

COMMENTARY

Linking Subnational Climate Change Policies: A Commentary on the California–Acre Process

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Abstract

Climate change is a global environmental problem which has been addressed primarily at the multilateral level. However, national, supranational, and even subnational action on the issue has also sprung up. At the subnational level, California (United States) and Acre (Brazil) offer an interesting example of how domestic policies may be linked in order to address climate change. Based on a memorandum of understanding concluded in 2010, these two states have been working towards the possible linkage of their respective climate change policies, in essence providing a pathway for using emissions offset credits that are generated in Acre through reductions of forest-based emissions in the Californian cap-and-trade programme. Taking into account that this is an ongoing process, this commentary provides a general overview of the issue from the perspective of international law.

Keywords: Climate change, Paradiplomacy, Subnational diplomacy, Cap-and-trade, Offsets, REDD+

1. INTRODUCTION

Climate change is a global environmental issue, yet various domestic policies have also been employed to address it,¹ including some at the subnational level.² Brazil and the United States (US) provide interesting examples. Subnational policies in the US have resulted from a divergence with the federal government;³ in Brazil, states in the

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¹ M. Nachmany et al., *The GLOBE Climate Legislation Study: A Review of Climate Change Legislation in 66 Countries*, 4th edn (GLOBE International and the Grantham Research Institute, London School of Economics, 2014), p. 24.

² M.A. Schreurs, 'From the Bottom Up: Local and Subnational Climate Change Politics' (2008) 17(4) *Journal of Environment & Development*, pp. 343–55.

³ N. Lutsey & D. Sperling, 'America's Bottom-up Climate Change Mitigation Policy' (2008) 36(2) *Energy Policy*, pp. 673–85, at 673.

Amazon region have made efforts to promote the principles of Reduction of Emissions from Deforestation and Forest Degradation (REDD) in trying to influence the country's national position on the issue.⁴

California (US) has been at the forefront of subnational climate policy, and it has also been active in the transnational arena, having recently joined its cap-and-trade programme with that of the Canadian province of Québec.⁵ Moreover, California has led the creation of the Governors' Climate and Forests Task Force (GCF)⁶ and it subsequently concluded, in 2010, a memorandum of understanding (MOU) with the Brazilian state of Acre and the Mexican state of Chiapas relating to the linkage of programmes in those states with the Californian climate change policy.⁷

This cooperation is interesting because of the role that these three subnational jurisdictions perform within their respective federations. California is well known as a trendsetter in environmental legislation in the US.⁸ In Brazil, Acre is one of the birthplaces of the country's contemporary environmental movement.⁹ In Mexico, Chiapas has been employing carbon-related programmes since at least 1995.¹⁰ The cooperation has the potential to influence international climate change negotiations. Moreover, being based on REDD, this process also mobilizes a full range of REDD opponents and supporters.

Since the linkage is still developing, this commentary aims to provide a general overview of the process from the perspective of international law. It will focus on California and Acre, given that their negotiations are the most advanced. Firstly, it will present the climate change policies of California and Acre, followed by a discussion of the general contours of the linkage process. Finally, it will consider some

⁴ F. Carvalho, 'The Brazilian Position on Forests and Climate Change from 1997 to 2012: From Veto to Proposition' (2012) 55 *Revista Brasileira de Política Internacional*, pp. 144–69, at 162. See also P.M. Fearnside, 'What is at Stake for Brazilian Amazonia in Climate Negotiations' (2013) 118(3–4) *Climatic Change*, pp. 509–19, at 511.

⁵ California Air Resources Board (CARB), 'Air Resources Board Sets Date for Linking Cap-and-Trade Program with Québec', News Release #13-18, Sacramento, CA (US), 19 Apr. 2013, available at: <http://www.arb.ca.gov/newsrel/newsrelease.php?id=430>.

⁶ The GCF is a coalition of subnational jurisdictions which includes members from the US, Brazil, Indonesia, Mexico, Nigeria, Spain and Peru. It was established in 2008, with the initial objective of working collaboratively for the design of rules that could lead to the inclusion of REDD activities in greenhouse gas (GHG) cap-and-trade mechanisms: see Joint Action Plan – Appendices, Aug. 2009, p. 1, available at: <http://www.gcftaskforce.org/documents/GCTF-1000-2009-031-AP.pdf>.

⁷ The text of the MOU (signed in 2010) is no longer available at the Government of California official website. An unofficial version can still be accessed at the website of Brazilian NGO Instituto Socioambiental: see Memorandum of Understanding on Environmental Cooperation between the State of Acre of the Federative Republic of Brazil, the State of Chiapas of the United Mexican States, and the State of California of the United States of America, Davis, CA (US), 16 Nov. 2010, available at: http://www.socioambiental.org/banco_imagens/pdfs/Memorando_Acre_Chiapas_California_REDD_Nov_2010.pdf. See also C. Arup & H. Zhang, 'Lessons from Regulating Carbon Offset Markets' (2014) 4(1) *Transnational Environmental Law*, pp. 69–100, at 92–3.

⁸ Schreurs, n. 2 above, at pp. 346–7.

⁹ M.E. Keck, 'Social Equity and Environmental Politics in Brazil: Lessons from the Rubber Tappers of Acre' (1995) 27(4) *Comparative Politics*, pp. 409–24. See also P. Cronkleton et al., *Environmental Governance and the Emergence of Forest-based Social Movements* (Centre for International Forestry Research (CIFOR), 2008), pp. 11–6.

¹⁰ K. Nelson & B. Dejong, 'Making Global Initiatives Local Realities: Carbon Mitigation Projects in Chiapas, Mexico' (2003) 13(1) *Global Environmental Change*, pp. 19–30, at 21.

challenges to the process and its potential influence in Brazil, the US, and multilateral climate negotiations.

2. CALIFORNIA'S CLIMATE CHANGE POLICY

California has a history of pioneering environmental legislation within the US;¹¹ environmental policies are often tested there before gaining traction at the federal level.¹² Therefore, its policies on climate change may play a pivotal role in shaping future climate change policy in other US states and at the federal level.

California has been addressing climate change since at least 1988,¹³ but its current policy started to take shape in 2005 with the establishment of greenhouse gas (GHG) emissions reduction targets.¹⁴ In 2006, the State Legislature enacted Assembly Bill No. 32 (AB 32), which provided for a comprehensive climate change policy. AB 32 establishes an emissions level equal to that of 1990 as a target to be achieved by 2020,¹⁵ and also lays down a framework for adopting targets thereafter.¹⁶ To meet these targets, the California State Air Resources Board (CARB) employs various tools, such as the adoption of fuel standards, the mandatory recycling of various goods, the establishment of renewable energy targets for electricity, and a cap-and-trade programme.

California's cap-and-trade programme has been in operation since 2012 and is scheduled to remain in force until at least 31 December 2020,¹⁷ with three compliance periods: 2013–14, 2015–17, and 2018–20. The programme allows the use of various compliance instruments, including offsets generated out of California.¹⁸ For the moment, the only external allowances¹⁹ and offsets²⁰ permitted are those originating from the Canadian province of Québec,²¹ in respect of which an actual bilateral

¹¹ Y.H. Farzin & C.A. Bond, 'Are Democrats Greener than Republicans? The Case of California Air Quality' (2013) *Fondazione Eni Enrico Mattei Working Paper 748*, p. 2, available at: <http://services.bepress.com/feem/paper748>.

¹² D.A. Dana, 'One Green America: Continuities and Discontinuities in Environmental Federalism in the United States' (2013) *24 Fordham Environmental Law Review*, pp. 103–24, at 116–9.

¹³ In 1988, California instructed its Energy Commission to assess the likely impacts of climate change on its economy, energy and water supplies. In 2000, it established the California Climate Action Registry to encourage early action on climate change mitigation by establishing baselines and recording voluntary GHG emissions reductions. Furthermore, in 2002, the state enacted legislation that established limits for the GHG emissions from vehicles: see California, Senate Bill No. 1771 2000, ss. 42810 and 42820. See also D.A. Mazmanian, J. Jurewitz & H. Nelson, 'California's Climate Change Policy: The Case of a Subnational State Actor Tackling a Global Challenge' (2008) *17(4) The Journal of Environment & Development*, pp. 401–23, at 402 and 404.

¹⁴ California, Executive Order S-3-05 2005, s. 1.

¹⁵ California, Health and Safety Code 2013, s. 38550.

¹⁶ *Ibid.*, s. 38551(b)–(c).

¹⁷ California Code of Regulations 2015, s. 95840.

¹⁸ California Health and Safety Code, n 15 above, ss. 95820, 95821, 95941–43, 95990–95.

¹⁹ 'Allowance' is defined as 'a limited tradable authorization to emit up to one metric ton of carbon dioxide equivalent' (CO₂-e): see California, Code of Regulations 2015, n 17 above, s. 95802(a)(8).

²⁰ An offset represents 'a GHG reduction or GHG removal enhancement of one metric ton of CO₂-e': *ibid.*, s. 95802(a)(12).

²¹ *Ibid.*, s. 95943.

exchange takes place.²² In the case of Acre (and Chiapas), what is envisaged instead is a unilateral flow of offsets to the Californian market.

The key to this linkage lies in the somewhat vague expression ‘sector-based credits recognized by the CARB’,²³ which is used to describe an emissions reduction programme in a developing country, or a jurisdiction within a developing country, and covering a specific economic sector. So far, only REDD plans may generate such sector-based credits.²⁴

REDD+ – defined as ‘Reduction of Emissions from Deforestation and Forest Degradation, and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks’²⁵ – was developed under the auspices of the United Nations Framework Convention on Climate Change (UNFCCC)²⁶ to cope with deforestation in developing nations. It can be traced to 2005, when a proposal for Reducing Emissions from Deforestation (RED) was presented at the 11th Conference of the Parties (COP) to the UNFCCC.²⁷ In 2007, it was broadened to include forest degradation (REDD).²⁸ From 2009 the ‘role of conservation, sustainable management of forests and enhancement of carbon stocks’ (the ‘+’ in REDD+) has been included in official UNFCCC documents.²⁹ In essence, REDD+ would be a way to foster GHG emissions reductions from forestry through results-based finance flowing from developed to developing countries.³⁰ In the case of California, the use of RED, REDD, or REDD+ depends solely on the scope of the programme adopted by the state, and thus the term REDD is hereinafter used.

Despite its conceptual simplicity, certain problems must be addressed before and during the design and implementation of REDD, particularly in the case of a linkage with a cap-and-trade market. Firstly, given that offsets need to be based on actual GHG emissions reductions, forestry emissions reductions need to be greater than those that would normally take place,³¹ leading to the need to define reference

²² Ibid.

²³ Ibid., s. 95821(d).

²⁴ Ibid., s. 95993.

²⁵ Decision 1/CP.18, Agreed Outcome pursuant to the Bali Action Plan, UN Doc. FCCC/CP/2012/8/Add.1, 28 Feb. 2013, para. II(C), available at: <http://unfccc.int/resource/docs/2012/cop18/eng/08a01.pdf>.

²⁶ New York, NY (US), 9 May 1992, in force 21 Mar. 1994, available at: <http://unfccc.int>.

²⁷ T. Pistorius, ‘From RED to REDD+: The Evolution of a Forest-based Mitigation Approach for Developing Countries’ (2012) 4(6) *Current Opinion in Environmental Sustainability*, pp. 638–45, at 640.

²⁸ Ibid.

²⁹ Ibid.

³⁰ Decision 1/CP.18, n. 25 above, at para. 25.

³¹ Offset credits are issued based on the difference between the actual GHG emissions registered after investment has been made in a supposedly emissions reducing activity, and the projected business-as-usual GHG emissions that would reasonably be expected in the absence of this activity. In the case of REDD, therefore, the credits would be generated based on the difference between the business-as-usual forest emissions scenario and the actual (reduced) forest emissions. Thus, in a scenario in which it was reasonable to assume a 20% increase in deforestation, offsets would be generated if it rose less than that or if it decreased; similarly, in a scenario in which deforestation was expected to decrease by 10% under business-as-usual, offsets would be generated if deforestation decreased more than 10%: see S. De Gryze & L. Durschinger, ‘An Integrated REDD Offset Program (IREDD) for Nesting Projects under Jurisdictional Accounting’, Terra Global Capital LLC, Nov. 2010, pp. 28–36, available at: <http://tinyurl.com/TGC-Report-gcftaskforce>.

levels for compensating for the additional effort as well as establishing robust measurement, reporting and verification procedures.³² Secondly, mechanisms for guaranteeing the permanence of such reductions over time need to be employed.³³ Thirdly, social safeguards are essential in light of often overlapping rights and uses related to forests.³⁴ Fourthly, environmental safeguards are also necessary in order to avoid distortions that could arise from a narrow focus on GHG emissions reductions (such as the introduction of exotic species to address forest degradation).³⁵ Lastly, but not least, it is important to consider that many potential REDD recipients lack the institutional capacity to deal with deforestation,³⁶ or may be unable to implement the rule of law in forest areas within their national borders.³⁷

Given California's influence in the US, its efforts to link with a subnational jurisdiction from a developing country in order to insert REDD into its climate change policy may provide a proof of concept that may influence similar initiatives in the future.³⁸

3. ACRE'S 'STATE SYSTEM FOR ENVIRONMENTAL SERVICES'

The Brazilian state of Acre is one of the birthplaces of the contemporary Brazilian environmental movement as a result of the legacy of its native Chico Mendes.³⁹ Since 1999, Acre has experimented with public policies designed to provide a sustainable forest-based economy to the state,⁴⁰ and has thus been hailed as a leader in REDD initiatives.⁴¹

Acre witnessed the birth of the rubber tappers movement in the 1970s, which was a reaction to government policies that led to the occupation of lands where rubber tappers traditionally lived and worked. The movement, mostly non-violent, soon faced violent reaction: in 1980, Wilson Pinheiro, a leader of the rubber tappers movement, was killed.⁴² In 1988, another leader – Francisco Alves

³² C. Haug & J. Gupta, 'The Emergence of REDD on the Global Policy Agenda' in J. Gupta, N. van der Grijp & O. Kuik (eds), *Climate Change, Forests and REDD: Lessons for Institutional Design* (Routledge, 2012), pp. 77–98, at 86.

³³ *Ibid.*

³⁴ *Ibid.*, at pp. 87–8.

³⁵ *Ibid.*

³⁶ Australia's mixed results from its deforestation reduction efforts show that this can be a challenge even to developed countries: see A. Macintosh, 'Reducing Emissions from Deforestation and Forest Degradation in Developing Countries: A Cautionary Tale from Australia', Policy Brief 12, The Australia Institute, Apr. 2010, pp. 7–12, available at: <http://www.tai.org.au/node/1628>.

³⁷ A. Karsenty & S. Ongolo, 'Can "Fragile States" Decide to Reduce Their Deforestation? The Inappropriate Use of the Theory of Incentives with Respect to the REDD Mechanism' (2012) 18 *Forest Policy and Economics*, pp. 38–45, at 39–43.

³⁸ D. Movius, P. Elias, S. Davis & M. Ogonowski, *Application of International REDD Agreements to California's REDD Offset Program* (Center for Clean Air Policy, 2012), p. 3.

³⁹ Keck, n. 9 above, at pp. 417–20.

⁴⁰ A. Anderson et al., *O Sistema de Incentivos por Serviços Ambientais do Estado do Acre, Brasil: Lições para Políticas, Programas e Estratégias de REDD Jurisdicional* (WWF-Brasil, 2013), p. 15.

⁴¹ A. Alencar et al., *Rumo ao REDD+ Jurisdicional: Pesquisa, Análises e Recomendações ao Programa de Incentivos aos Serviços Ambientais do Acre (ISA Carbono)* (IPAM, 2012), p. 15, available at: <http://tinyurl.com/IPAM-REDD>.

⁴² F. de M. Pinheiro, 'A Invenção da Florestania', conference paper presented at the Congresso de Ciências da Comunicação na Região Sudeste, Rio de Janeiro (Brazil), 7–9 May 2009, p. 2, available at: <http://www.intercom.org.br/papers/regionais/sudeste2009/resumos/R14-0264-1.pdf>.

Mendes Filho, known as ‘Chico Mendes’ – was shot dead three days before Christmas.⁴³

The widespread reaction to this second murder in the international press surprised Brazilian authorities,⁴⁴ and helped to galvanize the environmental movement in the country.⁴⁵ In Acre, it led to the emergence of a new political/cultural/ideological movement known as *florestania*,⁴⁶ which later became the dominant political force in the state and also influenced Brazilian national politics.⁴⁷

Based on the idea of *florestania*, the state has focused its development policies on the sustainable use of forest resources, which is how the state’s drive to REDD came about.⁴⁸ In October 2010, State Law n. 2308/2010 was enacted, establishing the State System of Incentives for Environmental Services (SISA) ‘with the aim of promoting the maintenance and expansion of supply of various ecosystem products and services’,⁴⁹ which provides the framework for REDD in Acre.⁵⁰ In order to implement the SISA, various institutions were created. These included a public and private joint stock company,⁵¹ which is to be the main vehicle through which the state may transact with private investors to sell carbon credits.

By establishing a comprehensive framework for dealing with REDD at the subnational level, Acre has been hailed as a leader in the field. In addition to working with California, Acre has engaged the Brazilian states of São Paulo and Rio de Janeiro in order to link its programme with their respective climate policies.⁵² In 2013, Acre reportedly sold REDD-based early action credits to the German bank, KfW,⁵³ although it was thought in 2012 to be at least three years away from being able to issue credits based on REDD.⁵⁴ Nevertheless, various issues – such as the non-acceptance of REDD credits by compliance markets

⁴³ *Ibid.*, at pp. 2–3.

⁴⁴ Keck, n. 9 above, at p. 416.

⁴⁵ As evidence of this, only a few years later in June 1992, Brazil hosted the United Nations Conference on Environment and Development (UNCED).

⁴⁶ *Florestania* is a neologism combining the Portuguese words for forest (*floresta*) and citizenship (*cidadania*), and is a term that has been widely used by the Acre government since 1998 as a way of communicating the idea of a government focused on sustainable forestry and the well-being of forest dwellers and forest-dependent peoples: see Pinheiro, n. 42 above, at pp. 3–4.

⁴⁷ The *Florestania* movement has produced important figures in the Brazilian national political landscape, notably former Senator and Brazilian Minister for Environment Marina Silva (who ran for President in 2010 and 2014, receiving around 20% of the votes on both occasions).

⁴⁸ Anderson et al., n. 40 above, at p. 37.

⁴⁹ Acre, Lei Estadual N. 2308, de 22 de Outubro de 2010 (unofficial English translation) 2010, Arts 1 and 3.

⁵⁰ *Ibid.*, Arts 20–28.

⁵¹ *Ibid.*, Arts 7 and 12–15.

⁵² Anderson et al., n. 40 above, at p. 46. See also A. Gandra, ‘Rio, Acre e BNDES Assinam Acordo para Agilizar Mercado de Ativos Ambientais’, *Portal EBC*, Brasília (Brazil), 19 Apr. 2013, available at: <http://www.ebc.com.br/noticias/brasil/2013/03/rio-acre-e-bndes-assinam-acordo-para-agilizar-mercado-de-ativos-ambientais>.

⁵³ KfW, ‘KfW Rewards Successful Forest Conservation’, news release, Frankfurt am Main (Germany), 5 Feb. 2013, available at: <http://tinyurl.com/REDD-KfW>.

⁵⁴ Electric Power Research Institute (EPRI), *Overview of Subnational Programs to REDD as Part of the Governors’ Climate and Forests Task Force* (EPRI, 2012), p. xiv.

(including the Californian market), and the low price of carbon in voluntary markets – have prevented Acre from issuing REDD-based credits.⁵⁵

4. LINKING THE POLICIES OF ACRE AND CALIFORNIA

The process of linking the REDD programme in Acre with the Californian GHG cap-and-trade programme is based on Acre's introduction of emissions offsets from REDD into the Californian programme. The MOU between the states of California, Acre and Chiapas authorized the creation of a working group of experts on REDD to provide recommendations on this process. The group, eventually named the REDD+ Offset Working Group (ROW), is composed of ten experts, one facilitator and three state observers.⁵⁶ The group's final report was released in July 2013 and contained a set of recommendations to the CARB on the design options for REDD and on the legal frameworks and linkage options.⁵⁷ It is likely that these recommendations will influence the debate on REDD regulation in California, although it is not clear whether California will ultimately move towards incorporating REDD into its climate change policy.⁵⁸

4.1. *Direct Engagement between Acre and California*

Direct engagement between subnational jurisdictions may be called 'paradiplomacy', a term referring to international activity performed by subnational governments.⁵⁹ Paradiplomacy is not new and can be traced back to early networks of subnational governments that sought to facilitate cross-border cooperation by influencing the decision-making processes conducted by sovereign entities.⁶⁰ However, what is remarkable about the emerging linkage between California and Acre is the fact that, if concluded, it would establish a formal, legally binding system of rights and obligations, crafted through the acts of non-sovereign subnational jurisdictions located in different sovereign states. This system is most likely to be established through the use of legislative harmonization and mutual recognition of rights,

⁵⁵ A.E. Duchelle et al., 'Chapter 2 – Acre's State System of Incentives for Environmental Services (SISA), Brazil', in E.O. Sills et al. (eds), *REDD+ On the Ground: A Case Book of Subnational Initiatives Across the Globe* (Centre for International Forestry Research (CIFOR), 2014), p. 48, available at: <http://www.cifor.org/redd-case-book>.

⁵⁶ E. Johnson et al., *California, Acre and Chiapas: Partnering to Reduce Emissions from Tropical Deforestation* (2013), available at: <http://stateredd.org/recommendations>.

⁵⁷ *Ibid.*, at pp. 19–59.

⁵⁸ J. Lueders et al., 'The California REDD+ Experience: The Ongoing Political History of California's Initiative to Include Jurisdictional REDD+ Offsets within Its Cap-and-Trade System', Center for Global Development Working Paper 386, Nov. 2014, p. 22, available at: <http://tinyurl.com/CGDEV-CA-REDD>.

⁵⁹ C.R.S. Milani & M.C.M. Ribeiro, 'International Relations and the Paradiplomacy of Brazilian Cities: Crafting the Concept of Local International Management' (2011) 8 *BAR-Brazilian Administration Review*, pp. 21–36, at 24. See also J. Setzer, 'Testing the Boundaries of Subnational Diplomacy: The International Climate Action of Local and Regional Governments' (2015) 4(2) *Transnational Environmental Law*, pp. 319–37.

⁶⁰ S. Happaerts, K. van den Brande & H. Bruyninckx, 'Subnational Governments in Transnational Networks for Sustainable Development' (2010) 11(4) *International Environmental Agreements: Politics, Law and Economics*, pp. 321–39, at 325 and 327.

institutions and procedures, given that both the Brazilian⁶¹ and American⁶² Constitutions disallow states from entering into international treaties. An indirect linkage would also be possible, making use of a third-party standard, in which case California could provide recognition to all REDD credits that conform with a certain standard established by a third party, and Acre could generate credits conforming to this standard.⁶³

This system of rights and obligations between California and Acre may be understood as:

- (a) the right of Acre to issue offset credits based on its REDD programme, and the right of entities in California to buy these credits;
- (b) the right of entities in California to use these credits as part of their AB 32 compliance efforts, combined with the duty of California to recognize such credits from Acre as compliance instruments in its cap-and-trade programme;
- (c) the duty of Acre to rectify losses sustained by Californian entities in the event of non-permanence of emissions reductions (such as in the case of a forest fire).

Acre's right to issue emissions reduction credits deriving from its REDD programme would be based on its domestic law⁶⁴ and on the fact that there is no known prohibition against such issuance under Brazilian law.⁶⁵ The Californian entities' right to use credits from Acre as part of their AB 32 compliance efforts, as well as the corresponding duty of California to recognize such credits as compliance instruments within its cap-and-trade programme, would be based on the current provisions for sector-based offset credits,⁶⁶ complemented by further regulation from CARB. As in the case of the linkage between California and Québec,⁶⁷ a specific provision regarding offsets from Acre could be added to the California regulations. If linkage were to proceed, private entities in California would be able to use credits from Acre to fulfil a small part of their mandated GHG emissions reduction targets (up to 2% in the first and second compliance periods, and 4% in subsequent periods).⁶⁸

The duty on the part of Acre to rectify losses sustained by Californian entities in the event of non-permanence of emissions reductions would be likely to rely on contract law and on Acre's domestic law. This issue is more complex, and may be clarified by comparing it with the way in which non-permanence is addressed in forestry projects in California. In such projects, the remedy for non-permanence depends on whether the

⁶¹ Brazil, Constituição da República Federativa do Brasil 1988, Art. 21.I.

⁶² US, Constitution of the United States of America 1787, s. 10.

⁶³ Johnson et al., n. 56 above, at pp. 54–5.

⁶⁴ Lei Estadual N. 2308, n. 49 above, Arts 18(VIII) and 15(VII).

⁶⁵ Johnson et al., n. 56 above, at p. 53. Also, it is interesting to note that in the case of an issuance and sales of early action credits to the German bank KfW, a letter of non-objection from the Brazilian national government has reportedly been requested by Acre: see 'ROW Linkage Workshop, Part 2', video recording, Los Angeles, CA (US), 5 Apr. 2013, 3:16:30–3:18:30, available at: <http://vimeo.com/65183827>.

⁶⁶ California Code of Regulations, n 17 above, ss. 95821(d) and 95991–5.

⁶⁷ *Ibid.*, s. 95943.

⁶⁸ *Ibid.*, s. 95854.

non-permanence is intentional. A portion of credits originating from forestry projects is placed into a Forest Buffer account.⁶⁹ In the event of non-intentional non-permanence, credits are reversed from this account to replace the invalidated credits without any penalty imposed on the forest owner.⁷⁰ However, in the event of intentional non-permanence, the forest owner is liable and must make up the shortfall.⁷¹

In the case of REDD in Acre, if the linkage with California is to proceed, an equivalent solution must be found since it is unlikely that private entities in California would be interested in credits without guarantees against non-permanence. Also, Californian law itself establishes that all cap-and-trade credit instruments from sector-based offset crediting programmes must be enforceable,⁷² and the linkage of California with another GHG emissions reduction programme may come into being under Californian law only if the State Governor finds that enforcement is at least equivalent to what is possible under that domestic law.⁷³

It is likely, therefore, that Acre would have to employ a mix of measures, such as the establishment of a state-wide REDD buffer account, insurance, and instruments of contract law (such as liquidated damages and penalty clauses). In the latter case, given the constraints of contracting directly with the state, the private and public joint stock corporation created by Acre⁷⁴ is likely to become the entity to contract with private actors in California.

Although paradiplomacy would not, in itself, establish this system of rights and obligations, it would be the means through which California and Acre manifest their political will and coordinate domestic actions in order to make the proposed linkage possible. Nevertheless, whenever paradiplomacy is used, there is a risk of disapproval by central governments.⁷⁵ In the case of California and Acre, the approval of (or non-objection by) their respective central governments is essential, given that investments and liabilities would be exchanged between both states.

California has been acting internationally on the issue of climate change for many years and has concluded a linkage with Québec (Canada), without facing federal government opposition.⁷⁶ Acre has already sold REDD credits, apparently without federal opposition.⁷⁷ However, in 2013, Brazil officially stated, along with representatives

⁶⁹ Ibid., s. 95983(1)(a).

⁷⁰ Ibid., s. 95983(1)(b).

⁷¹ Ibid., s. 95983(c). Interestingly, the Californian regulation does not appear to provide a solution in the event of several unintentional reversals resulting in the insolvency of the Forest Buffer account.

⁷² Ibid., s. 95994(a)(3).

⁷³ California, California Government Code 2013, s. 12894. See also Johnson et al., n. 56 above, at p. 54.

⁷⁴ Lei Estadual N. 2308, n. 49 above, Art. 15(VII).

⁷⁵ S. Paquin, 'La paradiplomatie identitaire: Le Québec, la Catalogne et la Flandre en relations internationales' (2004) 23(2–3) *Politique et Sociétés*, pp. 203–37, at 204.

⁷⁶ In Sept. 2013, California concluded an MOU with the Chinese National Development and Reform Commission. Regarding its relationship with federal policies, the Californian governor has stated that he has been in contact with the US Secretary of State and with the US President and that they were all 'on board', thus providing more indications of non-objection from the federal government to Californian international action on issues of climate change: see J. Garofoli, 'California, China to Link Climate-Change Efforts', *SFGate*, San Francisco, CA (US), 13 Sept. 2013, available at: <http://www.sfgate.com/politics/joegarofoli/article/California-China-to-link-climate-change-efforts-4813917.php>.

⁷⁷ ROW Linkage Workshop, n. 65 above. at 3:16:30–3:18:30.

of other developing countries, that REDD should not be used to offset mitigation commitments from developed countries.⁷⁸ Given that the approach sought by California is precisely the use of REDD as a way to partially offset its mitigation commitments, it is still unclear whether the national Brazilian government would allow the California–Acre linkage, as illustrated by the conflicting positions of the Brazilian national government and of some Brazilian states on the issue during the 20th UNFCCC COP in Lima (Peru), in December 2014.⁷⁹

In fact, the use of markets to finance forest conservation has been a contentious issue for Brazil. The first attempt within the UNFCCC framework to address deforestation through market mechanisms took place during the discussion of the rules to govern the Clean Development Mechanism (CDM);⁸⁰ this restricted forestry projects to afforestation and reforestation⁸¹ and avoided deforestation projects which were ruled out ‘for technical reasons’,⁸² based mostly on Brazilian and European opposition.⁸³ European countries argued that carbon in forests could potentially always end up in the atmosphere because of the risk of non-permanence.⁸⁴

The opposition from Brazil has historically derived from the perception that there is a conspiracy to ‘internationalize’ the Amazon, as with Antarctica; inserting the Amazon rainforest into a carbon-based system of payments was seen as a step towards such internationalization.⁸⁵

The Brazilian position persisted during the debate on REDD. However, Brazil’s official stance obscures internal divisions in the country, notably between the Ministry of Environment (MMA), and the Ministries of Foreign Affairs (MRE) and Science and Technology (MCT).⁸⁶ Governors from states located in the Brazilian Amazon, such as Acre, have favoured the use of all types of approach to REDD, including those of a market-based nature. Such divisions and internal pressure from Amazonian states apparently led Brazil eventually to soften its

⁷⁸ Joint statement issued at the conclusion of the 16th BASIC Ministerial meeting on climate change, Foz do Iguaçu (Brazil), 16 Sept. 2013, para. 12, available at: https://www.environment.gov.za/mediarelease/16thbasic_ministerialmeeting_climatechange.

⁷⁹ The Brazilian national government, during the 20th COP, re-emphasized its stance against the use of offsets based on REDD, whereas some Brazilian states reportedly made it clear during the conference that they favour the use of offsets for financing REDD: see G. Resende, ‘Um Balanço da COP 20 – Entrevista com Maureen Santos’, *Heinrich Böll Stiftung Brasil*, Rio de Janeiro (Brazil), 21 Jan. 2015, available at: <http://br.boell.org/pt-br/2015/01/21/um-balanco-da-cop-20-entrevista-com-maureen-santos>.

⁸⁰ The CDM was set up under the Kyoto Protocol to provide a cost-effective way for the developed world to offset GHG emissions: see M. Lederer, ‘From CDM to REDD+: What Do We Know for Setting Up Effective and Legitimate Carbon Governance?’ (2011) 70(11) *Ecological Economics*, pp. 1900–7, at 1900. See also Art. 12, Kyoto Protocol to the United Nations Framework Convention on Climate Change, Kyoto (Japan), 10 Dec. 1997, in force 16 Feb. 2005, available at: http://unfccc.int/kyoto_protocol/items/2830.php.

⁸¹ Reforestation may be understood as the planting of trees on cleared lands that were covered by forests in the past. Afforestation is understood as the planting of trees on areas that were not previously covered by forests.

⁸² Pistorius, n. 27 above, at p. 639.

⁸³ P.M. Fearnside, ‘Saving Tropical Forests as a Global Warming Countermeasure: An Issue that Divides the Environmental Movement’ (2001) 39(2) *Ecological Economics*, pp. 167–84, at 171–4.

⁸⁴ *Ibid.*, at p. 171.

⁸⁵ P.M. Fearnside, ‘What is at Stake for Brazilian Amazonia in the Climate Negotiations’ (2013) 118 *Climatic Change*, pp. 509–19, at 511.

⁸⁶ Carvalho, n. 4 above, at p. 156. See also Fearnside, n. 85 above, at p. 174.

stance on the matter,⁸⁷ although the country's position in 2013 indicates a return to its former position.⁸⁸ The fact that Acre has signed the New York Declaration on Forests,⁸⁹ whereas Brazil has not, also sheds some light on this divergence of opinions within the country.

Therefore, the linkage of a Brazilian subnational jurisdiction with the Californian GHG cap-and-trade mechanism could have repercussions in the REDD negotiations within the UNFCCC framework. Furthermore, given the international interactions of California, this may lead to a similar inclusion of REDD in other cap-and-trade markets in the future, given that the Californian example could provide a blueprint to be followed by other cap-and-trade programmes.⁹⁰

More broadly, in the US this linkage may serve as a testing ground for future federal policy. It should be noted that there have been attempts to include REDD in American federal policy on climate change, through the now defunct Waxman-Markey and Kerry-Lieberman bills.⁹¹ The former specifically provided for the use of REDD offset credits,⁹² including those from subnational programmes.⁹³

Despite reports of fading private interest in REDD⁹⁴ and doubts about its viability,⁹⁵ the support of various market actors and NGOs in a letter to the chairman of the CARB and the Governor of California suggests that demand for REDD credits would exist if the California–Acre linkage were to occur.⁹⁶ However, it should be acknowledged that there are actors in both Acre and California opposed to this

⁸⁷ Carvalho, n. 4 above, at pp. 156–63.

⁸⁸ Joint Statement, n. 78 above, at para. 12. See also D. Chiaretti, 'Varsóvia Avança em Decisão para Proteger as Florestas', *Valor Econômico*, 22 Nov. 2013, available at: <http://www.valor.com.br/internacional/3348904/varsovia-avanca-em-decisao-para-protger-florestas>. Moreover, see T. Krug, L. Guimarães & F. Ferreira, 'O Marco de Varsóvia para REDD+', *Blog do Clima*, 20 Feb. 2014, available at: <http://planetasustentavel.abril.com.br/blog/blog-do-clima/2014/02/20/o-marco-de-varsovia-para-redd>.

⁸⁹ New York Declaration on Forests: Action Statements and Action Plans – Provisional Copy, New York, NY (US), 23 Sept. 2014, available at: <http://www.un.org/climatechange/summit/wp-content/uploads/sites/2/2014/09/forests-New-York-Declaration-on-Forests.pdf>. See also 'Leaders Pledge to End Deforestation by 2030', *Mongabay.com*, 24 Sept. 2014, available at: <http://news.mongabay.com/2014/0924-new-york-declaration-on-forests.html>.

⁹⁰ Acre has received a visit by officials from the Canadian provinces of Québec and British Columbia, who came to 'know the experiences of Acre in sustainable development and environmental services': see S. de Carvalho, 'Acre Recebe Comitativa Internacional da Força Tarefa dos Governadores para o Clima e Florestas (GCF)', *Agência de Notícias do Acre*, 25 Sept. 2013, available at: <http://tinyurl.com/deCarvalho-GCF>.

⁹¹ C2ES, 'Comparison of the American Clean Energy Act of 2009 (Waxman-Markey) and the American Power Act (Kerry-Lieberman)', Pew Center – Global Climate Change, June 2010, p. 10, available at: http://www.c2es.org/docUploads/pew-comparison-matrix-wm-and-kl_0.pdf.

⁹² H.A. Waxman and E.J. Markey, American Clean Energy and Security Act, HR 2454, 2009, s. 743(e).

⁹³ *Ibid.*, s. 743(e)(5).

⁹⁴ S. Nicola & A. Vitelli, 'Forest Carbon Won't Be Tradable Commodity, Climate Expert Says', *Bloomberg*, 14 June 2013, available at: <http://www.bloomberg.com/news/2013-06-14/forest-carbon-won-t-be-tradable-commodity-climate-expert-says.html>.

⁹⁵ The Munden Project, 'REDD and Forest Carbon: Market-Based Critique and Recommendations', 7 Mar. 2011, available at: http://www.rightsandresources.org/documents/files/doc_2215.pdf.

⁹⁶ 'Key Global Stakeholders Sign Letters of Support for REDD+ in California's Climate Policy', *Code REDD*, 18 July 2013, available at: <http://www.coderedd.org/news/key-global-stakeholders-sign-letters-of-support-for-redd-in-californias-climate-policy>.

linkage, especially those concerned for the well-being of communities in California⁹⁷ and of indigenous and traditional populations in Acre.⁹⁸

5. CONCLUDING THOUGHTS

California and Acre have been moving towards linking their respective climate change policies. This effort is interesting because it is being pursued directly between two subnational jurisdictions located in different countries.

From California's perspective, the inclusion of REDD in its cap-and-trade programme can be considered as an additional way through which private entities in the state would be able to achieve their GHG emissions reduction targets while simultaneously providing a contribution to the conservation of the Amazon rainforest. From the perspective of Acre, REDD can be seen as the cornerstone of its climate policy, and as a logical consequence of its location in the Amazon and its pursuit of a development model based on the sustainable use of its forest resources.

Given that both California and Acre are subnational jurisdictions, there is the risk of federal pre-emption or of other sorts of federal action against these states. For instance, domestic provisions from the two states could be superseded by federal legislation forbidding or restricting the issue, trade in, or use of REDD offsets. Also, political tools could be used to thwart this linkage, such as the imposition of high federal tax rates for financial operations related to REDD+ credits, a reduction in federal investment in the state, an increase in federal red tape related to REDD+, and similar.

If Acre, a Brazilian subnational jurisdiction, were to successfully manage to insert its REDD regime into a cap-and-trade programme, and obtain good results from doing so, it could persuade the Brazilian federal government to change its position on the use of market mechanisms to fund REDD+. In the case of California, a successful inclusion of REDD in its programme could influence future federal climate change action in the US and provide an example upon which other developed countries could draw when defining their positions on the issue.

This linkage could also have an influence on international negotiations on REDD+ within the UNFCCC framework, given that it would touch upon several pressing issues, most notably REDD+ scale and financing. In terms of scale, it has been agreed by the parties to the UNFCCC that REDD+ is to be performed at the national level, although subnational REDD+ could be pursued as an interim measure.⁹⁹ In terms of

⁹⁷ Several organizations in California have argued that the use of REDD offsets by California would expose communities in California to more industrial emissions in the state, thus exposing them to greater environmental and health risks: see C. Lang, 'Greenpeace, Friends of the Earth-US, Sierra Club California and 24 Other Environmental Organisations Oppose REDD Offsets in California's Cap-and-Trade Scheme', *REDD Monitor*, 6 May 2013, available at: <http://tinyurl.com/REDD-Monitor-NGOs>.

⁹⁸ Conselho Indigenista Missionário (CIMI), 'Dossiê Acre: o que os mercadores da natureza escondem', 2012, pp. 17–8, available at: <http://www.cimi.org.br/pub/Rio20/Dossie-ACRE.pdf>. See also G. Gonzalez, 'International REDD Faces Uphill Battle in California in 2014', *Ecosystem Marketplace*, 8 Oct. 2013, available at: http://www.ecosystemmarketplace.com/pages/dynamic/article.page.php?page_id=9988.

⁹⁹ Decision 1/CP.16, The Cancun Agreements: Outcome of the Work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention, UN DOC. FCCC/CP/2010/7/Add.1, para. 71,

financing, there seems to be a preference by the parties for financing REDD through the UNFCCC's Green Climate Fund, although the use of market mechanisms has not been completely ruled out.¹⁰⁰ Therefore, by being implemented on the subnational scale and relying on offsets-based financing, this linkage could lead to changes in the positions of parties to the UNFCCC with respect to REDD+ if it is successful.

Finally, but of no less importance, a further interesting aspect of this process arises from the potential repercussions it might hold for international law from a theoretical and practical point of view, given that obligations of an international character would be created by acts of non-sovereign governments, thus providing a platform for ongoing discussion on such issues as the role and importance of transnational law, the involvement of non-state actors in the establishment of international law, and the nature of international law itself.

available at: <http://unfccc.int/documentation/decisions/items/3597.php?such=j&volltext=%22cancun%20agreements%22#beg>.

¹⁰⁰ Decision 9/CP.19. Work Programme on Results-based Finance to Progress the Full Implementation of the Activities referred to in Decision 1/CP.16, Paragraph 70, UN Doc. FCCC/CP/2013/10/Add.1, para. 70, available at: <http://unfccc.int/resource/docs/2013/cop19/eng/10a01.pdf>.