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Argentina and Brazil in international climate change negotiations

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Introduction

Several reasons take Argentina and Brazil to have a keen interest in climate change issues. First, both countries rely heavily on agricultural production to sustain livelihoods and their economies at large. In recent years unusual extreme weather events have occurred in most Southern Cone countries, leading to increases in flood frequency and forest fires, loss of biodiversity, increases in plant diseases, reduction in dairy cattle production and problems with hydropower generation (IPCC, 2007). Despite uncertainty as to the distribution of the effects of climate change across regions and sub-regions, there is widespread consensus that areas of Argentina and Brazil will experience increasingly frequent heavy rains and floods, rising sea levels will disrupt vulnerable coastal zones and high drought-risk areas may face even drier conditions in the future. These factors threaten to cause severe changes in ecosystems and human society, including sharp agricultural productivity falls in some regions and steep rises in others (De la Torre *et al*, 2008).

Second, adaptation to the effects of climate change will demand sizable financial resources to adjust infrastructure and to deal with the consequences of extreme weather events upon production environments.[3] Since part of these adaptation resources will be contributed by developed countries based on the principle of "common but differentiated responsibilities", Argentina and Brazil fall in the category of potential recipients. However, as developing countries with comparatively high per capita incomes they are unlikely to be among top recipients of adaptation funds. Thus, while the demand for adaptation will most probably be significant, international aid is likely to remain comparatively modest. In contrast, the potential of Brazil as a source of cheaper mitigation efforts is significant. In effect, as the fourth largest emitter of greenhouse gases (GHG) and depository of one of the world´s largest tropical forests, Brazil has an important contribution to make in global initiatives to mitigate climate change.[4] Continued deforestation of South America's tropical areas will have significant global implications, as standing forests play a key role both as absorbers of greenhouse gases and as carbon reservoirs. This makes Brazil a prime target for mitigation commitments, but it also opens the door to reaping the benefit of international mechanisms to promote efficient mitigation. Argentina has a much lower potential to contribute to global mitigation efforts, and consequently to benefit from mitigation funds, but it could also profit from the experience gained and the instruments used by Brazil.

Third, some industrial countries have adopted (and are most likely to continue to adopt) unilateral measures to reduce greenhouse gas emissions. Some of these measures will have an effect on the region as they will impact international trade flows in carbon-intensive products. Sector policies aimed at reducing emissions from international aviation and maritime transport may also affect Argentina and Brazil due to their relatively distant location from industrial country consumer markets. Additional consequences may be borne out of the enforcement of new regulations and standards, both mandatory and voluntary, to promote a low carbon economy and discourage long-distance travel.

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[3] If no action is taken to slow down climate change, in the next few decades climate-related disasters could cost Latin America US$300 billion per year (Swiss Re, 2002 in IPCC, 2007).

[4] If members of the European Union are taken separately, Brazil is the third largest emitter when land use change is included in the calculation. Climate Analysis Indicators Tool (CAIT) Version 7.0. (Washington, DC: World Resources Institute, 2010).

Despite these common challenges faced by Argentina and Brazil, they have not encouraged closer cooperation on climate change policies and international negotiations. This paper tries to account for this record, reviewing the evolution of national policies, identifying some of its determinants and exploring potential future commonalities. Apart from this introduction the paper is organized in five sections. The next one gives a broad picture of underlying determinants of national climate change policies by briefly examining Argentine and Brazilian emission profiles. The next two sections review the evolution of climate change policies and both countries' changing priorities in international climate change negotiations. The fourth section identifies some issues that may offer opportunities for bilateral cooperation in the future. The paper ends with a brief concluding section.

1. Underlying conditions: Argentine and Brazilian emission profiles

According to 2005 data South America is responsible for 10 percent of global GHG emissions, with about 50 percent of them attributable to land-use change and forestry (see Table 1). These aggregate figures are decisively influenced by Brazil, the largest emitter in the region and the fourth largest in the world. Since the share of total global emissions is a proximate indicator of the domestic political and economic sensitivity of climate change issues, these figures help to account for Brazil's long-standing activism in this policy area. Brazil's comparatively high share of total world emissions has made it a primary target for emission reduction commitments in the developing world and, at the same time, a significant potential beneficiary of market instruments to encourage mitigation. Argentina, by contrast, occupies the 28th place in the world emission ranking and contributes with less than one percent of total global GHG emissions.

On closer inspection, Argentine and Brazilian emission matrices also look quite different. While Argentina's per capita emissions are slightly higher than the world average, those of Brazil are significantly higher when land-use change is included. In effect, the weight of land-use change and forestry in each country overall emission pattern contrasts sharply: whereas it accounts for 64 percent of total emissions in the case of Brazil, it explains only 9 percent of Argentina´s. This helps to account for the different sensitivity that forest issues have historically had in domestic policy debates and national bargaining positions.

The different composition of emissions also account for contrasting trends in total emissions' growth: in effect, in the 2000-05 period Brazil's total emissions' growth was only 0.3 percent per year, whereas Argentina's reached 1.5 percent (including land-use change). If land-use change is excluded both countries experienced very similar rates of total emissions' growth (1.6 and 1.5 percent, respectively), suggesting that the relatively good performance of the first indicator in the case of Brazil was largely accounted for by lower emissions from land use change (particularly lower deforestation rates).

Table 1

GHG Emissions, 2005

	South America			Brazil			Argentina			World		
	MtCO2e	%	per capita	MtCO2e	%	per capita	MtCO2e	%	per capita	MtCO2e	%	per capita
Excludes land-use change	2113,4	5,59	5,70	1011,9	2,68	5,4	316,5	0,84	8,2	37813,6	100	5,9
Includes land-use change	4456,4	10,3	12,00	2841,9	6,58	15,3	349,5	0,81	9,0	43189,8	100	6,7

Note: Includes CO2, CH4, N2O, PFCs, HFCs, SF6

Source: Climate Analysis Indicators Tool (CAIT) Version 7.0. (Washington, DC: World Resources Institute, 2010).

The GHG intensity of the Argentine economy (when excluding land-use change) is also higher than in Brazil. This is explained by Argentina's higher per capita energy consumption and higher carbon intensity of energy (hydropower makes a large contribution to total electricity generation in Brazil). As Table 2 shows, Argentina and Brazil differ considerably in the relative weight of energy in total emissions: when land use change is excluded, the energy sector accounts for 50.4 percent of total emissions in Argentina, as compared to 34.2 percent in Brazil. The difference is largely accounted for by electricity and heat, other fuel combustion and fugitive emissions. Compared to the world average, both countries show a lower contribution of the energy sector to total emissions. This is particularly the case of Brazil, where that contribution is close to half the world average.[5]

Recent estimates for Brazil indicate that the general patterns reviewed in this section remain unchanged (Viola, 2009). The rate of emissions in Brazil is reported to have peaked in 2004 and fallen since as a result of government policies to halt deforestation in the Amazon region.[6] In the case of Argentina, the rate of emissions from the energy sector has probably increased due to a higher share of thermal sources in total electricity generation.

[5] The difference is more marked if land-use change is considered, given the large share of total Brazilian emissions accounted for by that source. In the case of Annex I countries, energy related emissions account for 85 percent of total emissions.

[6] According to Viola (2009), emissions experienced a slight increase in 2007 as a result of deforestation to clear land for soybean production.

Table 2

GHG Emissions by sector, 2005

	South America		Brazil		Argentina		World	
	MtCO2e	%	MtCO2e	%	MtCO2e	%	MtCO2e	%
Excluding land use change:								
Energy	909.3	43.7	346.2	34.2	159.5	50.4	28,435.9	75.2
Industrial processes	61.4	3.0	32.4	3.2	5.7	1.8	1,883.9	5.0
Agriculture	1,013.8	48.7	590.5	58.4	138.9	43.9	6,075.2	16.1
Waste	95.5	4.6	42.8	4.2	12.4	3.9	1,418.7	3.8
Including land use change:								
Energy	909.3	20.6	346.2	12.2	159.5	45.6	28,435.9	65.8
Industrial processes	61.4	1.4	32.4	1.1	5.7	1.6	1,883.9	4.4
Agriculture	1,013.8	22.9	590.5	20.8	138.9	39.7	6,075.2	14.1
Land-use change & forestry	2,343.0	53.0	1,830.0	64.4	33.0	9.4	5,376.2	12.4
Waste	95.5	2.2	42.8	1.5	12.4	3.5	1,418.7	3.3

Note: Includes CO2, CH4, N2O, PFCs, HFCs, SF6

Source: Climate Analysis Indicators Tool (CAIT) Version 7.0. (Washington, DC: World Resources Institute, 2010).

2. Climate change policies in Argentina and Brazil

Argentina and Brazil are at different stages in the development of climate change-related policies. Although Viola (2009) has characterized Brazilian climate change policies as ambiguous, defensive and under-resourced, they compare favorably with those of other countries of the region. In effect, in the last decade Brazilian climate change policies seem to have experienced substantial dynamic adaptation, accompanied (and probably preceded) by a more vocal and engaged civil society. As one indicator, in 2009 Brazil became the first South American country to enact a climate change law. Argentina, by contrast, still has not developed an overarching policy framework to deal with climate change. Similarly, the government shows loose inter-agency coordination in this policy area and implements piecemeal initiatives only partially aimed at reducing GHG emissions.

2.1. Brazil: slow but consistent.

Launched by Presidential Decree No. 3515 (2000), Brazil started to develop national climate change policies more a decade ago. However, it was only in December 2008 that a National Climate Change Plan was adopted (Brazil 2008a). In between, the Executive implemented piecemeal initiatives void of a broader encompassing framework. Indeed, some policies that may be presently related to climate change objectives were in place well before Presidential Decree No. 3515. Most of them did not target lower emissions but enhanced energy security. These policies included the ethanol biofuel program and, less

remarkably, the PROCEL (Electrical Energy Conservation Program) and PROINFA (Incentives for Renewable Energy Sources) initiatives.[7]

The Brazilian bio-ethanol program is a good example of a long-term policy triggered by factors others than climate change, but which gradually became a major component of Brazilian climate change policies and a key asset in international negotiations. The program was originally launched to lower dependence on foreign fossil fuel after the first oil shock. In the meantime, it contributed to reduce GHG emissions and became a major component of Brazilian climate change diplomacy. The ethanol program combined large public sector subsidies with mandatory blending requirements, federal loans, tax exemptions and tax cuts for bio-fuels and flex-fuel automobiles.[8]

At first cautiously, Brazil also adopted policies to protect forests and curb illegal deforestation, which not only reduces the capacity for GHG absorption but also contributes significantly to total emissions (see section 1).[9] In 2004 an Action Plan for Prevention and Control of Legal Amazon Deforestation (PPCDAM) was implemented, targeted at reducing deforestation rates. Two years later, a legal framework to manage public forests was officially launched, to be followed by a Sustainable Amazon Plan (PAS) and the creation of the Amazon Fund. The Amazon Fund was established to manage donations for non-reimbursable investments to prevent, monitor and combat deforestation, and to promote the preservation and sustainable use of forests in that region. Brazil also adopted an ecological-economic zoning strategy for sugar cane production (*Zoneamento Ecológico-Econômico* – ZEE), to prevent sugar cane from expanding into the Amazon and the Pantanal and Alto Paraguai watershed, moving ahead of foreign demands to ensure that sugar-based ethanol does not encourage deforestation and biodiversity degradation (Decree Nº 6.961, 2009). Forest issues have always been sensitive for Brazilian climate change negotiators: initially dominated by concerns over the exercise of sovereign rights in the Amazon, the issue has gradually evolved towards the upgrading of enforcement capabilities and the tapping of international resources.

Apart from China and India (which respectively account for 60.2 and 11.7 percent of Clean Development Mechanism –CDM- projects), Brazil has been one of the most active participants in the market. In effect, Brazil hosted 5.8 percent of total projects, committing average annual reductions of 21 million tons of carbon-dioxide equivalent (CO_2e)[10]. Argentina, by contrast, has only 1.2 percent of the CDM market and a strikingly lower number of projects (17 as compared to 172 in Brazil). Aside from the size asymmetries between the Brazilian and Argentine economies (which translate into more cost effective opportunities for emissions' reduction in Brazil), the difference in the number of projects can also be attributed to the fact that 65 percent of Brazilian CDM projects are financed

[7] The PROCEL and PROINFA programs were targeted at reducing waste of electrical power on both the supply and consumer side and creating a compulsory market for renewable energy to be fed into the national electricity grid.

[8] Brazil introduced bio-fuels blending requirements applicable to the domestic transport market (25 percent bio-ethanol in gasoline and 4 percent bio-diesel in diesel fuel). Flex-fuel automobiles, which run on any combination of gasoline and bio-ethanol and accounted for more than 80% of total automobile sales in 2009, are a domestic technological development. Morgera *et al,* 2009, p. 86.

[9] According to official sources, deforestation would be responsible for 40.1 percent of expected Brazilian emissions in 2020. http://www.mma.gov.br/estruturas/182/_arquivos/cenarioemissoes_182.pdf

[10] UN Framework Convention on Climate Change CDM projects database, May 2010.

domestically. Availability of domestic finance enables Brazilian firms to sell their carbon credits at a higher value –once emission reductions are certified– rather than at the earlier stage of project design (Government of Brazil 2008b, p. 82).

As mentioned before, only in 2008 the government adopted a National Climate Change Plan, at the time presented as an instrument to integrate and harmonize climate change policies. The Plan identified Brazil's major challenges, such as the need to significantly reduce emissions from land-use change and continuously increase efficiency in the use of natural resources. The plan also set seven specific objectives and main actions to achieve them. Many, however, were largely declaratory. Major targets included maintaining the high share of renewable energy sources in electricity generation, encouraging the sustainable increase in the use of bio-fuels in national transportation, and reaching zero illegal deforestation and eliminating the net loss of forest coverage by 2015 (Government of Brazil, 2008a). In this particular area the Plan marked a major shift of Brazilian domestic policies, which had traditionally been relatively tolerant of (or unable to curb) illegal logging activities and deforestation. By setting targets to curb illegal deforestation and stop the net loss of forest coverage, Brazil not only placed itself as a top candidate to attract climate-related funding for forest activities, but it also adopted a proactive stance consistent with its long-standing opposition to international conditionality or oversight of forest-related policies.

The National Climate Change Plan was followed by Congressional approval of a Climate Change Law N. 12,187 in December 2009.[11] The Climate Change Law, an Executive proposal submitted in 2008, set out a national strategy for GHG emissions' reductions and was passed by Congress just the day after the end of the Copenhagen meeting. The new legislation aims at decoupling GDP and GHG emissions growth, committing Brazil to an expected reduction in emissions of 36.1-38.9 percent compared to the projected pathway to 2020. The Law creates a Brazilian Market for Emission Reduction (MBRE) and lists other climate policy instruments, such as the Climate Change Fund, a plan to prevent and control of deforestation and other policies (including subsidies and other measures) to promote a reduction in GHG emissions. The law mandates other mitigation and adaptation actions at the sector level with a view to move towards a low carbon economy. Sector initiatives, to be enforced by executive decree, have raised concerns in the private sector, particularly industry. The implementation of the law will largely rest on regulations to be later on issued by the Executive.

The Climate Change Law also listed the federal entities in charge of dealing with climate change policies, including the Inter-ministerial Committee on Climate Change (Decree No 6263, 2007), the Inter-ministerial Commission on Climate Change, the Brazilian Forum on Climate Change (FBMC) (Decree s/n 28 August 2000), the Brazilian Network on Global Climate Change and the Coordinating Commission on Meteorology, Climatology and Hydrology. The FBMC is a multi-stakeholder advisory forum chaired by the President of Brazil that includes 12 ministers, the director of the National Water Agency and civil

[11] Lei Nº 12.187, 29-12-2009. *Institui a Política Nacional sobre Mudança do Clima - PNMC e dá outras providências.* https://www.planalto.gov.br/ccivil_03/_ato2007-2010/2009/lei/l12187.htm

society representatives or individuals appointed by the President.[12] The Inter-ministerial Committee on Climate Change is composed of 17 federal bodies and the FBMC.[13]

On the basis of the Climate Change Law, in 2010 the Brazilian government submitted to the UNFCCC a letter containing a plan to reduce emissions through "national appropriate mitigation actions" (NAMAs), detailing the types of activities to be undertaken and the expected reductions in GHG emissions to be reached as compared to business-as-usual projections. These include actions on forests and land use, improvements in energy efficiency, more intensive use of bio-fuels, an increase in the supply of hydroelectric power generation and the use of alternative energy sources (including the replacement of coal from deforestation with coal from planted forests in the iron and steel industry).

2.2. Argentina: not an issue yet.

Unlike Brazil, Argentina has not yet adopted a coherent national climate change policy, although it complies with most UN Framework Convention on Climate Change (UNFCCC) commitments, such as the submission of national communications on GHG emissions and inventories (Argentina's last report is from 2000 and the third one is currently under preparation). The Secretary of Environment is the implementing authority for the UNFCCC and its Kyoto Protocol (Decree 2213/2002)[14] and the Argentine Office for the Clean Development Mechanism ("*Oficina Argentina del Mecanismo para un Desarrollo Limpio*") is the designated national CMD authority (Resolution 240/2005).[15] This office is integrated by a Permanent Secretary, an Advisory Committee, and an inter-ministerial Executive Committee bringing together representatives of the secretaries of energy; agriculture; industry, commerce and mining; transport; economy; foreign relations, international trade and worship; and science and technology. However, Argentina does not have a framework regulation on sector policies and, as it was originally the case in Brazil, energy security considerations have been the main driver behind the emphasis on bio-fuels and renewable energy sources.

Argentina has adopted legislation to promote renewable sources of energy in electricity production and the use of bio-fuels in transportation. Law 26.190 (2007) established a Promotional Regime to Use Renewable Sources of Energy for Electricity Generation and set a national target of 8 percent of renewable energy in the national energy consumption matrix by 2018. This commitment was based on the target for renewable sources of energy adopted at the 2004 Bonn Conference on Renewable Energies (Morgera *et al*, 2009). Argentina is also in the process of implementing a mandatory 5 percent blending requirement for bio-fuels in the transport sector and it has approved a promotional policy for the use of renewable sources of energy for electricity production.[16] Argentina also

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[12] Brazilian Forum on Climate Change. www.forumclima.org.br

[13] The Inter-ministerial Committee on Climate Change was the agency in charge of designing the national climate change plan.

[14] Decree 2213/2002. Available at: http://ambiente.gov.ar/?aplicacion=normativa&IdNorma=689&IdSeccion=29 .

[15] Resolution 240/2005. Available at: http://www.infoleg.gov.ar/infolegInternet/anexos/100000-104999/104189/norma.htm .

[16] Decree 562/2009 regulating Law N. 26.190. Available at: http://www.infoleg.gov.ar/infolegInternet/anexos/150000-154999/153580/norma.htm

adopted a Native Forests Environmental Protection Law (Law N. 26.631, 2007), which established a moratorium on deforestation until each federal district adopts land-planning strategies contemplating protection of forest biodiversity hot spots.

Institutions dealing with climate change issues in Argentina have no formal coordination mechanism and policy responsibilities are spread out among several ministries and the Secretary of Environment. The latter recently convened a 'Governmental Committee on Climate Change' to steer the preparation of Argentina's Third National Communication and to encourage institutional coordination among federal government agencies.[17] This Committee meets regularly and brings together fifteen federal agencies including relevant ministries and secretaries as well as the National Institute for Agricultural Technology (INTA), the Federal Environment Commission (COFEMA), the National Atomic Energy Commission (CONEA), and the National Space Activities Commission (CONAE).

Argentina has not yet presented NAMAs to the UNFCCC or associated itself with the Copenhagen accord. The series of sector policies mentioned above, however, could be translated into NAMAs for UNFCCC purposes. In fact, a letter by the Environment Secretary to the UNFCCC dated 15 February 2010 identified some mitigation measures already taken by Argentina (most adopted as a result of energy security concerns), but it did not formalize the country's support of the Copenhagen accord.[18] The list includes energy efficiency measures encouraging lower consumption of electricity and natural gas included in the National Program for Efficient and Rational Use of Energy (Decree 140/07); Law 26,473 banning the sale of incandescent light bulbs as from 31 December 2010; several national programs on energy efficiency; Law 26,190 on Renewable Energy granting subsidies for renewable energy sources; Law 26,093 on bio-fuels blending requirements; Law 26,331 on land planning for sustainable management of native forests and Law 26,432 promoting investments in the forestry sector; and a national plan for integrated waste management funded by the World Bank.

As compared to Brazil, Argentina's smaller scale of emissions means that the country has not experienced intense pressures to adopt mitigation measures. Thus, aside from the need to foster renewable sources of energy due to energy security considerations, the promotion of climate change-friendly policies have not had a sense of urgency. This has been probably reinforced by a more limited participation of stakeholders from civil society in the domestic policy debate.

3. Argentina and Brazil: shifting places in international climate change negotiations?

Historically, Brazil and Argentina have been at odds in climate change negotiations. In particular, both countries have followed separate tracks within the UNFCCC process based mostly on differences in their emission sources and their relative status as global emitters. Whereas Brazil, as a relatively large player, has had a loud voice almost from the beginning of negotiations, during some periods Argentina tried to compensate its modest leverage with an activist international diplomacy. These roles showed clearly during the Kyoto

[17] For more information visit: http://www.ambiente.gov.ar/?IdArticulo=8661
[18] Letter to the UNFCCC Executive Secretary, dated 15 February 2010.

Protocol negotiations, when Brazil joined India and China to lead the Group of 77 in successfully opposing any binding emission reduction commitments by developing countries (Viola, 2009),[19] while Argentina tried to play the role of a broker between the developed and developing world. Argentina chaired the Committee of the Whole that drafted the text of the Kyoto Protocol and its main negotiators worked to reach a compromise between North and South. After the Protocol's signature in 1997 Argentina hosted a Conference of the Parties (COP) to the UNFCCC in the following year, seeking to bring the US back to the negotiating table by proposing the adoption of voluntary commitments by developing countries. The offer was strongly opposed by other developing parties and eventually abandoned after the Buenos Aires COP.

Brazil, in turn, has a long history of involvement in environmental negotiations that date back to the Rio Conference of 1992. That country has traditionally been a key player with a strongly defensive approach. Although Brazilian environmental and climate change policies have been subject to much internal debate, for all their complexity they have remained primarily shaped by the perception of Brazilian vulnerability due to the size of its economy and emission trends, and by the need to defend sensitive interests in the Amazon region. As a result, Brazil has consistently opposed any binding commitments on the part of developing countries in the context of climate change negotiations. It has also opposed any international agreement on forests in other *fora*, like the Convention on Biodiversity and the UN Forum on Forests. These positions have remained virtually unchanged until very recently, as they were firmly rooted in Brazil's interest to maintain national discretion in regulating forest activities in the Amazon region.

Brazil's present support for reducing emissions from deforestation in developing countries (REDD), however, suggests a process of gradual change: while opposing any kind of international commitment on forests, Brazilian negotiators have supported the development of international mechanisms to finance national actions to prevent deforestation. The key concept is that REDD or the Amazon Fund may support national actions already under implementation, rather than imposing binding commitments on a top-down basis. Through this gradual process of change, without altering its core position and principles (such as the opposition to binding commitments on emission reductions or forest management), Brazilian negotiators have shown some flexibility and offered new negotiating space for an agreement in post-Kyoto protocol negotiations.

The gradual smoothing of Brazilian traditionally defensive stance in international negotiations has also been facilitated by the evolution of domestic climate change policies. Although Brazil has stayed close to India, China and South Africa (the BASIC group of heavyweight developing countries that shaped the outcome at Copenhagen and counterbalanced the influence of the United States and the European Union), it emerged as the coalition member most amicable to industrialized countries' demands. After Copenhagen, this was confirmed by Brazil's adoption of national emission reduction targets, its swift submission of NAMAs in January 2010 and its ambitious bilateral cooperation with the US on bio-fuels. These attitudes have been encouraged by stronger enforcement capabilities and new expectations that Brazil is set to gain from the transition to a low-carbon economy and successful negotiations on topical issues such as REDD in a

[19] Eventually, this strong stance was given as a factor behind the US Congress refusal to ratify the Protocol. For an analysis of the Brazilian negotiating stance, see Viola (2009).

post-2012 climate regime. In contrast to past concerns about sovereignty in the Amazon, a vision seems to have gradually emerged that sees the climate regime as an opportunity to mobilize international finance (Curtin, 2010). Along these same lines, Brazil made several presentations backing its proposal for a fund to channel resources to countries that demonstrate reduced emissions from deforestation.[20]

Argentina, by contrast, has sharply diminished its visibility in the negotiations and largely abandoned its role as a broker. The Argentine president was one of the few leaders absent from the Copenhagen meeting, said to have been one with the highest presidential participation outside UN headquarters in history. Similarly, the difference in the size of delegations and the experience and political weight of Argentine and Brazilian climate change negotiators in Copenhagen provide clear evidence of the policy priority of the topic in each domestic polity. For Argentina climate change negotiations do not seem to be a priority issue in itself, but rather a policy arena to be pragmatically used to further global foreign policy goals.[21] By the time of writing Argentina had not yet given its support to the Copenhagen Accord, which has been backed by more than 110 countries including all major emitters. In practice, Argentina and the ALBA group are among the few countries (jointly with traditional opposing blocs such as OPEC) that remain outside of the agreement.[22]

The emerging picture is one where Argentina and Brazil have been gradually shifting their allegiances, while at the same time remaining in separate groups. Argentina has shown a dramatic shift from being almost an ally of the US during the Kyoto Protocol negotiations, to appearing in tacit support of Venezuela and others in Copenhagen.[23] The Brazilian negotiating stance, by contrast, has moved away from its predominantly defensive approach in a direction more consistent with the construction of a global climate change regime. This gradual evolution turned Brazil into the most cooperative member of the BASIC group of developing countries in Copenhagen.

[20] Documents: FCCC/SBSTA/2006/MISC.5, FCCC/SBSTA/2007/MISC.2, FCCC/SBSTA/2007/MISC.14. Brazil also served as co-chair of the working group dealing with land-use, land-use change and forestry issues (LULUCF) in the Copenhagen Conference, showing readiness to actively participate in forest-related discussions (Akanle, *et al,* 2009).

[21] "La Cumbre de Copenhague fue un fracaso por culpa de los países desarrollados" Gacetilla de Prensa de la Secretaría de Ambiente y Desarrollo Sustentable. Available at: http://cop15.ambiente.gob.ar/?aplicacion=noticias_filtrado&idarticulo=8635&idseccion=

[22] During the Copenhagen Climate Conference, the Argentine and Venezuelan delegates spoke in support of each other on several occasions. In contrast, Argentina and Brazil were not reported to have publicly shared positions. (Daily reports and summary of the Copenhagen Meetings by the *Earth Negotiations Bulletin*, IISD, 2009 available at: http://www.iisd.ca/climate/cop15/).

[23] The group of ALBA-PTT nations, including Bolivia, Cuba, Ecuador, Nicaragua and Venezuela were amongst the most vocally opposed to the adoption of the Copenhagen Accord, arguing lack of participation and transparency. http://unfccc.int/resource/docs/2010/awglca10/eng/misc02.pdf

4. Argentina and Brazil: is cooperation feasible?

Argentine and Brazilian different emission patterns lay behind their traditionally divergent standing in climate change negotiations and the poor record of bilateral cooperation. [24] However, both countries also share common challenges and may benefit from policy and technical cooperation in some areas. One such area is that of identifying common vulnerabilities and adaptation demands, which will require extensive technical work. Climate change models are not constrained by national borders and regional adaptation needs may involve territories pertaining to several countries. In such cases bilateral or regional cooperation would make sense. However, so far technical and scientific cooperation has been basically the result of the initiative of the scientific community, with very little input from the public sector. In 2009 the MERCOSUR environment ministers agreed to undertake a joint study on adaptation vulnerabilities and an *Ad hoc* Group on Climate Change (GAHCC) was given the task to draft its terms of reference, which are still under preparation.[25] But aside from this isolated initiative, MERCOSUR has not been a forum for regional or bilateral cooperation on this topic. One reason may be that negotiators do not need the institutional and political infrastructure of MERCOSUR to interact, since climate change negotiators from Argentina and Brazil have plenty of opportunity to do so in climate change meetings. However, identifying opportunities for regional cooperation is unlikely to be done in multilateral fora.

Another sensitive area that may be susceptible of common bargaining principles is that of fossil fuel subsidies. Argentina and Brazil are both part of the G-20 that adopted the Pittsburgh Declaration by which countries agreed to phase out and rationalize over the medium term inefficient fossil fuel subsidies, since they "encourage wasteful consumption, reduce energy security, impede investment in clean energy sources and undermine efforts to deal with the threat of climate change."[26] Although negotiations on this issue are at an initial stage and governments are considering the mechanism and methodology to report fossil fuel subsidies, Argentina and Brazil may coordinate their positions to make sure that the definition of subsidies does not imply the dismantling of safety nets for the poor in developing nations or exclude other methods of support frequently used by industrial countries, such as incentives for offshore oil exploration (Aguilar, 2009).

Another area is the negotiations on environmental goods and services (EGS) within the World Trade Organization. These negotiations were launched following a Doha Development Agenda mandate to "reduc(e) or, as appropriate, eliminate(e) tariff and non-tariff barriers to environmental goods and services"[27]. Since 2001 countries have been working on elucidating the meaning of EGS, including climate-friendly goods, and on how to deal with dual use products (which depending on their use, may or may not serve

[24] Ríos and Veiga (2010) also point out that cooperation in this area will require issue-based variable geometry coalitions.

[25] During the X Meeting of Mercosur Ministers of the Environment (Montevideo, September 2009) a project was presented on the elaboration of a Mercosur strategy on regional vulnerability and adaptation to climate change to be financed by FOCEM (*Fondo de Convergencia Estructural del MERCOSUR*) with technical cooperation by the UN Economic Comission for Latin America and the Caribbean (ECLAC).

[26] *Leaders' Statement The Pittsburgh G-20 Summit, September 24 – 25 2009.*

[27] *Doha WTO Ministerial 2001: Ministerial Declaration*, Document WT/MIN(01)/DEC/1, November 2001.

environmental objectives) (Aguilar, 2008). Argentina and Brazil have opposed the adoption of a single list of products as proposed by industrial countries, but they have submitted alternative negotiating proposals. Brazil has proposed engaging in request-offer rounds (similar to tariff negotiations) or, alternatively, using a "basket" approach as a second-best option, under which each Member would offer tariff cuts on a set of environmental goods.[28] Argentina, initially with India, proposed an "integrated approach" whereby countries would first define "categories" of environmental activities useful to combat climate change (e.g. renewable energy, solid and hazardous waste management and air pollution control), and then identify goods that could be used in national projects (such as wind turbines, solar water heaters, biogas production tanks, and methane collection liners). Developing countries would reduce/eliminate tariff and non-tariff barriers when the goods in question were used in projects undertaken under the Kyoto Protocol's Clean Development Mechanism (CDM).[29] Despite these differences, Brazil and Argentina are on the developing country side of the debate and share interests in balancing the set of highly industrialized goods proposed by developed countries for liberalization. In particular, Brazil has a strong interest in including bio-ethanol in any prospective EGS list.[30] Argentina has less of a problem regarding bio-fuels because its main export, bio-diesel, is not as heavily taxed with tariffs as bio-ethanol. In July 2010, Argentina and Brazil made a common presentation on the need to give developing countries more flexibility in liberalizing environmental goods and services through a set of criteria on special and differential treatment. This proposal seeks to provide space to protect domestic 'green' technology industries.[31]

Unilateral measures undertaken by industrial countries may also trigger closed cooperation between Argentina and Brazil. In effect, mechanisms to price carbon emissions, subsidies and regulations (both mandatory and voluntary) can affect the location of production and trade. According to Peters and Hertwich (2008) Argentina and Brazil are both net exporters of carbon emissions, which makes the two countries potentially vulnerable to measures aimed at promoting less carbon intensive production. One such mechanism would be the implementation of carbon border adjustment measures, considered in US Congress proposed legislation and also possible in the EU 2020 program. According to Aguilar, Bouzas and Molinari (2010) manufacturing products most likely to be subject to carbon adjustment measures in the US and the EU contribute with 7 and 14 percent of total Argentine and Brazilian exports to those markets, respectively. These categories account for only 3.3 and 0.4 percent of percent of total Brazilian and Argentine exports (Table 3), but for a quarter and a fifth of total manufacturing exports to the world.

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[28] "Environmental Goods For Development." *World Trade Organization Committee on Trade and Environment Special Session (WTO CTESS)* Document TN/TE/W/59, 8 July 2005 (Version 2007) in WTO CTESS Document JOB 07/146, 1 October 2007.

[29] "The Doha Round and climate change. Submission by Argentina" Document TN/TE/W/74, 23 November 2009.

[30] The list of 43 goods identified by the World Bank as relevant for climate change mitigation does not include bio-ethanol.

[31] "Communication from Argentina and Brazil. Environmental Goods and Services, Paragraph 31(iii), Special and Differential Treatment." *World Trade Organization Committee on Trade and Environment Special Session (WTO CTESS)* Document TN/TE/W/76, 30 June 2010.

Table 3

Argentina and Brazil: Climate change sensitive manufacturing exports, 2006-08

	Exports as a share of total Brazilian exports to (percentage)			Exports as a share of total Argentine exports to (percentage)		
	United States	**EU**	**World**	**United States**	**EU**	**World**
Sensitive manufacturing sectors	18.7	11.1	3.3	15.4	3.1	0.4
Iron and steel	12.3	5.6	1.9	4.8	1.8	0.1
Aluminium	1.4	2.1	0.4	5.4	0.6	0.1
Paper and pulp	2.7	2.9	0.7	1.3	0.3	0.6
Chemicals	1.4	0.2	0.2	2.8	0.1	0.1

Source: authors' calculations based on BADACEL.

Both countries are also vulnerable to climate change standards and regulations, such as energy efficiency and emission intensity requirements. The potential impact of these will depend on industrial organization features and on how these standards are implemented (Aguilar, Bouzas and Molinari, 2010). In some sectors, however, regulations are very likely to have sizable effects on trade. One case in point is bio-fuels, which are expected to increase substantially their share in total fuel consumption (particularly in transportation) in the developed world. Most programs to encourage production and use of bio-fuels (such as mandatory blending requirements, tax incentives and minimum prices) have been made conditional to "sustainability criteria" that include, for example, minimum savings in GHG emissions. Implementation of these criteria will rest on estimation methods that may render substantially different results. One case in point was the enforcement of the US Renewable Fuels Standard, where the Environmental Protection Agency initially found that bio-ethanol from sugarcane did not meet the criteria to qualify as an "advanced bio-fuel". By using alternative estimation techniques, Brazilian producers were able to make bio-ethanol qualify. EU estimates also consider that bio-diesel produced from soybeans do not meet the minimum required standard of 35% of GHG savings to qualify as a sustainable bio-fuel, which would threaten Argentine exports to that market. However, the EU estimate does not take into consideration the positive effect of no-tillage methods on emissions of greenhouse gases.

Voluntary private sector labeling schemes may also turn out into a common concern for both countries. Some retail chains have introduced "carbon footprint" labeling requirements and others have adopted questionable labeling procedures (such as "food-miles") to provide information about how much a product has travelled from the point of production. Apart from the misleading information on greenhouse gas emissions provided by labeling schemes such as food-miles, these mechanisms may become important obstacles to international trade (particularly in the food sector), due to their sensitivity to alternative estimation methodologies. Active participation in the process of standardization could thus become an important area for both countries to collaborate.

4 Conclusions

We have argued that Argentina and Brazil are in different stages in the development of their climate change-related policies. On balance, Brazilian policies have gradually evolved from a strongly defensive stance towards a more cooperative approach, turning Brazil into the most amicable of the BASIC group of developing countries. This has been the result of a gradual but consistent development of domestic climate change policies, increased awareness of the potential benefits of a climate change regime for a relatively large emitter like Brazil and a perception of diminished vulnerability to foreign pressure. In Argentina, by contrast, climate change policies have not climbed to an important place in the policy agenda. Partly as a result, environment (and climate change) bargaining positions seem to have followed broader foreign policy alignments rather than clearly identified "national interests" on this particular policy area.

This has translated into divergent paths in climate change negotiations. Whereas Argentina tried to act as a broker between developed and developing countries during the Kyoto protocol negotiations, Brazil maintained a hard-line defensive stance. In contrast, in the post-Kyoto era Brazil seems to be emerging as the most amicable member of the BASIC group of large developing countries, while Argentina lost visibility and tacitly aligned itself with the anti-Copenhagen hard-liners. Unlike Brazil, Argentina has not yet assumed any emission reduction objectives or offered any NAMA's within the UNFCCC process that followed the Copenhagen meeting.

These differences are partly accounted for by different emission profiles, which in turn have given climate change-related issues a different statute in domestic policy debates and international negotiations. However, despite these structural differences both countries may find commonalities in a number of areas. We have identified four policy areas that may be subject to closer cooperation: technical and scientific research on the potential impact of climate change and adaptation needs; the regulation of fossil fuel subsidies; the definition of environmental goods and services; and the response and preparedness to deal with unilateral measures in the industrial world. Argentina and Brazil share a common interest in showcasing that emission reductions in these countries are much likely to succeed by targeting the agricultural sector –and reducing deforestation and improving agricultural techniques– rather than by imposing barriers (carbon border adjustments or otherwise) to industrial goods. Mitigation measures targeting industrial sectors in industrialized countries are not necessarily effective for countries like Argentina and Brazil, where the largest and most effective mitigation potential lies in agricultural, land-use and forestry sectors. Both countries may also cooperate to make sure that the standards and regulations adopted by industrial countries are WTO-compatible and to prepare to cope with the technical requirements that complying with these regulations may demand in the future.

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