists, with Brazil receiving annual solar radiation of between 1,500 kWh/m<sup>2</sup> and 2,200 kWh/m² (Rüther and Zilles 2011: 1027). Solar energy also offers significant co-benefits, such as (a) reduced dependence on Bolivian gas imports, which has caused concerns regarding energy security in the past; (b) the seasonal availability of solar- and hydropower being anticyclical (Rüther and Zilles 2011: 1027); and (c) improved access to energy and decentralised electricity generation, resulting in reduced losses from transmission and distribution.

Various policy frameworks address climate change both directly and indirectly. The 2008 National Plan on Climate Change aimed to reduce deforestation rates by 40 per cent between 2006 and 2009, by a further 30 per cent by 2013, and another 30 per cent by 2017. The plan's other measures include (i) improvements to energy efficiency and conservation in the order of 106 TWh by 2030, (ii) the replacement of 10 million refrigerators over a 10-year period, (iii) a 20 per cent increase in the recycling of urban solid waste by 2015, (iv) the reduction of non-technical losses in electricity distribution by 10,000 GWh over 10 years, and (v) the addition of 34,460 MW from hydropower.

Despite not yet publishing its intended nationally determined contribution (INDC), Brazil pledged at Copenhagen 2009 to reduce emissions by 36.1 to 38.9 per cent by 2020, according to business-as-usual conditions. The pledge is based on abating emissions of 670 MtCO2e from the Amazon and the Cerrado, 83 MtCO<sub>2</sub>e–104 Mt-CO<sub>2</sub>e through the restoration of grazing land, 48 MtCO<sub>2</sub>e-60 MtCO<sub>2</sub>e through the increased use of biofuels, and 79 MtCO<sub>2</sub>e-99 MtCO<sub>2</sub>e by expanding hydropower. On the domestic level, a 2010 presidential decree established specific targets for the 2008 National Plan. The decree assumes a business-as-usual scenario of 3,236 MtCO<sub>2</sub>e for 2020 as the baseline for the domestic target. This scenario is at the upper limit of available projections (PBL 2013), with the reduction target of 36.1 per cent-38.9 per cent thus being easier to reach than it would be under less pessimistic assumptions. Still, this target is expected to lead to a 6 per cent-10 per cent decrease in emissions by 2020 relative to 2005 - a more ambitious commitment than

the targets of other non–Annex I parties (La Rovere et al. 2013: 72–73). The decree also establishes the following sector-specific targets: (a) an 80 per cent reduction in deforestation in the Amazon relative to the 1996–2005 average and a 40 per cent reduction in the Cerrado relative to the 1999–2008 average, (b) the restoration of 15 million ha of degraded pastures, (c) expansion of biological nitrogen fixation by 5.5 million ha in order to reduce the use of nitrogen fertilisers, and (d) afforestation totalling 3 million ha.

A Brazilian domestic climate policy that focuses on deforestation will not be able to sufficiently limit emissions in the post-2020 period (La Rovere et al. 2013). While there is significant scope for expanding renewable energies and energy efficiency, Brazil's domestic policy lacks clear, quantified, long-term targets for the expansion of renewable energies other than hydropower (IRENA 2012; 2015). Also, the stated aim of establishing a nationwide cap-and-trade system has, so far, not materialised. Brazil's contributions to international mitigation efforts thus depend on measures in areas such as energy efficiency and grid infrastructure, non-hydropower renewables, agriculture, and fuel. Brazil's capacity for abating greenhouse gas emissions presently outstrips its willingness. Beyond deforestation control, the regulation of biofuels is an exception here, with mandatory blending levels for petrol and, more recently, diesel having repeatedly been ratcheted up (Fraundorfer 2015: 136–142). With rising emissions expected from transportation, this policy instrument in principle allows for the direct control of fuel demand. As the next section shows, however, Brazil appears to be unwilling to bring far-reaching contributions to the international negotiating table. This unwillingness is unfortunate considering both the country's vulnerabilities to climate change and the scope for "no regrets" options.

#### **International Negotiations**

The failure to adopt a follow-up agreement to the Kyoto Protocol at the 2009 Copenhagen conference has been mainly attributed to Brazil, China, and India, which "unapologetically trumpeted their freedom of economic development regardless of environmental impact" (Dimitrov 2010: 817). Unlike the Kyoto Protocol, the Paris agreement is to be based on NDCs, which "may include, as ap-

propriate, inter alia, quantifiable information on the reference point (including, as appropriate, a base year), time frames and/or periods for implementation, scope and coverage, planning processes, assumptions and methodological approaches." While the Brazilian INDC is expected in October 2015, a US-Brazilian joint statement on climate change from July 2015 sets out a number of targets and actions that allow for a preliminary assessment of Brazil's ambition. In the statement, Brazil commits itself to generating 20 per cent of its electricity through renewable energies other than hydropower by 2030. Although it appears to have acknowledged the necessity to expand alternative energy sources, the target proposed by Brazil is remarkably low. As of 2015 non-hydro renewables already account for 18 per cent of installed capacity, and projections show that the 20 per cent target will be achieved in 2017 (MME 2013: 93). Brazil is also committed to reforesting and restoring an area of 12 million ha by 2030. This goal is equally lacking in ambition considering that the revised Forest Code already requires ~21 million ha to be restored (Soares-Filho et al. 2014: 363). The commitment to objectives which are significantly below business-as-usual conditions, as well as the absence of either economy-wide or sectoral targets, suggests that Brazil is unlikely to assume "progressions beyond the current undertaking," as set out at the 2014 Lima climate talks. This is in line with a 2011 shift towards more conservative policy objectives (Viola and Basso 2015: 441–444).

Besides the question of whether Brazil's eventual NDC will make a sufficient contribution to keeping global warming under the 2°C limit, a critical issue within the Paris agreement will be the transparency of action. At Copenhagen, despite its relatively ambitious pledge (La Rovere et al. 2013), Brazil - as well as the other members of the BASIC coalition – refused to subject the implementation of its pledges to stringent measuring, reporting, and verification (Dimitrov 2010). Since the Cancun summit, a differentiated regime of international assessment and review (for Annex I parties) and international consultation and analysis (for non-Annex I parties) has been developed (van Asselt et al. 2015). While numerous developing countries seek to uphold this approach, developed countries prefer to merge the two tracks (ENB 2014). Under the current two-tiered system, the reporting carried out by non-Annex I parties frequently does not allow for the tracking of progress towards national emissions targets; moreover, few non–Annex I parties submit their biennial update reports in the first place (Deprez et al. 2015). Although Brazil has shown itself willing to contribute to global mitigation efforts, given the substantial incentives to free ride, any pledges/ NDCs are only as good as the ability to verify their implementation.

Beyond Brazil's apparent lack of ambition regarding emission targets and the unresolved issue of transparency, further controversy revolves around the question to what extent "self-differentiation" at the level of NDCs is complemented by differentiation under the international framework of the Paris agreement. Brazil has always been a fervent advocate of the principle of common but differentiated responsibility. For instance, it noted on behalf of the BASIC group that "the socalled 'self differentiation' approach is not consistent with the principles and provisions of the Convention, nor with the Durban mandate or the Lima Call for Climate Action" (Brazil 2015). The importance Brazil places on common but differentiated responsibility is also reflected in its calls for the development of methodologies for assessing historical responsibility for climate change (Brazil 2013).

However, the concept of "concentric differentiation" proposed by Brazil at the Lima conference in 2014 allows for, in theory, the implementation of the principle of common but differentiated responsibility in a way which goes beyond the distinction between Annex I and non-Annex I. According to the proposal, Annex I parties would be obliged to include "quantified, economy-wide, absolute emission limitation or reduction targets in relation to a baseline year" in their NDCs. Meanwhile, least developed countries would be "encouraged" to include non-economy-wide actions, whereas developing countries would be expected to utilise quantified, relative targets (emissions intensity, per capita emissions, or businessas-usual deviation). The latter group could gradually move towards absolute targets "in accordance with their national circumstances, development levels and capabilities" (Brazil 2014). This leaves the door open for a long-term convergence between the obligations of developed and major developing countries.

The 2014 Lima conference was silent on the (mandatory or voluntary) inclusion of means of implementation. This has caused some concern

amongst developing countries about whether developed countries will uphold their financial commitments towards the Green Climate Fund. Like other major non–Annex I emitters, Brazil does not require direct financial transfers to support mitigation and adaptation. Of larger importance is the status of the REDD+ mechanism (designed to reduce emissions from deforestation and forest degradation, foster conservation and sustainable forest management, and enhance forest carbon stocks)<sup>2</sup> and the Clean Development Mechanism (CDM) under the Paris agreement.

At the 2015 Bonn conference REDD+ became the first agreed-on element of the Paris treaty, with consensus now existing on non-carbon benefits, joint mitigation and adaptation approaches, and, most importantly, safeguards. The Bonn text leaves open whether REDD+ will allow for the transfer of emissions rights through carbon credits, or whether it will be financed through results-based payments. Expecting larger financial flows from the former, the Coalition for Rainforest Nations (of which Brazil is not a member) has proposed the creation of a new market mechanism linked to REDD+ under the Paris agreement (CRN 2015). Unlike for many other countries with large forest covers, market-based REDD+ financing is not a viable option for Brazil. Considering its emissions profile, any ambitious Brazilian contribution to global mitigation efforts precludes the large-scale transfer of emissions rights through carbon markets. Financing REDD+ through emissions trading would prevent Brazil from using the "easy" option of deforestation control to count towards its NDCs. However, although the federal government has repeatedly positioned itself against generating carbon credits through avoided deforestation, various Amazonian states consider it to be a viable option. Presently, the state of Acre is negotiating with the US state of California regarding the use of credits generated through avoided deforestation within the Californian capand-trade system (Roessing 2015).

It is unclear which role a revised CDM will play in the Paris agreement. Emissions trading is not part of the Durban Platform's mandate, and the implementation thereof requires common accounting standards to avoid double counting. However, Brazil is a major stakeholder in the CDM, host-

<sup>2</sup> REDD+ is intended to be an international framework for sustainable forest management and the reduction of CO<sub>2</sub> emissions resulting from deforestation.

ing 337 registered CDM projects with over 100 million certified emissions reductions issued since 2005. Brazil advocates reform of the CDM in order to make the reforestation of areas with "forests in exhaustion" an eligible activity. This allows the generation of tradable carbon credits through the clearing of severely degraded forests and their subsequent replacement with new plantations.<sup>3</sup>

Brazil's involvement in the Durban Platform negotiations is thus ambivalent. While it is unlikely that ambitious targets are forthcoming under the Brazilian INDC, the proposal for concentric differentiation is a step forwards from the status quo. In addition, there are elements – such as a reformed CDM or a results-based REDD+ mechanism – on which Brazil is clearly a *demandeur*. Considering the current domestic turbulence it is experiencing, Brazil faces additional challenges in constructively engaging with the diplomatic process.

#### Conclusion: Lack of Ambition, not Capacity

Brazil's role within the present climate negotiations is ambivalent. On the one hand, its current emissions trajectory requires stringent actions in areas beyond forestry. Scope for such actions exists and, in the case of non-hydro renewable energies, promises significant co-benefits. As a central player in the present negotiation process, if Brazil were to take ambitious actions, it would send a powerful signal both to other major emitters and to its neighbours - who as members of the Like-Minded Group of Developing Countries (LMDC) are reluctant to take actions of their own. Sending such a signal would facilitate international efforts to keep global warming within manageable limits, which should be a matter of self-interest in the Brazilian case. The 2014 Lima proposal for concentric differentiation also shows a general willingness of the Brazilian government to apply the principle of common but differentiated responsibility to contemporary realities; this sets Brazil apart from numerous other non-Annex I parties, such as the LMDC.

On the other hand, Brazil's willingness to take effective measures beyond deforestation control is rather low. For the post-2020 phase, mitigation will require focusing not only on the "low-hang-

ing fruit" of forestry but equally on renewable energies, energy efficiency (including grid infrastructure), agriculture, and fuel. This will also require improved streamlining of domestic policies as well as quantified, verifiable indicators. On the international level, policies must be subject to sufficient measurement, reporting, and verification in order to ensure the NDCs are being implemented and thus facilitating collective action. Beyond the raising of domestic ambition, any differentiation in the types of international review must ensure an adequate degree of transparency.

Finally, with its strong historical commitment to multilateralism and a rule-based international order (de Lima and Hirst 2006), ambitious and transparent actions would open the way towards greater Brazilian leadership both regionally and internationally. Over the last decade, Brazil has shown considerable leadership on various development issues (health, food security, and bioenergy) based on a multilateral approach, which has seen it work with states from the developed world and the Global South (Fraundorfer 2015). While the future of the UNFCCC regime is far from clear, a strong Brazilian contribution would almost certainly translate into increased recognition. Thus, there are very few reasons against Brazil scaling up its climate policy, but numerous in favour.

#### References

Amazon Fund (2014), *Activity Report 2013*, online: www.amazonfund.gov.br/FundoAmazonia/export/sites/default/site\_en/Galerias/Arquivos/Relatorio\_Atividades/RAFA\_Virtual\_English\_2013.pdf (12 May 2015).

Brazil (2013), Development of a Reference Methodology on Historical Responsibilities by the IPCC to Guide Domestic Consultations for the ADP 2015 Agreement, submission by Brazil to the Subsidiary Body for Scientific and Technological Advice, 39th session, Warsaw, 11 to 22 November.

Brazil (2014), Views of Brazil on the Elements of the New Agreement under the Convention Applicable to All Parties, ADP submission, 6 November.

Brazil (2015), Statement by Brazil on behalf of BASIC to the opening session of ADP 2-9, Bonn, 1 June.

CEBDS (2013), Estudo sobre Adaptacão e Vulnerabilidade à Variabilidade Climática: Casos do Setor Elétrico Brasileiro. Rio de Janeiro: Conselho Empre-

<sup>3</sup> FCCC/SBSTA/2011/Misc.12.

- sarial Brasileiro para o Desenvolvimento Sustentável.
- Costa, Hirdan Katarina de Medeiros, Edmilson Moutinho dos Santos, João Paulo Lima Santos, and Rafael Puglieri (2015), The Technological and Economic Features of Brazilian Oil, Gas and Biofuel Industries, in: Yanko Marcius de Alencar Xavier (ed.), *Energy Law in Brazil. Oil, Gas and Biofuels*, Heidelberg: Springer, 3–32.
- CRN (2015), Panama on Behalf of the Coalition for Rainforest Nations, Statement, ADP 2–8. Geneva, 8 February 2015.
- De Lima, Maria Regina Soares, and Mônica Hirst (2006), Brazil as an Intermediate State and Regional Power: Action, Choice and Responsibilities, in: *International Affairs* 82, 1, 21–40.
- Deprez, Alexandra, Michel Colombier, and Thomas Spencer (2015), Transparency and the Paris Agreement: Driving Ambitious Action in the New Climate Regime, Institut du développement durable et des relations internationales, Working Paper Nr. 3/15.
- Dimitrov, Radoslav S. (2010), Inside UN Climate Change Negotiations: The Copenhagen Conference, in: *Review of Policy Research* 27, 6, 795–821.
- ENB (2014), Summary of the Lima Climate Change Conference: 1–14 December 2014, in: *Earth Negotiation Bulletin* 12,. 619.
- EPE (2014), *Anuário Estatístico de Energia Elétrica*, Rio de Janeiro: Empresa de Pesquisa Energética.
- Fraundorfer, Markus (2015), *Brazil's emerging role* in global governance. Health, food security and bioenergy, Basingstoke: Palgrave Macmillan.
- INPE and Met Office (2011), Riscos das Mudanças Climáticas no Brasil, Instituto Nacional de Pesquisas Espaciais and Met Office Hadley Centre.
- IPCC (2014), Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part B: Regional Aspects. Working Group II to the Fifth Assessment Report.
- IRENA (2012), 30 Years of Policies for Wind Energy. Lessons from 12 Wind Energy Markets, Abu Dhabi: International Renewable Energy Agency.
- IRENA (2015), Renewable Energy in Latin America 2015: An Overview of Policies, Abu Dhabi: International Renewable Energy Agency.
- La Rovere, Emilio L., Carolina B. Dubeux, Amaro O. Pereira Jr., and William Wills (2013), Brazil Beyond 2020: From Deforestation to the Energy Challenge, in: *Climate Policy* 13, 1, 70–86.

- Margulis, Sergio, and Carolina B.S. Dubeux, (eds) (2010), Economia da Mudança do Clima no Brasil: Custos e Oportunidades. São Paulo: IBEP Gráfica.
- MME (2013), Plano Decenal de Expansão de Energia 2022, Brasilia: Ministério de Minas e Energia / Empresa de Pesquisa Energética.
- OC (2014), Análise da evolução das emissões de GEE no Brasil (1990–2012). Documento Síntese, São Paulo: Observatório do Clima.
- OECD / FAO (2011) *Agricultural Outlook* 2011–2010, Paris: OECD Publishing.
- PBL (2013), Assessment of Climate and Energy Policies of Major Emitting Countries. Background Study, The Hague: Netherlands Environmental Assessment Agency.
- Roessing, Ernesto N. (2015), Linking Subnational Climate Policies: A Commentary on the California-Acre Process, in: *Transnational Environmental Law*, doi: 10.1017/S2047102515000138.
- Rüther, Ricardo and Roberto Zilles (2011), Making the Case for Grid-Connected Photovoltaics in Brazil, in: *Energy Policy* 39, 3, 1027–1030.
- Sanghi, Apurva, and Robert Mendelsohn (2008), The Impacts of Global Warming on Farmers in Brazil and India, in: *Global Environmental Change* 18, 4, 655–665.
- Soares-Filho, Britaldo, Raoni Rajão, Marcia Macedo, Arnaldo Carneiro, William Costa, Michael Coe, Hermann Rodrigues, and Ane Alencar (2014), Cracking Brazil's Forest Code, in: *Science*, 344, 6182, 363–364.
- Tollefson, Jeff (2013), A Light in the Forest: Brazil's Fight to Save the Amazon and Climate-Change Diplomacy, in: *Foreign Affairs*, March/April 2013.
- UNFCCC (2014), Durban Climate Change Conference November/December 2011, online: <a href="http://unfccc.int/meetings/durban\_nov\_2011/meeting/6245.php">http://unfccc.int/meetings/durban\_nov\_2011/meeting/6245.php</a> (13 May 2015).
- Van Asselt, Harro, Håkon Sælen, and Pieter Pauw (2015), Assessment and Review under a 2015 Climate Change Agreement, Copenhagen: Nordic Council of Ministers.
- Viola, Eduardo, and Larissa Basso (2015), Brazilian Energy-Climate Policy and Politics towards Low Carbon Development, in: *Global Society* 29, 3, 427–446.
- World Bank (2013), *Impacts of Climate Change on Brazilian Agriculture*, Washington.

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As part of GIGA Research Programmes 3 "Socio-economic Development in the Context of Globalisation" and 4 "Power, Norms and Governance in International Relations", the project Climate Change Mitigation and Poverty Reduction (CliMiP) – Trade-Offs or Win-Win Situations? examines the relationship between climate policy and economic development. The international project is funded by the Volkswagen Foundation and led by apl. Prof. Dr. Jann Lay. For more information, please see: <www.giga-hamburg.de/de/projekt/climate-change-mitigation-and-poverty-reduction-climip-—-trade-offs-or-win-win-situations>. GIGA Research Programme 4 analyses the increasing links between governments and societies within and between regions. Actors from these groups are increasingly taking on the role of norm-takers and norm-shapers, be it in regard to questions of security, climate protection, disarmament, or human rights.

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Jakob, Michael, Jan Christoph Steckel, Stephan Klasen, Jann Lay, Nicole Grunewald, Inmaculada Martínez-Zarzoso, Sebastian Renner, and Ottmar Edenhofer (2014), Feasible Mitigation Actions in Developing Countries, in: *Nature Climate Change*, 4, 961-968.

Never, Babette, and Joachim Betz (2014), Comparing the Climate Policy Performance of Emerging Economies, in: *World Development*, 59, 4, 1-15.

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