BRAZILIAN JOURNAL OF INTERNATIONAL AFFAIRS • YEAR 1 / No. 4 / OCT-DEC 2022

CEBRI JOURNAL
BRAZILIAN CENTER FOR INTERNATIONAL RELATIONS

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FROM THE EDITORS

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The Long 2022: The Year We Breathe Again

Fernanda Cimini

This fourth issue of CEBRI-Journal closes its first quarterly publication cycle, which started in 2022. Not long ago we were building the pillars of this journal surrounded by the uncertainties of a seemingly endless pandemic. Science allowed us to develop a vaccine, and Brazil's Unified Health System (SUS) allowed us to gradually reclaim our freedom to occupy public spaces and breathe.

We use that breath of fresh air to focus on the urgent discussion about our survival in the Anthropocene period,[1] heeding Professor Bruno Latour's tireless warning (he sadly left us in October 2022). Among so many "Latourian lessons," I emphasize the need to overcome two assumptions that pervade the current climate debate: (a) the opposition between humankind and nature that underlies the anthropocentric fiction that we are the sole agents in action in contrast to the passivity of the earth and of other living things; and (b) the abstract vision of a globalized planet Earth disconnected from the place we live in (Latour 2020a). According to Latour, these assumptions hinder rather than help think about the current climate *mutation* as they

1. The Anthropocene is a concept that remains incipient in the scientific arena. It refers to a new geological era supposedly underway that sees the end of the relatively stable climate that allowed humans to develop agriculture and livestock farming and, with it, to spread around the planet. In this new era, the degree of human intervention supposedly reached a deeper biogeochemical level to cause instability throughout the Earth system: geosphere, biosphere, anthroposphere, and technosphere (Junges 2021, Veiga 2019).

Fernanda Cimini *is Professor at the Department of Economics at Minas Gerais Federal University (UFMG) and a senior researcher at the Brazilian Center for International Relations (CEBRI). She is a Fulbright Visiting Professor at Columbia University (2022). She has a PhD in Sociology from the Rio de Janeiro Federal University (UFRJ), with additional training in Political Science (MIT), Master and Bachelor in International Relations from Minas Gerais Pontifical Catholic University (PUC-MG) and Bachelor in Social Sciences (UFMG). She works in the areas of Comparative Political Economy, International Political Economy and Latin America.*

see nature as a distant and apolitical landscape. That is why Latour invited us to "ground ourselves," that is, to build a new perception as *earthlings*, to learn that we are part of this tangle called Earth and to realize that we have nowhere to run to – even if some insist in denying that (Latour 2020b).

We have now reached the mark of eight billion *earthlings*.[2] Eight billion of us share this planet with not the slightest guarantee that we will ever return to the "world as it was before." For some, that farewell is in full swing. Climate change displaced some 60 million people in 2021 alone, more than the number of refugees due to armed conflicts in the same period, according to a warning issued at an Instituto Igarapé report (2022), we have "nowhere to run to." The number of climate refugees may reach 1.2 billion as early as mid-century, most of them in the developing world (idem).

While the world celebrates the increase to one billion inhabitants, *earthlings* of the highest economic, social, and political echelons meet in Egypt to discuss whether the goal of keeping global warming at no more than 1.5°C already is a chimera. A United Nations Environment Programme (UNEP) report published on the eve of COP 27 predicts the continuation of current emissions patterns will cause an increase of 2.8°C by the end of the century. An optimistic scenario where emission reduction promises are fully kept will likely see an increase of about 1.8°C (UNEP 2022).

That is a hard but unsurprising truth. The hurdles to progress in climate negotiations have long been known: the need to invest in renewable energy, path dependence on fossil fuels, unequal access to clean technologies, inadequate institutional capabilities, etc. And if unlocking negotiations requires diplomatic dexterity and political pragmatism, here's some good news: Brazil can take the lead.

The hurdles to progress in climate negotiations have long been known: the need to invest in renewable energy, path dependence on fossil fuels, unequal access to clean technologies, inadequate institutional capabilities, etc. And if unlocking negotiations requires diplomatic dexterity and political pragmatism, here's some good news: Brazil can take the lead.

The authors of this issue point in this direction in their contributions to the

2. https://www.unfpa.org/8billion.

"geopolitics of climate change" theme. The symbolism of 2022 is a starting point. We commemorate the bicentennial of Brazil's independence, the thirtieth anniversary of the 1992 Rio de Janeiro Earth Summit and the fiftieth anniversary of Brazil's diplomatic environmental efforts. In his text, Ambassador Rubens Ricupero reports the nuances of negotiations since Stockholm in 1972 and their subsequent developments such as the Amazon Cooperation Treaty (TCA), his assignment to coordinate the organization of the 1992 Earth Summit and his tenure as Minister of Environment (1993-1994). Ricupero offers a passionate testimony and shows his mettle by shunning a "win or lose" approach in favor of an apocalyptic truth: "the game of life has a time limit."

Diplomat Eugênio V. Garcia subsequently looks at the last 200 years to reflect on Brazil's foreign policy (PEB, as the acronym is used in Portuguese) for the next one hundred years. If social and economic pragmatism is maintained, the coming agenda should be dominated by technology and sustainability based on a green-digital economy. PEB must be urgently aligned with the Brazilian innovation ecosystem while the digital transformation continues in full swing. The great challenge for the new PEB is to go beyond the social and economic substrate based on the production of commodities. The decade of 2021 will define the direction Brazil must take at the risk of being trapped in a "late smartization" trap.

Reflecting on this immediate future, the strategic agenda proposed in researcher Karin Costa Vazquez's policy paper rests on three pillars: (i) acceleration of public policies within the scope of the 2030 Agenda; (ii) repositioning Brazil to better react to major global transformations such as Asia's increased geopolitical significance, the technological-digital revolution and the energy transition; and (iii) regaining Brazil's international leadership by re-engaging with regional and multilateral forums. Vazquez thinks that achieving these objectives will require reactivating institutional players left dormant in the preceding administration, including not only the Ministry of Foreign Affairs but other entities that have the experience and administrative capabilities to act at the strategic, tactical and operating levels.

Ricupero, Garcia and Vazquez offer an overview of the historical and institutional bases of Brazil's diplomatic capacity to regain international protagonism by reconciling development and sustainability. The empirical substrate for Brazil to take the lead in the climate regime is examined by Matilde de Souza & Leandro Gomes Ferreira, Larissa Basso & Eduardo Viola, and Gilberto Câmara et al., who discuss Brazil's current energy transition status and emissions from deforestation.

Brazil's relatively low-carbon energy mix puts us in a uniquely favorable position in the decarbonization path in comparison both with BRICS and with South Amer-

ican countries. If, on the one hand, energy self-sufficiency and the abundance of renewable sources confer natural advantages on Brazil, on the other hand, political oscillations in governance and funding arrangements for the low-carbon transition raise obstacles to achieving bolder and more effective goals.

In Souza & Ferreira's opinion, Brazil is in a "moderate" transition scenario in which natural gas functions as a short-term substitute for hydropower plants and "dirty" road transportation continues to prevail. For them, the slow progress of wind and solar power generation is due to Brazil's current energy mix, which discourages new investments; territorial extension, which increases the cost of transmission lines; and, finally, to the lack of clear political incentives for the transition.

Basso & Viola consider deforestation the major culprit for Brazil's greenhouse gas emissions. In their analysis, policies to regulate land use and agriculture, monitoring and enforcement are key for Brazil to remain on a favorable decarbonization path. Indeed, Câmara et al. report that deforestation rates decreased by 84% between 2004 and 2012, when Brazil implemented a more active environmental control policy. That success allowed the country to present at the 2015 United Nations Framework Convention on Climate Change (UNFCCC) climate targets that were more ambitious than those of other BRICS countries. But the subsequent rapid increase in deforestation rates jeopardized our ability to honor the goals set in Paris.

An unprecedented survey to identify illegal deforestation areas reported by Câmara et al confirms that. Comparing maps made by the National Institute for Space Research (INPE) with Rural Environmental Registry (CAR) and National Institute for Colonization and Agrarian Reform (INCRA) databases, the survey found legal and illegal deforestation to have significantly increased from 2019 to 2021 as a direct result of the Bolsonaro administration pulling down environmental control framework. Câmara et al. also use the statutory reserve deficit and surplus profile to estimate Brazil's capacity to honor its commitments under the Nationally Determined Contribution (NDC). This diagnosis is crucial for the next administration to put adequate incentives in place that enforce the Forestry Code, as it will face resistance from large and medium-scale landowners challenged by significant restoration costs.

> *In contrast with other BRICS countries, Brazil will gain an ever-greater leading role in the climate regime if Brazil manages to overcome those challenges and to retake the path followed from 2004 to 2012. That is what the world expects of us..*

In contrast with other BRICS countries, Brazil will gain an ever-greater leading role in the climate regime if Brazil manages to overcome those challenges and to retake the path followed from 2004 to 2012. That is what the world expects of us. In the interview included in this issue, Professor Jeffrey Sachs posits that President Lula's election as Brazil prepares to assume the G20 presidency in 2024 puts Brazil in the spotlight thanks to the synergy between Biden's environmental policy and Lula's favorable view of regional and multilateral climate cooperation. Although prospective funding by the U.S. government remains uncertain, Brazil can benefit economically and politically and position itself as a regional leader in negotiations concerning the Amazon region.

There is also room for improving relations with Africa. Mozambican Minister of Economy and Finance, Ernesto Max Elias Tonela, also interviewed in this issue, draws attention to Mozambique's significant natural gas output and huge reserves (the third largest in the world). Mr. Tonela further mentions other renewable assets that, jointly with Mozambique's gas potential, can boost energy transition in the Southern African region. Mozambique faces a great challenge in the conflicts in Cabo Delgado and has received the support of the international community to implement projects that promote social and economic stability in the region. Brazil has a long history of bilateral cooperation with Mozambique and can become a strategic partner in stabilizing Mozambique and in pushing for climate justice.

All of the above takes place on a geopolitical chessboard that will require peripheral countries such as Brazil to use finely balanced diplomacy to deal with the opposing interests of Washington and Beijing. That requirement is discussed in the policy paper written by fellow editors of this journal, Hussein Kalout and Feliciano Guimarães. In their opinion, Brazil must urgently regain its regional protagonism so that Brazil can implement a pendulum hedging strategy at the extra-regional level. As the climate regime turns from a soft to a hard politics issue with direct implications for the survival of States, the capabilities associated with this agenda tend to gain more weight in the pendulum logic of the game.

Our special section theme also includes a review of Mary Robinson's book Climate Justice (2018), an important work on the topic. The review by Professor Pascoal Teófilo Carvalho Gonçalves highlights the author's emphasis on women's role in the search for solutions to mitigate or adapt to climate change and in sustainable development initiatives. The reviewer draws attention to the daily concerns of those who will be directly affected by the changes underway and underscores the urgency of coordinated action by world leaders.

The matters addressed in this special issue – protection of the Amazon region, Bra-

zil regaining leadership in the environmental regime, search for climate justice – are aligned with CEBRI's climate agenda. Throughout 2022, CEBRI organized debates with leaders from the government, academia, civil society, the private sector, and indigenous and environmental activists to support the construction of proposals to guide Brazil's reintegration into climate geopolitics. I refer the reader to the Policy Paper publication *Development and Climate Change: Brazil's role in the environmental-climate agenda*, written by Minister Izabella Teixeira et al. (2022), whom I wish to thank for providing valuable insights for this issue.

In the academic papers section, Ariel González Levaggi continues the debate initiated in our preceding issue about the war in Ukraine. Levaggi describes the risks and challenges the conflict creates for the South Atlantic region focusing on three dimensions: the risks the strategic competition between major powers involves, how regional players respond to the Russian-Ukrainian conflict, and how the conflict affects the economic development agenda.

Assuming the responsibility to lead such a complex agenda does not mean turning a blind eye to our many social, economic, and political challenges or relinquishing our sovereign interests. On the contrary, it means Brazil should legitimately use its capabilities and duties to assume an independent position in claiming rights and justice. That is what the world expects of a nation like Brazil, that which boasts an ancestral legacy and such a rich biodiversity. That is what the world expects of humans grounded in their territory and willing to assume the position of earthlings.

This issue also includes Ambassador Gelson Fonseca Jr.'s homage to the diplomatic and intellectual work of José Augusto Lindgren Alves, who left us in this long year of 2022. It is in part thanks to Ambassador Lindgren's intellectual and diplomatic contributions, including at the United Nations, that we today see human rights and sustainable development as part of the same struggle. I am particularly grateful to him for, when I was an undergraduate student, introducing me through his book *International Relations and Social Issues: The Decade of Conferences* (Alves 2001) to the profound transformation international relations went through in the 1990s. Gelson Fonseca Jr. describes Ambassador Lind-

gren's tireless efforts in the struggle for human rights and his sensitivity to social injustice, which are indispensable legacies for current times.

Finally, our last issue of 2022 could not fail to refer to the *Doctor Honoris Causa* degree the São Paulo State University Board (UNESP) granted to Celso Lafer, CEBRI Founder and Member of this journal's Advisory Board. To mark that event, Lafer shared with us the speech he gave in the ceremony of November 23, 2022, making reference to his diplomatic career and to the two times he held the office of Minister of Foreign Affairs. At a time of academic-scientific denialism and anti-democratic actions, Lafer stresses the value of knowledge for decision-making in public policy. Lafer himself is an example of excellence in connecting knowledge with diplomatic action.

The legacies of Lindgren Alves and Lafer and the thoughts developed in our special section show how important it is to fight the obscurantism that haunts our democracy. Recovering our capacity to think about public policies is a *sine qua non* condition for Brazil to realistically regain a responsible international role. Assuming the responsibility to lead such a complex agenda does not mean turning a blind eye to our many social, economic, and political challenges or relinquishing our sovereign interests. On the contrary, it means Brazil should legitimately use its capabilities and duties to assume an independent position in claiming rights and justice. That is what the world expects of a nation like Brazil, which boasts an ancestral legacy and such a rich biodiversity. That is what the world expects of *humans* grounded in their territory and willing to assume the position of *earthlings*.

References

Alves, José Augusto Lindgren. 2001. *Relações internacionais e temas sociais: a década das conferências*. Brasília: Instituto Brasileiro de Relações Internacionais (IBRI).

Igarapé Institute. 2022. *Climate Migration and Displacement: No Place to Run*. Igarapé Institute, Global Futures Bulletin (November 2022). https://igarape.org.br/wp-content/uploads/2022/11/Global-Future-Bulletin-Climate-Migration-and-Displacement.pdf

Latour Bruno. 2022a. *Diante de Gaia: oito conferências sobre a natureza no Antropoceno*. São Paulo: Ubu.

Latour, Bruno. 2022b. *Onde aterrar?: Como se orientar politicamente no Antropoceno*. Rio de Janeiro: Bazar do Tempo Produções e Empreendimentos Culturais LTDA.

Veiga, José Eli da. 2019. *O antropoceno e a ciência do sistema terra*. São Paulo: Editora 34.

Junges, José Roque. 2021. "O novo regime climático do Antropoceno e de Gaia". *Revista Bioética* 29 (4): 734-742. https://doi.org/10.1590/1983-80422021294507.

Teixeira, Izabella, Winston Fritsch, Ana Toni, Daniela Lerda & Francisco Gaetani. 2022. Desenvolvimento e Mudança do Clima: o papel do Brasil na agenda ambiental-climática. CEBRI Policy Papers. Centro Brasileiro de Relações Internacionais. https://cebri.org/br/doc/297/desenvolvimento-e-mudanca-do-clima-o-papel-do-brasil-na-agenda-ambiental-climatica.

UNEP. 2022. *The Closing Window: Climate Crisis Calls for Rapid Transformation of Societies*. United Nations Environment Programme, Emission Gap Report 2022. https://www.unep.org/resources/emissions-gap-report-2022.

To cite this work: Cimini, Fernanda. 2022. "The Long 2022: The Year We Breathe Again." *CEBRI-Journal* Year 1, No. 4 (Oct-Nov): 9-16.

DOI: https://doi.org/10.54827/issn2764-7897.cebri2022.04.01.01.9-16.en

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POLICY PAPERS

CEBRI JOURNAL
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POLICY PAPER

Hedging Between the U.S. and China: Brazil Protecting Itself to Survive

Hussein Kalout
Feliciano de Sá Guimarães

Abstract: This policy paper argues that Brazil should carry out a hedging foreign policy in the face of growing Sino-American rivalry by simultaneously exer-cising bandwagoning (following the leader) and balancing (balancing against the leader) actions to create a cross-network of formal and informal protective agree-ments against the potential adverse effects of and to extract gains from that rivalry. Brazil can play a pivotal role in that bipolarization as a BRICS founder and an OECD prospective member. The U.S. and China see Brazil as a key ally in their dispute and seek to attract the country to their sphere of influence.

Keywords: bandwagoning; balancing; hedging; Brazilian foreign policy, hedging foreign policy.

In the words of the most influential Chinese scholar of International Relations, Yan Xuetong (2021, 40), "China believes that its rise to great-power status entitles it to a new role in world affairs—one that cannot be reconciled with unquestioned U.S. dominance." U.S. political scientist John Mearsheimer (2021, 1) argues that "since a mightier China would surely challenge the U.S. position in Asia and possibly beyond, the logical choice for the United States was clear: slow China's rise." What choice do peripheral countries have in this environment of pressing rivalry? Choose sides or protect their autonomy? Gause (2011) argues that the behavior of middle and regional powers can stabilize the international system's balance.

This paper begins with a question: can Brazil use an updated version of its hedging foreign policy of World War II in the current global power scenario? More specifically, can Brazil use a hedging foreign policy to obtain political gains and to avoid high costs in a newly bipolar international system? Indeed, the contemporary global order recalls the "Atlantic system" of the 1930s and 1940s in at least two aspects: first, there is growing rivalry between two major powers due to the rapid rise of one of them; second, the rise of the rival power increases the chances of military conflict between them by reinforcing the security dilemma. The rivalry between Washington and Beijing may reproduce the historical Thucydides trap pattern – fear of Athens' rapid rise led Sparta to declare war.

But the current global order and that of the 1940s or the Cold War differ significantly. Today, the number of regional and middle powers is much higher. Several countries – Brazil, Japan, Germany, France, Indonesia, South Africa, India, Japan, etc. – have some capacity to impose constraints on superpowers, either in their regions or in their issues of preference. Moreover, none of the said countries is comfortable with the new bipolarization. Furthermore, hundreds of international organizations and multilevel coalitions bind countries – superpowers included – to international law. Taking decisions that go against international law will be more costly to China or the U.S. today than in the interwar period.

In any event, the key question for Brazil's foreign policy to answer in the coming decades is: what should be Brazil's long-term strategy for both scenarios, war

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Hussein Kalout *is Editor-in-Chief of CEBRI-Journal, International Advisor to CEBRI, Professor of International Relations and Researcher at Harvard University. He was Brazil's Special Secretary for Strategic Affairs..*

Feliciano de Sá Guimarães *is Associate Professor at the Institute of International Relations, University of São Paulo, and was visiting professor at the Department of Political Science, Yale University (2019-2020). He is editor-in-chief of CEBRI-Revista.*

or accommodation between the U.S. and China? Brazil must prepare for either circumstance by designing a foreign policy that simultaneously helps build a multipolar order and protects Brazil against any harmful effects of the growing rivalry. Brazil cannot afford to make the same strategic mistake Australia made when closely aligning itself with the U.S. (hard bandwagoning) by simultaneously joining the QUAD (Quadrilateral Security Dialogue) alliance in 2007 and the AUKUS (Australia, United Kingdom, and United States) military alliance in 2021 to contain China.

We propose here that Brazil reacts to the growing global rivalry with pendulum movements: simultaneous balancing actions (balancing against the leader – pro-China efforts) and bandwagoning (following the leader – pro-U.S. efforts) distributed across different international relations issues and fields with the dual objective of protecting itself against the potential adverse effects of said rivalry and building a beneficial multipolar order. Such a pendulum strategy is a hedging foreign policy mechanism that operates as an insurance strategy to protect Brazil against systemic crises due to bipolarization.

Can Brazil use an updated version of its hedging foreign policy of World War II in the current global power scenario? More specifically, can Brazil use a hedging foreign policy to obtain political gains and to avoid high costs in a newly bipolar international system?

We specifically suggest that each time Brazil bandwagons with the U.S. on some political-strategic issue, the country simultaneously balances this action with China on a trade issue and across a full range of issues and scenarios. It will be a strategic mistake for Brazil's foreign policy to align itself with one side entirely. Such a pendulum will create a protective cross-commitment network that will increase the cost for Beijing and Washington to isolate or punish Brazil (economic sanctions, trade manipulations, investment controls, withholding vital military technology, etc.). In other words, pendulum hedging will seek to create a deterrent effect and contain any forceful action by one or both superpowers against Brazil's national interest.

However, for a pendulum hedging strategy to succeed, Brazil must first acquire a position of regional leadership in South America. By assuming the role of regional power recognized by its neighbors and at the same time rebuilding regional political coordination mechanisms, Brazil will likely blunt any superpower pressure – Brazil must show it can stabilize the region and shield it from outside influences. Brazil's

regional leadership will not only protect South America from harmful U.S. or Chinese pressure. It will also be a springboard for Brazil to operate a pendulum hedging strategy at the extra-regional level. Without a decisive regional foreign policy, the rear will be left unguarded, South America will become more open to pressure from Beijing and Washington and Brasília will be relegated to a peripheral role within the region.

By assuming the role of regional power recognized by its neighbors and at the same time rebuilding regional political coordination mechanisms, Brazil will likely blunt any superpower pressure – Brazil must show it can stabilize the region and shield it from outside influences. Brazil's regional leadership will not only protect South America from harmful U.S. or Chinese pressure. It will also be a springboard for Brazil to operate a pendulum hedging strategy at the extra-regional level.

Implementing a pendulum foreign policy can be done at a relatively low cost for three main reasons: first, Brazil is one of the few countries that can access the Organization for Economic Cooperation and Development (OECD) and Brazil, Russia, India, China and South Africa (BRICS) groups without strong inner political antagonisms; second, Brazil has no geopolitical problems with the U.S. and with China and may be the only significant pivotal player among OECD and BRICS countries. The superpowers in both alliances perceive Brazil as a relatively reliable and attractive member. The U.S.-China rivalry for power in all regions and international organizations puts Brazil in the privileged position of being sought by both superpowers as a preferred partner in the BRICS and OECD groups; third, Brazil is not involved in any regional dispute strong enough to dramatically weaken its international position. The cost to rebuild Brazil's leadership position in South America and after that engage in hedging actions is relatively low because all countries in the region already expect Brazil to assume said role. Although opposition to Brazil's regional leadership has always existed, it has never been as weak and ineffective as it is now.

To support our argument, we divided this text into five parts: in the first, we discuss the U.S.-China rivalry; in the second, we address Brazil's privileged position amid the antagonistic BRICS and OECD alliances; in the third, we explain what a hedging strategy is and why it serves Brazil's interests; in the fourth, we describe the

pendulum mechanism and its possible configurations; finally, we explain why Brazil must regain regional leadership.

THE U.S.- CHINA RIVALRY

Scholars often mention two dilemmas regarding hegemonic transitions: the Thucydides trap and the Kindleberger trap. The U.S.-China rivalry is most often associated with Thucydides. Much publicized by Graham Allison's influential work *Destined for War - Can America and China Escape Thucydides's Trap?* (2017),[1] the trap is based on the idea that status quo powers often go to war with ascending and revisionist powers to maintain their supremacy. Alisson draws on several historical examples to show that conflict propensity is greater than peaceful accommodation. The second trap took after economist Charles Kindleberger's book, *The World in Depression 1929-1939* (1973). Kindleberger argues that the political collapse of the 1930s was caused by the U.S. replacing the United Kingdom as hegemonic power and by Washington's inability to provide collective goods to stabilize the system. The key question to ask is: if China replaces the U.S. as the world's major power, will it be able to provide collective goods and security for the entire system?

Those views on hegemonic rivalries are far from dominant among scholars and decision-makers. Indeed, Frieberg (2005) reported at least four dominant interpretations of the U.S.-China global competition.

First, liberals believe that, despite the Thucydides dilemma, increasingly interdependent trade between countries and the pull of international organizations strongly dampen the possibility of open war. These thinkers feel the mutual dependence between the U.S. and China and the huge tangle of international agreements weigh on them to increase the costs of conflict, pushing decision-makers to seek accommodation (Lamptom 2001, Economy and Oksenberg 1999, Johnston and Evans 1999, Paul 2016).

Second, constructivists hold that rivalry or cooperation are social constructs, so State interaction is not the product of purely objective and material factors, such as the balance of military power, but of social identities. Concerning the U.S.-China relationship, constructivists generally emphasize the possibility that China's growing participation in various international organizations will lead Beijing to change its strategic culture, which governs what rules of international behavior its leaders are prepared to accept and, ultimately, its conception of national identity (Johnston 1995). Such a change would deflate China's propensity to challenge the liberal order

1. See the review written by Gelson Fonseca Jr. (2022) in the second issue of CEBRI-Journal.

and, therefore, its willingness to compete with the U.S. That said, repeated interactions do not necessarily erode old identities. They may, on the contrary, reinforce them in the long run and strengthen China's exceptionalist view of history and foreign policy, increasing the likelihood of conflict with the U.S.

Third, unipolarism realists argue that, despite China's rise, Beijing is far from challenging U.S. political and military supremacy within the international system. They see a huge difference between systemic incentives to balance out the U.S. (a China-Russia alliance, for example) and those countries' real ability to balance the system effectively. China will be a greater power than Russia, Germany, or Japan, but it will not have the same capacity as the sole global superpower – the U.S. (Brooks & Wohlforth 2016, Zhao 2021, Shambaugh 2018). Kindleberger's dilemma is linked to that interpretation insofar as his analysis focuses on the ability of a single hegemon to provide collective goods and stabilize the system. The cost of achieving such dominance is very high and China is not yet prepared to assume that responsibility.

Finally, bipolarism realists believe the international system is marked by a historical constant, to wit, hegemony creates strong incentives for challenging powers to seek domestic growth (internal balancing) and alliances (external balancing) to protect themselves from the threat posed by the hegemon. Those scholars think unipolar systems are transient and unstable because challenging powers are driven to ally with each other to contain the dominant power (Waltz 1979, 2002). The conclusion is that China inevitably will challenge the U.S. Even those realists less likely to defend the bipolarization of the system agree that the China-U.S. dispute for regional supremacy first and for global hegemony later will inevitably lead them to war (Mearsheimer 2021, Kaplan 2019). Graham Allison's model resembles the latter view.

Each model thus provides very different predictions for the outcome of the rivalry. While optimists see room for accommodation and change by the rival power, pessimists see a growing rivalry doomed to flare up in war. The descriptions above indicate that pessimism is more predominant than hope. Despite the relevant differences, Brazil cannot afford to wait and see how the U.S.-China power struggle will unfurl. Regional powers need to take precautions and to buy insurance policies for an uncertain future.

THE OECD AND BRICS ANTAGONISTIC ALLIANCES

One way peripheral States react to bipolarization is by forming and maintaining alliances. According to Stephen Walt (1997), the key element to creating and maintaining an alliance is a common commitment against a threat. Alliances stem from

threats from major powers whose search for supremacy triggers at least two types of rational behavior by weaker States – bandwagoning and balancing. Either States ally with the preponderant power and expect some protection against rivals, or they seek counter-hegemonic alliances to balance out the power concentrated in the hands of the decisive global player. In other words, when facing a significant external threat, peripheral States can either balance the leader out or follow the leader.

According to Chius (2002, 13), alliances tend to form when the relative power of States shifts, precisely when the level of development of major powers declines sharply or when rival powers grow vigorously. Those changes alter the perception of threats and, consequently, the motivations to form alliances. Those tipping points involve factors that are often cited as contributing to crises: changes in relative power (and, therefore, in the balance of power), changes in economic growth rates and heightened perception of threats. The opportunity cost of choosing goes up because decision-makers progressively lose their ability to see paths and trends and to calculate risks as critical transition moments include more and more of the factors mentioned above.

In our view, that is precisely the current arrangement of global power. The current polarity transition and the ensuing rejuggle of alliances put peripheral countries in the dilemma of positioning themselves in relation to the dominant alliances in the system – OECD and BRICS – both from a strategic and a values point of view. That is because the three transitional factors mentioned above – changes in the relative power of superpowers, economic growth rates and the perception of threats – occur simultaneously and make it difficult to read trends and risks. Peripheral countries have to choose between balancing and bandwagoning without the benefit of clarity on long-term trends.

Worse, the balancing and bandwagoning strategies of peripheral States can spark conflict between major powers as they compete to influence the momentary strategic choices of those States to delay their decline or to consolidate their rise in relation to the rival power. By winning peripheral States to its cause, a major power may slow its decline or accelerate its rise.

Peripheral countries should see alliances not only as a form of protection but as a field of contention between major powers. Major powers seek to attract new members and/or keep the current ones by providing collective gains and protection to increase their relative power. When a certain member moves from one alliance to another or defects, the major power affected loses relative power to its rival. On the other hand, that arrangement makes room for peripheral countries to play the hegemonic dispute to their benefit.

A HEDGING FOREIGN POLICY

Hedging can be a very effective strategy for peripheral countries amid systemic disputes. It is a short- and medium-term course of action that simultaneously pursues several foreign policy options to reduce risks. Those options intend to produce mutually opposing effects in a high-uncertainty and high-stakes situation. Those conflicting actions aim to extract the most gains from major powers when diplomatic relations are positive and to balance out the long-term risks when relations are negative (Cheng-Chwee 2008, 163). More specifically, hedging involves a set of strategies aimed at avoiding a situation in which peripheral States cannot decide on direct alternatives such as balancing, bandwagoning, or neutrality (Foot 2006, 88).

Peripheral States may consider hedging as a third option, an intermediary strategy between balancing and bandwagoning. States use hedging as a counter-attack policy – sometimes balancing and other times bandwagoning – to strengthen economic and military cooperation with various partners while preparing for diplomatic and/or military encounters with potentially hostile powers (Koga 2018, 633). In other words, it is an insurance policy that gives the relevant country room for maneuver and weaves protection networks against potential tragedies.

Both the U.S. and China have great influence on Brazil's domestic policy. While China has become Brazil's largest trading partner and second largest investor, the U.S. has broad political and cultural influence. It is our second largest trading partner and largest direct investor. The interests of both superpowers resonate broadly across Brazilian society (Kalout & Costa 2022). Any hard balancing (pro-China) or bandwagoning (pro-U.S.) option will entail great economic losses to Brazil, not to mention the negative reaction the losing power may take to Brazil's choice. That is another element that leads us to believe that a hedging strategy is the best for Brazil's contemporary foreign policy. In other words, if the balancing and bandwagoning risk exceeds the hedging risk, then a hedging strategy will maximize Brazil's security and autonomy.

According to George Kennan's (1947) classic paper, the containment strategy the U.S. used against the Soviet Union (USSR) was based on the assumption that a challenger could be contained or constrained through different coercive mechanisms, including economic and political deprivation and military denial. A hedging strategy will similarly use dual strategies against major powers seeking to entice or weaken weaker countries in order to contain their rivalry's negative effects.

Several countries have recently pursued a hedging strategy. There is evidence that Iran uses this strategy with the atomic bomb (Bowen & Moran 2015); Malaysia and Singapore (Cheng-Chwee 2008) and India (Boon 2016) in relation to China's

rise in Asia; and Japan against pressure from North Korea (Fouse 2004) and China (Koga 2018). Despite heated debate about the different types of hedging (Ciorciari & Haacke 2019), the literature lacks a precise description of how a hedging mechanism would work for a country that is very far away from the loci of dispute. In our opinion, this mechanism will be a pendulum foreign policy inspired by Brazil's position during World War II.

A PENDULUM FOREIGN POLICY FOR THE 21ST CENTURY

In his classic interpretation of Brazil's foreign policy of the 1930s, Stanley Hilton coined the term "pendulum diplomacy" to describe Brazil's position at that time. According to Hilton (1975), Brazil played the great powers – the U.S. and Germany – against each other, using pressure or supposed pressure as a lever to obtain concessions." Later, Gerson Moura in a seminal work coined the term "pragmatic equidistance" to describe Brazil's position in relation to the U.S. and to Germany. According to Moura (2012, 255), "during the process of relative democratization of the 1930s, Brazil played a game of equidistance or pragmatic balance in relation to the major powers (...) On the other hand, those countries soon became aware of Brazil's importance for the war effort (...), a circumstance that clearly magnified Brazil's negotiation capacity in its international relations."

Peripheral States may consider hedging as a third option, an intermediary strategy between balancing and bandwagoning. States use hedging as a counter-attack policy – sometimes balancing and other times bandwagoning (…)

Indeed, the idea of a Brazilian pendulum foreign policy was associated with the existence of two antagonistic powers within a highly combustible and competitive environment – different from today's scenario. There is nothing to indicate that an open and global conflict akin to World War II will ignite, but, as discussed above, there are many reasons to believe that the China-U.S. relationship tends to worsen. That will inevitably have negative consequences for Brazil's foreign policy and will require Brazil to find the ability to deal with and to operate simultaneously in multiple fragmented, complex and competitive arenas. To a large extent, the maximization of the national interest will depend on how well Brazil can decipher individual gains and losses in each geostrategic arena.

In her classic study on Brazil's main foreign policy strategies, Maria Regina

Soares de Lima (2005, 07) argues that "the pendulum character of Brazilian diplomacy (...) is achieved by multilateral means and not by show of military force. Mediation between the strong and the weak is the only path available for Brazil to be recognized as a significant power (our translation)." In other words, the pendulum strategy is not just some historical quirk in our foreign policy but an almost structural practice that impels Brazilian governments to choose bandwagoning or balancing. Different Brazilian administrations always choose only one option. While Fernando Collor's administration favored alignment with the U.S., Lula's went for soft balancing. In other words, governments choose either alignment or autonomy.

In contrast, this paper proposes using both strategies concomitantly. The pendulum should achieve the ultimate goal of the hedging strategy, namely dual, proportional and simultaneous engagement with both superpowers for deterrence and profit. Brazil's pivotal position vis-à-vis the BRICS and OECD groups allows for the dual strategy option. Brasília can use pendulum movements between balancing and bandwagoning to anticipate potential negative scenarios. By making no hard choice for this or that side, Brazil will have more room for maneuvering to retreat or advance according to the circumstances and implement a strategy that avoids exaggerated risks or losses.

We have identified five types of pendulums that are likely to become prevalent in the coming years:

1. **Political-strategic pendulum:** the political-strategic arena is the key locus for a pendulum hedging policy because it concentrates the attention of China and the U.S. It requires well-thought-through decisions, planned and calibrated. By simultaneously becoming a BRICS and an OECD member, Brazil already uses a pendulum strategy in political-strategic issues. Brasília signals it is willing to use its privileged position as a BRICS and OECD member to negotiate secondary agreements on a wide array of issues, thereby making China and the U.S. seek to win Brazil over to their respective sides. Brazil will also have to use a sophisticated pendulum strategy in relation to the United Nations (UN) Security Council decisions and discussions when holding a non-permanent seat.

2. **Defense and security pendulum:** the second most important arena is preponderant in Brazil's relationship with the U.S. and with Europe because the U.S. and Western European countries (France, Germany, Sweden, Italy, and the United Kingdom) concentrate the defense industrial base and the source of our armed forces' arsenal, as well as their technical

and educational cooperation agreements and their joint military exercises. The BRICS platform may incrementally expand the scope of defense and security cooperation with China to balance out the current bandwagoning with the U.S. The U.S. will automatically respond to such an action either to entice or pressure Brazil into reviewing its strategic preference. Brazil can exploit that opportunity to its benefit.

3. **Technological pendulum:** the technological arena undoubtedly is a major locus of U.S.-China rivalry. Both governments' huge Research & Development (R&D) investments will increasingly affect topics such as artificial intelligence, communications, and cybersecurity. Brazil has already seen this in the dispute regarding its 5G network. Even so, the relationship between Brazilian businesses and universities with their Chinese counterparts is far below potential. Brazil and the U.S. have a denser relationship and a broader partnership track record in R&D. A closer relationship between Brazil and China in cybersecurity and artificial intelligence could give Brazil greater autonomy and balance Brazilian dependence on the U.S.

4. **Trade pendulum:** the trade arena has dramatically changed in recent decades. China has become Brazil's largest trading partner, and there is almost nothing the U.S. can do to change that given the complementarity between the Brazilian and Chinese economies. In any event, it is possible to balance out Brazil's over-reliance on Chinese purchases of agricultural and mineral commodities through denser trade agreements with the European Union (EU) – ratification of the MERCOSUR-EU agreement, with the Association of Southeast Asian Nations (ASEAN) or even with India – the current preferential agreement between Mercosur and India needs to be expanded. Brazil should diversify its trade and market access alternatives. In addition, the completion of agreements between MERCOSUR and Singapore, South Korea, Canada, and Indonesia may reduce the share of Brazilian exports that now go to China. As the U.S. has not indicated any interest in a bilateral trade agreement with MERCOSUR, Brazil must look elsewhere to reduce its dependence on Beijing.

5. **Financial pendulum:** this arena symbolizes the post-2008 crisis of Western economies, and Brazil has enhanced its participation through its G-20 and BRICS membership, notably with the creation of the New Development Bank and the Contingent Reserve Arrangement (NDB/CRA) and the Asian Infrastructure Investment Bank (AIIB). At the same time, Brazil shares historical ties with the U.S. in the Inter-American Bank, in addition

to its participation in the International Monetary Fund (IMF) and in the World Bank, organizations where U.S. preponderance is paramount. The advent of the NDB/CRA and AIIB helped Brazil balance its position in global financial discussions. Brazil's history of balance of payments crises and dependence on the U.S. are a thing of the past so that Brazil now has more room to swing its strategic pendulum as circumstances dictate. Brasília must, in no circumstance, renege on its commitments to the NDB/CRA and the AIIB or Brazil may lose its financial mobilization capacity and once again fully retreat into the U.S. financial sphere of influence.

A relatively simple illustration can best exemplify the interactions in a pendulum hedging strategy. Figure 1 (positive interaction) shows a four-phase interaction in which China and the U.S. seek to attract Brazil to their side in reaction to pendulum actions.

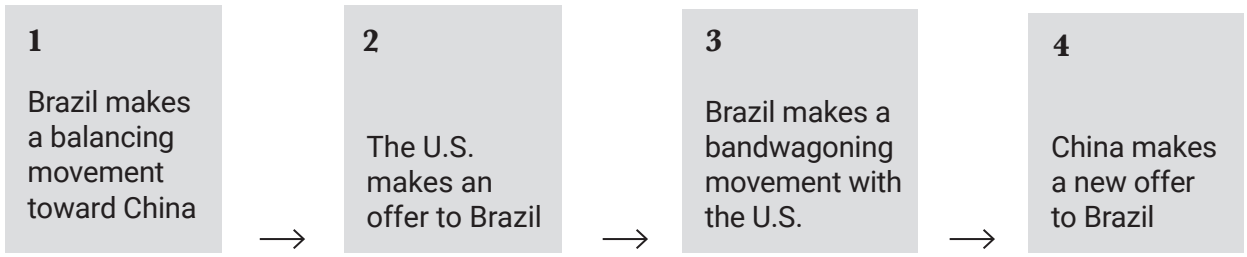

Figure 1. Positive interaction.

China and the U.S. make attraction efforts (offers) in response to Brazil's almost simultaneous balancing and bandwagoning movements so Brazil gets two profitable offers without ceasing to be pivotal. The cost of attracting Brazil is relatively low for superpowers, especially in comparison with the next scenario.

Figure 2 (negative interaction) shows a punishment scenario. In other words, a negative U.S. reaction to Brazil's balancing action forces Brazil to make a hard balancing movement toward China in the next phase.

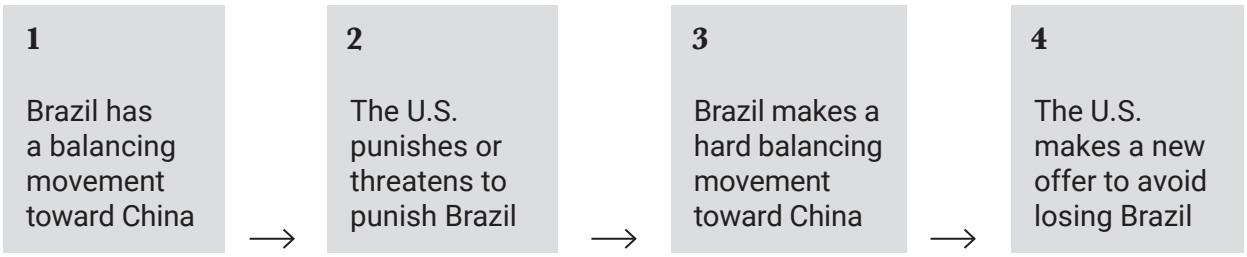

Figure 2. Negative interaction.

Brazil's pivotal position gives it the option to move toward any side and a pendulum hedging strategy raises the cost for a superpower to punish Brazil because of the risk that it will lose Brazil to the rival superpower. The high cost of punishing Brazil as opposed to the low cost of the offer makes superpowers think twice before punishing Brazil and, most often than not, choose to make an offer.

Implementing and operating a pendulum hedging strategy will be neither an easy nor a short-term task. Poorly executed tactical movements here may cause losses there. Three core strategic principles must be clear to avoid this outcome. Brazil must:

1. use simultaneous and proportional bandwagoning and balancing strategies;
2. create cross-commitments with the U.S. and with China at several levels; and
3. use its pivotal position between the BRICS and OECD groups in its favor.

A pendulum hedging strategy plays out in transversal, segmented and multilevel fashion. Although the political-strategic level is predominant, this is not a two-dimension game. Somebody who plays two-dimensional chess on a multidimensional board will inevitably lose. China and the U.S. command great weight in military or strategic matters but other powers that feel threatened by bipolarization have a say in issues such as technology, trade and finance. Those variable geometries work in our favor.

BRAZIL'S REGIONAL LEADERSHIP AND THE U.S.-CHINA RIVALRY

The last aspect of Brazil's potential pendulum hedging strategy to discuss is the South American context. That strategy will be most effective if operated from a springboard and China's growing clout and the U.S.'s traditional influence in the region are significant challenges. There is nothing new in major powers scrambling for South America. Brazil growing apart from its regional surroundings may very well have been the most unusual aspect of recent years. Brazil must regain its position of regional leader not only for economic reasons or for the sake of Latin American solidarity but because it is a necessity for survival amid a systemic and multidimensional rivalry.

In politics, power vacuums last but an instant so that the U.S. and especially China have expanded their political influence in the region without much effort. Brazil risks becoming a regional power instead of a middle power at the international level. Increased U.S influence has squeezed Brazil out of the Northern portion of South America so our influence is now restricted to the River Plate area. The integration of the subcontinent's most dynamic economies into China's production

chains has degraded Brazil's ability to spearhead the development process (hence Argentina's and Uruguay's growing dependence on Beijing). In the absence of any other regional power capable of standing up to Brazil, Brazil's current diffidence has opened the door for Beijing to, similarly to the U.S., become a major extra-regional reference for most South American countries.

China would certainly have increased its power in the region even if Brazil had not been so diffident. Brazil will not regain its regional leadership by pushing China or the U.S. out – not least because Brazil does not hold or has not created effective means to exercise containment power. Brazil has limited resources to mitigate the effects of the hegemonic dispute in South America. Robert Russel and Fabián Calle (2022) show that the waxing and waning of U.S. interest in Latin America is closely associated with the activities and presence of extra-regional powers in the region. It was so in the 1960s-1970s with the USSR and may be so again with China. In other words, the new strategy to regain regional leadership ought to exploit the current competition between the U.S. and China.

The regional leader will be expected to engage in political coordination and to provide collective goods for the region in similarity to the hegemon, albeit to a lesser extent. Brazil did have relative success in political coordination but found it difficult to provide collective goods even at the zenith of its influence in the 2010s. Competition with the U.S. or with China in the provision of collective goods is a recipe for failure but greater emphasis on political coordination, whether by revamping the Union of South American Nations (UNASUR) or by creating a new organization for the Amazon region, may help Brazil regain its leadership position in South America. That will show our neighbors that Chinese or U.S. supremacy in the region – or the prison of a binary choice between the two superpowers – harms each country's interests and collective interest of all. Preserving the region from dependence or the pervading influence of both sides will be more beneficial in the long run, especially for regional security and stability.

CONCLUSIONS

The key lesson of hegemonic disputes is that peripheral countries should avoid the exaggerations of cataclysmic analyses, which typically lead to miscalculations. Countries located far away from the flash points of the conflict will benefit more from a rational and careful review of viable strategies than from accurate predictions on whether the U.S. and China will slide into war or find some accommodation. The risk of war and the collapse of the international system may be considerable, yet that outcome remains unlikely. Unlike the Cold War, when the

U.S. and the USSR were economically isolated and the containment strategy was viable, the China-U.S. interdependence impedes a hard containment strategy because the costs for its implementation are simply too high. Any mutual containment the superpowers may seek will unfold very differently from its Cold War equivalent.

Our challenge is to decide what to do in this vexing environment. Brazil's political forces undoubtedly disagree on what foreign policy strategies are best suited in relation to the rivalry. While Brazil's Labor Party (PT) administrations used a soft-balancing approach through alliances with countries seeking to review the global order (BRICS), the Bolsonaro administration preferred – especially in its first two years – a strong bandwagoning strategy through alliances with status quo powers (OECD). It is extremely unlikely that any administration will completely abandon the OECD and the BRICS alliances or fully align with the U.S.A or with China. The question is: what strategic choice supports approaching both superpowers simultaneously?

Brazil's political forces undoubtedly disagree on what foreign policy strategies are best suited in relation to the rivalry. While Brazil's Labor Party (PT) administrations used a soft-balancing approach through alliances with countries seeking to review the global order (BRICS), the Bolsonaro administration preferred – especially in its first two years – a strong bandwagoning strategy through alliances with status quo powers (OECD).

As we said earlier, if the balancing and bandwagoning risk exceeds the hedging risk, a hedging strategy will maximize Brazil's security and autonomy. Choosing between alignment and autonomy is no longer possible: we must seek both. By remaining a partial or full member of both alliances – OECD and BRICS – Brazil may use a pendulum strategy to exploit the China-U.S. rivalry to its benefit and avoid punishment. That will require great skill and diplomatic sophistication supported by short-, medium- and long-term planning.

At the end of the day, the pendulum hedging strategy seeks to avoid what Thomas Schelling (1960) defined as the "reciprocal fear of a surprise attack." That is, it seeks to prevent China and the U.S. from punishing Brazil for fear that the other side will punish Brazil first and thereby anchor Brasília in its sphere of influence.

By increasing the cost for China and the U.S. to punish Brazil, pendulum hedging operates as a deterrent that alone can ensure Brazil's autonomous survival in a novel and increasingly complex, competitive and fragmented international order.

References

Allison, Graham. 2017. *Destined for War: Can America and China Escape Thucydides's Trap?* New York: Houghton Mifflin Harcourt Publishing.

Boon, Hoo Tiang. 2016. "The Hedging Prong in India's Evolving China Strategy". *Journal of Contemporary China* 25 (101): 792–804. https://doi.org/10.1080/10670564.2016.1160527.

Bowen, Wyn & Matthew Moran. 2015. "Living with Nuclear Hedging: the Implications of Iran's Nuclear Strategy". *International Affairs* 91 (4): 687–707. https://doi.org/10.1111/1468-2346.12337.

Brooks, Stephen & William Wohlforth. 2016. "The Rise and Fall of the Great Powers in the Twenty-first Century - China's Rise and the Fate of America's Global Position". *International Security* 40 (3): 7-53. https://doi.org/10.1162/ISEC_a_00225.

Cheng-Chwee, Kuik. 2008. "The Essence of Hedging: Malaysia and Singapore's Response to a Rising China". *Contemporary Southeast Asia* 30 (2): 159-185. https://www.jstor.org/stable/41220503.

Chius, Daniel. 2003. "International Alliances in the Power Cycle Theory of State Behaviour". *International Political Science Review* 24 (1): 123-136. https://doi.org/10.1177/0192512103024001008.

Ciorciari, John & Jürgen Haacke 2019. "Hedging in International Relations: an Introduction". *International Relations of the Asia-Pacific* 19 (3): 367–374. https://doi.org/10.1093/irap/lcz017.

Economy, Elizabeth & Michael Oksenberg. 1999. *China Joins the World: Progress and Prospects*. New York: Council on Foreign Relations.

Fonseca Jr., Gelson. 2022. "China and the United States. Allison and Conflict Containment." Book Review of *A Caminho da Guerra. Os Estados Unidos e a China conseguirão escapar da Armadilha de Tucídides?* (Rio de Janeiro: Intrínseca, 2020), by Graham Allison. *CEBRI-Journal* 1 (2): 158-164. https://cebri.org/revista/br/artigo/36/china-e-estados-unidos-allison-e-a-contencao-do-conflito.

Foot, Rosemary. 2006. "Chinese Strategies in a US-hegemonic Global Order: Accommodating and Hedging". *International Affairs* 82 (1): 77-94. https://www.jstor.org/stable/3569131.

Fouse, David 2004. "Japan's Post-Cold War North Korea Policy: Hedging toward Autonomy?" *Asian Affairs: An American Review* 31 (2): 102-120. https://www.jstor.org/stable/30172611.

Friedberg, Aaron. 2005. "The Future of U.S.-China Relations: Is Conflict Inevitable?" *International Security* 30 (1): 7-45. https://www.jstor.org/stable/4137594.

Gause III, F. Gregory. 2011. "Saudi Arabia and the New Middle East". Special Report 63. Council of Foreign Relations. http://www.jstor.com/stable/resrep05774.1.

Hilton, Stanley. 1975. *Brazil and the Great Powers, 1930-1939 – The Politics of Trade Rivalry*. Austin: University of Texas Press.

Johnston, Alastair 1995. *Cultural Realism: Strategic Culture and Grand Strategy in Chinese History*. Princeton, N.J.: Princeton University Press.

Johnston, Alastair & Paul Evans. 1999. "China's Engagement with Multilateral Security Institutions". In *Engaging China: The Management of an Emerging Power*, edited by Alastair Johnston & Robert Ross, 235–272. New York: Routledge.

Kalout, Hussein & Hugo Bras Martins da Costa. 2022. "China-U.S. Rivalry and Brazil's Strategic Interests". *CEBRI-Journal* 1 (2): 70-89. https://cebri.org/revista/br/artigo/32/a-rivalidade-china-eua-e-os-interesses-estrategicos-do-brasil.

Kaplan, Robert. 2019. "A New Cold War Has Begun". *Foreign Policy*, January 7, 2019. https://foreignpolicy.com/2019/01/07/a-new-cold-war-has-begun/.

Kennan, George. 1947. "The Sources of Soviet Conduct". *Foreign Affairs* 25 (4): 565–82. https://www.foreignaffairs.com/articles/russian-federation/1947-07-01/sources-soviet-conduct.

Kindleberger, Charles. 1973. *The World in Depression 1929-1939*. Berkeley: University of California Press.

Kim, Woosang. 1991. "Alliance Transitions and Great Power War". *American Journal of Political Science* 35 (4): 833-850. https://www.jstor.org/stable/2111496.

Koga, Kei. 2018. "The Concept of 'Hedging' Revisited: The Case of Japan's Foreign Policy Strategy in East Asia's Power Shift". *International Studies Review* 20 (4): 633–660. https://doi.org/10.1093/isr/vix059.

Lampton, David. 2001. *Same Bed, Different Dreams: Managing U.S.-China Relations, 1989–2000*. Berkeley: University of California Press.

Lima, Maria Regina Soares de. 2005. "Aspiração internacional e política externa". *Revista Brasileira de Comércio Exterior* 82: 04-19.

Mearsheimer, John. 2021. "The Inevitable Rivalry: America, China, and the Tragedy of Great-Power Politics". *Foreign Affairs* 100 (6): 48-58. https://www.foreignaffairs.com/articles/china/2021-10-19/inevitable-rivalry-cold-war.

Moura, Gérson. 2012. *Relações exteriores do Brasil 1939-1950: mudanças na natureza das relações Brasil-Estados Unidos durante e após a Segunda Guerra Mundial*. Brasília: FUNAG.

Paul, T. V. 2016. "The Accommodation of Rising Powers in World Politics". In *Accommodating Rising Powers Past, Present, and Future*, edited by T. V. Paul. Cambridge: Cambridge University Press.

Russell, Roberto & Fabián Calle. 2022. "Periferias turbulentas y penetradas: su papel en la expansión de seguridad de Estados Unidos en América Latina." *CEBRI-Journal* 1 (2): 167-189. https://cebri.org/revista/br/artigo/19/periferias-turbulentas-y-penetradas-su-papel-en-la-expansion-de-los-intereses-de-seguridad-de-estados-unidos-en-america-latina.

Schelling, Thomas. 1960. *The Strategy of Conflict*. Cambridge: Harvard University Press.

Shambaugh, David. 2018. "U.S.-China Rivalry in Southeast Asia: Power Shift or Competitive Coexistence?" *International Security* 42 (4): 85–127. https://doi.org/10.1162/isec_a_00314.

Walt, Stephen. 1997. "Why Alliances Endure or Collapse". *Survival* 39 (1): 156-179. https://doi.org/10.1080/00396339708442901.

Waltz, Kenneth. 1979. *Theory of International Politics*. Long Grove, Il: Waveland Press.

Waltz, Kenneth. 2002. "Structural Realism after the Cold War". In *America Unrivaled: The Future of the Balance of Power*, edited by G. John Ikenberry. Ithaca, NY: Cornell University Press.

Xuetong, Yan. 2021. "Becoming Strong: the New Chinese Foreign Policy". *Foreign Affairs* 100 (4): 40-47. https://www.foreignaffairs.com/articles/united-states/2021-06-22/becoming-strong.

Zhao, Suisheng. 2022. "The US–China Rivalry in the Emerging Bipolar World: Hostility, Alignment, and Power Balance". *Journal of Contemporary China* 31 (134): 169-185. https://doi.org/10.1080/10670564.2021.1945733.

To cite this work: Kalout, Hussein & Feliciano de Sá Guimarães. 2022. "Hedging Between the U.S. and China: Brazil Protecting Itself to Survive." *CEBRI-Journal* Year 1, No. 4 (Oct-Nov): 18-34.

DOI: https://doi.org/10.54827/issn2764-7897.cebri2022.04.02.01.18-34.en

Submitted: October 26, 2022
Accepted for publication: November 11, 2022

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POLICY PAPER

Acknowledgment Speech for the *Honoris Causa* Doctorate Granted by UNESP

Celso Lafer

Abstract: Discussion on the interaction of thought and action through a review of the author's career merging a scholar's knowledge of international relations with his practical experience as Brazil's foreign minister.

Keywords: thought and action; international relations; Brazilian foreign policy; experience.

I

A I am deeply honored to receive the degree of Doctor Honoris Causa that the Board of the São Paulo State University (UNESP) has generously awarded me. UNESP is a large public university in São Paulo focused on teaching, research, and extension education activities. The decentralized efforts of its multiple units give UNESP a major role in disseminating and consolidating knowledge in our state. I have personal experience of those indisputable merits: during my many years at the São Paulo Research Foundation (FAPESP), I had the fortunate opportunity to work alongside and learn from UNESP's top-notch teaching staff.

The names of Professors Marcos Macari, Herman Voorwald, Maria José Soares Mendes Giannini, and Marilza Vieira Cunha Rudge come to mind. They were members of the Superior Council of our great research support agency, which contributed so much to make the state of São Paulo nationally and internationally known for its great contribution to knowledge. I can't fail to mention the late Professor José Arana Varela, who chaired FAPESP's Technical-Administrative Council from 2012 to 2016. UNESP housed the Institute of Economic and International Studies (IEEI), created and conceived by my dear friend, the late Gilberto Dupas.

Once again, I would like to say that the honor given me today is suffused with my intellectual esteem and personal appreciation for UNESP. I am grateful for the support I received from the University during the stimulating time when I chaired FAPESP and sought to emphasize its internationalization as an expression of science diplomacy.

II

I see the degree I receive today as a recognition of my dedication to international relations through my efforts to make them an institutionally organized academic area in our country, through my university career as a scholar in this field of knowledge and through the role I played in conducting our country's foreign policy. I shall now share some nuggets of my experience on how to mix thought with action.

Celso Lafer *is a CEBRI founding member. He served as the Brazilian Minister of Foreign Affairs on two occasions (1992/2001-2002), as well as Minister of Development, Industry and Trade (1999). He was Brazil's ambassador to the UN and the WTO in Geneva. He is professor emeritus at University of São Paulo (USP), at its Institute of International Relations and its Faculty of Law. Until recently, he was president of the São Paulo Research Foundation (FAPESP) and is a member of Klabin's Administrative Board.*

I will go down memory lane as a means to organize the narrative thread of my career in international relations. My interest in international relations came early, inspired by my own family – Horácio Lafer was Foreign Minister in the Kubitschek administration –, and stimulated by the atmosphere of the University of São Paulo (USP) School of Law, where I studied from 1960-1964, a time of heated debate on the country's destiny and on the direction of our foreign policy. These ingredients led me to pursue graduate work in the United States at Cornell University, where I earned my PhD in Political Science in 1970.

Kissinger noted that intellectual analysis and government political action operate within different timeframes. The latter looks to the future and seeks to satisfy a demand that is time-constrained, for to govern is to choose; the former operates within the longer analytical timeframe, involves considering the myriad factors that affect international life, and seeks at a more leisurely pace to find the broader meaning of things.

One of the textbooks for Cornell's International Relations program was a collection edited by James Rosenau. It contained an article by Henry Kissinger (1959) titled *The Policy Maker and the Intellectual*, the full version of which is included in his 1961 book The Necessity of Choice. Kissinger noted that intellectual analysis and government political action operate within different timeframes. The latter looks to the future and seeks to satisfy a demand that is time-constrained, for to govern is to choose; the former operates within the longer analytical timeframe, involves considering the myriad factors that affect international life, and seeks at a more leisurely pace to find the broader meaning of things (Kissinger 1961, 367).

In the first volume of his Memoirs, dealing with when he was a prominent player in U.S. foreign policy, Kissinger states that a period of high government responsibilities teaches us how to decide but not the substance of the decision. That substance is related to the perceptions, experiences, and prior knowledge of the person who assumes, in the urgency of time, the responsibilities of governing (Kissinger 2013, 27).

I tell you this because knowledge was a major factor that led me to take on diplomatic responsibilities. On the two occasions when I was Foreign Minister and

Brazil's Ambassador to the World Trade Organization, in Geneva and the United Nations, the repertoire of my knowledge as a scholar of international relations was the backdrop to my decision-making process.

On the challenges of the relationship between theory and practice, I refer to two courses I taught, at the request and with the collaboration of Professor Pedro Dallari, at the University of São Paulo Institute of International Relations – which I helped create and organize. These courses revisited my diplomatic post vita activa to assess what was pertinent and what was not for the performance, as an intellectual, of my foreign policy activities.

In summary, much was useful and much not because general conclusions obtained in the theoretical sphere within the analytical timeframe do not automatically adjust to the complexities of specific circumstances. One needs what Isaiah Berlin (1996) called "the sense of reality," which benefits from theoretical knowledge but also requires the ability to identify what may or may not work in the urgencies of policy time. Hence the epistemological peculiarity of diplomatic judgment as a reflexive, Arendtian judgment, committed to extracting its wider meaning from concrete circumstances and focused on enhancing Brazil's international role and on the foreign policy task of translating internal needs into external possibilities.

III

Norberto Bobbio (1993) in *Doubt and Choice: Intellectuals and power in contemporary society* – whose Brazilian edition was published by UNESP – notes that modern secular and democratic societies give intellectuals a specific role in political life. Given the complexities of the contemporary world, intellectuals may be tasked with finding paths and principles to tackle the uncertainties of transformation or to provide technology and knowledge – indispensable means to implement guidelines. Both roles are necessary for political action, for government action, and to overcome the inertia of routine. These intellectuals interested in public life can play different roles, such as criticizing power, legitimizing it, influencing it, advising it – and, what is rarer, taking responsibilities in exercising power. In my own way and with my limitations, I have played all those roles.

As an international relations scholar, I have dedicated myself both to finding directions for our foreign policy and researching knowledge – both necessary to implement diplomatic guidelines. I refer to my 1973 book in cooperation with Felix Peña, *Argentina and Brazil in the International Relations System*, where I explained the importance of a strategic partnership with Argentina and its significance for our standing in Latin America. I also refer to an essay included in my 1982 book

Paradoxes and Possibilities, in which I reviewed the gap between order and power in international life and described how that gap opened the door for Brazil, which is not a major power, to go beyond the defense of its specific interests and to earn a voice in shaping the world order with an eye on its general interests.

I further refer to the idea, also from the 1980s, included in my book on peace/war in the contemporary world, Brazil and global crisis (1984), that peace should be the governing idea (*vis directiva*) amid the growing risks and destructiveness of nuclear weapons. Hence the importance of an actively pacifist diplomacy geared, *inter alia*, toward peaceful dispute resolution and feasible disarmament negotiations that could contain the arms race. These are examples of analyses that contributed to my diplomatic judgment when I had responsibilities in conducting Brazil's foreign policy.

[Bobbio] notes that modern secular and democratic societies give intellectuals a specific role in political life. Given the complexities of the contemporary world, intellectuals may be tasked with finding paths and principles to tackle the uncertainties of transformation or to provide technology and knowledge – indispensable means to implement guidelines. Both roles are necessary for political action, for government action, and to overcome the inertia of routine.

In my work dedicated to the academic institutionalization of international relations study in our country, I noted the importance of multidisciplinary interaction between different fields of knowledge and that one should be attentive to the contributions of our contemporaries without neglecting the lessons of the classics. I emphasized the role of Law in my analysis of multidisciplinarity and its transversality. Law, which I taught for forty years at the USP School of Law, was the discipline that encouraged me to develop the knowledge-means I used to enhance the effectiveness of my diplomatic action.

I refer to my studies on the role of reciprocity in International Economic Law, the dynamics of mutual collaboration rules at the international and regional levels, and how they can contribute to settling disputes when not affected by the tensions of conceptual conflicts in the organization of world affairs. I addressed that, *inter alia*, in my 1977 book on Public International Law presented at the USP School

of Law (*livre-docência*), which described the role of International Law as an integral part of the field of knowledge of international relations. Mastery of that repertoire proved very useful in my activities as Brazil's ambassador in Geneva, especially as Brazil's ambassador to the World Trade Organization.

In response to the extremes of totalitarianism, the Charter of the United Nations enshrined normative aspirations that resulted in the development of International Human Rights Law, which our 1988 Constitution affirmed as one of the key principles that govern Brazil's international relations. The ideas I developed in my thesis in Philosophy of Law submitted to the USP Law School in 1988 were of great value to me in operationalizing Brazil's Human Rights diplomacy. I revisited Hannah Arendt's work and her idea of the "right to have rights" to discuss the internal and external reconstruction of human rights in the contemporary world (Lafer 2020).

My contact with Brazil's top-notch diplomatic staff, for which I have the highest esteem and respect, was intellectually stimulating and proved very significant in the course of my studies on international relations, both before and after my two times as Foreign Minister. The texts I elaborated on the Ministry of Foreign Affairs and many of its leading figures, included in my 2018 book *International Relations, Foreign Policy, and Brazilian Diplomacy,* bear witness to that.

IV

Brazil's foreign policy naturally is the expression of a point of view on the world and how it works. In Brazil's case, that point of view has been consistent, and its persistence is associated with what Renouvin and Duroselle call "deep forces." Among them: the geographical fact that we are in South America, our continental size, the fact that Brazil is involved in no territorial dispute and that its borders are settled and consolidated, our peaceful relationship with our many neighboring countries, our linguistic unity, our distance, since independence in 1822, from international tension points, the issue of world stratification and the challenges of development.

Thanks to that persistence, Brazil has accumulated a very coherent and consistent diplomatic capital as Brazil faced the challenges History has thrown its way. In a 2001 book, later expanded, I noted that persistence is one of the ingredients of Brazil's international identity. The adequate and consistent execution of Brazilian foreign policy demands safeguarding that diplomatic capital and its repertoire, with the adjustments required by changing internal and external circumstances.

V

The responsibility of conducting foreign policy, as a public policy focused on the task of translating internal needs into external possibilities, presupposes an appropriate assessment of the world's mechanics dynamics operation and its transformations. Indeed, conflicting and associative patterns coexist simultaneously in the international arena, with more or less emphasis.

Brazil's diplomacy must be able to, in light of Brazil's perspectives in a heterogeneous international system, pick from among the peculiarities of specific circumstances and interests that are common and that can be shared when facing the asymmetries of power and to reconcile the differences in values in the contemporary Tower of Babel. I shall give examples based on my experiences from 1992 and 2001 to 2002.

The end of the Cold War and its polarities triggered widespread diplomatic repositioning and created an international scenario conducive to cooperation. That was the environment in which I was appointed Foreign Minister for the first time in 1992, during the Collor administration (1990-1992), and I was able to act in the great United Nations Conference on Environment and Development: the 1992 Earth Summit.

The Earth Summit was a solar moment for Brazilian diplomacy. It expanded Brazil's international credibility and opened up space for Brazil to creatively address a persistent global issue. The Earth Summit consolidated the environment and its interconnection with sustainable development on the international agenda and managed to overcome the North/South polarity problems that limited the reach of the 1972 Stockholm Conference.

A diplomacy of knowledge, attentive to science's role in explaining the challenges of the environment, guided Brazil in preparing for the Earth Summit. Brazil operated as a force for diplomatic balance by helping solve pending problems in the larger construction of consensus on key environmental and development issues.

The more Grotian world circumstances of that time allowed me, in the capacity of Brazil's Foreign Minister and acting as ex-officio Vice-President of the Summit with the collaboration of an exceptional team of experienced and qualified diplomats, to find ways and solutions that ultimately helped increase our country's diplomatic capital.

In my second time as Foreign Minister – 2001-2002 – I witnessed the unexpected shift in the diplomatic tectonic plates caused by the September 11, 2001 terrorist attacks on the United States. They marked the appearance on the interna-

tional arena of a revolt of particularisms and showed the limited but no less cruel potential for violence of terrorism as an expression of fanaticism and despair, with its consequences on the international security agenda. They made international cooperation at the world level more elusive, in contrast with 1992, and made it more difficult to operationalize the constitutional principles that govern Brazil's international relations in alignment with Brazilian diplomatic tradition.

The nature of Brazil's international engagement led the Fernando Henrique Cardoso administration (1995-2002) to, since its inception, raise the level of our country's presence in the world based on consistency between "internal" and "external" issues and seek greater autonomy through participation in international and regional organizations – to use the words of Gelson Fonseca Jr. I participated in that effort as Ambassador in Geneva from 1995 to 1998, an experience I reported in my 1999 book *Trade, Disarmament and Human Rights*.

The Earth Summit was a solar moment for Brazilian diplomacy. It expanded Brazil's international credibility and opened up space for Brazil to creatively address a persistent global issue. The Earth Summit consolidated the environment and its interconnection with sustainable development on the international agenda and managed to overcome the North/South polarity problems that limited the reach of the 1972 Stockholm Conference.

As the second Cardoso administration (1999-2002) drew to a close, I contributed as Foreign Minister by shifting our diplomatic focus to increasing Brazil's diplomatic capital in alignment with the efforts made during the Cardoso presidency. Hence, *inter alia,* my activities in economic diplomacy in multilateral and regional negotiations and my efforts to provide the technical skills Brazil needed to tackle trade disputes and the challenges of our participation in an economically interdependent world; the attentive care I gave to MERCOSUR issues and cooperation with our neighbors; my commitment to help South American economic development; my attention to environmental challenges in the wake of the 1992 Earth Summit; the importance I gave to human rights on the international agenda; my defense of economic and political multilateralism; my search for new diplomatic partners for Brazil and my

initiatives to enliven traditional diplomatic relations; my concern for peace and the possibility of disarmament.

VI

I shall conclude using Hannah Arendt's observation that knowledge can be within our reach through persistent and continuous dedication to study and research, but recognition cannot. It is something we can aspire to but that is not for us to claim. It is a gift, a prize given to us in the plurality of the human condition. I am deeply thankful for the Doctor Honoris Causa degree UNESP now awards me not only because of the recognition it entails but also because it is given within the context of the emotions of the autumn of my life.

São Paulo – November 23, 2022 – Location: Paulista Magistrature School

References

Berlin, Isaiah. 1996. *The Sense of Reality: Studies in Ideas and Their History. First Edition.* New York:Farrar, Straus and Giroux.

Bobbio, Norberto. 1993. *Il dubbio e la scelta. Intellettuali e potere nella società contemporanea*. Roma: Carocci.

Kissinger, Henry. 1958. "The Policymaker and the Intellectual," Reporter Mar 5 [4 of 5], Circa 1958 October-circa 1959 March. Henry A. Kissinger Papers, Part II (MS 1981). *Manuscripts and Archives*, Yale University Library. https://hdl.handle.net/10079/digcoll/564430.

Kissinger, Henry. 1961. *The Necessity for Choice: Prospects of American Foreign Policy*. London: Harper.

Kissinger, Henry. 2013. *Henry Kissinger the Complete Memoirs: White House Years, Years of Upheaval, Years of Renewal*. London: Simon & Schuster.

Lafer, Celso & Felix Peña. 1973. *Argentina e Brasil no sistema das relações internacionais*. São Paulo: Duas Cidades.

Lafer, Celso. 1982. *Paradoxos e Possibilidades*. Rio de Janeiro: Nova Fronteira.

Lafer, Celso. 1984. *O Brasil e a crise mundial: paz, poder e política externa*. São Paulo: Editora Perspectiva.

Lafer, Celso. 1999. *Comércio, desarmamento, direitos humanos: reflexões sobre uma experiência diplomática*. São Paulo: Paz e Terra.

Lafer, Celso. 2001. *A identidade internacional do Brasil e a política externa brasileira: passado, presente e futuro*. São Paulo: Perspectiva.

Lafer, Celso. 2018. *Relações internacionais, política externa e diplomacia brasileira: pensamento e ação*. Brasília: Fundação Alexandre de Gusmão.

Lafer, Celso. 2020. *A reconstrução dos direitos humanos: Um diálogo com o pensamento de Hannah Arendt*. São Paulo: Companhia das Letras.

To cite this work: Lafer, Celso. 2022. "Acknowledgment Speech for the Honoris Causa Doctorate Granted by UNESP." *CEBRI-Journal* Year 1, No. 4 (Oct-Nov): 35-44.

DOI: https://doi.org/10.54827/issn2764-7897.cebri2022.04.02.02.35-44.en

Submitted: November 25, 2022
Approved for publication: November 28, 2022

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SPECIAL SECTION

CEBRI JOURNAL

Year 1 / No. 4 / Oct-Dec 2022

SPECIAL SECTION

Under the Apocalypse Shadow: A Personal Testimony of 50 Years in the Environmental Cause

Rubens Ricupero

Abstract: Personal testimony by Rubens Ricupero on the 50 years of his involvement with the environmental cause, since the Stockholm Conference on the Human Environment in 1972; describing the negotiations of the Amazon Cooperation Treaty; the birth in 1988 of the Intergovernmental Panel on Climate Change; the United Nations Conference on Environment and Development, 1992 Earth Summit or ECO92; and the Brazilian Ministry of Environment and the Legal Amazon region's creation period. Success in the environmental cause should not be measured in terms of profits and losses but based on the time limit available to achieve the agenda's objectives, which is not elastic but finite.

Keywords: environment; biography; Stockholm Conference; 1992 Earth Summit.

Some say the world will end in fire,
Some say in ice.
From what I've tasted of desire
I hold with those who favor fire.
But if it had to perish twice,
I think I know enough of hate
To say that for destruction ice
Is also great
And would suffice.
- Robert Lee Frost, *Fire and Ice*

My personal involvement with the environment began with the 1972 Stockholm Conference and had nothing to do with professional activities or with my intellectual training. At the time, I was the head of the Ministry of Foreign Affairs Cultural Diffusion Division (DDC) and worked disseminating Brazilian culture and arts abroad. As a diplomat, I was not very interested in issues associated with the United Nations (UN), which seemed too abstract and out of touch with the minutiae of daily life I had grown accustomed to dealing with when I served in Vienna, Buenos Aires, and Quito.

I had no training in the so-called mathematical sciences. Still, I had been a passionate student of geography, especially human geography, as taught by my late instructor at the Rio Branco Institute in 1959, Fábio Macedo Soares Guimarães, founder of the geography section of the Brazilian Institute of Geography and Statistics (IBGE). Thanks to him, I discovered a book that fascinates me to this day, a classic of human geography: *A Geography of Man* by Preston James (1949). The book reviews the diversity of each habitat on the planet, from arctic regions to equatorial jungles, and shows how humans adapted to the diverse physical conditions around the globe. That must have been the origin of my interest in the climate and the atmosphere, the geographer's passion for that which is concrete, which Antonio Cândido mentioned about Caio Prado Júnior, a geographer by vocation.

Ambassador Miguel Ozório de Almeida, a respected scholar of economic development and scion of a family of scientific and positivist tradition, led the pre-

Rubens Ricupero *is Emeritus Counselor of the Brazilian Center for International Relations (CEBRI), retired diplomat and historian. He was ambassador to the UN (Geneva), in Washington and Rome; advisor to Tancredo Neves and José Sarney; Minister of Environment and the Amazon; Minister of Finance; and UNCTAD Secretary General. He held the José Bonifácio Chair at São Paulo University for 2022.*

parations for the Ministry of Foreign Affairs position for Stockholm. I followed his appointment for that position from the outside without any influence on its preparation. I must say that from the very beginning, I had an inkling that, while correct in some respects, our position placed far greater emphasis on economic development than on the severity of the environmental risks to the planet as a whole, including ourselves. The spirit that led to the organization of the first UNCTAD, the United Nations Conference on Trade and Development, in 1964, in Geneva, had by then not yet peaked in Brazil and some other major developing countries.

The conference reflected at the international level the heightened interest in economic development that had become a national ideology of sorts in Brazil during the Juscelino Kubitschek administration (1955-1960), and that would be enthusiastically rekindled by the military regime, especially during the government of General Emílio Garrastazu Médici (1969-1974), when the so-called "Brazilian economic miracle" reached its zenith. It is understandable that in such an environment, Miguel Ozório and his staff should focus preferably on the design of what came to be known as the principle of "common but differentiated responsibility" for climate issues. The differentiation was due to the different levels at which industrialized and underdeveloped countries had contributed to the accumulation of greenhouse gases since the dawn of the industrial era.

The problem didn't lie so much in the principle, whose fairness the international community would recognize twenty years later, but instead in the suspicion that the priority the rich gave to environmental pollution could raise hurdles to the growth of economies that had lagged behind in the industrialization process. That fear was often accompanied by inattention or indifference to the damage caused by pollution. Planning Minister João Paulo dos Reis Velloso was even unfairly accused of complacency for giving the impression that the Brazilian government would heartily welcome highly polluting industries whose operations were restricted in other countries. I already thought then what I think today: issues of different natures should be clearly separated. On the one hand, there are those pertaining to trade, to finance, that can be the appropriate subject matter of North-South negotiations based on each party's national interest; and on the other hand, there are those that affect the planet and the international community at every level of development.

Concerning the latter, the principle of solidarity when facing a common threat should take precedence over negotiations for short-term gains. Solidarity obviously implies that each economy's contributions should correspond to its historical responsibility in creating the problem and to its economic and technological capabilities. As Minister Marina Silva well says, differentiated responsibility doesn't mean no responsibility.

The United Nations Conference on the Human Environment, or Stockholm Conference, was held fifty years ago at the initiative of the Swedish government. It was the unsteady beginning of a long process of awareness of the complexity of the environmental issue in all its facets. The debate in Stockholm didn't focus on the climate but on pollution of the atmosphere, air, and water. The concept of climate change, then already under discussion among climate experts, was not yet mature enough to make it to the agenda of an international conference. None of the twenty--six principles approved in the meeting referred to the climate or global warming.

Stockholm took place at a difficult geopolitical time. In the midst of the Cold War, the refusal to admit the participation of East Germany (at the time neither Germany was a UN member) led the Soviet Union and other communist nations to boycott the conference. The participation of the People's Republic China, then newly admitted to the United Nations, had a strictly political-ideological tinge. It was then suspected, and confirmed only thirty years later when certain secret British documents were declassified, that a secret group of advanced countries (the United Kingdom, the United States, France, Belgium, Italy, and the Netherlands) – self--styled the Brussels Group – conspired to limit the scope and results of the meeting, fearing that they could restrict trade and economic activity – ironically enough, including damaging the future of the failed Concorde supersonic airplane!

Considering these many unfavorable factors, it's surprising that Stockholm came to be the watershed moment when environmental issues began to gain traction on national and international agendas. The relative success of that initiative – at first seen as some Nordic mania – was in large part due to the patient, intelligent, and tireless work of the Secretary General of the Conference, the Canadian Maurice Strong (1929-2015), who would again play a similarly decisive role in the 1992 Earth Summit. At the multilateral level, the Conference approved the creation of the first specialized UN environmental agency based in Nairobi, Kenya. It

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was initially limited to just one "program," the United Nations Environment Program (UNEP). At the same time, many countries decided to create ministries or national offices for the environment, Brazil included. The Special Environmental Office (SEMA) of the Ministry of Home Affairs was organized in 1973.

The Brazilian delegation to Stockholm was headed by the Minister of Home Affairs, General José Costa Cavalcanti, who earlier had been Minister of Mines and Energy and later was president of Itaipu Binacional. Miguel Ozório was Deputy Head. Another member of the delegation, secretary general of the Ministry of Home Affairs Henrique Brandão Cavalcanti (1929-2020), played a decisive role in implementing the decisions taken at the meeting. I didn't know him then and later became close friends with him, with Hazel, his Canadian wife, and his family. He worked with me as head of the Office for the Environment and for the Amazon Region of the Ministry of the Environment and succeeded me as Minister. Henrique was a highly notable and enlightened member of Brazil's skilled government staff of the 1970s and 1980s. He was a hydroelectric engineer trained at McGill University in Montreal, Canada, with extensive professional experience in Brazil's steel and hydropower industries. Above all and in stark contrast to the vast majority who were mere bureaucrats, Henrique had a genuine environmentalist soul.

His fingerprints are all over the great administrative achievements of that time of rapid economic growth, with more lasting effects on the creation of SEMA and on the invitation to University of São Paulo zoologist Paulo Nogueira Neto (1922-2019) to head SEMA. Together they managed to navigate an unresponsive environment to achieve the remarkable feats of creating Brazil's first government environmental governance entity from scratch and putting in place much of the environmental protection legislation that survives to this day despite the recent attempts at its destruction. Paulo remained in office from 1973 to 1985, all through the last three administrations of the military regime (Generals Medici, Geisel and Figueiredo). Paulo's simplicity hid the legacy and vocation for public service of his ancestor José Bonifácio, as well as the tradition of progressive agriculture of the great São Paulo farmers. He was one of only two Latin American members of the Brundtland Commission in the late 1980s. In my opinion, Henrique Brandão and Paulo Nogueira embody the highest ideal of public service, for even in the darkest of times they advanced humanity's best ideals.

At an incomparably more modest scale, something similar happened to me when I returned to Brasília in 1977, at the behest of then Foreign Minister Antonio Francisco Azeredo da Silveira (1917-1990), to work on a cooperation treaty involving all Amazonian countries. During the three years I served as a counselor at the Brazilian Embassy in Washington, I never ceased being involved with environmen-

tal issues. I was a delegate to a meeting of UNESCO's Man and the Biosphere program at the State Department in the mid-1970s. More or less simultaneously with the program, James Lovelock (see 1982) developed his Gaia hypothesis or theory, the idea that living organisms interact with the inorganic elements of Earth to form a complex synergistic and self-regulating system that helps maintain living conditions on the planet.

I was made head of the South America Division II (DAM-II), in charge of relations with all Amazonian countries, from Bolivia to Venezuela and the Guianas. The key task entrusted to me was to initiate the negotiation of the Amazonian Cooperation Treaty (TCA) and to bring it to fruition. Brazil had circulated the idea of the treaty, but some countries – Venezuela in particular – were reticent and suspicious. One of my duties was representing the Ministry of Foreign Affairs at Brazil's Amazon Development Office (SUDAM) Board meetings, usually in Belém or Manaus. I soon realized that, with the exception of Air Force General Ottomar Pinto, who would govern Rondônia several times, and myself, all other members were completely impervious to the environmental issue. The debate then still was dominated by the abominable slogan of the Medici administration "the Amazon will be conquered with cattle hooves."

The treaty was negotiated and approved in record time despite that fateful legacy. It included the principle that the full development of Amazonian territories required balancing economic growth and environmental preservation. The strict equality of those two goals may sound natural today, but at that time, we were instructed to resist any reference to human rights and the environment in all diplomatic documents. The reluctant consent of the military could be obtained only with the argument that almost all our partners insisted on including the issue as a condition for them to join the agreement.

The two decades that followed Stockholm were initially marked by efforts to address the threats associated with the hole in the ozone layer, the best successful example of the human capacity to resolve an environmental issue thus far. Two meetings addressed the ozone layer issue: the 1985 Vienna Conference and the 1987 Montreal Conference, which approved the Montreal Protocol. This protocol remains an

The two decades that followed Stockholm were initially marked by efforts to address the threats associated with the hole in the ozone layer, the best successful example of the human capacity to resolve an environmental issue thus far.

inspiring example of what can be achieved when scientists and governments come together to follow policies scientific evidence recommends.

The creation of the World Commission on Environment and Development by the United Nations in 1987, chaired by Norway's Prime Minister Gro Harlem Brundtland, represented a second significant step forward. The main product of the commission, the report Our Common Future (1987), introduced conceptual advances that forever changed how we look at development. The most important such advance is the idea of sustainability or sustainable development. Inspired by the joint responsibility of generations that succeed each other in time, the concept of sustainability rests on the postulate that each human generation must satisfy its needs in such a way that doesn't jeopardize the ability of future generations to do the same.

The Intergovernmental Panel on Climate Change, or IPCC, was created in 1988 as a sort of corollary to all those advances. I was present at its birth in Geneva as Brazil's representative to the World Meteorological Organization (WMO), one of the two UN organizations that founded the IPCC (the other was the UNEP). I participated in the first meetings to design the IPCC as an intergovernmental body made up of scientists appointed by governments but who act with scientific independence. The panel's role is not to conduct fresh research. Its mission is to gather and evaluate research carried out in research centers. From time to time, the IPCC produces reports reflecting the then "state of the art" of climate science knowledge, both in relation to physical elements and to societal consequences. Almost everything that has been done regarding environmental mitigation and adaptation policies ultimately stems from IPCC recommendations.

The first major IPCC report, published in 1990, had a huge impact. The report confirmed, with a high degree of scientific certainty, that the world's climate was becoming increasingly warmer largely due to human action. From then on, something totally unheard of was established: the idea that human activity since the Industrial Revolution in the mid-18th century had altered the planet's atmosphere and climate for the first time in the millennia since man appeared on Earth. Hence the name Anthropocene that Paul J. Crutzen (see 2002), winner of the 1985 Nobel Prize in Chemistry, gave to the current geological era. The shock caused by the report paved the way for a major negotiation that would culminate in the United Nations Framework Convention on Climate Change (UNFCCC). A supplemental convention was being negotiated simultaneously: the United Nations Convention on Biological Diversity (CBD).

The great 1992 Rio de Janeiro Earth Summit occurred in that context. Its

official name, United Nations Conference on Climate and Development, reflected the reaction to the fear raised in Stockholm that environmental concerns would become an obstacle to the development of the poorest countries. In contrast to Stockholm, the Earth Summit took place in an auspicious geopolitical climate, never to be seen again in the future. The fall of the Berlin Wall in 1989, a little over two years before the conference, triggered the fast-paced dissolution of all Communist regimes in Central and Eastern Europe, culminating with the disintegration of the Soviet Union in December 1991.

The division of the world into two ideologically antagonistic blocs, which until then had paralyzed all significant efforts at international cooperation, disappeared for the first time since the October 1917 Revolution. By mid-1992, when the conference met in Rio de Janeiro, the end of the Cold War had inaugurated an extraordinarily favorable phase for cooperation which lasted at least until the terrorist attacks of September 11, 2001. Once the duality of the USSR x U.S. poles had been eliminated, a kind of quasi-U.S. unipolarity was established in a scenario where China's rise was still in its infancy. One felt in those years that everything was possible, that the solution to intractable problems was suddenly at hand: the division of Berlin, of Germany, of Europe, the relatively peaceful dissolution of the Soviet Union giving birth to fifteen new countries, even the apartheid regime of South Africa, hardened issues that apparently would remain unchanged for centuries!

The unification of the planet and the globalization process boosted consensus around the two major conventions (with the exception of the United States in relation to the Convention on Biodiversity). That context contributed above all to the indisputable success of the Earth Summit, which went down in history as the time when environmental negotiations reached their zenith. The impressive opening ceremony where the two conventions were signed by more than one hundred Heads of State and of government created the momentum that would lead to Agenda 21, the Principles on Forest Management, the creation of the Sustainable Development Commission, and the 27 Rio Principles.

I was head of the Finance Committee, which prepared Chapter 33 of Agenda 21 on sources of funding. At the time, I wrote a "chronicle of negotiations" of the finance group, which I believe is the only document of its kind in relation to the conference. Originally published in the *Colorado Review of Environmental Law* (Ricupero 1993), the text appeared in Portuguese under the title *UNCED and Agenda 21 During the Earth Summit: Chronicle of a Negotiation* (Ricupero 2012).

I remained in Washington as Ambassador until, in mid-1993, the mass murder of a group of Yanomami Indians in the Brazil-Venezuela border region suddenly

set in motion a chain of events that would bring my mission in Washington to an early end. Not quite knowing how to respond to the public outcry, President Itamar Franco decided to create a ministry for the Amazon region. I don't know if because of my past involvement with Amazonian affairs or of some other mysterious reason, I was called to organize the new ministry. And so, an episode in the endless extermination of the indigenous peoples by criminal greed came to disrupt my fate and to redirect it onto an unexpected path.

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To quote the poet Vinícius de Moraes, the Ministry of the Amazon was "a funny house with no ceiling, with nothing." With no staff, no funding, no chairs to sit on, I was at the mercy of the President. To everyone's surprise, he gave me an office suite at the Annex to the Planalto Palace that he had used when he was Vice President and had refused to allocate to other supplicants. Myself and a handful of colleagues from the Ministry of Foreign Affairs who had worked with me at the Americas Department – Sérgio Danese, Débora Vainer Barenboim, later Sérgio Amaral – pretended we were a real ministry.

As luck would have it, the Minister of Environment, Senator Fernando Coutinho Jorge, left the government soon after. The government took the opportunity to merge those two recently-created ministries (President Franco had elevated the Special Environmental Office to ministerial status) to form the Ministry of Environment and the Amazon Region. Once Congress enacted the act that organized the new ministry, we inherited an initial structure and, more important, the staff and funding of the Brazilian Environmental Institute (IBAMA), which had offices in all states.

Working with the environment coupled joy with learning. It had nothing to do with what I did before. My experience in the area was until then limited to the diplomatic aspects of the issue. When dealing with the "real" environmental issues involving forests, the oceans, protected areas, endangered animals, I discovered an

endless universe. I had to ask for help from people who knew the matter and who guided me through this process of discovery. We were dazzled every day by some new place we visited while on duty: the Rio Botanical Garden, the Tijuca Forest, the Serra dos Órgãos Park, the Iguaçu Park, the bases of the Sea Turtle Project (Tamar Project), the old iron foundry at the Ipanema farm, near Sorocaba, in São Paulo, where Varnhagen's father was manager and where were manufactured cannons for the Paraguay War.

And, as a bonus, we met human beings who were passionate about animals, birds, fish, flowers, trees. People who would teach us the name of plants, the habits of the Amazon manatee and of the nearly extinct small blue macaw of Bahia's caatingas, the best techniques to reintroduce into nature jaguars, the golden lion tamarin, the primates of the Atlantic Forest. It was the universe of infinite variety, the museum of all things.

It would have been a dream job as manager of an earthly paradise had not some predators entered the garden: chainsaws to annihilate century-old hardwood trees, bulldozers to clear hectare upon hectare of virgin forest before they were set alight, water jets to demolish river banks in search of gold that is separated from impurities using mercury that would poison fish and riverside populations for generations.

In the more traditional domain of environmental action, I found IBAMA to have fairly reasonable human resources thanks to more than ten years' worth of the organizational efforts of Paulo Nogueira Neto and his coworkers. IBAMA housed personnel originally from the Brazilian Institute of Forestry Development (IBDF), from the Fisheries Development Office (SUDEPE) and from the Rubber Office (SUDHEVEA). Born from the merger of those entities, IBAMA suffered from the incomplete integration and unification of its components into a common institutional culture.

Despite these imperfections, there was a base that could be used as a springboard for more effective action. In contrast, everything remained to be done in the Amazon, a vast issue that had acquired unprecedented visibility following the creation of the Ministry. As early as at the time of the Amazon Treaty, I had been impressed to find that neither Brazil nor our neighbors had clear ideas about what to do with the Amazon.

Development initiatives and projects became plentiful since the military regime: the Manaus Free Zone, SUDAM, the Amazon Bank, the Transamazon, the Perimetral Norte and other highways, Tucuruí and other hydropower plants. Some large urban centers, mainly Manaus, became magnets that emptied hinterlands of

their population. And worse: vast tracts of forest-covered land were awarded to large businesses for extensive cattle ranching. The agricultural frontier had advanced over the southern periphery, Rondônia, Mato Grosso, Tocantins, southern Pará.

The net result of decades of effort and billions invested was to create in the region an unsustainable process that generated continuous and increasingly serious imbalances. On the one hand, predatory methods threatened long-term sustainability even from a strictly economic perspective. On the other, the process worsened the concentration of property and income and failed to promote social inclusion and to reduce inequality.

This realization led to the idea that the first step to rationally control federal actions in the region was to create a structure for coordination. I suggested, and President Franco accepted, organizing a National Council for the Legal Amazon region (Amazon Council) whose main purpose was to assemble and coordinate federal actions in the region. It seems simple – unfortunately the Brazilian bureaucratic tradition equates coordination with subordination. Nobody accepts to be coordinated by equals. That's why the Council had to be headed by the President himself. Only he has the power to convene Ministers who will otherwise send second- or third-level representatives without authority to decide and to engage their departments.

Once the Council had been created and made operational, we moved on to a second objective: to give a rational direction to by then already full-blown economic activities through environmental and economic zoning based on the aptitudes of each subregion. Although we are in the habit of speaking of a single Amazon, as if it were all the very same, the truth is that there are many different Amazons in terms of soil, vegetation, microclimates, rainfall regimes, flood-prone lowlands or dry highlands, plant and animal life, sanitation, transportation and communication infrastructure and countless other aspects.

Policy discontinuity is precisely what has always impeded the design and implementation of a coherent long-term strategy for Amazon. Indeed, the very Amazon Council had an ephemeral life in its original design. President Fernando Henrique Cardoso decided to rid his office of all appendages and, within that general movement, the Amazon Council was transferred to the Ministry of Environment. There it began to wither because the Minister would obviously never have the authority to convene, let alone to coordinate, stronger ministries and powerful companies like Petrobras.

Over time, the Ministry lost its "Statutory Amazon Region leg," was stunted with only its "Environment leg," and faded into irrelevance. In the wake of resurgent forest-clearing fires and destruction and largely as a gesture to assuage the universal

outcry, the Council was recently resurrected as an inapt entity devoid of authority and means of action. Like any collective entity, the Amazon Council obviously has no vocation for action, its nature is to coordinate and to discuss. Action falls under the remit of the pertinent ministries and entities, basically the Ministry of Environment and its executive arms, IBAMA and the Chico Mendes Institute for Biodiversity Conservation (ICMBio).

The Council was now recreated to do the job that had been sabotaged by the only authority that could see it through, the Ministry of Environment! The impossible task of chairing it was given to the Vice President, who had been ejected from the inner sanctum of power and who the president distrusted. Everything indicates that the mission was given to him with the expectation that he would become a scapegoat for Amazonian destruction. It's not at all surprising that month after month, more and more fires are recorded and that deforestation progresses at an alarming rate. Antonio Callado's prophecy, in an article in which he referred to my leaving the Ministry as a kind of desertion that would leave the Amazon orphan, came to pass.

Callado was right not because I had any imaginary powers and qualities (none were attributed to me in that article) but rather in perceiving that my leaving endangered a still recent and unconsolidated vision. This vision essentially was that there should be within the government a focal point to address all the issues of a region unlike any other. In practice, like it or not, the whole world sees Brazil through the prism of the Amazon.

The incomparable specificity of the region, the ecological characteristics that make it a unique case still poorly known to science, make it different from more familiar regions whose challenges are manageable. Everything gets more complicated there, starting with the State's rarefied presence, the precariousness of the education and health systems, the acute lack of transportation and communications, and ignorance about extremely vast regional aspects.

All of that requires the unified treatment of issues that are inextricably associated with each other but fall under the remit of various government entities and ministries. How does one separate the issue of the originary peoples, massively concentrated in the Amazon and dependent on FUNAI, from environmental problems, forest preservation, the threat of invasion by land-grabbers, loggers and miners, issues over which other entities had authority? State and municipal governments are limited by their parochial perspectives at best and do not see the big picture. At the opposite extreme, they represent the worst of politics in Brazil, verging on the criminal.

Just consider the widespread corruption that not even the pandemic could stop; it's enough to remember how Manaus and the state of Amazonas at a certain

moment became the focal point of a health catastrophe that made headlines the world over. In no other region of Brazil can one find a similar concentration of large-scale environmental attacks, criminal appropriation of public lands, repeated massacres in prisons, invasions of indigenous lands, unpunished murder of indigenous peoples and rural leaders, constant intervention by federal forces. Those are clear signs that the machinery of government has broken down and that the State is coming undone: the military regime's dream of the Eldorado has become the Brazilian version of a western B-movie.

I don't know what my life would have been like had I stayed in the Ministry of Environment. I had almost a year ahead of me, insufficient time for great achievements but perhaps enough to consolidate the guidelines that we had barely sketched. I never found out, as things soon took a different turn when I was appointed to succeed Fernando Henrique Cardoso as Minister of Finance in late March 1994.

These recollections already are too long. I don't have the energy to go on and my potential readers won't have the patience to continue reading. The key things have been said. After that, I was Minister of Finance, for a fleeting time ambassador in Rome, Secretary General of the United Nations Conference on Trade and Development (UNCTAD) in Geneva for nearly a decade. Every once in a while, I would again deal with environmental issues, almost always from the periphery, in a secondary position. But my passion for the environment, which today defines how I see myself in relation to Brazil and to the world, not only didn't die – instead, it grew.

I began this article thinking of reporting how the environmental issue progressed since the Stockholm Conference half a century ago. Or rather, more than an actual report, I wanted to discuss the difficulties in doing this, the specificity of the issue, what makes the environment an issue that requires different criteria. When describing such a long process, one tends to use an accounting approach: profits and losses, deficits and surpluses, lights and shadows, the stereotyped image of the glass half-full, half-empty.

That method goes well with almost any major United Nations issue that has guided the advancement of humankind's moral conscience since the end of World War II: human rights, promoting equality between women and men, achieving most of the Sustainable Development Goals (SDGs) that succeeded and expanded the Millennium Goals. One could plot a chart for all those issues showing ascending or descending curves, advances and setbacks based on the assumption that there will be time to later do what couldn't be done now, on the assumption that time may not be infinite but is elastic.

In this regard, what makes the environment different is that the time avai-

lable is limited. If we can't substantially reduce greenhouse gas emissions within a few years, there will be no more human or biological time because the rise in temperature will reach levels at which most animal and plant species will disappear. When looking back at everything that has happened since Stockholm, one cannot deny the significant progress made in raising awareness of the issue, in the gradual construction of an impressive regime of treaties and conventions and in creating specialized institutions. It was perhaps unrealistic to expect humankind to make greater progress. But it just wasn't enough.

That's why, among other reasons, I didn't describe what happened after the 1992 Earth Summit: the Kyoto Protocol (1997), Rio+10 in Johannesburg (2002), Rio+20 in Rio de Janeiro (2012), the 26 conferences of the Contracting Parties to the Climate Convention, the Paris Agreement (2015). If we fail at the ultimate challenge, none of that will matter. I write on October 28, 2022. UNEP (2022) days ago published a report confirming that what we've done so far is insufficient. Despite all our achievements, emissions continue to increase. Without more ambitious commitments, by the end of the century the world's average temperature will have risen by 2.4-2.6°C – far beyond the 1.5°C limit set in the preamble to the Paris Agreement. As theExecutive Director Inger Andersen (UNEP 2022) said:

...what makes the environment different is that the time available is limited. If we can't substantially reduce greenhouse gas emissions within a few years, there will be no more human or biological time because the rise in temperature will reach levels at which most animal and plant species will disappear. When looking back at everything that has happened since Stockholm, one cannot deny the significant progress made in raising awareness of the issue, in the gradual construction of an impressive regime of treaties and conventions and in creating specialized institutions. It was perhaps unrealistic to expect humankind to make greater progress. But it just wasn't enough.

> *This report tells us in cold scientific terms what nature has been telling us, all year, through deadly floods, storms and raging fires: we have to stop filling our atmosphere with greenhouse gases, and stop doing it fast.*

The bottom line is clear: we are still in the red and time is running against us. The game of life has a time set to end. We just don't know when that hour will strike. For some, it's past midnight and we've entered a phase where damage is likely to be irreversible. That's true, for example, in relation to the disappearance of glaciers, the extinction of animals and plants, the melting of the polar ice cap, the rise in sea levels, the increase of more than one degree centigrade recorded in the Earth's average temperature. We don't know exactly how much time we have to avoid the worst, we just know it's short and it's running out.

Here we find ourselves in the realm of end-of-the-world events, of the end of humankind, of what the ancients called eschatology, described in the visions of Revelation. Or in the magnificent peroration of the Apostle Paul's warning: "time is short." And of his exhortation: "they that weep, as though they wept not; (...) they that use this world, as not abusing it: for the fashion of this world passeth away" (Jerusalem Bible, Corinthians 7: 29-31).

To end with the same poetic and apocalyptic note with which I began, I refer to one of my favorite writers, the old Johann Peter Hebel of the naive almanacs of the early nineteenth century, and his description of the comet of 1811 as if it foreshadowed the death of the Earth disfigured by violence:

> *Did it not every night appear like a blessing in the evening sky, or like a priest when he walks around the church sprinkling holy water, or, so to speak, like a good and noble friend of the earth who looks back at her wistfully, as if it had wanted to say: I was once an earth like you, full of snow flurries and thunderclouds, hospitals and Rumford's soup kitchens and cemeteries. But my Day of Judgment has passed and has transfigured me in heavenly light, and I would fain come down to you, but I may not, lest I become sullied again by the blood of your battlefields (Hebel apud Sebald 2005, 21).*

Hebel's comet reminds us that one day the Earth will pass away and will be nothing more than a bright star. But first, we, our brilliant and pretentious civilizations, our vain quarrels, our corrupt and mean-spirited politicians, will pass. If we don't want to rush the transformation of a smiling Earth into a gigantic inanimate rock,

we must hurry to take advantage of the time that remains.

São Paulo, October 28, 2022

References

Crutzen, Paul J., 2002, "Geology of mankind". *Nature* 415: 23. https://doi.org/10.1038/415023a.

Hebel, Johann Peter Apud W. G. Sebald. 2005. "Une Comète Dans Le Ciel Note D'Almanach En L'Honneur De L'Ami Rhénan". In *Séjours A La Campagne*, de W. G. Sebald, p. 21. Arles: Actes Sud.

IPCC. 1990. *IPCC First Assessment Report Overview and Policymaker Summaries*. Intergovernmental Panel on Climate Change. https://www.ipcc.ch/report/climate-change-the-ipcc-1990-and-1992-assessments/.

James, Preston Everett. 1949. *A Geography of Man*. London: Ginn.

Lovelock, James. 1982. *Gaia: Um Novo Olhar sobre a Vida na Terra*. *First Edition.* Edições 70.

PNUMA. 2022. *Emissions Gap Report 2022: The Closing Window – Climate crisis calls for rapid transformation of societies*. Programa das Nações Unidas para o Meio Ambiente, Nações Unidas.

Ricupero, Rubens. 1993. "UNCED and Agenda 21: Chronicle of a Negotiation". *Colorado Journal of International Environmental Law and Policy* 4 (1): 81-95.

Ricupero, Rubens. 2012. "História de uma Negociação: o capítulo financeiro da Agenda 21 durante a Conferência de Meio Ambiente e Desenvolvimento". *Política Externa (Documentos)* 20(4): 255-267. https://ieei.unesp.br/portal/wp-content/uploads/2012/04/Politica-Externa-20-04-Rubens-Ricupero1.pdf.

UNEP. 2022. "Inadequate progress on climate action makes rapid transformation of societies only option - UNEP". *UNEP.org*, October 27, 2022. https://www.unep.org/news-and-stories/press-release/inadequate-progress-climate-action-makes-rapid-transformation.

United Nations. 1987. *Report of the World Commission on Environment and Development: Our Common Future*. Oxford University Press.

To cite this work: Ricupero, Rubens. 2022. "Under the Apocalypse Shadow: A Personal Testimony of 50 Years in the Environmental Cause." *CEBRI-Journal* Year 1, No. 4 (Oct-Nov): 46-61.

DOI: https://doi.org/10.54827/issn2764-7897.cebri2022.04.03.01.46-61.en

Submitted: October 29, 2022
Approved for publication: November 23, 2022

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SPECIAL SECTION

A Green-Digital Post-Bicentennial: Toward a Foreign Policy 3.0 for Brazil[1]

Eugênio V. Garcia

Abstract: From the perspective of long-term diplomacy, foreign policy cannot be separated from its social and economic base. Based upon a century-old historical understanding, this article identifies three major phases for the Brazilian foreign policy: PEB 1.0, associated with Brazil's primary-export economy since 1822; PEB 2.0, roughly overlapping with national industrialization in the twentieth century; and PEB 3.0, still under construction, geared toward the green-digital future and aligned with contemporary sustainability and digitization requirements.

Keywords: Brazilian foreign policy; bicentennial; long-term diplomacy; green-digital economy.

1. The opinions expressed herein are the sole responsibility of the author.

This year's celebration of the independence bicentennial is an excellent opportunity to reflect on the relationship of long-term historical movements with Brazil's international standing. This article proposes to briefly review Brazil's foreign policy (PEB), focusing on its social and economic bases over periods approximately one hundred years to find what factors have influenced our foreign policy in the long term and draw some lessons from them. The purpose here is not to discuss how guidelines differed from government to government or look at political milestones chronologically, but rather find macro-structural trends using an analytical method that relies on deliberate detachment from the moment's context.

The first one hundred years after Brazil's independence in 1822 (PEB 1.0) can be seen as a nation-building phase: the nationalization of diplomacy, the defense of territorial unity, and the definition of borders. Baron Rio Branco, a man of the nineteenth century, completed this effort. Over most of this period, a slave-based and "essentially agricultural" economic system predominated in which territory, extractivism, agriculture, and rural life integrated into the social landscape.

The next one-hundred-year phase (PEB 2.0), from 1922 to 2022, encompasses almost the entire twentieth century and goes beyond. Our diplomacy then focused on classic economic development, notably Brazil's effort to use industrialization to drive increased growth. That was the keynote of the two Getúlio Vargas governments and the military regime (1964-1985). It is also in the multiple expressions of pragmatism in the search for autonomy, against the backdrop of a country transformed by industrialization and the expansion of the service sector in urban life. These traits remained in place until recently, but are not watertight. They have been acquiring new connotations indicative of a more unstable and uncertain phase.

Finally, the following one hundred years (PEB 3.0), post-bicentennial, encompass most of the twenty-first century and will be guided by global challenges associated in particular (but not only) with climate change and emerging technologies, and the dilemmas of sustainable development, of the knowledge economy and life in cyberspace. A foreign policy attuned to this coming scenario, dominated by technology and sustainability, must be able to respond to the urgent issues of our time and to adapt to a green-digital economy. The 2020s may be the time to accelerate this trans-

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Eugênio V. Garcia *is a Diplomat, Deputy General Consul, and Head of Science, Technology and Innovation at the Consulate General of Brazil in San Francisco, United States. He has a PhD in History of International Relations from the University of Brasília, and is a researcher in artificial intelligence and international governance. Former Senior Advisor to the President of the United Nations General Assembly (New York, 2018-2020).*

formation, whose success will hinge on decisions made in the present, otherwise Brazil's transition to the vanguard of the digital age will be further delayed.

BEFORE THE BICENTENNIAL: THOUGHTS AND TEACHINGS

French historian Fernand Braudel (1992) coined the term *longue durée* in reference to phenomena that go beyond the merely factual study of specific historical circumstances. Different scholars give the concept different interpretations, including in the field of International Relations (Dark 1998). For the purposes of this article, let us say that a major foreign policy strategy should consider the type of nation one seeks to build, what its basic values and guiding principles are, as well as the interests at stake when projecting a certain action in future scenarios.

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Some aspects stand out when we look at social and economic phenomena through the prism of the long duration. Slavery, for example. For 350 years since the first group of African slaves arrived in Colonial Brazil in 1538 and until slavery was abolished in 1888, this inhuman system governed Brazil's economy and planted deep roots in our social fabric. In 1830, Brazil was the largest slave-based economy in the world. Sixty percent of slaves brought to the Americas from 1811 to 1870 had Brazil as their destination. It is not difficult to see that slavery influenced both the economic substratum of the nascent national consciousness and the country's international standing during the nineteenth century. During the Empire, some thought Brazil could not survive without slaves, that industrialization was too ambitious or unnecessary. According to the economic theory of comparative advantages, it would suffice for Brazil to import the desired goods and technologies.

Historically speaking, Brazil's economic development was out of step with the industrial revolutions taking place around the world. Before independence, during the times of colonial monopoly, Brazil did not even have access to the innovations the First Industrial Revolution brought about in the second half of the eighteenth century: the replacement of artisanal work with large-scale production using machines powered by steam and fossil fuels (mineral coal). This process did not reach Portuguese colonial possessions, given Portugal's subordination to Britain since at least the 1703 Treaty of Methuen. The oft-mentioned 1785 Royal Decree of Queen Maria I banning all factories and manufactures in Brazil proves the point. The Brazilian colony at the time exported gold, diamonds, sugar, tobacco, and brazilwood to the mother country and imported from Portugal the rudimentary manufactured goods it needed.

The 1820s were undoubtedly crucial to define our national identity not only because independence made Brazil a sovereign State, but because then began the formation of Brazil's foreign policy, albeit not immediately. In the "heroic" phase led by José Bonifácio, Brazil broke with the Lisbon constitutional convention and sought closer ties with the United States and with its own neighbors on the River Plate. Subsequently, the fact that Emperor Pedro I conducted diplomatic affairs gave a neo-Portuguese tinge to our foreign policy during the First Empire. Examples of this were Brazil's pro-Holy Alliance Europeanism, our subordination to Britain (commitments made under the 1810 treaties were renewed in 1827), the Cisplatine War, and the Empire's virtual isolation in the region, culminating in the failed Santo Amaro Mission of 1830 sent under the emperor's direct instructions to garner support in relation to the disputed succession to the Portuguese throne and South American politics. The 1831 abdication unsurprisingly brought the phase to an end, sometimes referred to in historiography as the "second independence," that saw the "nationalization of the throne" and a stronger affirmation of Brazil's national identity.[2]

Brazil's foreign policy over this decade reflected the lack of significant change to the underlying social and economic structure (primary sector supported by the slave system). Economic literature shows that despite pioneering efforts such as those of Baron Mauá, industrialization did not gain traction in imperial Brazil. Imperial diplomacy dealt with trade, financial, and immigration issues associated with the slave system. This diplomacy spanned years, such as the dispute with Britain over the transatlantic slave trade, a "diplomatic struggle of the most lamentable character," in the words of Joaquim Nabuco (Almeida 2001, 337). The fast-paced progress in transportation, communications, and in the chemical, steel, and electrical indus-

2. King João VI engaged in a foreign policy that was more Brazilian than Portuguese (americanization of the monarchy), while that of King Pedro I was more Portuguese than Brazilian by partially reverting to traditional Portuguese diplomacy (Garcia 2018, 55-88).

tries, among others, sparked during the Second Industrial Revolution in the second half of the nineteenth century took a long time to reach Brazil. Reconfirming once again Brazil's relative distance from the dynamic centers of growth, Brazil's commodities-based economy of imperial times entered the republican era in the twentieth century favoring the agro-export model.

Indeed, coffee was the economic pillar of the Old Republic and Brazil's economy remained "agriculture-centered" for decades. The 1920 economic census showed that, compared to manufacturing, the net value of agricultural output represented almost 80% of the economy's total physical output. Agriculture was based on export crops, which jointly accounted for almost 60% of agricultural output and covered 50% of planted area (Villela & Suzigan 1975, 141-142). Agro-exports peaked after the post-war crisis (1920-1923) and before the crash of 1929.[3] Because the agroexport sector was the driver of the economy, oligarchic diplomacy reflected its interests (Garcia 2006).

Brazil's industrialization began with World War I, when the reduced availability of manufactured goods from traditional suppliers gave an indirect stimulus to domestic production. Industrial output grew by 44% in Brazil from 1915 to 1920, mainly in non-durable consumer goods and in exports for the international market. The number of manufacturing establishments in Brazil ballooned from 6,946 in 1914 to 13,569 in 1919 (Magalhães 1979, 390). However, this process cannot be seen only as a boon to industrialization via substitution of imports. If, on the one hand, the diminished availability of goods from overseas due to the war caused opened a momentary window of opportunity for some industrial sectors in Brazil, on the other hand, the abrupt interruption in the imports of capital goods and certain essential raw materials disrupted Brazil's productive system and marred the development of other industries. Without the necessary machinery and fuels, industrial capacity as a whole was inevitably compromised. Better-structured State industrialization policies came to light only in the 1920s and 1930s but this is not the place to dwell on this issue, which has been examined in a significant body of economic literature.[4]

By the end of the first one-hundred-year phase in the 1920s, PEB 1.0 was transitioning into PEB 2.0 with the usual contradictions seen in this type of wide, complex and dialectical movement where the new has dawned but the old remains. Take the case of the 1922 Independence Centennial International Exhibition in Rio de Janeiro, the largest of its kind organized in Brazil to date. The Brazilian govern-

3. Based on those and other indicators, Villela & Suzigan (1975, 133-134) argued that the 1920s saw the peak of the agro-export segment, which grew much faster (9% per annum) than other agricultural sectors (4.5% per annum).

4. There was much controversy in the economic history literature regarding the effects of World War I on Brazil's industrialization (Versiani 1987; Cano 1977; Dean 1971).

ment invested in organizing a mega-event along the lines of the Universal Expositions typical of the Belle Époque, when belief in the unlimited powers of reason and science and in the infallible progress of the liberal-bourgeois civilization of the late nineteenth century prevailed. A reform campaign was initiated to give the federal capital a more "modern" appearance. The plan was to make Rio a kind of "tropical Paris;" a symbol of modernity and beauty south of the Equator. The Centennial Exhibition was meant to celebrate national reconciliation domestically and to show Brazil's progressive side internationally.

But, 1922 will be rather remembered for the nascent political opposition to the conservative immobility of the oligarchic republic and the increased social and cultural ebullience. The Exhibition was supposed to show the world that Brazil could match the culture and development of major Western nations and was ready to integrate the "civilized," cosmopolitan, wealthy and cultured world (Motta 1992). But, the illusory prosperity foisted on foreign visitors was in stark contrast with a society that at bottom was poor, malnourished and illiterate and with an economic infrastructure based on monoculture agro-exports.

A striking example of long-term historical change was the transition of power from Britain to the United States in the interwar period. Thanks to our Portuguese heritage, Britain enjoyed a strong position in Brazil at the time of our independence in 1822. By 1900, Britain still commanded a leading influence in Brazil's economy as the largest source of our imports and funding and as the largest foreign investor, by far. In the following years, Germany's growing influence challenged Britain's position in Brazil and, although mildly, so did the United States, whose economic expansion had not yet reached South America. During World War I, Britain and the United States joined forces against Germany and jointly succeeded in expelling German interests from Brazil. The United States became Brazil's largest trading partner in 1916, for the first time surpassing Britain as the main source of Brazil's imports. As the years passed, Germany's resolute recovery in the 1930s renewed the earlier challenge, and during World War II, British and American interests were once again united against Germany's. By 1945, however, Britain had lost its once dominant position and the United States indisputably was the hegemonic power in Brazil (Garcia 2006, chap. 4).

Britain's economic conditions and its loss of international competitiveness impeded any attempt to adapt to the changes in the Brazilian economy. The agro-export model to which British capital remained tied slumped after the 1929-1933 world depression. Brazil's industrialization found its stride both through the substitution of imports in traditional sectors (clothing) and through foreign direct investment in non-traditional segments (automobiles), to the detriment of Britain's

economic interests and productive capacity. Brazilian demand for British exports of textiles, coal, and railroad materials, the three pillars of Britain's trade since the nineteenth century, declined. The United States was better equipped to provide the goods and services Brazil required to join the industrial economy of the twentieth century: machinery, oil products, and automobiles (Rosenberg 1978, 151).

The character of that transition of power was above all economic. There was no political transition at all because, before 1914, Brazil's foreign policy was not geared toward Britain. There was an apparent mismatch between British economic presence and political influence, for Brazil did not see London as a focal point of its diplomacy. British political supremacy had evaporated long since, by the 1840s. Even during most of the Second Empire, in the second half of the nineteenth century, Britain's political influence over Brazil was negligible compared to its economic interests spread throughout the country. In contrast, since the proclamation of the Republic in 1889, Brazil's new regime had sought closer ties with Washington motivated by the spirit of pan-americanism, which translated inter alia into the americanization of Brazil's foreign relations.

One should not draw from this example hasty conclusions about other transitions of power that may (or may not) occur in the future – from the United States to China, for example. For its contemporaries, the anglo-american transition was more a possibility than a certainty. We now know that the United States managed to consolidate its hegemony in the interwar period, first displacing Great Britain (especially in the 1920s) and then supplanting Germany (in the 1930s). The post-1945 *Pax Americana* was very brief and certainly should not be overestimated, but the fact remains that the global transition profoundly affected Brazil's international relations.

That said, a short-term-centered approach can result in frustration. The first Vargas administration is usually associated with a successful bargaining policy in the midst of international polarization. The 1940 agreements with the United States that led to the birth of our steel industry in Volta Redonda-Rio de Janeiro are a case in point. With the privilege of hindsight, said "nationalistic bargaining" is best seen as a tactical tool used to obtain U.S. support for Brazil's development in the peculiar circumstance of global war. The atypical environment of World War II fed the illusion that such bargaining could also be possible under post-war U.S. hegemony, which we know did not occur (the "unrewarded alignment" to which historian Gerson Moura referred). Bargaining to take advantage of competition between major powers may bring some occasional benefit but cannot support a global international strategy, which ideally should not be based on exceptional circumstances over which we have no control.

We saw above that Brazil's industrialization gained traction in the 1920s-1930s, but did not translate into an immediate change in the long-established economic system. Coffee remained Brazil's main product until the 1960s. Primary products still represented 96% of the total value of exports in 1961. The traditional structure of Brazil's exports, dominated by primary goods, had not yet changed despite industrialization. Brazil became an exporter of manufactured goods only in the 1970s. Brazil's industrial exports represented 3% of total exports in 1960, 40% in 1974 and 56% in 1979. From 1920 to 1980, Brazil's Gross Domestic Product (GDP) grew on average by 6.19% per annum (industry grew by 7.64% in the same period). By 1980, coffee's dominance over Brazil's foreign trade had vanished: manufactured goods then accounted for 45% of Brazilian exports (Abreu 1992).

The 1970 census found the urban population (52 million) to have surpassed the rural population (41 million) for the first time, representing 56% of the country's people. This shows how recent this key demographic change in the population's spatial distribution is, from the countryside to the city. To that, we must add the very recent dimension of life in cyberspace, which will follow the analysis of the Third Industrial Revolution and its implications for PEB 3.0.

For the sake of brevity, we shall not review here the political, social and economic transformations of the last forty years, nor shall we discuss how redemocratization or economic globalization affect diplomacy, for example, through the idea of public diplomacy that integrates the national interest and society's collective and diffuse interests. Foreign policy is certainly more than a mere tool to foster industrialization. It is the result of an increasingly complex competitive environment. Paradigms at the macro level have been interconnected for some time, and at the turn of the century, PEB 2.0 already indicated some trends of the next phase in the field of human-nature symbiosis, digital communication, and dialog with society.

AFTER THE BICENTENNIAL: THE DIGITAL-GREEN FUTURE

Turning to contemporary politics, the war in Ukraine significantly changed world geopolitics but is likely to be seen by historians as a relatively short episode from a long-term point of view. The structural impact of such events is not comparable to macro trends such as the results of human activity on planetary life or technological advances that change how human beings interact with each other and nature. However, they do serve to dispel hasty conclusions such as the oft-repeated and erroneous belief that war between major powers is a thing of the past. Russia's invasion of Ukraine not only rekindled the prospect of major military confrontation in Europe. It also brought back the ghost of nuclear weapons and their potential use

to achieve political and military ends (ironically, a technology of the 1940s whose destabilizing effects will last until those weapons have been completely eliminated). In other words, some persistent threats that may include existential risks to humankind continue to haunt us and will bedevil our children and grandchildren if the current generation cannot solve those issues (Ord 2021).

In his address to the United Nations General Assembly, Secretary-General António Guterres (2018) mentioned the key challenges of our time: climate change and its indiscriminate planetary repercussions and technological risks ranging from mass economic unemployment to weaponized artificial intelligence. Those two challenges and their consequences on people's lives and the environment will guide the outcomes of other major world issues (economic growth, inequality, global health, geopolitical tensions, etc.). There are even those who see the Anthropocene and the progressive virtualization of society as two societal transformations that make up the "digital Anthropocene."[5]

Needless to say, a resolute effort to address global warming and promote sustainability requires abolishing archaic and predatory production methods that do not factor in their social and environmental effects. Humans used more energy in the twentieth century than they did in the 10,000 years between the agricultural revolution and the Industrial Revolution (Marks 2015, 203). The long-announced end of the oil era continues to take its toll. In a study on the world economy since the Paleolithic, Jeffrey Sachs (2020) places the Industrial Age between 1800-2000 and posits that the Digital Age in the twenty-first century will have to deal with the preceding era's nefarious legacy of environmental degradation and inequality.

Just as human existence cannot be separated from its natural environment, the biosphere, modern life cannot be properly understood without reference to our immersion in the digital world that includes the full range of humankind's technological production (Gorichanaz 2019). Luciano Floridi designates that world the "infosphere" in a reinterpretation of the older concept of "technosphere." Disconnecting from the internet and forswearing the digitization of the economy and of society gets more difficult by the day. Connectivity is a key element of the twenty-first-century world.[6]

Much of what is designated the "Fourth Industrial Revolution" actually refers to the extension and intensification of the Third Industrial Revolution, which came into being through the expansion of the service sector and of the electronics industry, the advent of the internet, of the information society and of technological

5. See The Digital Anthropocene Project: https://www.researchgate.net/project/The-Digital-Anthropocene.

6. Greater connectivity involves a conundrum: by bringing States, individuals and societies closer together and by making them increasingly integrated with each other, it can at the same time create more friction points and, therefore, more competition and conflict (Leonard 2021).

innovations in the second half of the twentieth century.[7] The almost ubiquitous digitization made possible in many countries by advances in computer engineering and in related industries drives industrial automation, 5G networks, the Internet of Things, integrated software and cyber-physical systems that are revolutionizing production lines in advanced economies. For Gen Z digital natives, cyberspace is part of everyday life. The traditional boundaries between the physical, biological, and digital worlds are increasingly blurred and Big Tech plans to invest heavily in augmented and virtual reality platforms, betting on the metaverse as the next chapter of the internet.

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Artificial intelligence (AI), a general-purpose technology that enables other technologies and multiplies factors, is the paradigm shift at the heart of this new economy. AI is more than just "the new electricity." Unlike electricity, AI can in association with massively abundant data and growing computational power create knowledge and perform cognitive tasks previously deemed exclusive to the human brain. It is not as yet possible to discern to what extent AI will fulfill its promises but some of its practical effects are visible now and its long-term implications are as formidable as they are astounding. We have just begun to see creative expressions of text, image and video produced by machine intelligence, for example, in foundation models such as GPT-3, BERT, DALL-E 2, and others that use deep learning neural networks to process gigantic amounts of data at scale (hundreds of billions of parameters) and that can create products in a fully autonomous manner. If AI systems can create knowledge that humans never conceived or imagined possible, then a Copernican revolution may ultimately occur with the potential to challenge intellectual anthropocentrism as we know it.

These thoughts on the ongoing technological revolution are not new. Like-

7. Current references to a "Fifth Industrial Revolution" make one think that the very concept of revolution may have been banalized and extended to the limit to accommodate self-promotional marketing actions.

wise, the importance of the environmental agenda and of promoting the energy transition toward a decarbonized economy is well established and technology and science surely can contribute by expanding the use of renewable resources and by combating deforestation, among other things (Almeida & Gaetani 2021). In this new scenario dominated by technology and sustainability, foreign policy must include digital elements as a vital and inseparable aspect of diplomacy in a hyperconnected world where technology's influence on interaction and coexistence far exceeds the scope of States.

Brazil's adherence to the knowledge economy has so far barely touched diplomacy. PEB 1.0 coexisted with the "essentially agricultural" economy that was one of Brazil's key traits long after its independence. PEB 2.0 corresponded to classic national industrialization in the twentieth century. PEB 3.0 will be associated with sustainability and digitization, with a green-digital economy that is environmentally balanced, adapted to the low-carbon market, that is technological and inclusive, free of the burdens and anachronisms of the past, and focused on building a nation with less inequality, greater distribution of wealth and development for the benefit of society as a whole.

The third one-hundred-year phase of Brazil's foreign policy must be aligned with Brazil's innovation ecosystem to provide productivity conditions that add vim to our industry through enhanced connections with market-changing innovations such as those introduced by impact startups and entrepreneurs. Brazil's deindustrialization has a direct adverse impact on our capacity to produce high-value-added goods, to train skilled labor, and develop capabilities to advance Industry 4.0. The manufacturing sector's share of Brazil's GDP peaked at 27.3% in 1986 and plummeted from then on to reach rock bottom in 2018 (11.3%), where it remains (Morceiro 2018). It is a tragic combination of late industrialization and early deindustrialization, aggravated by the lack of consistent investments. If Brazil does not develop its own skills in convergent and enabling technologies, Brazil will remain dependent on foreign suppliers and, worse, vulnerable to the gyrations of the global market and to political pressure from outside, such as those associated with the U.S.-China struggle for supremacy that some describe as "the new technological Cold War."

Varying degrees of digital exclusion which change with social class or region restrict the access of a large portion of Brazil's population to public and private services offered online. Those individuals cannot take advantage of resources in the areas of education, health, remote work, business, social interaction, and social rights. They are not equipped to actually exercise their rights and master the digital tools that are ever more important in everyone's daily life.

This can be changed. History shows that industrial revolutions at the world level reached Brazil with a delay of decades, as occurred in the transition from an agricultural to an industrial and services economy. That process of course is neither linear nor teleological: there are ups and downs, comings and goings, and setbacks may occur. As seen earlier and as is well known, industrialization gained traction in the 1920s and took root in the inter-war period but matured much later and is currently suffering worrying setbacks.

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We are still moving toward both the green economy and the knowledge economy and not at the desired speed (Kaufman 2021). If I may be pardoned for the neologism, it is premature to speak of "late smartization" in Brazil because that systemic change is underway in leading powers as well. If innovation is not given due importance in the public debate and in government plans, Brazil will find it difficult to adopt far-reaching and properly funded cross-sectional policies that can provide high-quality education and foster a digital data infrastructure, networks, and integrated AI systems.

The ethos needed to make PEB 3.0 viable should also include the mind maps we use to observe, judge and act. Several concepts are obsolete and must be updated consistently with life in the twenty-first century. In a world that is no longer Westphalian in the strict sense, international relations unfold at many levels and in different arenas: a structurally heterogeneous, polycentric, largely unpredictable system affected by fissures and asymmetries of every kind, with overlapping spheres of authority that compete with each other and that coexist with complex networks of transnational and subnational, public and private, government and non-government forces. Binary, analogical, and one-dimensional thinking motivated by deep-seated convictions is ineffective in apprehending an intrinsically fluid and multifaceted, often ambiguous, scenario, where uncertainty predominates. If those phenomena are not adequately understood, the ensuing policies will be disastrous in every sense.

Foreign policy discourse and practice must address the digital dimension. If leaders, legislators, and opinion makers do not integrate that dimension into their priorities, they will be unable to garner the funds and the political will necessary to do what needs to be done. During the election campaign this year, few candidates

explicitly mentioned the issue in debates or in their government programs. Deeper public diplomacy will reach more players, enhance civil society's involvement and unclog dialog channels, digital media included.

We live in a time of political divergence and the fragmentation of global governance efforts in various sectors. The construction of negotiation convergence requires the collective action of countries interested, above all, in fostering the use of technology as a tool for development. Active participation in international forums with well-defined purposes demands the inclusion of talking points on the agenda of bilateral meetings, the coordination of common policies at the regional level, taking multilateral normative leadership and engaging in dialog and in negotiations on global digital policy between States, the private sector and civil society (Garcia 2022).

The importance of technological diplomacy is growing. An informal group of diplomats based in San Francisco and the Silicon Valley (Tech Diplomacy Playground) meets monthly to discuss global digital issues, drawing on the experience of various countries represented in the Bay Area. The interest of States in a more direct dialog with major Silicon Valley businesses has increased since Denmark appointed the world's first Tech Ambassador, in 2017. Last September, the European Union opened an office in San Francisco to forge closer ties with those players.

Government will not modernize if good practices are not introduced into its daily activities. Even after the end of the pandemic, digital transformation is seen as something inevitable that should be included in a "hybrid diplomacy" within which physical and virtual interactions coexist, supplement and strengthen each other. Most Foreign Offices are in the process of adapting to new technologies. The next phase will be "digital adoption" (Bjola & Manor 2022[8]), a process far beyond social media. It involves making management efficiency gains akin to those seen in businesses and improving consular services and resources for decision-making, prediction, political analysis, and other typical diplomatic activities.

Potential uses include canvassing media in real-time to detect fake news, combat misinformation, and identify threats for early warning and risk prevention purposes. That said, the success stories from which to draw inspiration remain few. Information digitization for data collection purposes is an indispensable step in that direction. Natural language processing (NLP) models may already be a stepping stone for diplomats, who use written language daily (in telegrams and reports sent to and received from capitals and diplomatic offices overseas). More ambitious applications could include algorithms to predict the behavior of other countries during

8. See also Oxford Digital Diplomacy Research Group: https://www.qeh.ox.ac.uk/content/oxford-digital-diplomacy-research-group.

negotiations and/or to map voting patterns in multilateral organizations.

In this world of instant 24/7 information, big data and intelligent machines, agility is an antidote to obsolescence. The digital literacy of government employees must begin early, from the time they join government service, so that they can acquire the basic toolkit of the language of technologists, developers, computer engineers and scientists. Acquainting diplomats and foreign service staff with new technologies and training them to think innovatively will open a window that may bring fresh air to a rigid bureaucratic culture.

The creation of an in-house knowledge network at the Ministry of Foreign Affairs to monitor information and communication technology issues and associated digital diplomacy topics in September 2021 was a promising initiative. Under the generic designation of "Digital Governance," the network includes more than sixty diplomats at varied hierarchical levels, stationed in Brasília and abroad, with knowledge, interest, or experience in the area. It is a collaborative, flexible and informal platform to exchange ideas and information and is divided into four thematic subgroups: cybersecurity, artificial intelligence, internet, and e-government, the latter including new technological tools and strategic management at the Ministry. The network was designed as a pilot project and may, if successful, inspire similar initiatives to reach critical mass and stimulate participation as a means to gather useful knowledge in support of diplomatic action.

We live in a time of political divergence and the fragmentation of global governance efforts in various sectors. The construction of negotiation convergence requires the collective action of countries interested, above all, in fostering the use of technology as a tool for development. Active participation in international forums with well-defined purposes demands the inclusion of talking points on the agenda of bilateral meetings, the coordination of common policies at the regional level, taking multilateral normative leadership and engaging in dialog and in negotiations on global digital policy between States, the private sector and civil society.

But there is a paradox. As mentioned in this article, diplomatic action reflects the underlying national context and its social and economic substratum but a country's foreign policy goes beyond its circumstances. In international politics, a country's relative position varies as other States give it greater or lesser status and/or influence. The perception of other players is a source of political power and is reflected in the relevant country's diplomatic status. Because political power is composed not only of material elements (such as economic and military might) but also of varying elements that are difficult to measure, a country's international standing can exceed its actual circumstances. Were it not so, diplomacy would be fully governed by geography as posited by supporters of geopolitical determinism, a theoretical approach that is debatable, to say the least. A well-conducted foreign policy can alter perceptions and use favorable situations to optimize positive variables, including assets of intangible value.

All the better if PEB 3.0 lives up to the intangible legacy of Brazil's diplomacy in terms of agglutinative power, credibility as a party open to dialog with any country, and with legitimacy to build consensus around common agendas. Brazil is at the cutting edge in some aspects of consolidated digitization such as voting (electronic ballot boxes), banking, and e-government. A green-digital post-bicentennial effort that integrates technology with sustainable development within a broader process to regain Brazil's leadership in environmental, human rights, and other issues may help put a new shine to our international image.

CONCLUSION: THE CHALLENGE OF THE 2020S

A century after our independence centennial, will the current decade see the dawn of a structural shift similar to the one that made Brazil an industrial nation? Will Brazil develop a true green-digital economy based on emerging technologies and reconciled with the natural environment? Will the governments of post-bicentennial years act so that large-scale public policies reflect those demands and succeed in accelerating the transformations we are now glimpsing?

Tackling the challenges of PEB 3.0 will require the same commitment and determination our diplomacy used in the past to stabilize our territory and settle our border disputes. Structural change will be necessary to review priorities and establish robust and high-quality partnerships. It is not a matter of choosing to be a country "with no surplus of power" or "doomed to greatness." A good foreign policy will be one that knows how to navigate and overcome existing limitations and that maintains a vision that does not surrender to resignation.

By gauging long-term trends with an eye on their social and economic pillars,

Brazil will be able to adjust its foreign policy as necessary not to repeat past mistakes. Brazil should once again use its professional diplomatic service to encourage a more harmonious domestic and international coexistence seeking win-win results whenever possible. That will be Brazil's ticket to reconnect with the world and revamp its foreign policy.

References

Abreu, Marcelo de Paiva (Ed.). 1992. *A ordem do progresso*: *cem anos de política econômica republicana (1889-1989)*. Rio de Janeiro: Campus.

Almeida, Paulo Roberto de. 2001. *Formação da diplomacia econômica no Brasil*: *as relações econômicas internacionais no Império*. São Paulo: Senac/FUNAG.

Almeida, Virgílio & Francisco Gaetani. 2021. "Um futuro verde, digital e... inclusivo?" *Valor Econômico*, November 12, 2021. https://valor.globo.com/opiniao/coluna/um-futuro-verde-digital-e-inclusivo.ghtml.

Bjola, Corneliu & Ilan Manor. 2022. "The Rise of Hybrid Diplomacy: from Digital Adaptation to Digital Adoption". *International Affairs* 98 (2): 471–491. https://doi.org/10.1093/ia/iiac005.

Braudel, Fernand. 1992. "A longa duração". In *Escritos sobre a História*. Lisboa: Perspectiva.

Cano, Wilson. 1977. *Raízes da concentração industrial em São Paulo*. São Paulo: Difel

Dark, K. R. 1998. *The Waves of Time: Long-term Change and International Relations*. London: Continuum.

Dean, Warren. 1971. *A industrialização de São Paulo (1880-1945)*. São Paulo: Difel.

Garcia, Eugênio V. 2018. *Trajetória internacional do Brasil: artigos selecionados*. Brasília: FUNAG. https://funag.gov.br/biblioteca-nova/produto/1-259-trajetoria_internacional_no_brasil_artigos_selecionados.

Garcia, Eugênio V. 2022. "What is Tech Diplomacy? A Very Short Definition". *Medium*, June 9, 2022. https://medium.com/@egarcia.virtual/what-is-tech-diplomacy-a-very-short-definition-9042afdc9ce4.

Garcia, Eugênio V. 2006. *Entre América e Europa*: *a política externa brasileira na década de 1920*. Brasília: Editora da Universidade de Brasília/FUNAG.

Gorichanaz, Tim. 2019. "Basic Concepts from Floridi's Philosophy of Information". *Scratchtap*, June 28, 2022. http://scratchtap.com/basic-concepts-from-floridis-philosophy-of-information/.

Guterres, António. 2018. "Address of the UN Secretary-General to the 73rd General Assembly". United Nations, September 25, 2018. https://www.un.org/sg/en/content/sg/speeches/2018-09-25/address-73rd-general-assembly.

Kaufman, Dora. 2021. "O futuro é verde digital: convergência das agendas climática e IA é estratégica para pensar o futuro". *Época Negócios,* December 10, 2021. https://epocanegocios.globo.com/colunas/IAgora/noticia/2021/12/o-futuro-e-verde-digital-convergencia-das-agendas-climatica-e-ia-e-estrategica-para-pensar-o-futuro.html.

Leonard, Mark. 2021. *The Age of Unpeace: How Connectivity Causes Conflict*. London: Bantam Press.

Magalhães, Francisco de. 1979. *História econômica*. São Paulo: Sugestões Literárias.

Marks, Robert B. 2015. *The Origins of the Modern World*. London: Rowman & Littlefield.

Morceiro, Paulo César. 2018. *A indústria brasileira no limiar do século XXI: uma análise da sua evolução estrutural, comercial e tecnológica*. Doctorate Thesis in Economy. FEA-USP.

Motta, Marly Silva da. 1992. *A nação faz cem anos*: *a questão nacional e o Centenário da Independência*. Rio de Janeiro: Fundação Getúlio Vargas, CPDOC.

Ord, Toby. 2021. *The Precipice: Existential Risk and the Future of Humanity*. London: Bloomsbury.

Rosenberg, Emily S. 1978. "Anglo-American Economic Rivalry in Brazil during World War I". *Diplomatic History* 2 (2): 131-152. https://www.jstor.org/stable/24909890.

Sachs, Jeffrey D. 2020. *The Ages of Globalization: Geography, Technology and Institutions*. New York: Columbia University Press.

Versiani, Flávio Rabelo. 1987. *A década de 20 na industrialização brasileira*. Rio de Janeiro: IPEA, INPES.

Villela, Annibal Villanova & Wilson Suzigan. 1975. *Política do governo e crescimento da economia brasileira, 1889-1945*. Rio de Janeiro: IPEA, INPES.

To cite this work: Garcia, Eugênio V. 2022. "A Green-Digital Post-Bicentennial: Toward a Foreign Policy 3.0 for Brazil." *CEBRI-Journal* Year 1, No. 4 (Oct-Nov): 62-78.

DOI: https://doi.org/10.54827/issn2764-7897.cebri2022.04.03.02.62-78.en

Submitted: May 23, 2022
Accepted for publication: October 6, 2022

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SPECIAL SECTION

A Strategic and Forward-Looking Agenda for Brazil's Sustainable Development[1]

Karin Costa Vazquez

Abstract: This policy paper proposes priorities for the next Brazilian government to accelerate public policies for rebuilding and transforming the country in line with the 2030 Agenda and other international commitments, prepare it to tackle major global transformations, and recover its international protagonism. It also proposes an ecosystem and mechanisms to implement this agenda.

Keywords: sustainable development; Sustainable Development Goals; development financing; public policy; foreign policy.

1. The author thanks Adauto Modesto Jr, Carlos Timo, Edgard Porto, Filipe Porto, Gustavo Rojas, Ivan Oliveira, Jean Taruhn, João Bosco Monte, Lavínia Barros de Castro, Mayra Juruá, and Rafael Paulino for their comments on the preliminary versions of the text. The author also thanks the team of researchers, the Brazilian Development Association (ABDE), and the 50 interviewees from the ABDE 2030 Sustainable Development Plan for the reflections that contributed to this policy paper.

Brazil's diplomacy traditionally sees foreign policy as "State policy" with certain long-term objectives and standards of international action (Lafer 2011, Burges 2016, Saraiva 2020). With economic deregulation and democratization, Brazil's foreign policy was increasingly perceived as a public policy anchored in our diplomatic tradition and shaped by the multiple visions, practices, and interests of institutional and non-State actors (Lima 2000, Milani & Pinheiro 2013, Saraiva 2020). Public debate has since then focused on how those players interact to design and implement Brazil's foreign policy (Milani 2015).

Less attention is given to how public policy and foreign policy combine in a strategic and forward-looking agenda with dual focus on Brazil's sustainable development priorities (Cooper 2019, Faleiro 2022), on the one hand, and the transformations in international relations (Gaetani and Teixeira 2021) on the other hand. This strategic and forward-looking agenda should operate as a two-way street where foreign policy informs and enhances public policy while public policy guides foreign policy and contributes to buttressing Brazil's soft power internationally.

Based on that premise, a strategic and forward-looking agenda must: (i) seek international partnerships and funding to enhance public policies in line with Brazil's international commitments; (ii) anticipate, assimilate, and understand the disruptive potential of global transformations and act to minimize the risks and to maximize the opportunities those transformations bring to Brazil; and (iii) cause Brazil to re-engage and regain its standing in different regions and spaces for political and economic negotiation and cooperation.

This policy paper suggests what issues and actions should be included in a strategic and forward-looking agenda with three main objectives. First, to accelerate public policies to rebuild and transform Brazil. Second, to prepare Brazil to tackle major global transformations. Third, to cause Brazil to re-engage with the world and regain its international standing. This policy paper further proposes mechanisms to institutionalize that strategic and forward-looking agenda and to build an ecosystem that can bring together different players, integrate positions and infuse an enlightened perspective that will help Brazil navigate with confidence and purpose in an increasingly complex world.

Karin Costa Vazquez *is Non-Resident Senior Fellow at the Center for China and Globalization and Professor at O.P. Jindal Global University. She led the UN Office Strategy 2022-2025 for South-South Cooperation and the ABDE 2030 Sustainable Development Plan, and managed the fund of the British government in support of Brazil's transition to low carbon.*

This is a timely discussion on a strategic and forward-looking agenda because a new federal administration will take over in January 2023. In the 2000s, Brazil achieved ahead of schedule several United Nations (UN) Millennium Development Goals (MDGs).[2] This success was possible thanks to society's engagement and public policies that fostered Brazil's development and enhanced its standing in the promotion of international development. Brazil must reposition itself and stimulate sustainable and inclusive development at home and abroad. The actions mentioned in this policy paper stem from our direct observations, studies, dialog, and interactions with experts in Brazil and abroad and are offered for discussion in the following sections.

ACCELERATE PUBLIC POLICIES TO REBUILD AND TRANSFORM BRAZIL

The starting point of a strategic and forward-looking agenda is enhancing public policies in line with Brazil's international commitments. The Sustainable Development Goals (SDGs) have operated as a "compass" (Gaetani & Teixeira 2021) for public policies around the world since UN member countries agreed to the 2030 Agenda for Sustainable Development (UN 2015a). Approved in 2015 with leading Brazilian participation, the 2030 Agenda represents the culmination of a process initiated at the Rio+20 conference in 2012. It establishes 17 Sustainable Development Goals and 169 associated targets covering urgent economic development, environmental protection, and social inclusion issues.

Once a shining example of success in MDG achievement, Brazil is now a laggard. According to research made for the Brazilian Development Association's (ABDE) 2030 Plan, Brazil has regressed in relation to or will not timely meet seven SDGs, is stagnant in relation to eight, and has advanced or already achieved only one. Brazil is performing worst in relation to SDG 1 (poverty eradication), followed by SDG 8 (decent work and economic growth), SDG 10 (reducing inequalities), and SDG 16 (peace, justice, and effective institutions). The worst bottlenecks are in the North and Northeast regions, especially regarding income and unemployment (SDG8) and SDG 9 (industry, innovation and infrastructure) in relation to transportation infrastructure and to the share of technology-intensive industrial sectors (ABDE 2022). Figure 1 shows Brazil's SDG completion progress.

2. Adopted in 2000, the Millennium Development Goals included goals to make the world better and fairer by 2015 http://www.fiocruz.br/omsambiental/media/ODMBrasil.pdf.

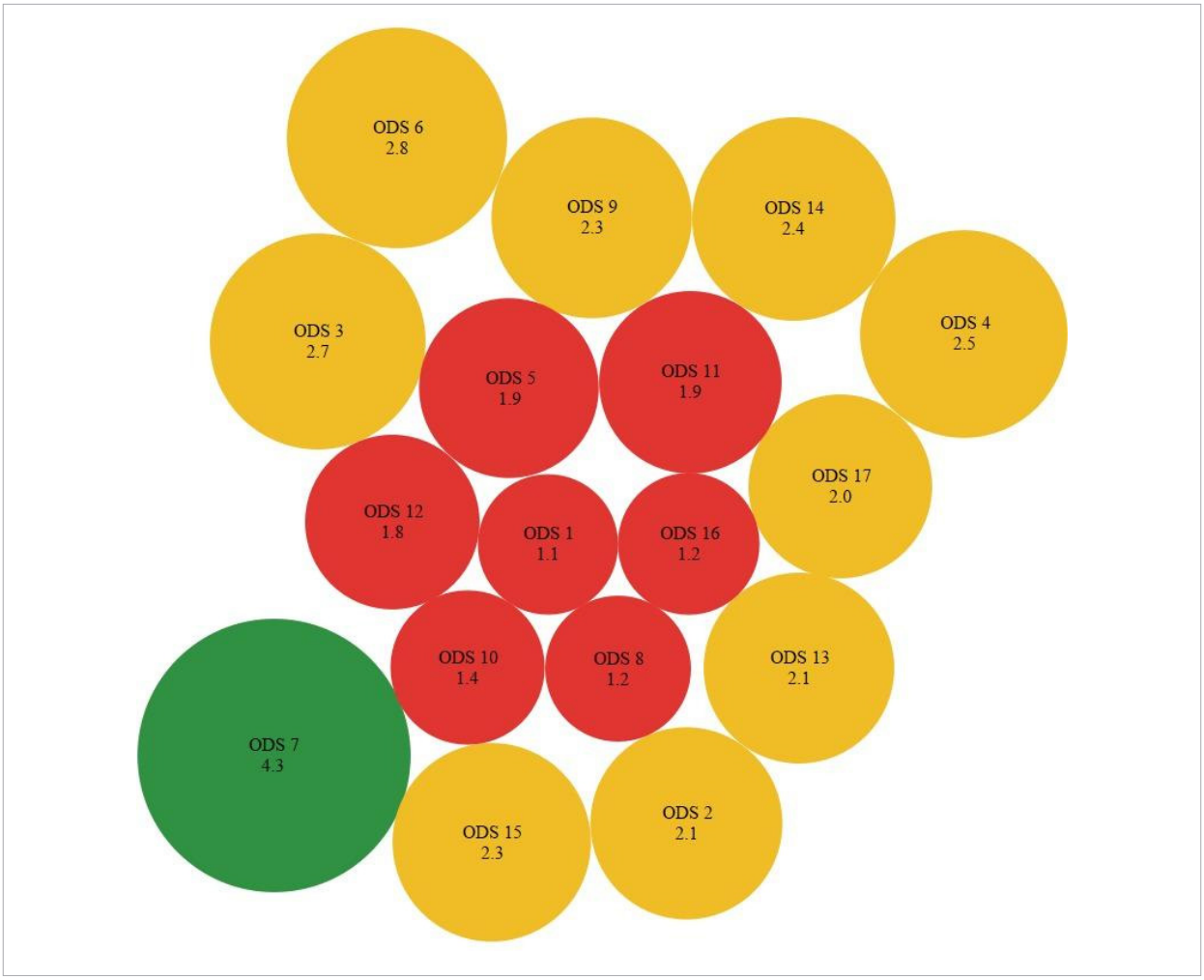

Figure 1 - Brazil's SDG completion progress.* Source: Base study that supported ABDE's 2030 Plan (Vazquez et al. 2022)

* Each SDG target indicator received a zero to five score depending on the progress of its completion. A simple average was then calculated for each SDG. Green circles represent SDGs with average scores greater than 4 (advanced or achieved); yellow circles represent SDGs with average scores between 2 and 4 (stagnated); and red circles represent SDGs with average scores between 0 and 2 (regressed or will not be achieved).

Public policies the world over have been redesigned to achieve SDGs in an effort that is expected to gather speed during this "decade of action."[3] The social and environmental crisis, inflation, restrictions on development funding,[4] and geo-political instability make such an effort more urgent in Brazil. By refocusing its public policies on the SDGs, Brazil will also align with other countries' policies and join the development efforts of international lenders and other multilateral institutions. That rapprochement will favor the construction of partnerships and attracting foreign funding that can enhance sustainable and inclusive development.

3.n September 2019, global leaders gathered in New York created the Decade of Action initiative, a movement that began in the following January of the following year to accelerate the global SDG achievement.

4. The change in strategy of government-owned banks has caused the Brazilian Development Bank (BNDES) loans to other development financial institutions to shrink from R$39.3 billion in 2014 to R$6.5 billion in September 2021. The 2017 review in BNDES interest rates further contributed to diminish the funding available to Brazilian development financial institutions.

Recreate national governance for SDGs

A strategic and forward-looking agenda to accelerate public policies to rebuild and transform Brazil should include 2030 Agenda governance, funding, and tracking tools. The new federal administration should, in its first six months, re-activate national-scale SGD governance by establishing a Policy to Promote the 2030 Agenda for Sustainable Development,[5] by recreating the National SGD Commission (CNODS),[6] and by allocating clearly-defined roles to development financial institutions (ABDE 2022), to public policy designers and to government planning, budgeting, and management entities.

National SDG governance was initiated when the CNODS was organized, in the year following the approval of the 2030 Agenda. That sixteen-strong commission included representatives from municipal, state, and federal governments and from civil society. It received permanent technical support from the Institute for Applied Economic Policy (IPEA) and from the Brazilian Geography and Statistics Institute (IBGE). Its mandate was to promote the 2030 Agenda dissemination, internalization, interiorization and tracking in Brazil. The Small Enterprise Assistance Service (SEBRAE) was the only participant of the National Development System (SNF)[7] that was also a CNODS member.

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This governance was reviewed in 2019, when the CNODS[8] was terminated and the SDGs lost importance on the president's agenda.[9] Since then, the 2030 Agenda has been promoted in Brazil through the efforts of some Federal Government entities and of the governments of São Paulo, Paraná, Paraíba, Piauí, and other states. The Federal Accounting Court (TCU), the Federal Prosecution Office, and the Judiciary have also contributed to promote the 2030 Agenda through their decisions and by aligning their institutional structures and internal planning with that agenda, especially in relation to SDG 16 (peace, justice and strong institu-

5. Bill (PL) 1308/2021.

6. Decree no. 8892 dated October 27, 2016.

7. The commission is composed of thirty-two federal- and state-owned commercial and development banks, development agencies, cooperative banks, the Federal Research Support Agency (FINEP) and the Small Enterprise Assistance Service (SEBRAE). Its mission is to fund strategic industries in furtherance of Brazil's development.

8. Decree no. 9759/2019 dated April 11, 2019.

9. Decree no. 9980 dated August 20, 2019.

tions) and SDG 17 (partnerships and means of implementation). In 2021, the Joint House and Senate Caucus in Support of the SDGs proposed a bill creating the 2030 Agenda Promotion Policy (PL 1308/2021) and the recreation of the government SDG institutional framework. The bill does not address 2030 Agenda funding and pends voting in Brazil's House of Representatives.

Align the 2030 Agenda and SNF investments with the public policy cycle

Second, Brazil should align the 2030 Agenda and SNF investments with the planning, budgeting, and public policy management cycle by including strategies to fund sustainable development in the 2025-2027 Multi-Year Plan (PPA), in the Budget Guidelines Act (LDO) and in the Annual Budget Act (ABDE 2022) during 2023. The Addis Ababa Agenda for Action on Financing for Development (UN 2015b) proposes creating sustainable development strategies that are coherent, consistent with each country's peculiarities, and supported by Integrated National Financing Frameworks (INFF).

Indonesia was the first country to develop an INFF to implement its national development plan and SDG action plan and to track the achievement of its sustainable development commitments. Indonesia's Ministry of Planning SDG Financing Center (BAPPENAS) leads SDG implementation and is tasked with creating, coordinating, and harmonizing policies. The Center also liaises with ministries and other significant players to forge a holistic approach to fund sustainable development, to develop innovative financing products and to mobilize non-government investments. More than seventy countries have or are developing INFFs today (UN n.d.).

Leverage Brazil's participation in regional and multilateral development banks

With regard to funding the 2030 Agenda in Brazil, Brazil should leverage its participation in regional and multilateral development banks, in particular the Inter-American Development Bank (IDB) and the New Development Bank (NDB), whose CEO Brazil appoints, and also in the Development Bank of Latin America (CAF) and in the Asian Infrastructure Investment Bank (AIIB). This can be done by supporting NDB expansion to other Latin American countries; by designing transactions and (co)funding projects to strengthen production chains and regional value chains and to integrate the sustainable infrastructure (Vazquez 2020); and through investments to supplement SNF initiatives, in line with the SDGs and with the actions of their other members in furtherance of the 2030 Agenda. Examples

of said actions include India's International Solar Alliance, the China-led Global Development Initiative and the Belt and Road Initiative, and the Environmentally Sound Technology Platform developed by the Brazil, Russia, India, China, and South Africa (BRICS) group, among others.

In 2022, CAF approved a US$7 billion capital increase aiming at doubling its portfolio by 2030. IPEA estimates the NDB to have US$25-30 billion available for loans in 2020-2025 and US$45-65 billion in the subsequent five years. AIIB may have as much as US$120 billion for loans (Baumann 2017).

Resume publication of the Voluntary National SDG Report

Third, Brazil should resume publication of the Voluntary National SDG Report (ABDE 2022) to track the completion of the 2030 Agenda, measure what still needs to be done, and reaffirm commitment to multilateralism ahead of the UN Summit of the Future[10] in September 2023. Systematic tracking of SDG targets and indicators began in 2016, and countries are required to submit their voluntary national reports at least once within the fifteen-year timespan of the 2030 Agenda. More than 120 countries have submitted their reports reaffirming their commitment to tackling major global challenges. Brazil submitted its first and only report in 2017.

Brazil tracks less than half the internalized 2030 Agenda targets and indicators.[11] Updated statistical databases broken down by region and category of vulnerable social groups are available for less than half of those targets and indicators. In 2017, the TCU ordered that 2030 Agenda indicators be broken down by municipality and gender.[12] The unavailability of common classifications, measurements, and tracking for SDG-oriented NFC funding makes it difficult for Brazil's development financial institutions to compare and exchange information.

Keeping track of progress in relation to the 2030 Agenda will help Brazil design and fund public policies focusing on priority areas and will be a significant show of accountability to Brazilian society. Each point in SDG progress raises the standard of living of Brazil's population, improves economic productivity and efficiency, and protects and stabilizes the environment, all of which Brazil can use to enhance its soft power globally.

10. Proposed by the UN Secretary-General in "Our Common Agenda," the Summit of the Future will aim to reaffirm the UN Charter, reinvigorate multilateralism, boost the implementation of existing commitments, agree on effective solutions to challenges and restore trust among member states.

11. According to SDG data on the IBGE and IPEA websites.

12. Decision 298/2017 (TCU 2017).

PREPARING BRAZIL TO TACKLE MAJOR GLOBAL TRANSFORMATIONS

A strategic and forward-looking agenda must also be attentive to the disruptive potential of major global transformations and promote actions that minimize risks and maximize opportunities for Brazil's sustainable and inclusive development at three levels. The first one encompasses Asia's increased geopolitical importance at the expense of the West, China's and India's augmented economic weight and influence on the ideas and principles that guide international relations, and the potential of markets such as South Korea, Indonesia, Singapore, and Vietnam for Brazil.

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Currently, five of the world's largest economies are in Asia. China, South Korea, India, Indonesia, and Japan represent 32% of the total G-20 trade flows, 39% of Gross Domestic Product (GDP) at purchasing power parity (PPP), 63% of the population and 18% of the world's geographical area. China has already overtaken the United States as the world's largest economy at PPP, and India is expected to take the second slot by 2050, according to PwC and International Monetary Fund (IMF) estimates.

The Ministry of Economy has reported that Brazil-China trade ballooned from US$6.5 billion in 2003 to more than US$120 billion in 2022. By 2021, more than US$47 billion of Brazil's imports came from China and medium- and high-technology goods represented 21.7% of that amount. In that same year, China took 31.3% of Brazil's exports (US$87.9 billion). Commodities such as soybeans, iron ore and oil accounted for 77% of Brazil's sales to China. China's greenfield investments in Brazil are estimated to have created 34,500 local jobs between 2003 and 2020 and are increasingly focusing on digital and green technologies (CEBC 2021).

Trade between Brazil and India grew from US$1 billion to US$4 billion in that same period, despite the fluctuations of 2012-2019 (IPEA 2021). Like its trade

with China, Brazil should seek to diversify its exports to India, now heavily concentrated on low-value-added products such as crude oil, vegetable fats and oils, sugars and molasses, and copper ores, to include more complex goods. Industrialized products such as organic and inorganic compounds, fuel oils, insecticides, medicine, and textile yarns represent almost all India's exports to Brazil. India's investments in Brazil amount to US$8 billion and create 25,000 to 30,000 jobs. Those investments are mainly in information technology, pharmaceuticals, and electronics.[13]

This asymmetry in bilateral trade suggests Brazil should create diversification strategies to simultaneously increase the share of high-complexity and high-value-added goods in its exports and boost its sustainable and inclusive reindustrialization. Brazil can use partnerships with China, India, and other countries to obtain technology, create jobs, reduce emissions, integrate with new global value chains, and implement the 2030 Agenda (Assis 2022, Falsetti & Ungaretti 2022). China and India also defend the democratization of international relations to promote multipolarity, respect for State sovereignty, non-interference in domestic affairs, horizontality, and non-imposition of conditions and to create mutual benefits within a South-South framework.

China and India are MERCOSUR's first and fourth largest trading partners, respectively, and Brazil should push for a closer relationship between MERCOSUR and both countries and with Asian economic blocs. In addition to the two Asian giants, a potential MERCOSUR free trade agreement with Indonesia, Vietnam, South Korea, and Singapore reportedly could add US$1 billion to Brazil's GDP, create fresh investments and trade opportunities, and raise workers' income (SECEX 2021a, 2021b). Megadiverse countries such as Indonesia and Vietnam, now seen by Brazilian agribusiness as the "next China," may represent new export markets for sustainable agricultural products.[14]

The second major global transformation to which Brazil must pay attention is the technological-digital revolution and the advent of a new and more competitive production paradigm. That paradigm stems from industrial nearshoring, reshoring[15] and powershoring[16] and from other structural changes in global value chains that will affect market access, the future of labor, and international competitiveness. This paradigm shift compels Brazil to refocus production systems on inclusive and sustainable development.

13. Information provided by India's Ambassador to Brazil, Suresh Reddy, in November 2022.

14. Interview with Brazil's representative in September 2022.

15. The terms nearshoring and reshoring mean bringing production chains closer to or into the country of origin, respectively. Both have been gaining ever more weight in U.S. and European agendas in connection with the trade war with China.

16. According to Arbache (2022), powershoring refers to the decentralization of production to countries close to consumption centers and that offer clean, safe, cheap and abundant power and other features to attract industrial investments.

Structural change is no longer feasible without neutral, resilient, and digitized industries. At the same time, sustainable economic development will increasingly require innovation and inclusion. Brazil should urgently act to enhance its labor skills, infrastructure, and capabilities for Industry 4.0 and its leadership in digital agriculture in furtherance of its competitive, inclusive, and sustainable development.

The third major global transformation is the energy transition. The carbon-neutrality commitment of the world's major economies will affect trade and investment flows and pressure global energy supply chains to adapt. China was the world's leading importer of crude and refined oil in 2020 with US$166 billion (15.3%) in imports from Russia (15.6%), Saudi Arabia (14.9%), Iraq (10.2%), Angola (7.29%) Brazil (6.84%) and other countries. Crude oil is a significant export to China. Brazil should be aware of the potential economic, environmental, and social effects should Chinese demand for fossil fuels wane and be prepared to reposition itself if that happens (Vazquez 2021).

That movement should also consider the opportunities that will arise in low-carbon industries and Brazil's competitive advantages. McKinsey estimates (Ferreira & Ceotto 2021) that Brazil's demand for voluntary carbon credits could reach US$1.4 billion to US$2.3 billion by 2030. Brazil would then account for 15% of the total potential market for nature-based solutions. Today, Brazil generates less than 1% of that amount. Reforestation, agricultural, and energy waste reduction projects can leverage Brazil's carbon credit generation and boost revenues up to US$15 billion (Reset 2022). The proceeds from carbon credit sales can finance the reforestation of Brazil's degraded pasturelands and contribute to combating hunger and poverty.

Brazil must redesign its public policies and reposition its diplomacy to address the shift in political and economic power from the West to Asia and the global transition to a more digital and low-carbon economy in alignment with Brazil's demands, capabilities, desires, and specific interests.

Attract FDI that can spur technological development and add value to agricultural and industrial production chains

To adequately respond to major global transformations, Brazil will need a strategic and forward-looking agenda that combines foreign direct investment (FDI) with technological development and adds value to agricultural and industrial production chains through international partnerships to develop research, development and innovation hubs (RDI). Major Thai cell phone carrier AIS has signed a cooperation agreement with China's ZTE to create a research and development hub

for 5G technology in Bangkok. The two companies plan to jointly offer tablets, smartphones, business solutions, and build digital infrastructure for 5G technology in Thailand.

Brazil should further integrate RDI and FDI through cooperation and investment agreements including the transfer and joint development of technology to accelerate Brazil's technological catch-up and to foster investment in industries that can spur income growth, greater economic complexity and SDG completion[17] (Vazquez et al. 2022, Perrone 2022).

Boost MERCOSUR trade with India and Southeast Asia

Brazil should expand the list of products and the mutual preferences included in current MERCOSUR negotiations with India, Indonesia and Vietnam and push the bloc toward closer ties with the Association of Southeast Asian Nations (ASEAN). Brazil should also work on a package of trade facilitation agreements involving various industries and reflecting some of the innovative efforts Brazil and India have been promoting at the World Trade Organization (WTO). Those agreements could include specific chapters on non-tariff measures, local currency payment systems and technical cooperation in agriculture to support the sustained expansion of trade flows with India and the 2030 Agenda.

Support international alliances for renewable energies

Another proposed action is enacting the bill authorizing Brazil to join the International Solar Alliance. India and France proposed that initiative to the United Nations Conference on Climate Change (COP-21) in December 2015 to address common challenges to spreading solar energy. The agreement entered into force in 2017 and encompasses 102 signatory countries and 81 members. The Framework Agreement on the Establishment of the International Solar Alliance (PDL 271/2021) was approved by Brazil's Senate in October 2022. Joining the International Solar Alliance may accelerate the spread of solar energy in Brazil,[18] attract fresh investment in renewable energy and encourage Brazil's participation in negotiations for other alliances such as the global biofuels alliance, to be proposed during the Indian presidency of the G20 in 2023.

17. The base study for ABDE's 2030 Plan for Sustainable Development (Vazquez et al. 2022) identified the industries with the greatest potential for economic (gain in complexity) and social (gain in SDGs) transformation in each macro-region.

18. Solar power is estimated to grow by 7%-10% p.a. in Brazil after the change in the incentive policy. Interviews with representatives of a Brazilian development bank between August and September 2022.

Create funding facilities to boost Brazil's and Latin America's decarbonization

It is just as important to forge closer ties between Brazilian development financial institutions and their Chinese and third-country counterparts in support of initiatives such as the Kunming Fund for biodiversity and of new streamlined funding facilities to advance Brazil's decarbonization, in parallel to initiatives such as the Climate Fund and Renova Bio.[19]

Brazil should also work to expand its and Latin America's access to the China-Latin America Cooperation Fund, to the China-Latin America and Caribbean Investment Fund for Industrial Cooperation and to the China-Latin America Special Infrastructure Fund in furtherance of global energy transition and of completion of the 2030 Agenda. China's development investment funds are estimated to have received US$155 billion in fresh capital from 2007 to 2019. Taking into account funds earmarked for Brazil and Mexico, Latin America and the Caribbean have the highest potential portion of that capital, totaling US$42.2 billion (Moses et al. 2022).

Position Brazil as a global leader in carbon credit generation

Brazil should use its competitive advantages as a springboard to attract foreign technology for investment in carbon sequestration projects, perhaps involving other Amazonian countries, that can contribute to making Brazil a global leader in carbon credit generation. Brazil should also join other countries in developing green taxonomies, such as the Common Ground Taxonomy - Climate Change Mitigation joint initiative of the People's Bank of China (PBoC) and the European Commission. Initiatives that improve comparability and interoperability with carbon credit markets in China,[20] Europe, and the United States are key to making carbon credits generated in Brazil fungible and sustaining cross-border capital flows.

Brazil should simultaneously advance South-South cooperation with Indonesia and the Democratic Republic of Congo announced in COP 27 and include other countries with large tropical forest areas. Such efforts will help the countries most affected by climate change obtain better funding conditions for actions to preserve biodiversity and generate carbon credits.

19. The usual requirements of traditional development financial institutions on the one hand encourage the internalization of the 2030 Agenda by Brazil's development financial institutions but, on the other hand, hamper access to funding by smaller institutions. The latter operate locally and have limited SGD-related capabilities and knowledge. Interviews with representatives of SNF institutions between January and October 2022.

20. China considers using Internationally Transferred Mitigation Options (ITMOs) under Paris Agreement Article 6 generated in Belt and Road Initiative countries for offset purposes within its national Carbon Emissions Trading Scheme (ETS) given the shortfall of Chinese Certified Emission Reduction (CCER). That may create a significant demand for ITMOs.

RE-ENGAGE BRAZIL WITH THE WORLD AND REGAIN INTERNATIONAL STANDING

Finally, a strategic and forward-looking agenda must aim at re-engaging Brazil with the world and regaining international standing in a pragmatic and non-exclusive way. That means building on the best partnerships for the defense of national interests and of multilateralism, on the one hand, and cooperation to address transnational challenges and the provision of global public goods, on the other hand. The creation of a politically stable, prosperous and united South American environment, which cannot be achieved without Brazil's re-engagement, will contribute to Brazil's development and will strengthen Brazil's and South America's standing vis-à-vis major world powers. In order to promote a win-win relationship, Brazil must re-engage with regional forums for political negotiation and buttress its economic and trade ties with its neighbors.

Renewable and transition energy can be a stepping stone for improved economic and trade ties between Brazil and other South American countries. Because it requires sharing physical facilities, natural gas may be a catalyst for South American integration. It will also extend development to lagging sectors in the region (IPEA 2016). With the exception of the Brazil-Bolivia, Argentina-Bolivia, and Argentina-Chile gas pipelines, political decisions have hindered the strategic plans agreed to such as the construction of the Great Southern Gas Pipeline, connecting Venezuela with MERCOSUR gas pipelines via Brazil. An alignment between progressive and moderately conservative South American governments will facilitate regional integration.

Brazil can use sustainable infrastructure as a driver for its rapprochement with Africa. As a result of its decade-long economic decoupling in the South Atlantic, Brazil exported a mere US$7.5 billion to Africa in 2019, mostly in primary products. Brazil has also relinquished its strategic role in the Gulf of Guinea and its significant economic influence derived from major investment and infrastructure projects in Angola, Namibia, and Mozambique. Bilateral trade with East Africa shriveled from US$362 million in 2011 to just US$80 million in 2019 (Instituto Brasil-África 2021). This scenario got worse after the pandemic.

Brazilian and African value chains can be expanded, improved, and integrated within the framework of the African Continental Free Trade Agreement (AfCFTA), a market estimated at US$2.5 billion and encompassing more than 1.2 billion people in fifty-five countries. The agreement is expected to increase African consumption to US$6.7 billion by 2030, provide access to cheaper inputs and services and help modernize agribusiness and industry. This will boost demand for higher val-

ue-added products in which Brazil has a competitive edge, such as machinery and components for agribusiness. The experience of projects such as ProSavana suggest combining investments with mechanisms that can prevent, mitigate or offset social and environmental impacts and contribute to food security and poverty reduction in Africa.

Brazilian exporters can also indirectly use the ports, roads, and economic corridors built under the Belt and Road Initiative to move their products to Indian Ocean Rim countries[21], where Brazilian presence remains small. Road Belt Initiative infrastructure projects in Kenya, Tanzania, and Mozambique, such as the Nairobi-Mombasa Railway may boost East Africa's annual exports by US$192 million (Instituto Brasil-África 2021). To benefit from those projects, Brazil should promote trade and investment facilitation agreements in line with the 2030 Agenda and strengthen political ties with African countries.

Dialog with the United States and Europe can be fruitful given their growing interest in issues dear to Brazil such as climate change, democracy and economic development. Issues such as the environment can be used as springboards to build a non-exclusive relationship with China and other emerging economies. On the verge of becoming the only economy in the G-20, in the BRICS group, and in the Organisation for Economic Co-operation and Development (OECD), Brazil is poised to assume a strategic role in the construction of global dialog. Brazil can use the India, Brazil, South Africa Dialogue Forum (IBSA) as a driver to implement that strategy taking advantage of India's presidency of the G20 in 2023, of Brazil's presidency of the BRICS and G20 groups in 2024 and of South Africa's presidency of the G20 in 2025 (Malhotra 2022).

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21. South Africa, Australia, Bangladesh, Comoros, United Arab Emirates, Yemen, India, Indonesia, Iran, Kenya, Malaysia, Madagascar, Mauritius, Mozambique, Oman, Seychelles, Singapore, Sri Lanka, Tanzania, and Thailand.

Stronger dialog with South America

To re-engage with the world and to regain its international standing, Brazil must strengthen its dialog with other Latin American countries by rejoining the Community of Latin American and Caribbean States (CELAC) and the Union of South American Nations (UNASUR). Brazil should also act to bring CELAC closer to other regions such as India, Africa (via AfCFTA), the Persian Gulf Cooperation Council (CCGP), and the Association of Southeast Asian Nations (ASEAN) through the creation of specific dialog mechanisms. Brazil's return to CELAC and UNASUR and CELAC's closer ties with other regions can help Brazil and Latin America better position themselves in relation to the dispute between the United States and China.

Integrate Latin America's major producers of lithium and natural gas

Another attractive strategy is to help Latin America's major lithium and natural gas producers position themselves in relation to growing demand from China, South Korea, the United States, Japan, and other countries. The global demand for lithium in electric vehicles has increased exponentially in recent years. Argentina (18 million tonnes in reserves) has started production, albeit at a small scale. Chile boasts the third largest reserves (10 million tonnes), accounting for 26% of global supply.

The starting point for integration could be the ratification of Bolivia's Protocol of Accession to MERCOSUR (PDC 745/2017), Bolivia joining the MERCOSUR Structural Convergence Fund (FOCEM), and the creation within the organization of social and environmental standards for lithium mining, production, and trade. Brazil should also consider resuming negotiations to join the South American Energy Treaty, which will help improve the efficiency of power generation and consumption regionwide.

Reinvigorate Brazil's economic and political partnership with Africa

Another strategy to pursue is to reinvigorate Brazil's economic and political partnership with Africa through ratifying the São Paulo Round Protocol on the relaunch of the Global System of Trade Preferences (GSTP) among developing countries. The São Paulo Round Protocol will enter into force once at least four of its eight signatories have ratified it. To date, the Protocol has been ratified by India (2010), Malaysia (2011), and Cuba (2013). Two of the four MERCOSUR members, Argentina and Uruguay, have ratified. Brazil and Paraguay must do the same for the MERCOSUR ratification to be completed.

It is equally important to agree on cooperation and funding for sustainable infrastructure and biofuel production projects and for developing strategic industries in both regions. Brazil should also support the creation of an alliance of biofuel-producing countries during the Indian presidency of the G20 in 2023 and launch the G20+Africa Forum for cooperation and sustainable development during the Brazilian presidency of the G20 in 2024.

Build dialog and add vim to the global debate on sustainable development

Finally, Brazil can turn the pandemic and the war in Ukraine into an opportunity to build a dialog between major powers, emerging economies, and developing countries to find joint solutions to global challenges such as a fair energy transition, the eradication of poverty and food insecurity, the implementation of equitable health systems, peace and security, and digital governance. Brazil can also act to refocus the international financial system toward initiatives that accelerate SDG completion, promote climate action in the countries most affected and least responsible for global warming, and advocate debt restructuring for lower-income countries.

Reinvigorating IBSA as a space for political coordination between the Indian, South African, and Brazilian G20 presidencies and the South African and Brazilian BRICS presidencies may be the driver for this effort in the next three years. IBSA should update its original 2003 targets and agenda to align them to certain G20 and BRICS priorities and to offer a positive Global South agenda for international development. Brazil should immediately review its position on India and South Africa's proposal for the WTO to suspend patents for COVID vaccines. Such a move could spur similar BRICS initiatives through the Vaccine Research and Development Center created in 2022.

Brazil could suggest to China the

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creation of an Alliance for the Eradication of Hunger and Poverty in the upcoming China-CELAC Forum meeting, drawing on both countries' experience in combating hunger and extreme poverty, on the importance of Latin America's agricultural prowess to China's food security and on the significance of the issue in one of the world's most unequal regions. The recently activated Africa-China Alliance for Poverty Alleviation will operate as a platform to share experiences and mobilize resources in support of poverty reduction and agricultural development in Africa.

INSTITUTIONALIZATION OF A STRATEGIC AND FORWARD-LOOKING AGENDA

The proposals mentioned above should be jointly implemented by municipal, state and federal governments and by civil society. The first step will be to create an SDG Department associated with the Office of the President to support CNODS and its working groups, track Brazil's SDG completion, prepare evaluation reports – in line with international trends and discussions on the post-2030 agenda, and in assistance of working groups – and coordinate the publication of the Voluntary National SDG Report.

The SDG Department could also conduct a national dialog with UN agencies in Brazil and, within the federal government, with the Economic and Social Development Council (CNDES), the Ministry of Foreign Affairs (MRE), and the Ministry of Environment. IPEA and IBGE could provide technical advice on the production of evaluation reports and the Voluntary National SDG Report. The National School of Public Administration (ENAP) could arrange SDG training for government managers and leaders while the ministries of Finance and Planning and the Federal Court of Auditors align the 2030 Agenda and SNF investments with the planning, budgeting, and management cycle.

The Special Department for Strategic Affairs of the Office of the President, the ministries of Finance, Planning and Foreign Affairs, and IPEA could develop studies and organize work groups to anticipate, assimilate and understand the disruptive potential of major global transformations; inform public policies; to guide and prepare meetings of the G20 and BRICS groups and other major conferences that Brazil will host; and spark projects and actions of structural significance for Brazil's position in relation to major global transformations.

Said entities could also organize the creation of a "forward-looking ecosystem" connecting scholars and diplomats with policymakers to find opportunities for collaboration, bring fresh perspectives, confirm or find new priority areas, and advance projects of common interest to Brazil and its international partners. That

ecosystem could draw on the experience of the Ministry of Agriculture to include a network of special advisors on China coordinated by a core group nested within the Office of the Vice President.

A final recommendation is that the Brazilian Cooperation Agency (ABC/MRE), BNDES, and the ministries of Finance and Planning should engage in a coordinated action to explicitly align international development cooperation with funding for strategic initiatives in sectors that are key for Brazil and its international partners.

References

ABDE. 2022. *Plano ABDE 2030 de Desenvolvimento Sustentável*. Brasília: Associação Brasileira de Desenvolvimento, 2022. https://abde.org.br/plano-abde-2030-apresenta-acoes-estrategicas-para-que-o-brasil-possa-atingir-os-ods/.

Arbache, J. 2022. "Powershoring". *CAF*, November 14, 2022. https://www.caf.com/en/knowledge/views/2022/11/powershoring/.

Assis, M. 2022. "Lula e Bolsonaro alimentam expectativas sobre China e acordo UE-Mercosul". *Jornal Valor Econômico*, April 4, 2022. https://valor.globo.com/mundo/noticia/2022/09/04/lula-e-bolsonaro-alimentam-expectativas-sobre-china-e-acordo-ue-mercosul.ghtml.

Baumann, Renato. 2017. "Os novos bancos de desenvolvimento: independência conflitiva ou parcerias estratégicas?" *Revista de Economia Política* 37 (2): 287-303. https://doi.org/10.1590/0101-31572017v37n02a02.

Burges, Sean. W. 2016. *Brazil in the world: the international relations of a South American giant*. Manchester: Manchester University Press.

CEBC. 2021. *Sustentabilidade e tecnologia como bases para a cooperação Brasil-China*. Rio de Janeiro: Conselho Empresarial Brasil-China. https://www.cebc.org.br/wp-content/uploads/2021/12/Sustentabilidade-e-Tecnologia_PT_21out.pdf.

Cooper, A. 2019. "Populism and the Domestic Challenge to Diplomacy". In *New Realities in Foreign Affairs - Diplomacy in the 21st Century*, edited by Volker Stanzel, 33-38. http://dx.doi.org/10.5771/9783845299501-33.

Faleiro, A. 2022. "Política externa não existe no vácuo". *República.org*, April 20, 2022. https://republica.org/emnotas/conteudo/politica-externa-nao-existe-no-vacuo/.

Falsetti, F. & Ungaretti, R. 2022. "A desindustrialização brasileira e o papel da China". *Observa China,* October 24, 2022. https://www.observachina.org/articles/a-desindustrializacao-brasileira-e-o-papel-da-china.

Ferreira, Nelson & Henrique Ceotto. 2021. "Posicionando o Brasil como líder global no mercado de créditos de carbono por meio de reflorestamento e proteção de florestas". *McKinsey & Company*, November 8, 2021. https://www.mckinsey.com.br/our-insights/posicionando-o-brasil-como-lider-global-no-mercado-de-creditos-de-carbono-por-meio-de-reflorestamento-e-protecao-de-florestas.

Gaetani, Francisco & Izabella Teixeira. 2021. *The times they are a-changing: perspectives of the Brazilian sustainable development agenda*. Policy Paper 4/5, CEBRI/KAS. https://www.cebri.org/media/documentos/arquivos/Papers_KAS2020_4_5_EN_times.pdf.

Instituto Brasil-África. 2021. *Commercial Diplomacy: The Brazilian Path to the African Market*. Instituto Brasil-África. https://ibraf.org/wp-content/uploads/2021/08/Policy-Brief-EG.pdf.

IPEA. 2016. *América do Sul revela potencial de complementaridade produtiva*. Brasília: Instituto de Pesquisa Econômica Aplicada. https://www.ipea.gov.br/portal/index.php?option=com_content&view=article&id=2952&Itemid=2.

IPEA. 2021 *Brazil and India: Peculiar Relations with Big Potential*. Brasília: Instituto de Pesquisa Econômica Aplicada. https://repositorio.ipea.gov.br/bitstream/11058/10901/2/DP_Brazil%20and%20India_Publicacao_Preliminar.pdf.

Lafer, Celso. 2001. *A identidade internacional do Brasil e a política externa brasileira: passado, presente e futuro*. São Paulo: Perspectivas.

Lima, Maria Regina Soares de. 2000. "Instituições democráticas e política exterior". *Contexto Internacional* 22 (2): 265-303.

Malhotra, K. 2022. "IBSA, G20 and the Global South". *Gateway House*, October 20, 2022. https://www.gatewayhouse.in/ibsa-g20-global-south/?utm_content=226845356&utm_medium=social&utm_source=twitter&hss_channel=tw-905477617775771654.

Milani, C. R. S. 2015. "Política externa é política pública?" *Insight Inteligência* XVIII (69): 57-74. https://inteligencia.insightnet.com.br/politica-externa-e-politica-publica/.

Milani, C. R. S. & Leticia Pinheiro. 2013. "Política externa brasileira: os desafios de sua caracterização como política pública". *Contexto Internacional* 35 (1): 11-41. https://doi.org/10.1590/S0102-85292013000100001.

Moses, O. et al. 2022. *China's Paid-In Capital Identifying and Analyzing China's Overseas Development Investment Funds*. GCI Working Paper 025, 11/2022. Boston University Center for Global Development Policy. https://www.bu.edu/gdp/files/2022/11/GCI_WP_025_ODIF_FIN.pdf.

Perrone, Nicolás M. 2022. Technology Transfer and Climate Change: A developing country perspective. *Climate Policy Brief* 28 (November 14, 2022). https://www.southcentre.int/wp-content/uploads/2022/11/CPB28_Technology-Transfer-and-Climate-Change_EN.pdf.

SECEX. 2021a. *Estudo de impacto Acordo de Livre Comércio Mercosul-Indonésia*. Brasília: Secretaria de Comércio Exterior. https://www.gov.br/produtividade-e-comercio-exterior/pt-br/assuntos/comercio-exterior/publicacoes-secex/serie-acordos-comerciais/arquivos/indonesia-estudo-de-impacto.pdf.

SECEX. 2021b. *Estudo de impacto Acordo de Livre Comércio Mercosul-Vietnã*. Brasília: Secretaria de Comércio Exterior. https://www.gov.br/produtividade-e-comercio-exterior/pt-br/assuntos/comercio-exterior/publicacoes-secex/serie-acordos-comerciais/arquivos/vietna-estudo-de-impacto.pdf.

UN. 2015a. *Transformando nosso mundo: A Agenda 2030 da Terceira Conferência Internacional para o Desenvolvimento Sustentável*. New York: Organização das Nações Unidas. https://brasil.un.org/sites/default/files/2020-09/agenda2030-pt-br.pdf.

UN. 2015b. *Addis Ababa Action Agenda of the Third International Conference on Financing for Development (Addis Ababa Action Agenda)*. United Nations. https://www.un.org/esa/ffd/wp-content/uploads/2015/08/AAAA_Outcome.pdf

UN. no date. "Integrated National Financing Frameworks". Department of Economic and Social Affairs, Financing. https://www.un.org/development/desa/financing/what-we-do/other/integrated-national-financing-frameworks#:~:text=Integrated%20national%20financing%20frameworks%20.

Vazquez, K. C. 2020. "Impacto no desenvolvimento, parceria público-privada e integração regional: caminhos possíveis para o Novo Banco de Desenvolvimento do BRICS". *Revista Tempo do Mundo* 22: 175-187. https://doi.org/10.38116/rtm22art8.

Vazquez, K. C. 2021. "Up or Out: How China's Decarbonization Will Redefine Trade, Investments, and External Relations". In *Drivers of Global Change: Responding to East Asian Economic and Institutional Innovation*, edited by Giuseppe

Gabusi. Asia Prospects Report, Turin University World Affairs Institute. https://www.twai.it/articles/china-decarbonization-trade-investments-external-relations/.

Vazquez, K. C. et al. 2022. "Cinco missões para o desenvolvimento transformador do Brasil: metodologia e resultados do estudo-base do Plano ABDE 2030 de Desenvolvimento Sustentável". *Revista Tempo do Mundo*. No prelo.

Viri, N. 2022. "Mercado de carbono pode financiar reflorestamento amplo no Brasil, diz McKinsey". *Reset*, November 4, 2022. https://www.capitalreset.com/mercado-de-carbono-pode-financiar-reflorestamento-amplo-no-brasil-diz-mckinsey/

To cite this work: Vazquez, Karin Costa. 2022. "A Strategic and Forward-Looking Agenda for Brazil's Sustainable Development ." *CEBRI-Journal* Year 1, No. 4 (Oct-Nov): 79-98.

DOI: https://doi.org/10.54827/issn2764-7897.cebri2022.04.03.03.79-98.en

Submitted: November 4, 2022
Accepted for publication: November 16, 2022

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SPECIAL SECTION

Sustainability Transition Challenges in the Brazilian Energy Sector

Matilde de Souza
Leandro Gomes Ferreira

Abstract: This paper mobilizes a Multi-Level Perspective (MLP) approach highlighting the political and social aspects of the transition process to discuss what factor explains Brazil's apparent slowness in the energy transition process in the face of climate change challenges. The research concluded that Brazil already has a clean energy matrix compared to other countries, but it is poor in its share of wind and solar energy; the country remains dependent on hydro as the main renewable; and engages in a substitution process of hydro with natural gas, which pollutes less but still emits greenhouse gases (GHG).

Keywords: energy transition; multilevel perspective; climate change; Brazil.

Sustainability transition is a long and complex process involving multiple elements, actors, uncertainties and constant disagreement (Kern & Markard 2016, Labussière & Nadai 2018). Regarding the energy transition, we refer to the sector responsible for 60% of GHG emissions in the world, the most critical political issue linking climate change and development in the 21st century (International Energy Agency – IEA 2022). This entails a destabilization of the actual energy paradigm and the development and diffusion of renewable energy innovations. As Halsnaes et al. (2011) discussed, development is always associated with decreasing energy intensity and increasing energy efficiency[1] in long-term use.

Notwithstanding, in the short-term, a rise in fossil fuel usage might happen because of the energy sector adaptation, and maybe more emissions, until the maturation of renewable energy technologies (RE). Technological advances enable new renewable energy systems, which are essential to reorder this discussion due to the enormous reduction of waste, space, and emissions (Peters et al. 2011). Furthermore, technological changes impact institutional structures and existing organizations, including significant changes in business models, value chains, ownership structures, and consumer behavior, among others. These far-reaching change processes are called socio-technical transitions (Kern & Markard 2016).

The share of renewables has risen in the last years around the world (IEA 2022), which suggests a shorter road toward net-zero emission (Scholten et al. 2020). However, developed and developing countries face different challenges. While GHG emissions are externalities of anthropic actions mainly provoked by rich countries in the development process, energy transition requires national actions to fight global climate change. This reminds us of the Common But Differentiated Responsibilities Principle (CBDRP). Most of the developed countries have experienced an increase in the share of renewables in their energy mix because they have financed innovations for these technologies, and mitigation policies at high stakes. But developing countries, especially in South America, are far from the innovation frontier and have difficulty developing and diffusing modern renew-

1. There has been a long discussion to differentiate energy intensity and energy efficiency. We follow the distinction of IEA, in which: a) energy intensity is a top-down approach or aggregated use of energy in economy (generation/PIB, for example); and b) energy efficiency is a bottom-up approach applied to the individual activities or sectors that require energy to work (transport, households, building, industry etc) (IEA 2022). .

Matilde de Souza *is a Professor of International Relations at Pontifical Catholic University of Minas Gerais (PUC-MG).*

Leandro Gomes Ferreira *is a Researcher of International Relations at Pontifical Catholic University of Minas Gerais (PUC-MG).*

able energy technologies despite their clean and mostly renewable energy mix. In this way, renewable energies seem to be an alternative "answer to all problems" but may be accessible only to developed countries.

Considering that Brazil already has some institutional structures to drive the energy transition, this paper poses the following question: what explains the Brazilian apparent slowness in the creation of a socio-technical assemblage of energy transition regarding the challenges related to the impacts of climate change?

Considering that Brazil already has some institutional structures to drive the energy transition, this paper poses the following question: what explains the Brazilian apparent slowness in the creation of a socio-technical assemblage of energy transition regarding the challenges related to the impacts of climate change? Delgado and Nogueira (2020) state that the energy transition agenda is nothing new in Brazil due to the availability of renewable resources, mainly hydro, and that the country has been using biofuels since 1931. However, strong dependence on hydropower and oil for energy generation may not be the best alternative. New renewable sources with greater energy matrix diversification are a more current response to the challenges in ensuring energy security and promoting transition.

We work with these assumptions:

1. There is no clear goal or role for renewable energies within the policies;
2. The country already has a relatively clean energy matrix compared to most countries, discouraging more significant efforts toward a complete energy transition;
3. The extension of the territory makes it difficult to extend transmission lines, mainly to the Amazon Rainforest region.

We have adopted the Multilevel Perspective as a relational approach theory to recreate the socio-technical assemblage of energy transition (STA) (Labussière & Nadai 2018), with a qualitative approach, documental analysis and basic descriptive energy statistics from reliable databases.

Given the purposes of the article, it is organized into four sections, in addition to this introduction. The first section brings some theoretical elements that support the

analysis of energy transition; the second section presents an overview of the energy transition in South America; the third presents the case of Brazil, considering its current status of energy transition and its challenges; we finish with our conclusions.

SUSTAINABILITY TRANSITION AND ENERGY TRANSITION

Energy Transition is an analytical category from a large field named Sustainability Transition Studies (STS) (Markard 2012). Derived from many other disciplines such as Engineering, Social Sciences, Business, Economics, Innovation Studies and Political Science, STS are considered a prominent field that requires multidisciplinary contributions. The field International Relations has not paid much attention to this analytical category (or even to energy as a macro category), which means that there are few contributions from internationalists' perspectives crossing power dynamics, international cooperation, or foreign policy.

In practice, energy transitions are described as a process to destabilize the actual energy paradigm toward a green economy with the implementation of modern renewable energy technologies (Criekemans 2018, Scholten et al. 2020, O'Sullivan et al. 2017). Transitions are driven by different origins. One can state that the main origin is related to the trade-off between climate change and energy security. On the one hand, energy security requires limitless accessibility to energy to reach a country's demand, and fossil fuel technologies are well established, matured, reliable, and can be a supply. On the other hand, climate change mitigation policies require an increase in the share of renewable energies in the energy mix, reaching a net-zero emission situation shortly. In any case, dealing with the trade-off must be done openly in front of society so the transitions can be achieved.

In recent years, energy actors have presented policies, practices and technologies that perhaps will overcome the trade-off. National actions are quite important because they tackle the problem as it appears. But, without international cooperation, countries may face difficulties in fighting climate change (Criekemans 2018, Scholten et al. 2020).

Transitions are considered a multi-actor arena where some actors win and others lose. In a governance approach of transition, governments, firms, high-education institutions, society, and media play different roles. Sometimes they are synergetic when one's failure is compensated by another's success. Sometimes they are antagonistic when actors seek different results from the transition, limiting or delaying the process. Sometimes they are neutral. These different dynamics of action cast light on the presence of an innovation perspective. Actors involved in the destabilization must innovate and produce different technologies as products or

processes that reflect the actual political missions (Avelino 2017, Mazzucato 2015).

This process must happen on both the national and international levels. Inefficient and emission-intense technologies must leave the energy market, and renewable technologies must disrupt the sector and destabilize the traditional market. In other words, it is a creative destruction process. At the international level, countries pursue the knowledge and development of these renewable technologies. They seek better trade agreements, a better position in knowledge accumulation, and, of course, a good "green" reputation. Countries that are investing in renewable energies will have a distinguished position in future international relations (Avelino & Wittmayer 2016).

Sustainability is not endogenously renewable. The qualitative (shared political and social impacts and benefits) or quantitative (installed capacity, productivity efficiency, energy balance, costs and prices) aspects of a transition are the factors that make this transition renewable and sustainable – destabilizing the core of the problem – or just sustainable – presenting adjustments but preserving the core of the problem. They are based on political effort and technological infrastructure. This means that energy plans and policies should offer goals and methodologies for technological project development (Labussière & Nadai 2018).

The socio-technical assemblage (STA) is an interesting approach that seems to grasp this long, intertwined and relational process. There are many elements to be identified, and their relation to the transitional energy potential analyzed. Our inquiry into energy transition with the STA starts by identifying the socio-technical object, the technology under scrutiny. It can be one (solar or on/offshore wind power, for example), or those taken by association (renewable energies, smart grids, or transitions, for example).

It is important to be aware of oriented connections, which are some aspects that, intentionally or not, bond entities in transition and the technology itself (Labussière and Nadai 2018). We aim to identify two central relations: specification and amplification. Specifications are confrontations around singular materialities and the requalification of entities that endow them with new capacities for action. Amplifications are processes in which a critical viewpoint is derived about how energy transition processes trigger or address interferences: "Each is seen as complementary: specification paves the way for redefinitions and co-articulations, which both allow for enlarged compatibilities between individual experiences and collective ventures (amplification)" (Labussière & Nadai 2018, 31).

Technology is responsible for guiding the presence or absence of political entities and actors, the resources mobilized, the space where the transition happens,

and the timeframe in terms of plans and projects. In turn, it is appropriate to identify the social relevance of this technology; namely, following the social development of technology over time, such as the political, material, and social challenges, roadmaps, and plans, institutional building, social movements, mass media communication, and market structures (Labussière & Nadai 2018 24).

The analysis of the assemblage can be done by varying between observing the hermetic development of a single technology in a niche, or correlating the development with the international context concerning three levels:

- Local: potential transitional process within the country such as suitable energy communities;
- National: potential transitional process as a governmental matter such as climate-energy policies;
- Transnational: potential transitional process regarding international politics such as international trade and political arrangements and commitments.

STA can be observed from a multilevel perspective because of the transnational development of technologies in the 21st century. In this cycle, the STA determines what we must search to understand the development of the technology. Depending on the level of analysis, the multi-actor arena provokes different interactions in the energy transition. Figure 1 shows a synthesis of this relational process.

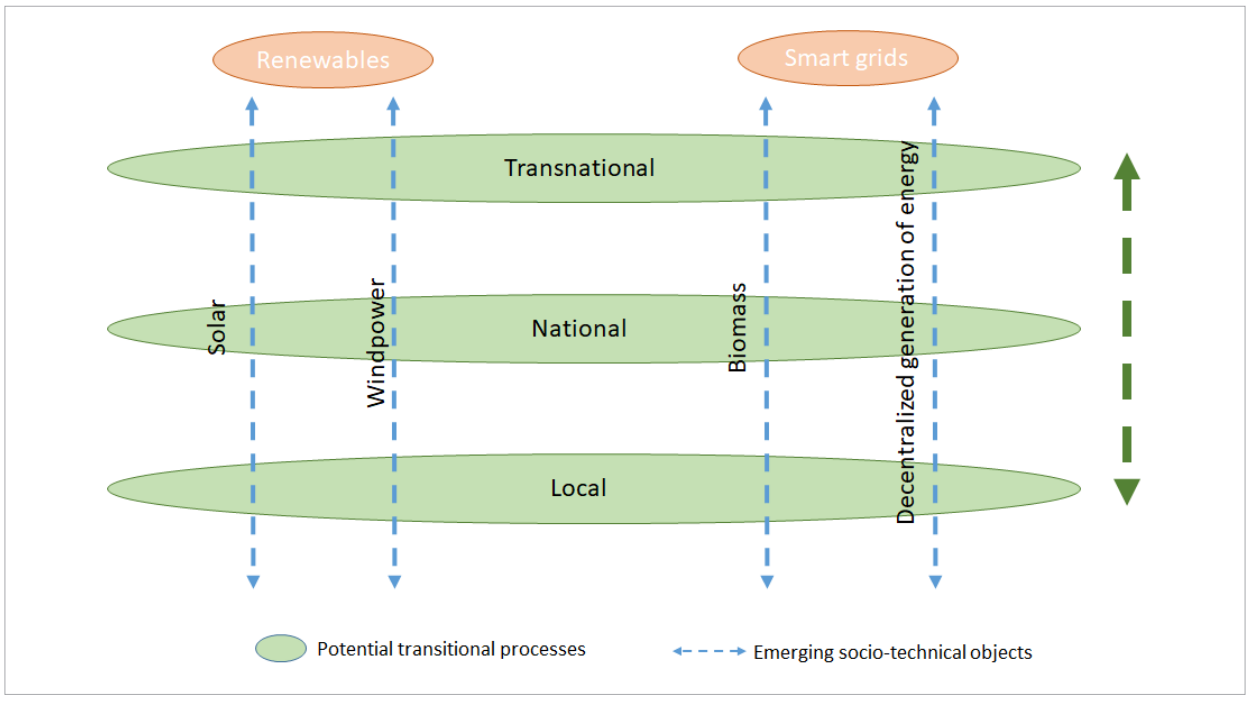

Figure 1 – Relation of potential transitional process and socio-technical object. Source: Based on Labussière & Nadai (2018).

We acknowledge the international trend to speed up transitions and the urgency to reduce GHG emissions, which results in accessibility for people at affordable prices and commitment to international concerns regarding climate effects. Nevertheless, depending on the international region, the transnational transition might face peculiarities or is simply difficult to achieve. So, in the next section, we cover the energy potential transitional process profile in South America.

THE SOUTH AMERICAN ENERGY SECTOR PROFILE

Even though South American countries have a distinct and loose obligation to reduce emissions (due to CBDRP), energy transition implies the development and diffusion of innovations within the countries, collaboration, and, perhaps, deeper transnational integration of the energy market. The transnational level of the socio-technical assemblage of renewable energy technologies for South America can be analyzed in terms of the international technological tendencies and political agreements to fight climate change and improve energy security (Labussière & Nadai 2018).

The transnational aspect of an energy transition can be exemplified by the European Union case. When transition is made collaboratively, in terms of knowledge and scientific pool, and cooperatively, in terms of international agreements and goals, it has the potential to benefit different countries in different stages of transition to speed up their process. The benefits of a socio-technical object, such as renewable energies, are observed in the increase of renewables and the decrease of fossil fuels in the European Union energy mix (Souza & Ferreira 2020). Beyond that, is the advance of countries towards the development of a socio-technical assemblage of policies, nationally or internationally, that privilege the advance of technology. Horizon 2020, the last EU innovation support program, was responsible for promoting collaborative knowledge production on renewables, varying from products, patents, academic papers and policy papers (Horizon Dashboard 2022). Moreover, the EU has many strategies at the transnational level to engage members in a more renewable mix, cutting emissions and investing in renewable innovations.

The European Union structure is a unique case because the integration project has developed since its design (Ferreira 2021). However, many South American countries have come through different integration projects that indicate concern over the energy sector. MERCOSUR did not discuss it in its beginning, but the integration was designed as a common market and would offer baselines for transmission lines among members, which is not enough. UNASUR was another integration effort. Although it has not moved forward, the agreement has provisions to stimulate cooperation among its members in the energy sector. Both MERCOSUR and UNASUR could be

transnational arenas to design common energy strategies to deal with energy security and transition similar to the European Union.

Energy security is a definition constantly followed by the intention of what is conceived as the role of energy in society. To avoid an extended discussion around the topic, we define energy security as the "uninterrupted availability of energy resources at affordable prices" (IEA 2015). The definition might be comprehensive and vague, but it is intentionally dealt with in this way to relate it to climate change.

Countries are seeking security and efficiency in this sector, and they need to be committed to the international agreements signed. Sustainable Development Goals (SDG), its Targets, and Indicators are a reliable way to evaluate the energy profile in South America. SDGs 7 and 9 can be used as references to understand the status. SDG 7 is to "Ensure access to affordable, reliable, sustainable and modern energy for all", and Goal 9 is to "Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation" (UN 2022). We selected indicators 7.1, 7.2, 7.3 and 9.4 to collect data comparing the beginning of SDG, in 2015, and the closest and most reliable data. Table 1 shows them.

Country	Population (million)		GDP (trillion current US$)		SDG 9.4 - CO_2 emissions (kgCO2/2010 PPP of 2015 US$)		SDG 7.1 - Share of population with access to electricity		SDG 7.2 - Share of modern renewables in final energy consumption		SDG 7.3 - Energy intensity level of primary energy (MJ/$2017 PPP GDP)	
	2015	2021	2015	2021	2015	2019	2015	2020	2015	2019	2015	2019
Argentina	43	45	594	491	0.210	0.192	98.8	98.8	8.9	10.3	3,36	3,35
Bolivia	10	11	33	40	0.250	0.230	87.6	87.5	6.4	7.8	4,08	3,82
Brazil	204	213	1.802	1.608	0.152	0.136	99.8	99.8	40.4	44.1	4,05	3,93
Chile	17	19	242	317	0.200	0.205	99.5	99.6	25.1	25.3	3,39	3,66
Colombia	47	51	293	314	0.127	0.120	97	96.5	21.5	22.8	2,53	2,51
Ecuador	16	17	99	106	0.210	0.192	97.5	97.1	11.2	16.2	3,25	3,26
Paraguay	30	33	189	223	0.080	0.090	99.4	99.6	42.9	41.6	2,57	2,6
Peru	6	7	36	38	0.140	0.130	93.3	97.3	15.7	17.9	3,01	3,39
Uruguay	3	3	53	593	0.090	0.080	99.7	99.8	52.7	54.5	2,75	2,77
Venezuela	30	28	*	*	0.260	0.160	98.9	98.9	14.6	15	4,72	*
Total	410	432	3.344	3.733	0.165	0.145	96	97	29.7	32.6	3,57	3,52
World	7.347	7.836	75E+17	96E+17	0.290	0.260	84.5	90.2	11.5	10.1	4,99	4,69

Table 1 – SDG indicators. Source: World Bank (2022), IEA (2022), OLADE (2022).
** Data not found in our sources.

Our data suggest that, despite the increase in population, CO_2 emissions have dropped. This is followed by an increase in SDG 7.1 and 7.2, which suggests that the countries have pursued better and more efficient energy policies, in terms of guaranteeing access to the population and its diffusion. More importantly, there has been a higher possibility to consume from a renewable source. Based on SDG 7 and 9, South American countries are closer to reaching their net-zero emission target by 2030 than others. Unfortunately, at this point, there is no transnational plan for the region to trigger a specification process in which collective knowledge is developed and shared to achieve the Agenda 2030 targets in coordination (Labussière & Nadai 2018). This leaves countries with different economic performances to design and pursue energy transition individually, which is less efficient.

According to Geoffrey Wood (2022), South American countries face challenges in carrying out their energy transition while also having some advantages. The challenges are the critical dependence on fossil fuel to supply mobility, the economic relevance of extractivism, and the fact that the countries are major exporters of commodities, a "somewhat paradoxical position given that the same drivers of climate change (hydrocarbons and extractives) have also largely driven development in the region" (Wood 2022, 5). The region is still one of the most vulnerable to climate change's impacts, while water is one of the primary sources of energy generation. The worsening of natural events has caused more frequent natural disasters, affecting energy generation and agriculture.

The advantages are the abundant natural resources to produce renewable energies from hydro and biofuels, and the high annual presence of sun and wind. Progress has been made toward diversifying sources, including wind, solar and geothermal. Investments in renewables have grown eleven times since 2014, which is twice the world average (Wood 2022). In addition, Chile and Mexico are joining Brazil as the tenth-largest renewable energy markets. Figure 2 presents the total energy balance.

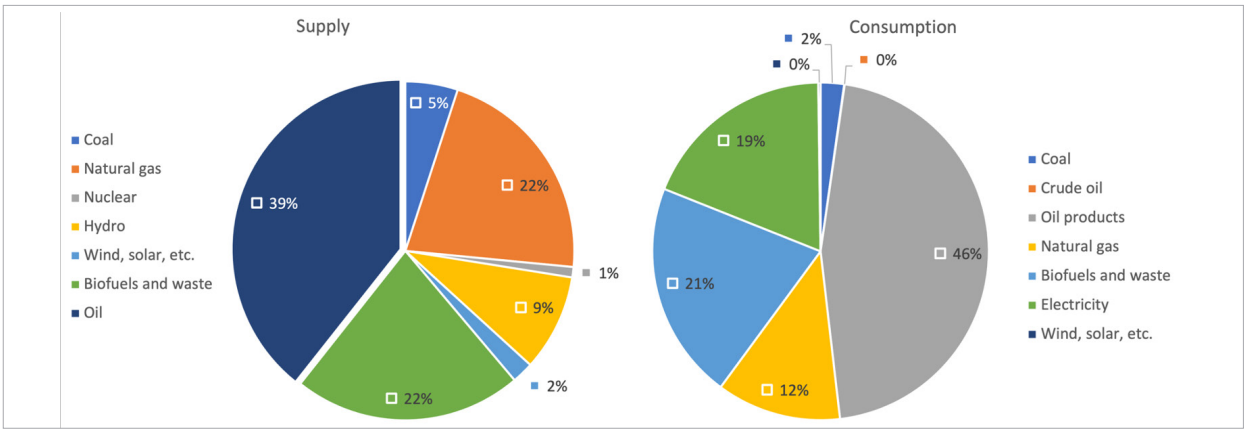

Figure 2 – South American total energy by source. Source: IEA (2022).

Responses to climate change require transnational cooperation because adverse effects from neighbors matter. Access to energy is fundamental to reducing poverty, which foments economic growth and sustainable development policies to increase the demand for energy innovations. Transition can upgrade energy generation with modern technologies, digitalizing the sector and distributing high-quality energy from renewable and efficient sources (Graf 2015).

According to OLADE (2022), a drop in total energy sector emissions in the region from 269 MtCO2 in 2019 to 222 MtCO2 in 2050 is anticipated. South American countries are in a comfortable position for a specification process. The countries have space to invest more in transnational collaborative science to destabilize the current energy market and penetrate it with modern renewables and firms. Since specification and amplification are complementary, the next step would be the amplification with more institutions and regulations that can provide a coordinated strategy for transition (Labussière & Nadai 2018).

Considering the advantages, challenges and opportunities for South American countries, the region has room for a rapid transition. But while observing each country individually, one very interesting case that catches our attention is the position of Brazil in this transnational socio-technical assemblage.

Considering the advantages, challenges and opportunities for South American countries, the region has room for a rapid transition. But while observing each country individually, one very interesting case that catches our attention is the position of Brazil in this transnational socio-technical assemblage. According to Table 1, the country has already achieved every SDG target presented, but the energy sector relies heavily on hydropower and has less consideration for wind and solar technologies.

Despite the drop in energy intensity, energy efficiency is still under pressure. From 2014 to 2018, the country experienced a negative saving of 90 PJ for industry and 5 PJ for transportation (IEA 2022). Brazil has a comfortable position to design and manage a national socio-technical assemblage toward an energy transition. Besides the challenges in the electrification of transport, institutional and legal arrangements, and renewable innovation policies, Brazil may perform as well as Germany did in the EU case, where it has led the transnational process with its neighbors (Souza & Ferreira 2020). In the next section, we analyze the challenges in the Brazilian socio-technical assemblage of energy transition.

POLITICAL AND STRUCTURAL CHALLENGES IN THE BRAZILIAN ENERGY TRANSITION

Considering the assumptions presented in our introduction, it is relevant to observe the Brazilian case because:

1. Energy transitions are broader processes that not only update and expand energy markets, but that directly produce profound changes in the technologies of production, and, indirectly, in the production chains;
2. There are individual efforts from some South American countries, which even encourage a certain degree of energy integration, but we could not identify sufficient governance mechanisms for this process that could benefit the subcontinent;
3. Considering the size and relevance of the energy sector in Brazil, the country, by delaying its process, may also decrease a more significant deepening of energy integration in the subcontinent.

South American countries have great potential to be at the forefront of this global energy transition due to the elements discussed above. Somehow, the countries are seeking this goal as well as they can, regarding their structural problems and inefficiencies in the economy. But more than once, Brazil has drawn our attention because of its extension and availability of solar and wind incidence, which could give the country a distinguished position in the trade-off of energy transition. From now on, we will analyze our three assumptions.

Assumption 1 expresses that there is no clear goal or role for renewable energies within the policies. Brazil has two institutions responsible for climate and energy policies: the Ministry of the Environment (MMA), created in 1992, and the Ministry of Mines and Energy (MME), created in 1960.

The Brazilian energy policy is based on Law No. 9.478/1997. At that time, solar and wind power technologies were concentrated in Europe and the U.S., and developing countries had few or no plants. In 2002, through Law No. 10.438/2002, Brazil took a huge step towards renewable energies with the creation of the *Incentive Program for Alternative Electric Energy Sources* (PROINFA) aiming to develop "alternative" energies. The initiative was a consequence of the energy crisis of 1999-2001, due to the high dependence on hydro and their intermittency because of environmental events. By alternative energies, PROINFA means wind, biomass and small hydropower plants, not including solar energy. PROINFA had two main phases. Operating with a feed-in tariff, the first phase intended to increase up to 3.3 GW – 1.1 GW for

each source – the share of renewable, which was accomplished. The second phase intended to expand the "alternative" technologies up to 10% of the renewables share, but this has never happened due to changes in the legislation and the conception of new policies, such as the solar and wind auctions (Correa 2021).

The wind power auctions were instituted by Law No. 10.848/2004 and had great success. Solar power auctions came in 2014 and, as in the wind case, they were the main policy to promote centralized renewable plants. It is interesting to observe that most companies that won on both auctions are from the Northeast region of Brazil. Law No. 11.097/2005 and Law No. 12.490/2011 modify and dispose of initiatives to insert renewables in the matrix and market. However, neither demonstrate bold intentions towards energy transition in terms of destabilization, decarbonization, and decentralization. Brazilian energy policy has many tools to destabilize the current market and build a new socio-technical assemblage (Correa 2021, Mazzucato 2015, Labussière & Nadai 2018).

The National Policy on Climate Change (PNMC) was created in 2009 and defines strategies and proposals for monitoring and implementing a sectoral plan for mitigation and adaptation. The PNMC proposed reducing GHG emissions from 36% to 38% by 2020 and promoting economic development, with the main targets of reducing poverty and social inequalities (MMA 2018). The policy is the National Adaptation Plan's (NAP) legal support, which addresses the energy sector as a branch of the Infrastructure Strategy. The NAP assesses probable vulnerabilities related to the energy sector, as follows:

- Possible reduction of the water balance in the Amazon Basin, Northeast and East Atlantic portions, and maybe increasing it in the South and Southeast portions;
- Possible increase of the wind speed in the Northeast and South portions;
- Higher solar incidence in the North than in the South;
- Possible increase in temperature, which tends to increase the incidence of frost in the South, Southeast, and Southwest impacting the sugar cane plantations;
- Possible increase in extreme natural events affecting the infrastructure, transmission, and distribution of energy (Brazil 2016, 221-222).

There have been some initiatives to provide national and international technological advances. NAP tried to cover international cooperation to embody new technologies and parameters for climate policies. National plans such as Inova Empresa

and Inova Energia were initiatives to promote the rapid development of innovations toward renewable energies. Financed by the National Development Bank (BNDES) and the Funding Agency for Studies and Projects (FINEP), it approved over forty-eight projects from companies to address renewable innovation in 2014. Both Inova initiatives were important specification processes of mission-oriented instruments to fill the lack of companies within the renewable energy market chain because, at that time, Brazil depended on external companies to bring material and industrial resources to build renewables capacity (Correa 2021, Mazzucato 2015).

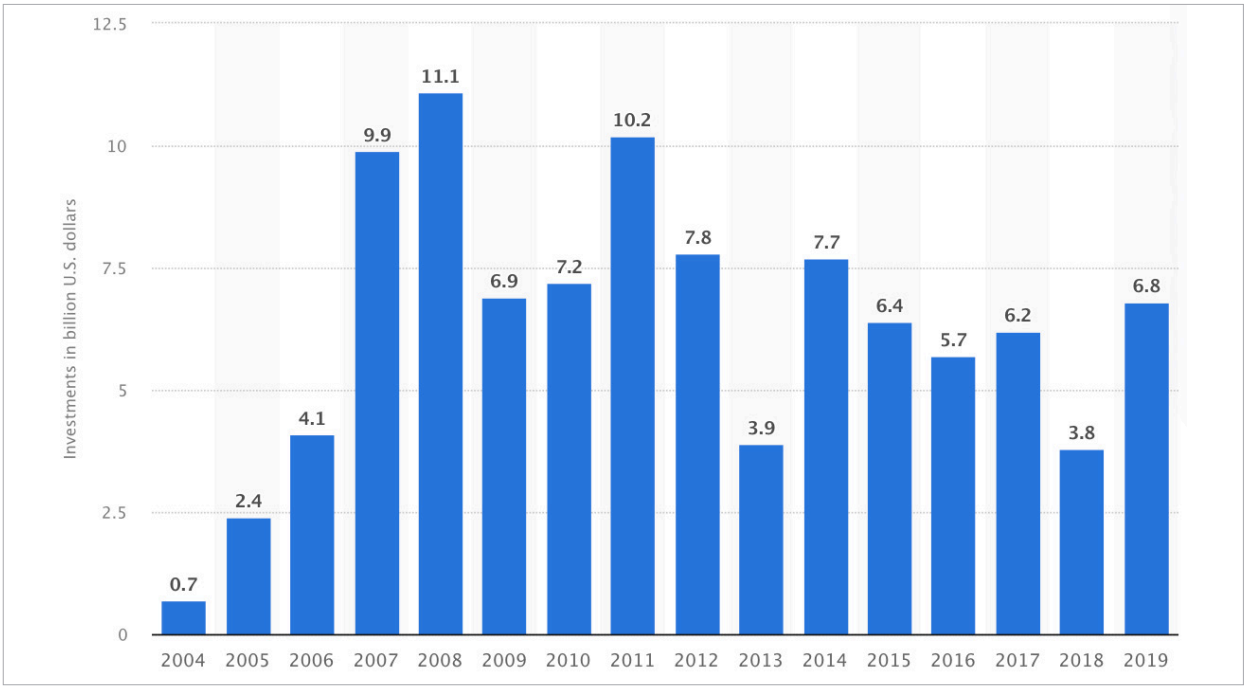

Figure 3 – Brazilian total investments in renewable energies - 2004 - 2019. Source: Statista (2022).

There were other policies about energy and renewables in the last years, including some related to efficiency and poverty. Over the years, all these efforts developed an uneven pattern of investments in RE in Brazil, as it can be noticed in Figure 3. However, what becomes clear while tracing the chronology of these elements of a socio-technical assemblage of energy transition is the political and technical vulnerability of Brazil. Technical vulnerabilities are observed in the shortness of governmental incentives to promote innovation on RE. The Inova initiatives were good, but they concluded without destabilizing the market, penetrating RE on a large scale, or leaving any substitute initiative. Political vulnerabilities are observed in the inexistence of clear and comprehensive objectives about what role modern renewables represent in the economy and society.

The political vulnerability seems to encounter some controversial solutions.

The world has been discussing energy transitions for more than a decade, but only in 2021 Brazil approached it. There is a bill, No. 327/2021, to establish a National Policy for Energy Transition (PONTE), which intends to address good answers to incentive RE generation, finance public policies in this manner, and decarbonize the economy, among others. However, we advocate in this paper for a more decentralized generation and destabilization of the current energy system. Without this, any policy into force will simply raise the RE share without the structural effect of a transition. This controversy is followed by Law No. 14.300/2022, vulgarly called "solar tax." In short, the law intends to progressively reduce the compensation in the energy bill for solar in residences from 90% to 20% by 2045. This law will enter into force in 2023 and will represent a discouragement to installing a micro solar plant in residences, and one more challenge to engage transition.

To improve its national energy supply and promote development, Brazil must increase its share of RE and stimulate a transition combining the public and private sectors and end-user generation efficiency. Considering the relevance of the private sector, the State has a direct and guided responsibility for driving the innovation environment to promote the transition (Mazzucato 2015, Labussière & Nadai 2018). However, political problems are just a portion of the challenges. Infrastructural problems seem to play a large role in the country.

Our second assumption expresses that the country already has a relatively clean energy matrix compared to most countries, discouraging more significant efforts toward a complete energy transition. Brazil stands out as the largest regional producer of primary energy, with 287.6 MTEP in 2020, registering a decrease of 2.2%, compared to 2019 (MME 2021). Despite this, primary production exceeds demand by 11% (OLADE 2022), allowing energy export and stimulating the creation of interdependent regional arrangements. Figure 4 presents the energy balance (MME 2021).

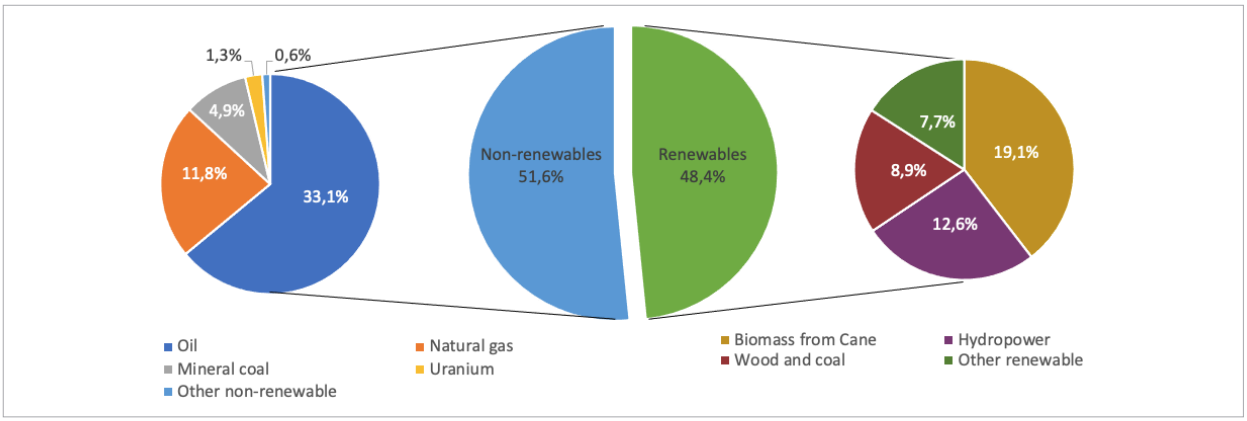

Figure 4 – Distribution of Brazilian Internal Energy Supply in 2020. Source: MME (2021).

Although Brazil is the seventh largest emitter of greenhouse gases, especially considering emissions from land use (mainly deforestation and burning), ambitious plans to reduce emissions indicate that it will reach zero by 2050. There have been some incentives for greater diversification of energy resources, and efforts can be made to expand the supply of renewables. The country already has a long history of using renewables, such as hydroelectricity and biomass (Castro 2021). When comparing the evolution of the Brazilian energy supply with that of the world, we observe a tendency to expand RE technologies, as shown in Figures 5 and 6.

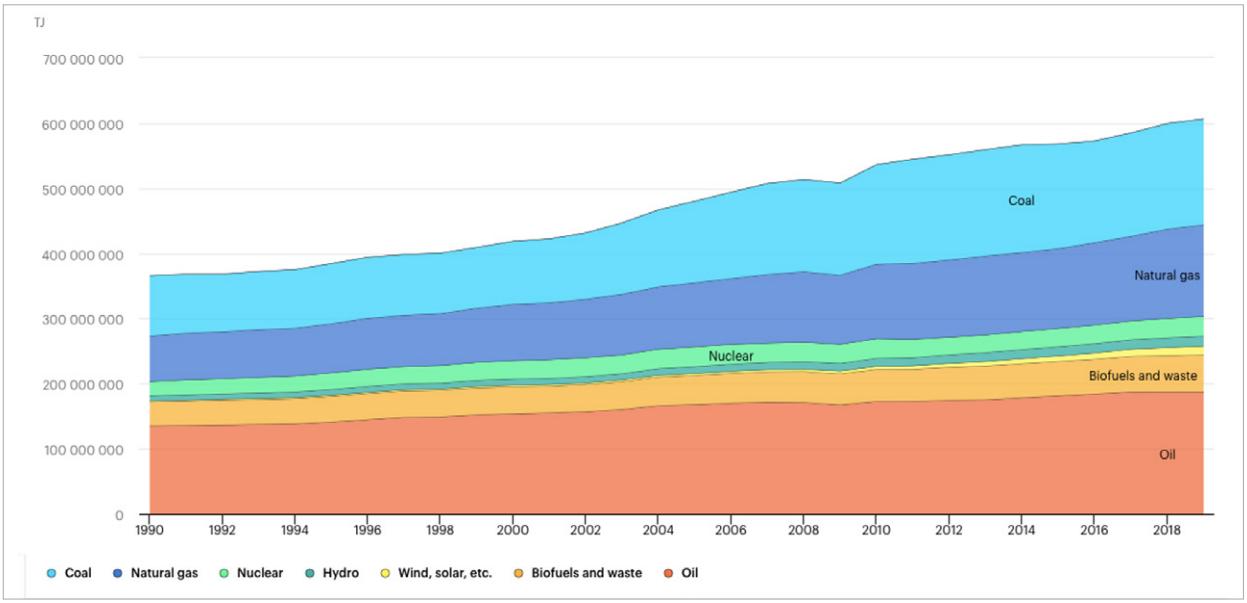

Figure 5 – Evolution of total energy supply by source, World 1990-2019. Source: IEA (2022).

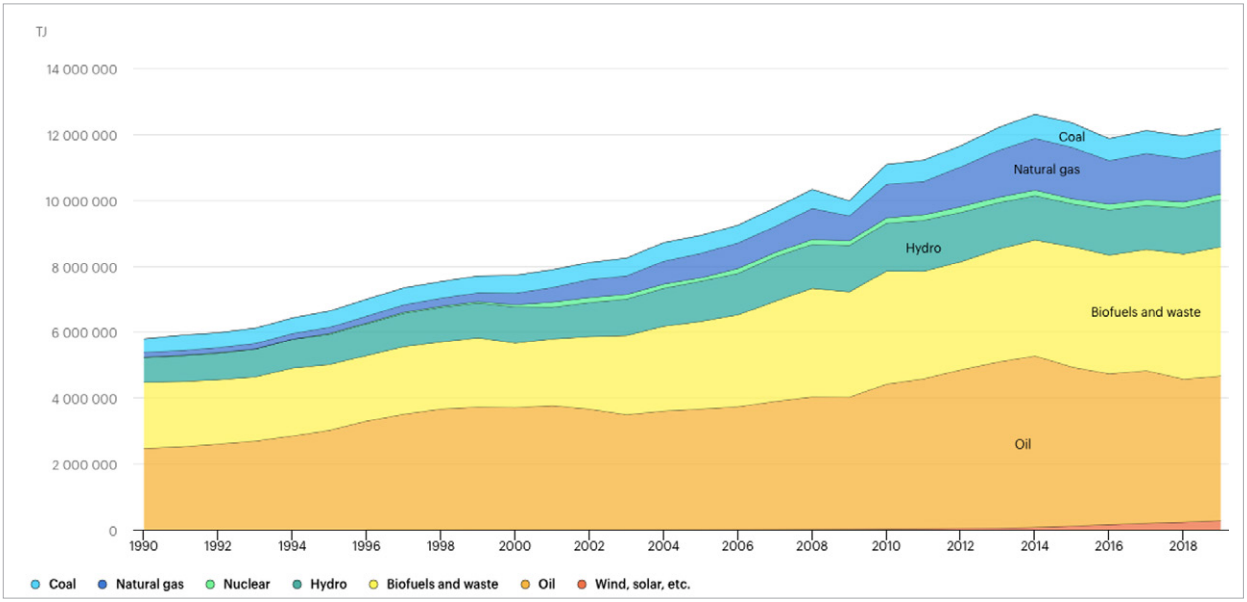

Figure 6 – Evolution of total energy supply by source, Brazil 1990-2019. Source: IEA (2022).

Brazil has made efforts to present itself as a regional power due to its size, population, and political and economic influence. The country depends on hydroelectric power and oil for transportation. Table 2 indicates an increase of almost 50% in hydroelectric generation capacity. It is important to note that the wind power generation capacity has grown significantly since 2000 and it is currently the fourth most important. The installed capacity for solar generation has increased considerably since 2015. Thermal, fossil and effluents increased too, but not on the scale of the sources mentioned above. The increase in the share of alternative sources is due to the drop in the percentage of hydro generation (Castro 2021). Therefore, the projections indicate renewables and thermal as the main ones responsible for increasing installed capacity, a trend that already appears in Table 2.

Source	2000	2005	2010	2015	2021
Hydro	61 063,00	71 059,10	80 703,12	91 649,72	109 413,21
Wind	1	29	926,89	7 632,73	20 786,12
Solar	-	-	1	31,35	13 403,57
Thermal[2]	10 623,00	19 770,00	29 688,94	39 563,82	44 981,60
Fossil[3]	8 8778,24	16431,62	21761,76	26307,19	28976,72
Nuclear	1 966,00	2 007,00	2 007,00	1 990,00	1 990,00
Total	73 653,00	92 865,10	113 326,94	140 867,61	190 574,49

Table 2 – Installed electricity generation capacity in MW units - 2000-2021. Source: SIE Brasil (2022).

Wind energy is prominent when considering all renewables. However, its share is still relatively small. Therefore, considering energy security, some alternatives are relevant, such as the use of thermal plants to supply the demand, more viable in the short and medium term. Despite investments in cleaner sources, natural gas guarantees energy supply, with less GHG emissions (Castro 2021). Despite this, the matrix remains predominantly clean due to the still large and significant participation of the hydro.

Thus, we observe that the Brazilian energy transition process involves replacing more polluting sources with natural gas, which contributes to reducing emissions. But it does not cause remarkable changes toward a more ambitious energy transition, or even reduce dependence on hydroelectricity. Figure 7 presents the electricity balance of the country.

2. Thermal plants include bioenergy, bagasse, biogas, elephant grass, charcoal, rice husk, blast furnace gas - biomass, lye, vegetable oils, firewood, and wood residues.

3. Fossils include coal, refinery gas, natural gas, fuel oil, diesel oil, other fossils, industrial effluents, off-gas, sulfur, blast furnace gas, process gas, and steel gas.

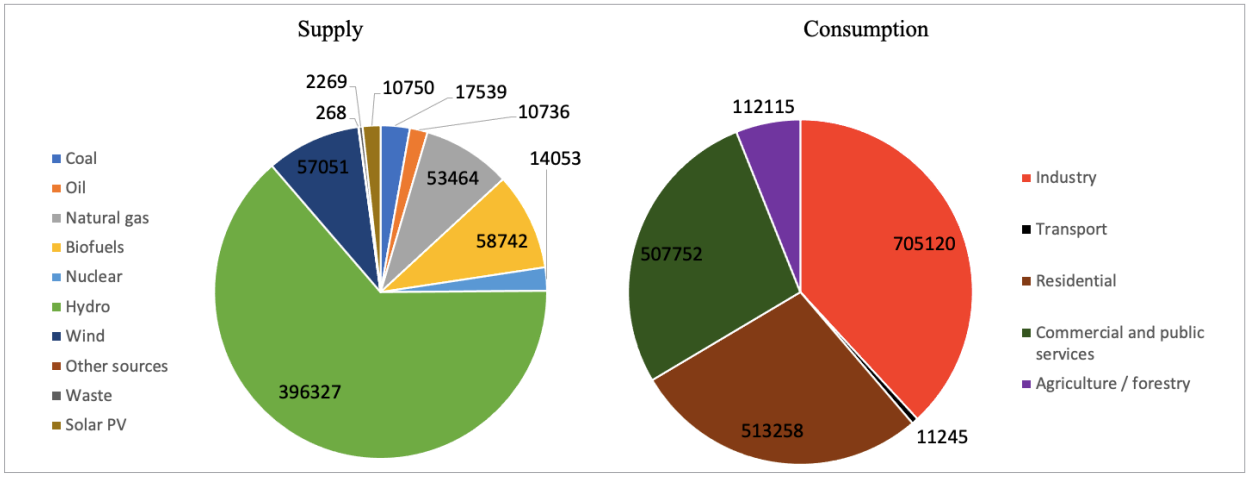

Figure 7 – Brazilian electrical balance by source in 2020. Source: Based on IEA (2022).

More than 70% of the electricity generated in Brazil comes from renewable sources, which is very good compared to the global perspective (MME 2018). However, despite this good initiative concerning the clean electricity mix, there are some problems: 1) the predominance of hydro in the energy mix-dependence on a single source is not good, especially with more than ten large plants such as Itaipu and Belo Monte (the latter with widespread disapproval) and thousands of SHS and CHS; 2) the construction of dams provokes a tremendous environmental impact, with modification of the local micro-ecosystem, loss of species, and causes changes in the local climate; 3) potential deterioration of turbines (Caus & Michels 2014).

Brazil is still dependent on oil as a source of energy for transportation. With 18 refineries, the transport is highly concentrated in the road modal, corresponding to 1.548 billion NTK (65%), followed by rail with 356 billion NTK, and finally by cabotage with 249.9 billion NTK. It is important to note that, due to the discovery of pre-salt areas, MME began to regulate oil extraction in 2006, and started selling it in 2008. Petrobras was the only firm allowed to operate the extraction and be a partner with other companies, but had a share of 30%, and these decisions show the country's concerns toward the pre-salt. However, in 2015, the current secretary Marco Antonio Martins reassured this political position, arguing that Brazil would be a great oil exporter in ten years, reaching the so-called energy independence (MME 2018). Far more to achieve independence, which is a matter of technological advance to reach consumption demand and energy intensity, the development of a country follows the track of energy. This means that, in a big country dependent on hydropower, some locations far from it should be encouraged to develop RE as their main energy supply.

Finally, our third assumption is that the extension of the territory makes it difficult to extend transmission lines, mainly to the Amazon Rainforest region.

We mentioned that the Northeast region had more companies that win the solar and wind auctions. The development of wind and solar installed capacity inside the country for rational reasons must observe the potential for the wind to blow and the sun to shine. But interesting to notice is that every state has some contributions to RE generation, as noticed in Table 3.

Region	State	Solar centralised	Solar decentralised	Wind power
Center-West	Distrito Federal	0	200	0,00
	Goiás	2,7	686	0,00
	Mato Grosso do Sul	5,8	466,8	0,00
	Mato Grosso	0	867,2	0,00
North	Acre	0	39,2	0,00
	Amapá	0	19,8	0,00
	Amazonas	0	82,5	0,00
	Pará	0	419	0,00
	Rondônia	0	165,2	0,00
	Roraima	0	21,6	0,00
	Tocantins	0	178,5	0,00
Northeast	Alagoas	0	140,4	0,00
	Bahia	1356,4	621,4	6.259,48
	Ceará	702	477,9	2.496,94
	Maranhão	0	342,3	426,00
	Paraíba	441,1	234,6	628,44
	Pernambuco	317,8	450,5	989,77
	Piauí	1242,7	268,7	2.788,05
	Rio Grande do Norte	293,6	321,7	6.764,94
	Sergipe	0	85,3	34,50
South	Paraná	0	1.175,50	2,50
	Santa Catarina	0	824,6	242,70
	Rio Grande do Sul	0	1606,2	1.835,89
Southeast	Espírito Santo	0	296,1	0,00
	Minas Gerais	1.618,50	2.168,90	0,00
	Rio de Janeiro	0	607,9	28,05
	São Paulo	591,6	1.877,70	0,00
-	Others	100,9	0,00	0,00

Table 3 – Distribution of solar and wind power in Brazil in 2022 (MW). Source: ABSOLAR (2022) and ABEÓLICA (2022).

Brazil is a big country, concentrating a huge portion of wind power plants in the North and the South, where the wind strongly blows, but with an uneven distribution of solar plants, centralized or not. The country seems to be developing its RE capacity without observing the real energy demands of each state. Although auctions succeeded to insert more competitive firms, it is not possible to observe the same for the transmission lines. The Energy Information System (SEI Brasil) provides information for two variables in this sense: the installed capacity of transmission lines; and the installed capacity of substations (MME 2021). Table 4 shows that, since 2000, there has been a significant increase in both capacities.

Variables	2000	2005	2010	2015	2021
Installed capacity of Transmission lines (Km)	72 108,20	NA	100 729,20	129 258,00	169 915,00
Substations Installed capacity (MVA)	158 458,00	NA	NA	321 100,00	410 882,00

Table 4 – Installed capacity of transmission lines and substations - 2000-2021. Source: SIE Brasil (2022).

It is difficult to access the Northern region, which has a minor presence of renewables, and the installed capacity of electricity generation is relatively low compared to the country´s. The breadth of the Northern territory makes it difficult to extend transmission lines, especially to the Amazon Rainforest region. Table 4 presents that hydroelectric has the highest installed capacity in the Northern region, and its increase between 2015 and 2021 is probably due to Belo Monte Plant operations. But wind power generation is almost non-existent, and solar is deficient. Therefore, the region remains highly dependent on hydroelectricity.

Source	2015	2021
Hydro	17.606,67	31.967,28
Thermal	4.488,02	3.778,74
Wind	0	0,01
Solar	0,3	556,49

Table 5 – Installed Electric Power Generation Capacity from the Brazilian Northern Region - 2015-2021. Source: SIE Brasil (2022).

The Brazilian government has invested in exploring less polluting natural gas and has built new thermal plants in the North and Northeast regions. In addition, there are investments in the construction of small energy-generating units, mainly solar, in communities without access to the conventional grid. In the same direction, small hydroelectric plants are installed (OLADE 2022). However, considering these initiatives, efforts toward a more profound transition remain slow.

CONCLUSION

The socio-technical assemblage of energy transition requires far more than just moving from a dirty to a cleaner energy mix. For Brazil, the socio-technical objective has already been achieved. But when it comes to raw investments for transitions around transmission lines, science, technology, innovations, social equity, and energy poverty, our data were able to grasp the surface of the problem and open an agenda for International Relations scholars.

Junior et al. (2016) discussed that there is a lack of clear goals in the Brazilian energy policy, even more when we touch upon renewable energies. He designed three main scenarios in which the transition may occur: 1) moving deeply toward a clear and renewable matrix with a massive presence of wind and solar power, disrupting the current energy market dominated by hydro and biofuels; 2) engaging in an energy transition but relieve high importance to natural gas as a substitute in the short term for hydro, and avoiding greater impact on the transportation sector and its electrification; 3) relying on the traditional and already renewable energy matrix with great dependence on hydro for electricity and biofuels for transportation, slowly reducing oil shares.

Based on the short description of the scenarios, in 2022 Brazil seems to be running in the 2nd scenario. Transitions are far more important than just emissions reduction because they are associated with a socio-technical assemblage. The benefits of State investments in renewable energy innovations and their diffusion are intrinsically related to the development of the 21st century economy, which is highly dependent on energy efficiency and intensity, reduction of energy poverty, and avoidance of climate threats. Transitions are about investing more in disruptive innovations, a creative destruction specification process in the market and the way end-users interact with the product. It is about defining a mission to be solved in the three levels where the governance takes diversity into consideration. The amplification in the STA is only possible if the region and the country look at energy as a driver for their future, a mission (Labussière & Nadai 2018, Mazzucato 2015).

The use of natural gas as an alternative to hold the price of energy and mature renewables in the market is a strategy used since the beginning of the 21st century, mainly by the European Union countries. Precisely, since 2011 and the German Energiewende–energy transition–, most of the member States have moved to a more "aggressive" remodeling of the energy sector, bringing on modern renewables as pinpoints for transition.

Following this discussion, the question that guided our research was– what can explain the apparent Brazilian slowness in creating a socio-technical assemblage of energy transition regarding the challenges related to the impacts of climate change? This question was discussed based on three assumptions presented at the end of the introductory section.

Transitions are far more important than just emissions reduction because they are associated with a socio-technical assemblage. The benefits of State investments in renewable energy innovations and their diffusion are intrinsically related to the development of the 21st century economy, which is highly dependent on energy efficiency and intensity, reduction of energy poverty, and avoidance of climate threats.

We verified that there is a significant slowness in the Brazilian energy transition process. The fact that the country already has a cleaner energy matrix than most countries around the world discourages more investment in modern renewable energies. We can see it in the development of installed power generation capacity: wind and solar modalities are still inexpressive when compared, for example, to the development of hydroelectric generation capacity. Data from 2021 show that while hydroelectric generation capacity represented about 57% of the total, wind and solar represented about 10% and 7%, respectively. There is an increase in the installed capacity to generate energy from fossil and thermal sources, the latter being the use of natural gas, which can be included among fossil sources, although less polluting.

Part of the specialized literature shows that Brazil has adopted a middle path, substituting oil for natural gas. Some European countries have adopted this alternative, together with other measures such as the stimulus to the renewable market, to provide the conditions for a more profound energy transition. In the

Brazilian case, this alternative has not been accompanied by a greater stimulus to deepen the transition. As we have seen, the installed capacity of wind and solar energy, although it has developed, still makes up a tiny part of the total. It indicates the need for more investments in the sector.

As for the third assumption, the coverage of demand by the conventional network serves most Brazilian regions. We are aware of the very uneven population distribution across the Brazilian territory, but there is also a very uneven distribution of the installed capacity of power generation substations. Moreover, despite the expansion of transmission lines, part of the population of the North region is still in need of access to the conventional system. The Brazilian government has invested in small energy-generating units, but we did not find documents that brought sufficient information about hydroelectric, renewable, or other sources. Even so, information about these small units shows that they are initiatives for very localized supply, especially for isolated communities, and that, in terms of meeting demand and adding renewable sources to the more global supply, these initiatives are very timid.

It is important to note that, in the Brazilian case, the relevance of the energy transition is not exclusively due to efforts to reduce GHG emissions, since the energy sector was responsible, in 2019, for about 19% of total national emissions (IEMA 2020). Instead, the relevance of this transition is precisely to expand the opportunities for the country's development, notably in technological development, with the opening for the modernization of several economic sectors, due to the chains related to renewable energies. The hydroelectric and oil sectors' interests and their influence on the formulation of Brazilian policies for the energy sector are important topics to be studied further. These old and well-established interests may block new opportunities and new energy markets. However, as already mentioned, this topic needs further investigation.

Acknowledgement

We thank the research group members who were responsible for collecting local data and conducting interviews. This work was supported by *Projeto CNPQ 405013/2016-7 CHAMADA UNIVERSAL MCTI/CNPq No 01/2016,* and; *Fundação de Amparo à Pesquisa do Estado de Minas Gerais – (Fapemig) Projeto APQ-01085-16 Chamada 01/2016 - Demanda Universal.*

REFERENCES

ABSOLAR. 2022. *Infográfico ABSOLAR*. Associação Brasileira de Energia Solar Fotovoltaica. https://www.absolar.org.br/mercado/infografico/.

ABEÓLICA. 2022. "Infovento #27". *Associação Brasileira de Energia Eólica*, September 12, 2022. https://abeeolica.org.br/wp-content/uploads/2022/09/2022_09_InfoVento27.pdf.

Avelino, F. 2017. "Power in Sustainability Transitions: Analyzing Power and (dis) Empowerment in Transformative Change towards Sustainability". *Environmental Policy and Governance* 27 (6): 505–520. https://doi.org/10.1002/eet.1777.

Avelino, F. & J. M. Wittmayer. 2016. "Shifting Power Relations in Sustainability Transitions: a Multi-actor Perspective". *Journal of Environmental Policy & Planning* 18 (5): 628–649. https://doi.org/10.1080/1523908X.2015.1112259.

Brazil. Infrastructure Ministry. no date. *Transporte rodoviário de cargas*. https://www.gov.br/infraestrutura/pt-br/assuntos/transporte-terrestre/transporte-rodoviario-de-cargas.

Brazil. 2016. *Plano Nacional de Adaptação à Mudança do Clima*. http://www.mds.gov.br/webarquivos/arquivo/seguranca_alimentar/caisan/Publicacao/Caisan_Nacional/PlanoNacionaldeAdaptacaoaMudancadoClima_Junho2015.pdf.

Castro, Nivaldo José. 2021. "Implicações da transição energética para a matriz elétrica no Brasil e no mundo". In *A geopolítica da energia do século XXI*, edited by Guilherme Sandoval Goes. Rio de Janeiro: Synergia.

Caus, T. R., Michels, A. 2014. *Energia hidrelétrica: eficiência na geração*. Rio Grande do Sul: UFSM. https://repositorio.ufsm.br/bitstream/handle/1/1380/Caus_Tuane_Regina.pdf?sequence=1.

Csiba, K. 2016. *Energy Poverty: handbook*. The Greens/EFA group of the

European Parliament. European Union. https://www.bpie.eu/wp-content/uploads/2016/11/energypovertyhandbook-online.pdf.

Criekemans, D. 2018. "Geopolitics of the Renewable Energy Game and its Potential Impact upon Global Power Relations". In *The Geopolitics of Renewables*, edited by Scholten, D., 37–73. Lecture Notes in Energy, vol 61. Springer, Cham. https://doi.org/10.1007/978-3-319-67855-9_2.

Dauvergne, P., & BL Farias, D. 2012. "The Rise of Brazil as a Global Development Power". *Third World Quarterly* 33 (5): 903-917. https://doi.org/10.1080/01436597.2012.674704.

Delgado, Fernanda; Nogueira, Luiz A. Horta. 2020. "Brasil: o país que já fez a transição energética". *Revista Conjuntura Econômica: FGV* 74 (12): 50-53. http://docvirt.com/docreader.net/Conjun_D20/869.

Graf, P. 2015. "Eco-innovation–a New Paradigm for Latin America?" *Revista Gestão e Desenvolvimento* 12 (1): 148-159. https://doi.org/10.25112/rgd.v12i1.52.

Halsnaes, K; Markandya, A; Shukla, P. 2011. "Introduction: Sustainable Development, Energy, and Climate Change". *World Development* 39 (6): 983–986. http://dx.doi.org/10.1016/j.worlddev.2010.01.006.

IEA. *Projected Costs of Generating Electricity*. https://www.oecd-nea.org/ndd/pubs/2015/7057-proj-costs-electricity-2015.pdf.

IEA. 2022. *Statistics*. International Energy Agency. https://www.iea.org/statistics.

IRENA. 2020. *Finance & Investment*. International Renewable Energy Agency. https://www.irena.org/financeinvestment.

Junior. H.Q.P, Almeida, E.F., Bomtempo, J.V., Iootty, M., Bicalho, R.G. 2016. *Economia da energia - fundamentos econômicos, evolução histórica e organização industrial*. 2a Ed. São Paulo: GEN LTC.

Kern, Florian; Markard, Jochen. 2016. "Analyzing Energy Transitions: Combining Insights from Transition Studies and International Political Economy". In *The Palgrave Handbook of the International Political Economy of Energy*, edited by Van de Graaf, T., Sovacool, B., Ghosh, A., Kern, F., Klare, M., 291-318. Palgrave Handbooks in

IPE. London: Palgrave Macmillan. https://doi.org/10.1057/978-1-137-55631-8_12.

Labussière, O., & Nadaï, A. (Eds.). 2018. *Energy Transitions: a Socio-technical Inquiry*.

Energy, Climate and the Environment Series. Springer. Palgrave Macmillan Cham. https://doi.org/10.1007/978-3-319-77025-3.

Lima, T. C. 2009. "O princípio das responsabilidades comuns mas diferenciadas no Direito Internacional Ambiental". *Revista Eletrônica de Direito Internacional* 4: 160-197.

Mazzucato, M. 2015. *The Green Entrepreneurial State*. SPRU Working Paper Series. SWPS 2015-28. https://dx.doi.org/10.2139/ssrn.2744602.

Markard, J., Raven, R., & Truffer, B. 2012. "Sustainability Transitions: An Emerging Field of Research and its Prospects". *Research Policy* 41(6): 955–967. https://doi.org/10.1016/j.respol.2012.02.013.

MMA. 2018. *Ministério do Meio Ambiente*. Apresentação. http://www.mma.gov.br/institucional.

MME. 2018. *Balanço Energético Nacional* 2018. http://epe.gov.br/pt/publicacoes-dados-abertos/publicacoes/balanco-energetico-nacional-2018.

OLADE. *Panorama Energético de América Latina y el Caribe 2021*. Organización Latinoamericana de Energía. https://www.olade.org/publicaciones/panorama-energetico-de-america-latina-y-el-caribe-2021.

Peters, M., Köhler, B., Kuckshinrichs, W., Leitner, W., Markewitz, P., & Müller, T. E. 2011. "Chemical Technologies for Exploiting and Recycling Carbon Dioxide into the Value Chain". *ChemSusChem* 4 (9): 1216-1240. https://doi.org/10.1002/cssc.201000447.

O'Sullivan, M., Overland, I., & Sandalow, D. 2017. *The Geopolitics of Renewable Energy*. Working Paper (June 2017). Center on Global Energy Policy, Columbia University & The Geopolitics of Energy Project, Belfer Center for Science and International Affairs, Harvard Kennedy School. https://energypolicy.columbia.edu/sites/default/files/CGEPTheGeopoliticsOfRenewables.pdf.

Scholten, D., Bazilian, M., Overland, I., & Westphal, K. 2020. "The Geopolitics of Renewables: New Board, New Game". *Energy Policy* 138: 111059. https://doi.org/10.1016/j.enpol.2019.111059.

SIE Brasil. 2022. *Capacidade instalada de geração de energia elétrica*. Banco de dados. Olade-Organización Latinoamericana de Energía. https://www.mme.gov.br/SIEBRASIL/consultas/reporte-dato42-jerarquizado.aspx?oc=471&or=472&ss=2&v=1.

SIE Brasil. 2022. *Capacidade instalada de linhas de transmissão*. Banco de dados. Olade - Organización Latinoamericana de Energía. https://www.mme.gov.br/SIEBRASIL/consultas/reporte-dato42-jerarquizado.aspx?oc=30183&or=30184&ss=2&v=1.

Silva, M. S. D. 2018. *A política externa brasileira para mudanças climáticas: agendas ambientais distintas ou processos de uma mesma política governamental*. Doctorate Thesis in International Relations. PUC-Minas.

Souza, M., & L. Gomes Ferreira. 2020. "A formação do complexo regional de segurança energética pela Energiewende na União Europeia". *Meridiano 47 – Boletim de Análise de Conjuntura em Relações Internacionais* 21. https://doi.org/10.20889/M47e21003.

UN. 2022. *Sustainable Development Goals*. Nações Unidas. https://sdgs.un.org.

To cite this work: Souza, Matilde de & Leandro Gomes Ferreira. 2022. "Sustainability Transition Challenges in the Brazilian Energy Sector." *CEBRI-Journal* Year 1, No. 4 (Oct-Nov): 99-122.

DOI: https://doi.org/10.54827/issn2764-7897.cebri2022.04.03.04.99-122.en

Submitted: November 14, 2022
Approved for publication: November 17, 2022

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SPECIAL SECTION

Are the BRICS Engaged in the Low Carbon Transition?

Larissa Basso
Eduardo Viola

Abstract: This article describes how BRICS countries are lagging behind in decarbonization, i.e., in the transition to a low-carbon economy. Scientific evidence of climate change and the need to reduce greenhouse gas emissions to mitigate extreme weather events and the rising global temperature that endanger life on Earth make decarbonization an ever more important agenda. The BRICS group does not operate as a consistent coalition in international climate politics. This article reviews the emissions profile, main emissions reduction policies and foreign policy positions of each BRICS country.

Keywords: BRICS; decarbonization; climate change; international politics.

International negotiations to reduce the concentration of greenhouse gases (GHGs) in the atmosphere to mitigate the existential threat climate change poses to humankind have been in course since 1992. There has been no progress: the concentration continues to increase, reaching 415.78 parts per million in October 2022 (NOAA 2022). As a result, extreme weather events are increasingly frequent and intense. Scientists have warned that if the concentration exceeds 450 parts per million, the severity of the changes will profoundly impact life on Earth.

International negotiations to reduce the concentration of greenhouse gases (GHGs) in the atmosphere to mitigate the existential threat climate change poses to humankind have been in course since 1992. There has been no progress: the concentration continues to increase, reaching 415.78 parts per million in October 2022 (NOAA 2022). As a result, extreme weather events are increasingly frequent and intense. Scientists have warned that if the concentration exceeds 450 parts per million, the severity of the changes will profoundly impact life on Earth.

Brazil, Russia, India, China, and South Africa (BRICS) are major carbon emitters. The first four, along with the United States (U.S.), the European Union, the United Kingdom, Japan, Indonesia, and South Korea, are climate powers – countries that own a significant share of global emissions and have the human and technological capacity to pursue decarbonization. Any analysis of climate change mitigation efforts requires reviewing those countries' commitment to the climate agenda. Under the 2015 Paris Agreement, each country agreed to indicate its GHG reduction targets and, every few years, provide more ambitious targets from time to time. The analysis of climate commitment within this new model requires going beyond foreign policy analysis to understand the dynamics of each country's domestic politics.

This paper contributes to the debate by reviewing the dynamics of decarbonization in the BRICS countries. The BRIC acronym was created in 2001 by an economist who predicted that global economic growth would be driven less by the growth of industrialized economies and more by emerging economies, four in particular: Brazil, Russia, India, and China. Those countries viewed that acronym favorably. In 2006, they initiated a high-level dialog in a parallel meeting to the one

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Larissa Basso *is Researcher at the Earth Systems Governance network and at the research group International Political Economy, Varieties of Democracy and Decarbonization, at the Institute of Advanced Studies, University of São Paulo (IEA-USP).*

Eduardo Viola *is Co-coordinator of the International Political Economy, Varieties of Democracy and Decarbonization research group at the Institute for Advanced Studies at the University of São Paulo (IEA-USP) and professor of International Relations at the Getúlio Vargas Foundation (FGV) and at the University of Brasília (UNB).*

held annually by the United Nations General Assembly, and began to meet formally with the 2009 BRIC Summit. South Africa joined the group in 2011, and BRIC became BRICS.

The BRICS group is a forum of countries quite different from each other – in terms of military power, economic power, soft power – but that had a common agenda when the group was created: they wanted their increased significance in the global economy, stemming from their economic growth rates, to be followed by a reform of international institutions giving them greater influence in international politics. Much has happened in these countries and in the international arena in the twenty years since the group's formation: the international financial crisis, the rise of the authoritarian right, the aggravation of global problems such as climate change, the COVID-19 pandemic. Together with factors stemming from domestic politics, these changes affected the consistency of joint BRICS action. Four BRICS countries (Brazil, South Africa, India, and China) formed the BASIC coalition in the international climate regime. Russia did not join because of its peculiar positions and history, and is not usually aligned with joint BASIC positions. As a member of Annex I of the Climate Convention, Russia has had mandatory emissions reduction targets since the Kyoto Protocol. Climate denialism remains very strong in Russia.

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The low carbon transition is a key aspect of the current global scene. It is much broader than negotiations within the international climate regime. The structural reduction in GHG emissions demands new production and consumption patterns and institutional and behavioral change. Progress is contingent on each country's emissions profile and economic, political and social architecture. Even if the BRICS coalition lacks consistency, its members continue to represent a category of countries that influence empirical reality. The BRICS countries are very different from each other, have different historical backgrounds, boast different but significant resources of power, and have influence on global governance. We chose to focus on BRICS countries in the global transition to a low-carbon economy not to defend or judge their operation as a coalition but to describe their progress in the low carbon

transition from the perspectives both of their domestic politics and of their positions in the international climate regime.

This paper is divided into three parts: first, it describes each country's emissions profile; it then reviews their main policies and the political economy of decarbonization in major emissions-heavy sectors; finally, it analyzes the impact of three recent key international events on their decarbonization dynamics – heightened United States-China tension, which many analysts name Cold War 2.0; the COVID-19 pandemic; and the war in Ukraine. This paper explains why BRICS countries do not form a uniform coalition on the international climate agenda and discusses each country's decarbonization prospects for the coming years.

DIFFERENT EMISSIONS PROFILES

The BRICS countries have been major GHG emitters, in historical emissions and emissions patterns, since 1990. Historical emissions measure how much each country has contributed to GHG concentration in the atmosphere since 1850. The U.S. contributed most to this increase between 1850 and 2021, followed by three BRICS members: China, Russia, and Brazil; India ranks seventh and South Africa, sixteenth (Figure 1):

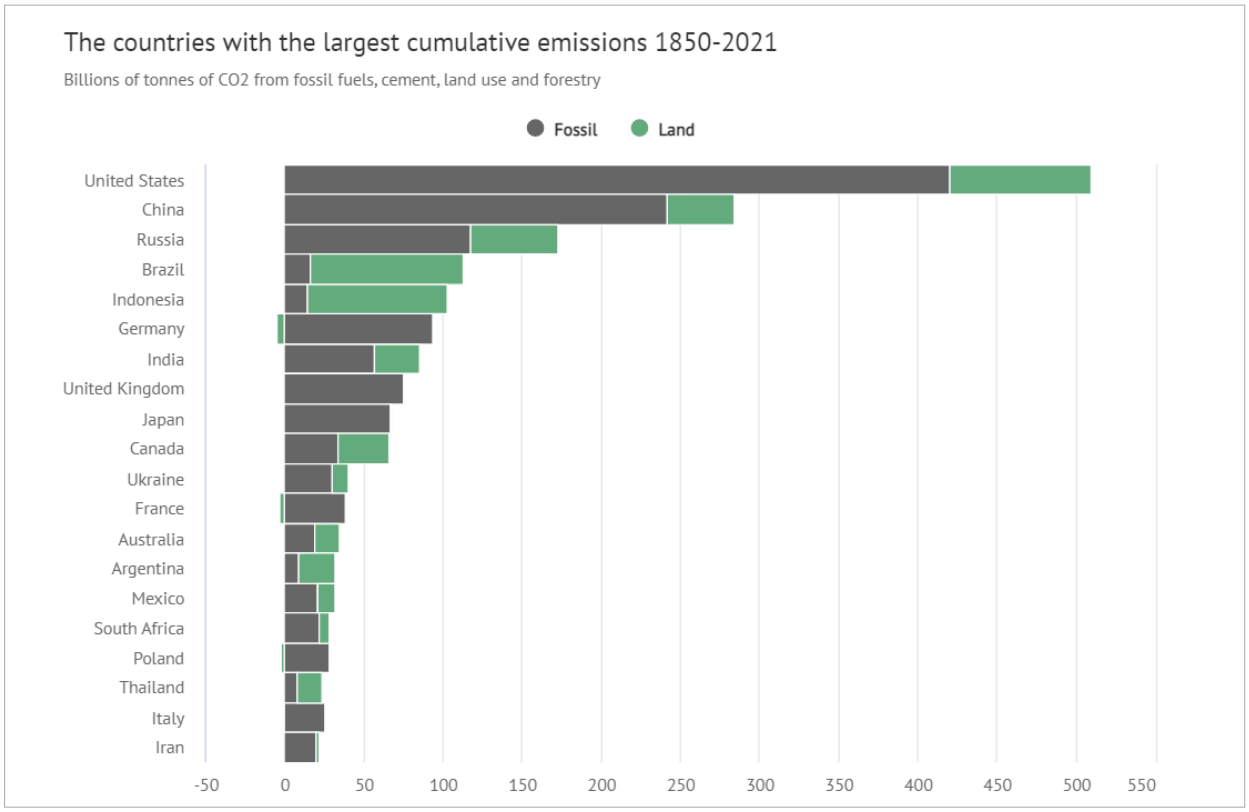

Figure 1: Countries with largest accumulated GHG emissions between 1850 and 2021. Source: Evans (2021).

Regarding the emissions pattern, China ranked second in 1990, behind only the United States; Russia came in third, followed by Brazil; India ranked eighth and South Africa, nineteenth. By 2019, China had become the largest global GHG emitter; India ranked third, followed by Brazil; Russia ranked sixth and South Africa, sixteenth (Table 1).

	1990 emissions (MTOE)	Share of global total (%)	2019 emissions (MTOE)	Share of global total (%)
Brazil	2054.94	5.95	1972.32	3.81
Russia	2648.36	7.67	1924.82	3.72
India	1002.56	2.90	3363.59	6.50
China	2891.73	8.38	12055.41	23.28
South Africa	338.43	0.98	562.19	1.09

Table 1: BRICS, GHG emissions in Mega Tonnes of Oil Equivalent (MTOE), and share of global total, 1990 and 2019. Source: Authors' calculations using the Greenhouse Gas Emissions and Removals Estimates (SEEG 2022), Climate Watch Data (2022) and World Bank (2022) information.

Per capita emissions decreased in Russia and Brazil between 1990 and 2019. They increased in other BRICS countries, but their relative position in comparison to other G20 countries[1] changed: Russia ranked fourth in per capita emissions among the G20 countries in 1990 and fifth in 2019; Brazil ranked sixth in 1990 and eighth in 2019; South Africa ranked tenth in 1990 and seventh in 2019; China ranked nineteenth in 1990 and twelfth in 2019; and India ranked twentieth in 1990 and in 2019.[2] The GHG intensity of all BRICS economies decreased in that same period (Table 2).

	1990 per capita emissions	2019 per capita emissions	1990 GHG/GDP intensity	2019 GHG/GDP intensity
Brazil	13.79	9.35	1.31	0.63
Russia	17.90	13.33	0.83	0.48
India	1.15	2.46	0.63	0.37
China	2.55	8.56	1.79	0.54
South Africa	9.20	9.60	0.82	0.70

Table 2: BRICS, per capita emissions and Gross Domestic Product (GDP) GHG intensity, 1990 and 2019. Note: Per capita emissions in tonnes of CO_2 equivalent; GDP GHG intensity in MtCO2e/billion, constant international 2017 US$, Purchasing Power Parity (PPP). Source: Authors' calculations using SEEG (2022), Climate Watch Data (2022) and World Bank (2022) information..

1. Comparison with G20 countries is more accurate because small oil exporting countries show high per capita emissions and Gross Domestic Product (GDP) GHG intensity but their social and economic structure is very different from that of BRICS countries.

2. Our calculations are based on Greenhouse Gas Emissions and Removals Estimates (SEEG 2022) data for Brazil and on Climate Watch Data (2022) data for other countries.

BRICS countries have different emissions profiles. Between 1990 and 2019, Chinese GHG emissions increased by 317%; China's share of total global emissions increased 2.78-fold in the same period (Table 1). China's energy sector accounts for the largest portion of the country's emissions: 81.64% in 1990 and 88.08% in 2019; industrial emissions increased by 349.82% in that timeframe.[3] Agriculture and industrial processes swapped places as second and third largest emitters (Table 3), reflecting the transformation of China's economy in the period. Land use and forestry emissions have been negative in China since 1990; in absolute figures, carbon sequestration by that sector nearly doubled between 1990 and 2019 but the sector's relative share decreased (Table 3).

	1990 emissions ($MtCO_2e$)	Share of 1990 total (%)	2019 emissions ($MtCO_2e$)	Share of 2019 total (%)
Energy	2360.68	81.64	10618.71	88.08
Industrial processes	94.35	3.26	1220.29	10.12
Agriculture	590.56	20.42	662.55	5.50
Waste	194.71	6.73	203.54	1.69
Land use and forestry	-348.56	-12.05	-649.68	-5.39

Table 3: China, emissions profile, 1990 and 2019. Source: Authors' calculations using Climate Watch Data (2022) information.

India's GHG emissions grew by 79.87% between 1990 and 2019. The energy sector answers for the largest share of total emissions and its relative weight increased in the period (Table 4). The agriculture sector comes second and its relative share is diminishing. Emissions from industrial processes and waste also increased between 1990 and 2019 but remain quite low in relative terms. Land use and forestry emissions are negative and have been diminishing progressively both in absolute and in relative terms (Table 4).

3. Table 3: China, emissions profile, 1990 and 2019. Source: Authors' calculations using Climate Watch Data (2022) information.

	1990 emissions ($MtCO_2e$)	Share of 1990 total (%)	2019 emissions ($MtCO_2e$)	Share of 2019 total (%)
Energy	602.05	60.05	2422.24	72.01
Industrial processes	26.45	2.64	168.55	5.01
Agriculture	566.53	56.51	719.82	21.40
Waste	24.54	2.45	84.26	2.51
Land use and forestry	-217.00	-21.64	-31.28	-0.93

Table 4: India, emissions profile, 1990 and 2019. Source: Authors' calculations using Climate Watch Data (2022) information.

The 27.33% reduction in Russian emissions between 1990 and 2019 (Table 1) was due to the economy's slowdown and not to efficiency gains or decarbonization. The energy industry accounts for almost all of Russia's positive emissions. Emissions from agriculture decreased between 1990 and 2019. Those from industrial processes and waste increased but their share of Russia's total remains small (Table 5). Land use and forestry emissions have been negative since 1990 and both their absolute emissions and relative share of total net emissions increased between 1990 and 2019 (Table 5).

	1990 emissions ($MtCO_2e$)	Share of 1990 total (%)	2019 emissions ($MtCO_2e$)	Share of 2019 total (%)
Energy	2639.05	99.63	2208.96	114.76
Industrial processes	57.34	2.16	53.91	2.80
Agriculture	237.99	8.98	96.02	4.99
Waste	81.12	3.06	117.95	6.13
Land use and forestry	-366.66	-13.84	-552.01	-28.68

Table 5: Russia, emissions profile, 1990 and 2019. Source: Authors' calculations using Climate Watch Data (2022) information.

Brazil's emissions profile differs from other BRICS countries. First, land use and forestry have since 1990 accounted for the largest share of Brazil's total emissions and remains well above other sectors' shares (Table 6). The reduction in emissions from this sector answered for the drop in Brazil's total emissions from 1990 to 2019 (Tables 1 and 6). Second, the share of energy-related emissions is less significant than other BRICS countries but is increasing in absolute and relative terms. Third, the agriculture sector also plays an important and growing role in emissions, although smaller than the energy sector (Table 6). Finally, emissions from industrial processes and waste also grew in the period but still amounted to less than 10% of total emissions in 2019 (Table 6).

	1990 emissions ($MtCO_2e$)	Share of 1990 total (%)	2019 emissions ($MtCO_2e$)	Share of 2019 total (%)
Energy	193.67	9.42	412.47	20.91
Industrial processes	51.48	2.51	99.47	5.04
Agriculture	390.45	19.00	562.99	28.54
Waste	28.31	1.38	90.40	4.58
Land use and forestry	1391.03	67.69	807.00	40.92

Table 6: Brazil, emissions profile, 1990 and 2019. Source: Authors' calculations using SEEG (2022) information.

South Africa emits much less than other BRICS countries but its per capita emissions lagged behind only Russia's and Brazil's in 1990 and Russia's in 2019, while its Gross Domestic Product (GDP) is the most carbon-intensive of all five countries (Table 2). Since 1990, its energy sector has accounted for more than three quarters of total emissions (Table 7). Emissions from agriculture decreased between 1990 and 2019 both in absolute and in relative terms (Table 7). Emissions from industrial processes and waste increased, but continued to account for less than 10% of total emissions in 2019. As in Brazil, emissions from land use and forestry are positive in South Africa but lower in absolute and in relative terms when compared to Brazil (Table 7).

	1990 emissions ($MtCO_2e$)	Share of 1990 total (%)	2019 emissions ($MtCO_2e$)	Share of 2019 total (%)
Energy	273.93	80.94	477.1	84.87
Industrial processes	7.44	2.20	24.21	4.31
Agriculture	32.37	9.56	28.88	5.14
Waste	17.92	5.30	25.24	4.49
Land use and forestry	6.77	2.00	6.75	1.20

Table 7: South Africa, emissions profile, 1990 and 2019. Source: Authors' calculations using Climate Watch Data (2022) information.

DECARBONIZATION PROGRESS IN BRICS COUNTRIES

China

Decarbonizing China means transforming its energy mix. China answered for 21% of global total energy in 2019 (IEA 2021). China is the largest producer (49.7% of global production in 2020) and importer of coal, most of which is used to generate power – 65.25% of China's electricity generation in 2019 was coal-fired (IEA 2021). China is the largest oil importer and has the second largest global refining capacity (IEA 2021). China ranks first globally in power generation from renewable sources. Hydro, wind, and solar photovoltaic power plants accounted for 27.21%, 33.76% and 34% of installed capacity in 2019, respectively (IEA 2021). China's economy remains very energy-intensive – 187.69 kilograms of oil equivalent for every US$1,000, compared to the Organisation for Economic Co-operation and Development's (OECD) 97.55 kg average[4] – as a result of the national Communist Party's economic choices.

Until the 1970s, China was an agrarian economy. Light, labor-intensive manufacturing ballooned from 1978 to 2001, when the trend reversed: the expansion of heavy industry increased the demand for energy and GDP energy intensity (Rosen & Houser 2007, 09). Urbanization also requires more energy, especially for electricity and transportation: China's urban population went from 26% in 1990 to 63% in 2021 (World Bank 2022).

4. Constant international 2017 dollars, PPP; 2014 data, the latest available from the World Bank. China's per capita energy intensity is much lower: 2.2 tonnes of oil equivalent versus the 4-tonne 2014 OECD average.

The 11th Five-Year Plan (2006-2010) already included energy transition targets (Fan 2006, 709). The Plan aimed to cut GDP energy intensity by 20% from 2005 levels and increase the share of non-fossil energy to 10% of China's total consumption by 2010 and 15% by 2020. To achieve these targets, China kicked off the National Climate Change Program in 2007. During the 2008 global financial crisis, it earmarked 35% of its US$850 billion economic stimulus package toward low-carbon development. The policies then implemented included, among others: the energy conservation act (China 2007); energy efficiency regulations for buildings (China 2008); and the renewable energy act, updated in 2009 to regulate grid connection, special rates, tax exemptions and research and development funding for renewable energy (China 2009).

In the 12th Five-Year Plan (2011-2015), China proposed to reduce carbon intensity of its GDP by 17% and energy intensity of its GDP by 16% by 2015 from 2005 levels and that at least 11.4% of its energy supply should come from non-fossil sources (China 2011). To achieve these targets, China created incentives for electric vehicles and for renewable power generation as well as plans to make coal-fired power plants more efficient (China 2014a). The 2014 National Plan to Combat Climate Change introduced into Chinese domestic regulations the voluntary targets under the international climate regime China had unveiled at the 2009 COP 15: (i) reduce GDP carbon intensity by 40-45% by 2020 from 2005 levels; (ii) increase by 15% the share of non-fossil energies in total consumption and bring the installed capacity for renewable energies to 650 GW by 2020;[5] (iii) add 40 million hectares of forests and increase forest stocks by 1.3 billion cubic meters by 2020 (China 2014b). China then shut down most obsolete coal-fired power plants, improved fuel quality and invested massively in public transit systems. Nonetheless the growth in private vehicle production and sales caused large-scale and long traffic jams in major Chinese cities.

In the 2015 Paris Conference, China submitted its Nationally Determined Contribution (NDC) including the following: Chinese emissions were to peak by 2030; (ii) GDP carbon intensity was to be cut by 60-65% by 2030 from 2005 levels; (iii) the share of non-fossil energies in the energy matrix was to increase to 20% by 2030; (iv) forest stocks were to increase to 4.5 billion cubic meters by 2030 (China 2015). Regulations were then changed to pave the way to achieve NDC targets. The 1987 air pollution legal framework was updated in 2015 to include a ban on residential use of low-quality coal. In 2016, hydrogen was included in the list of technologies deemed strategic to increase energy security and combat climate change in China (China 2016). The 1995 electricity act was updated in 2018 to encourage generation from renewable sources (China 2018). In 2020 China created a legal

5. According to the 2014-2020 Strategic Energy Development Action Plan.

framework for the Chinese auto industry to expand investments in electric and fuel cell vehicles and approved subsidies for the electrification of public transportation, private use, light, heavy and rail vehicles (China 2020).

The 14th Five-Year Plan approved in 2021 confirmed the 2030 peak emissions and the 2060 carbon neutrality targets (China 2021a). The plan calls for these targets to be implemented through emissions control measures for industries and businesses; use of ecosystem services to achieve carbon neutrality; promoting efficient coal use and the transformation of energy-intensive industries (steel, petrochemicals, cement); increased use of railways and waterways for freight transportation; investment in energy efficiency technologies, carbon neutrality and carbon capture, sequestration, use, and storage (CCUS) (China 2021a). Two action plans were approved in that same year regarding peak emissions by 2030 and energy saving and emissions curbing (China 2021b, China 2021c). Together, these plans expanded incentives, subsidies, and investment, including for research and development, in green and low-carbon energy technologies, including in efficiency and storage. Also in 2021, China submitted its first updated NDC; confirmed the peak emissions and GDP carbon intensity targets presented in 2015; increased to 25% the 2030 target for non-fossil energy share in the mix and to six billion cubic meters the 2030 target for forest stocks; and added the 1.2 billion kW target for wind and solar installed capacity (China 2021d). In 2022, China approved plans to accelerate the modernization of its energy sector and to curb emissions in its heaviest polluting industries (China 2022a; China 2022b).

Given its level of emissions and its participation in global energy chains, including in low-carbon technologies, China is the most important player in the global decarbonization process. It follows that China's decarbonization progress is a sine qua non condition for consistent international progress.

China was a conservative country in the climate regime (Viola et al. 2013,) but its public policies and international climate commitments show China has transitioned to a moderately conservative position. This change was driven by domestic and foreign policy factors. The former are associated with concerns about air pollution, whose extremely high levels in the 2000s put pressure on the communist party's legitimacy. The latter stem from China's ambition to take a more significant role in global governance.

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India

India is the world's second largest coal producer and importer. Like China, India uses coal largely for power generation – 72.72% of total generation in 2019 (IEA 2021). India also is an energy-intensive economy: 124.41 kilograms of oil equivalent for every US$1,000.[6] India's per capita energy consumption in 2014 was 2.35 times lower than Brazil's, 3.5 times lower than China's and 6.3 times lower than the OECD's (World Bank 2022). In 2020, 459 million Indians relied on biomass (mainly firewood) for cooking and 138 million had no access to electricity.[7]

Until 2014, India maintained a Planning Commission that published Five-Year Plans. Climate change was first mentioned in the 11th such plan (2007-2012), which recognized it as "one of the most serious concerns of our time" (India 2007, 203). India then proposed to cut the energy intensity of its economy by 20% by 2017 compared to 2007-2008 levels and to increase energy production from renewable sources (India 2007, 205-207). The 2008 National Climate Change Action Plan sought to use feed-in rates for renewable energy and other tools to increase solar thermal and photovoltaic power generation by at least 1000 MW by 2017, and enhance energy efficiency so as to save at least 10,000 MW by 2012 (India 2008). In 2009, India introduced in the international climate regime its voluntary target to cut GDP carbon intensity by 20-25% by 2020 from 2005 levels. That was to be achieved through stringent standards for fuels and for the energy efficiency of buildings, by increasing forest cover to capture at least 10% of annual emissions and by expanding the share of wind, solar and small-scale hydroelectric power in the mix from 8% to 20%. In that same year, the Indian government approved a National Biofuels Policy proposing a 20% ethanol blend to fuels sold in the country and a minimum price to encourage production (India 2009).

Climate change lost significance in the 12th plan (2012-2017), and is now seen as an issue to be faced within the framework of sustainable development – mainly through eco-efficiency and low-carbon growth (India 2013, 113-117). Low carbon is deemed important to improve energy access and energy security by reducing coal production and coal, oil, and gas imports. The plan called for renewable energy to

6. Constant international 2017 dollars, PPP; 2014 data, the latest available from the World Bank.

7. Our calculations are based on IEA, World Energy Outlook 2021 (SDG 7 database) and The World Bank data.

reach 30 MW of total consumption by 2017 and 75 MW by 2022, both from 2012 levels (India 2013, 132-135). The 2012 National Electricity Plan sought to modernize thermal power plants, including through the introduction of clean coal technologies, and to expand distributed generation and introduced mandatory purchase of power from renewable sources for concessionaires supported with preferential rates. The National Electric Mobility Plan approved in that same year regulated electric vehicles.

In 2015, India submitted its NDC pledging to, until 2030: (i) cut its GDP energy intensity by 33-35% from 2005 levels; (ii) bring the installed capacity for power generation from non-fossil sources to 40% via technology transfers and low-cost international funding, including from the Green Climate Fund; (iii) create additional forest carbon sinks equivalent to 2.5-3 billion tonnes of CO_2 (India 2015). Domestically, India reviewed its power regulation to include new targets for renewable energies and to expand the use of electric vehicles (India 2014, India 2016). In 2021, India submitted its first updated NDC with the following targets for 2030: (i) cut its GDP energy intensity by 45% from 2005 levels; (ii) reach 500 GW installed capacity for non-fossil power generation and bring the installed capacity for power generation from renewable sources to 50%; (iii) cut emissions by one billion tonnes (India 2021). During COP 26, India's Prime Minister Narendra Modi also mentioned the goal of neutralizing emissions by 2070, but gave no details. India's original NDC was deemed highly insufficient. Its new NDC involves a more ambitious contribution to mitigating global climate change but remains insufficient (Climate Action Tracker 2022).

India is a major energy importer and therefore is very sensitive to changes in global energy markets. The energy transition to renewable sources benefits India by reducing its dependence on imports, improving energy security and expanding access to the population that still does not receive energy services. India is a conservative player in the climate regime and is one of the most active advocates of common but differentiated responsibilities and the doctrine of historic responsibilities. India's myriad of energy transition policies hide conflicting interests: first, the country's vast coal reserves and large-scale production, which enhance energy security and access to energy services; second, the ingrained fragmentation of India's political system, which severely thwarts the adoption of coherent national policies and their uniform countrywide implementation; third, the anti-colonial discourse, which shuns important mitigation

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actions by holding only industrialized countries responsible for the problem – even though India is among the countries most vulnerable to climate change; fourth, the extreme poverty in which a substantial part of the Indian population lives.

Russia

Russia is the world's second largest oil producer and exporter; second largest producer and largest exporter of natural gas; and third largest coal exporter, according to 2019 data (IEA 2021). Natural gas accounts for 45.89% of Russia's electricity in 2019 (IEA 2021). Russia is an energy-intensive economy: 186.74 kg of oil equivalent for every US$1,000 in 2014 (World Bank 2022). It is one of the world's largest energy exporters. Indeed, Russia's exports of three hydrocarbons (coal, oil, and natural gas) makes it the world's largest exporter of fossil fuels. This means that for Russia energy is not only a means for development and a necessity for the well-being of its population; it is a national business of global proportions, explaining many of the inconsistencies in Russia's energy decarbonization policies.

Russia is the only BRICS country included in Annex I to the Framework Convention on Climate Change, so it had emissions reduction obligations under the Kyoto Protocol. Its goal during Protocol negotiations was to maximize sales of carbon credits ("hot air") to other developed countries. When the Kyoto Protocol was ratified, and the United States withdrew, Russia realized that the market for "hot air" would be smaller than anticipated. A better understanding of the market economy led Russia to ratify the Kyoto Protocol in exchange for its accession as a member of the World Trade Organization. Russia met its goal of reducing its 2008-2012 emissions in relation to 1990 levels, but that was due to an economic slowdown rather than to the decarbonization efforts.

Russia introduced energy efficiency regulations in 2001. The 2014 State Energy Efficiency and Energy Development Program (Russia, 2014), which replaced Russia's 2030 Energy Strategy enacted in 2003 and amended in 2009, is very significant. The program proposes to reduce Russia's GDP energy intensity by 40% between 2007 and 2020 and to increase the share of renewable sources in the power generation mix, but the 2014 update reviewed that target down from 4.5% in 2020 to 2.5% in 2030. The program further seeks to encourage renewable energies through incentive mechanisms for wind, solar photovoltaic, and small-scale hydropower generation (Russia 2013). Russia's 2009 Climate Doctrine is a non-binding declaration that recognizes the danger of climate change, anthropogenic influence, and the importance of improving energy efficiency and of expanding the share of renewable energy (Russia 2009).

Russia is an extremely conservative player in the climate regime and its engagement is very peculiar. In the COP 15, Russia pledged a 15-25% reduction in GHG emissions compared to 1990 levels. The range depends on (i) "appropriate accounting of Russia's forestry potential within the framework of contributing to meeting obligations to reduce anthropogenic emissions;" and (ii) on "major emitters having legally binding obligations to reduce emissions" (Russia 2015). In its NDC, Russia committed to limiting its emissions to 70-75% of the 1990 total by 2030, the exact absorptive capacity of its forests (Russia 2015). None of those targets is ambitious considering that Russia's 1990 emissions were extremely high because they encompassed the total for the former Soviet Union. Russia's first NDC update, submitted in 2020, included milder ambitions: limiting emissions to 70% of the 1990 level by 2030, taking into account the "absorptive capacity of forests and other ecosystems and subject to sustainable and balanced social economic development of the Russian Federation" (Russia 2020). In October 2021, Russia announced its effort to achieve carbon neutrality by 2060 without reducing the use of fossil fuels, which are important drivers of Russia's development and job creation, in line with the idea of changing land use and using the forestry sector for carbon sequestration purposes (UN News 2021).

Russia is an extremely conservative player in the climate regime and its engagement is very peculiar.

That change is in line with Russia's increasingly refractory stance towards multilateral cooperation in recent years. Two other documents that are significant for the decarbonization process were approved in recent years. Russia's (2019) Energy Security Doctrine describes "increased efforts to implement climate policies and to accelerate the transition to a green economy as a foreign policy challenge to Russian security" (Russia 2019). Quoting:

> *…to consider issues of climate change and environmental protection from a biased point of view, infringe on the interests of energy producing states and deliberately ignore such aspects of sustainable development as ensuring universal access to energy and developing clean hydrocarbon energy technologies.*

In 2021, Russia updated its 2015 National Security Strategy (Russia 2021) to claim that the international community uses climate change as a pretext to "restrict the access of Russian companies to export markets, to curb the development of Russian industry, to establish control over transportation routes and to prevent Russia from developing the Arctic."

South Africa

South Africa is a country smaller than the first three BRICS, but punches above its weight in the international energy market: in 2020, it was the seventh largest producer and fourth largest exporter of coal (IEA 2021). Most of South Africa's power generation (89.70% in 2020) is coal-fired (IEA 2022a). Power generation from renewable sources represents a small but growing share of South Africa's total energy consumption: wind power accounted for a mere 0.13% of energy consumption in 2010 but for 2.52% in 2020; solar power went from nil in 2010 to 0.15% in 2020 (IEA 2022). South Africa's economy is energy-intensive – 191.98 kg of oil equivalent for every US$1,000 in 2014 – and shows the highest per capita energy consumption among BRICS countries – 2.6 Tonnes of Oil Equivalent (TOE) in 2014 (World Bank 2022). South Africa's huge inequality also affects access to energy; per capita figures reflect the economy's dependence on highly energy-intensive industries such as mining and not a consumption pattern that improves the population's living standard.

South Africa was transitioning from authoritarian apartheid to democracy as climate change gained traction in the international agenda. The apartheid regime was based on racial segregation and on the domination of a few over the country's economy, which not only produced profound social inequalities but also led to South Africa's international isolation through embargoes. South Africa used its coal not only to generate power – in thermal plants that could afford to be inefficient given the abundance of the primary source – but also converted it into liquid fuels for domestic use in circumvention of international oil trade bans. South Africa's energy transition faces multiple challenges: first, coal's dominance in the energy mix; second, the weight of coal mining and other energy-intensive industries in GDP; third, the importance of the coal production chain as a source of jobs, both low-skilled jobs, but plentiful in coal-producing regions, and high-skilled ones, including in a significant energy industry bureaucracy. Finally, the association with post-apartheid black empowerment policies: ownership of coal mines promoted the rise of some groups, but renewable technology remains in the hands of foreign joint ventures that create few jobs and little revenue and that do not enhance the social status of national groups.

Energy efficiency has been a significant item in South Africa's political agenda since democratization. The inefficiency of thermal power plants and increased demand in times of economic growth unaccompanied by a corresponding expansion in generation have forced the country to ration its supply of power – a practice known as load shedding. South Africa joined the BASIC alliance in 2009 and sub-

mitted a 34% voluntary reduction target in relation to its projected emissions growth by 2020 (South Africa 2010). The commitment meant little from a climate perspective given the baseline; however, it was in line with the Zuma administration's foreign policy seeking to build new partnerships and to raise South Africa's international standing. South Africa put its first climate policies in place in the run-up to the 2011 COP 17 held in Durban. South Africa's candidacy to host that meeting was part of its new foreign policy vision. A National Climate Change Response Policy White Paper was published with two main objectives: to build an emergency response capacity to manage the impacts of climate changes on South Africa and to make a fair contribution to the global effort to stabilize GHG concentrations in the atmosphere (South Africa 2011). In addition to initiatives in various sectors such as agriculture, water and disasters, the policy states the importance of carbon pricing in any long-term mitigation strategy.

In its NDC, South Africa committed to maintain its emissions by 2030 between 398 and 614 MtCO2-eq (South Africa 2015). The 2016 National Greenhouse Gas Emissions Reporting Regulation introduced a national GHG inventory for the energy, transportation, industry, agriculture and forestry sectors to inform the design and implementation of legislation and public policies (South Africa 2017). The 2050 Green Transport Strategy, published in 2018, is a long-term plan to improve the efficiency, integration and sustainability of transportation systems, aligning the sector's objectives with a fair transition to a low-carbon economy (South Africa 2018). Major energy transition regulations were approved in 2019 when South Africa was preparing its NDC update.

> *South Africa was transitioning from authoritarian apartheid to democracy as climate change gained traction in the international agenda. (...) South Africa's energy transition faces multiple challenges…*

First came a carbon tax (South Africa 2019a).[8] The tax amount is low – US$8 in early 2022 – but in the COP 26 South Africa committed to progressively increase it to US$20 by 2025 and to US$30 by 2030. Then the National Energy Efficiency Strategy set out the financial and fiscal incentives that would be rolled out to cut South Africa's final energy consumption by 29% (South Africa 2019b). The Integrated Resources Plan described an energy transition strategy for the mining and energy sectors (South Africa 2019c). The plan included broad propositions such

8. Carbon Tax Act 15.

as recognizing the impacts of coal mining on climate change and on the health of the population; the importance of carbon sequestration and storage technologies to reduce the sector's externalities; proposals for a carbon budget and for low-carbon technologies – including the government's commitment to expand installed wind and solar capacity – to facilitate the transition.

South Africa was severely hit by the COVID-19 pandemic. The impact on human life was enormous and the economic slowdown significant: electricity consumption, for example, was 10% lower in 2020 compared to 2010 (IEA 2022a). In 2020, the South African government launched the Economic Reconstruction and Recovery Plan, an economic stimulus package including targets for infrastructure, green financing, and other green economic interventions. In 2021, South Africa submitted its first NDC update with increased ambitions: South Africa pledged to maintain its total emissions between 398 and 510 MtCO2e by 2025 and between 350 and 420 MtCO2e by 2030 and to achieve net zero emissions by 2050. If all said measures are implemented, South Africa will transition from conservative to moderately conservative country status in the climate regime.

Brazil

Brazil's energy mix is relatively low-carbon: 49.28% of the energy consumed in 1990 and 46.03% in 2019 came from low-carbon sources (EPE 2022). Brazil's economy is not energy-intensive – 94.95 kg of oil equivalent for every US$1,000 in 2014 (2017 constant Purchasing Power Parity) – and its per capita energy use was 1.49 Tonnes of Oil Equivalent (TOE) in 2014. Brazil is energy self-sufficient and boasts state-of-the-art technology in deep-water oil production, hydropower generation (especially in reservoir design) and in power and fuel (ethanol) production from sugarcane.

Most of Brazil's GHG emissions come from change in land use and from forestry. In the second half of the 2000s, Ministers of Environment Marina Silva and Carlos Minc led a fresh drive to contain deforestation through a better institutional framework. Improved staffing and equipment and more stringent oversight and enforcement of the law caused timber seizures and the application of fines to soar. Deforestation rates retreated from 24,000 km^2 in 2004 to 6,200 km^2 in 2010 in the Amazon and from 12,200 km^2 to 6,100 km^2 in the same period in the Cerrado (MapBiomas 2022). From 2015, budget constraints due to the worsening economic crisis crippled on-site deforestation control activities and reduced the issue's appeal to public opinion, dampening the pressure for action (Ryan 2017). Between 2016 and 2018, the effects of the economic crisis were compounded by

President Temer's fear of impeachment in the wake of the JBS scandals, which leveraged the farmer caucus' bargaining power to extract concessions from the Federal Government. The Federal Government's anti-environmental policy from 2019 disrupted the fight against deforestation, causing rates to balloon in the Amazon. If deforestation is again contained, agriculture and energy will lead Brazil's emissions, as happened in 2010-2015.

Wind and biomass share in the power mix increased simultaneously with natural gas. During the 2001-2002 power crisis, the Federal Government created the Alternative Power Sources Incentive Program (PROINFA), to stimulate the development of small-scale hydro and of wind or biomass power plants (Brazil 2002),[9] and the Priority Program for Thermal Power Plants, to take advantage of gas supplied through the Brazil-Bolivia pipeline and to cause Petrobras to invest in the construction of thermal power plants. Incentives for solar power were introduced only from 2014 onward and mainly for distributed generation. The transportation industry's emissions are heavily associated with Brazil's reliance on highways and on diesel vehicles for freight transportation.

The 2008 National Plan on Climate Change included emissions curbing targets across all sectors (Brazil 2008). In 2009, the Plan was subsumed into the National Policy on Climate Change (Brazil 2009). The policy internalizes the voluntary emissions reduction proposal Brazil submitted in the COP 15: 36-39% reduction in relation to projected emissions growth by 2020 and 80% reduction in deforestation by 2020 from 2005 levels (Brazil 2010). The decrease in deforestation then in course would allow Brazil to easily meet that unambitious target (Viola & Franchini 2018).

In 2015, Brazil submitted its NDC proposing to cut emissions by 37% by 2025 and 43% by 2030 compared to 2005 levels (Brazil 2015). The NDC was updated in 2020 to maintain those percentages (Brazil 2020) but reviewing from 2.1 GtCO2e to 2.8 GtCO2e Brazil's total emissions from land use change in 2005(MCTI 2016).[10] This review "authorized" Brazil to emit much more in absolute terms under its updated NDC than under the original NDC. Brazil again updated its NDC in 2021 to increase the emissions reduction target from 43% to 50% by 2030 in relation to 2005 levels (Brazil 2022). The new update partly cor-

9. The program offered Brazilian Development Bank (BNDES) funding, twenty-year contracts at favorable prices and a feed-in rate, in addition to participation in specific auctions.

10. Countries in the climate regime periodically publish National Emissions Inventories calculating each country's total and sectoral emissions. Those publications serve as a basis to assess the ambition of emissions reduction commitments. Emissions calculation methods are reviewed from time to time to incorporate measurement and calculation improvements. Policy commitments are expected to be reviewed when that occurs but the collective emissions reduction target must remain constant and will be achieved only if all countries from time to time increase their ambitions.

rected the 2020 distortion but crystallized a 0.31 GtCO2e increase for 2025 and 0.08 GtCO2e increase for 2030 in relation to the 2015 NDC target (Unterstell & Martins 2022).

The erratic behavior of Brazil's deforestation emissions have caused Brazil's position in the climate regime to fluctuate: conservative until 2004; moderate from 2005 to 2010; moderately conservative from 2011 to 2015; conservative from 2016 to 2018 (Viola & Franchini 2018); and extremely conservative from 2019 to 2022.

THE CURRENT SITUATION AND ITS IMPACT ON THE DECARBONIZATION OF BRICS COUNTRIES

The international system was transformed by three critical events that are now unfolding: the increasingly conflictive relationship between China and the United States; the COVID-19 pandemic, which acute phase (March 2020 to April 2022) is now behind us but that continues and may break out anew; and the war in Ukraine.

Since the 2008 global financial crisis, the perception has grown within the Chinese Communist Party that American/Western democracy is decadent and that the combination of Marxism-Leninism with Confucian meritocracy, under which the Chinese economy has risen, offers an alternative for humanity. Chinese policy has taken an increasingly aggressive military tinge: occupation and militarization of islands in the South China Sea; technological improvement of the armed forces – the cyberwarfare complex has become powerful and Chinese navy presence in the western Pacific is now superior to America's and, more recently, China's nuclear arsenal has grown substantially, particularly its intercontinental missile arsenal. China's regime has at the same time become increasingly totalitarian: repression of and concentration camps for the Uyghur minority in Xinjiang; repression of the (little) freedom of expression that existed before, using social credits as an artificial intelligence-based tool for the far-reaching control of society; growing personality cult of Xi Jinping – whose level of power control is surpassed only by Stalin's and Mao's – and suppression of other groups within the Communist Party; heavy-handed repression in Hong Kong; and growing saber-rattling in relation to Taiwan. Trump's rise in the United States on the back of a discourse that defined China's autocracy as a threat contributed to increase the animosity. Tensions worsened with the war in Ukraine and put paid to the preceding phase of growing U.S.-China economic interdependence and cooperation on global issues, including climate change, kicking off what many analysts define as Cold War 2.0.

The COVID-19 pandemic has had an ambivalent impact on the international system. After more than two years, the pandemic has not changed the upward

trajectory of global emissions: they fell by 5% in 2020 but grew again, by 6%, in 2021 and will probably grow more in 2022. Nationalism increased in response to the pandemic but more global cooperation is the most effective combat action.[11] Public economic stimulus policies also differed: the European Union deepened its Green Economy Program, and the U.S. Democratic Party incorporated it into its electoral platform in July 2020, but several other growth packages do not take decarbonization into account.

The war in Ukraine changed international parameters and created uncertainty in relation to the future. Western response to the invasion and Ukrainian resistance surprised Putin and the Russian military, whose expectations probably were based on the response to the 2014 annexation of Crimea. Western support for Ukraine, sufficient for Ukraine to resist but not to win the war, and sanctions on Russia that were unimaginable before the invasion mean that limited war between Russia and the North Atlantic Treaty Organization (NATO) has been raging in Europe since March 2022. The war has also increased the nuclear threat, now at a level not seen since the Cuban missile crisis in October 1962.

How do the three critical junctures and their interrelation with emissions and climate policies trajectories will influence decarbonization in BRICS countries in coming years?

The war in Ukraine affects the international energy market. Russian oil and natural gas exports were redirected from Europe to China and India. On the one hand, the reduction in gas sales to Europe hampers decarbonization in the short term – Europe had largely replaced coal with Russian gas for power generation and the trend reversed in 2022: the International Energy Agency projects 7% growth in coal use in the European Union in 2022 (IEA 2022b). However, in the medium and long term, investments in renewable energies, especially wind and solar power, will continue for decarbonization and energy security purposes. On the other hand, the increased supply of Russian gas and especially oil to China and India may reduce the appeal of energy efficiency and decarbonization action in the short term, especially in India.

Some inertial forces contribute for the continuation of China's decarbonization process in coming years: first, the position of Chinese industry in global renewable technology chains and China's severe air pollution problem favor expanding the share of low-carbon sources in the mix; second, China's policy to reach peak emissions by 2030 and carbon neutrality by 2060 include reforestation projects to

11. Early on during the pandemic, discussions about the virus's origin and China's withholding in the initial weeks of information that, had it been published, could have helped contain the epidemic, as happened with the 2003 SARS outbreak, fueled animosity between China and the United States.

increase carbon capture and sequestration. Planted forest areas have consistently grown in China since 1999 (Liang et al. 2022, Tong et al. 2020) – even though they do not contribute to biodiversity and cause other environmental imbalances such as water stress (Zhang et al. 2021) when planted in areas originally occupied by other types of vegetation; third, China's vulnerability to climate change and the increased intensity and frequency of extreme weather events such as heat waves and floods in the summer of 2022. Those factors influence those in the Chinese Communist Party who wish decarbonization efforts to proceed. Other groups oppose that wish and advocate expanding the use of coal to increase China's energy and national security, since gas and oil are imported. The most likely outcome is that those two opposing forces will continue to coexist.

India's recent transition from an electoral democracy to an electoral autocracy (Boese et al. 2022) was fueled by a growing an ethnic and religious nationalism that gives priority to some groups and excludes others (Harari 2018), coupled with anti-colonialist resentment. The rise of nationalism in the international system in recent decades has reduced engagement with issues of common interest such as climate change. That position creates a paradox: as a major energy importer, India takes advantage of the currently low international price of oil to import more and uses its coal to generate power to improve its energy security; at the same time, India is one of the world's most vulnerable countries to climate change – certainly the most vulnerable among BRICS countries.

Russia has never been truly engaged in decarbonization. Russia's recent energy security and national security doctrines show the Russian government's growing paranoia about climate change and the chances of Russia engaging in multilateral cooperation in the short term are virtually nil. Russia will potentially further increase its GHG emissions in the coming years: the thawing of the permafrost that covers much of Russia's central and eastern territory will release large amounts of methane into the atmosphere.

South Africa's decarbonization process faces some major hurdles. The ambition to implement a US$20 carbon tax by 2025, increasing to US$30 in 2030, which will be by far the highest among BRICS countries and one of the highest in the world, is very positive yet not very credible, given South Africa's energy structure and powerful coal lobbies. South Africa's dependence on coal will decrease only through far-reaching structural reform to diversify the economy, accompanied by efforts to reduce the unemployment and inequality rates that severely plague the country.

Brazil is the BRICS country best positioned to accelerate decarbonization.

Regarding land use change and forestry, the new federal administration that took office in 2023 is expected to lead a fresh drive to contain deforestation through better oversight and more stringent enforcement. The newly elected and more conservative Congress will resist the Federal Government's efforts to certify indigenous lands, create conservation units and curb mining. But, a potentially benign nationalism that sees protecting the environment – the Amazon in particular – as a significant component of the national identity may help the government garner support. On the agriculture and livestock farming front, the use of advanced production technologies such as the crop-livestock-forest system is increasing. More stringent international environmental standards for agricultural and livestock products also contribute to Brazil's decarbonization given the sector's participation in global value chains. The energy sector has much to offer to advance decarbonization through additional wind and solar power generation and investments in green hydrogen production. That will require improvements to energy planning and to the currently poor maintenance of transmission lines and more investment in smart grids.

Brazil is the BRICS country best positioned to accelerate decarbonization. Regarding land use change and forestry, the new federal administration that took office in 2023 is expected to lead a fresh drive to contain deforestation through better oversight and more stringent enforcement.

CONCLUSIONS

The world is at a crossroads. Human action has become the key driver of change in the planetary systems that make human life possible. The safe limits, including climate-related ones, within which the planet is able to maintain its resilience have been exceeded. The international negotiations to reduce GHG concentration in the atmosphere in course since the international climate change regime was created in 1992 have shown little progress. The 2015 Paris Agreement created a new framework within which each country agreed to indicate its GHG reduction targets and to from time to time provide more ambitious targets. The analysis of the prospects of international cooperation within this new model requires going beyond foreign policy analysis to understand the dynamics of each country's domestic politics.

The BRICS countries are significant climate policy players. They are major GHG emitters both in relation to historical levels and to their emissions trajectory since 1990. They also are major producers and consumers of fossil fuels, whose use since 1850 accounts for most of the GHG accumulated in the atmosphere. The engagement of BRICS countries is key for planetary decarbonization to succeed.

Each country follows a particular decarbonization process influenced by its emissions structure, energy mix and economic policy for emissions-heavy sectors.

China's partial success in decarbonization was driven by domestic pressure to curb air pollution and China's participation in the global low-carbon technology value chain. The land use change and forestry sector also brought some good news: large forests have been planted to operate as carbon sinks. But China's demand for fossil fuels and use of coal continue to grow. China accounts for half the global increase in emissions and its ambition to reach peak emissions in 2030 is wholly inconsistent with the global carbon budget. Today China is the largest emitter of GHG and no global decarbonization effort will succeed without its active participation; the fact that Cold War 2.0 between the United States and China is eroding their overall capacity for cooperation, including on climate change mitigation, is worrying. In addition to the severity of the problem, China's vulnerability to increasingly frequent and intense extreme weather events may work as an incentive for cooperation, albeit limited.

India is a conservative player in the climate regime and is one of the most active advocates of the doctrine of historic responsibilities. Its dependence on energy imports may operate as an incentive to decarbonize because advances in renewable energies will increase India's energy security. India's vast coal reserves are an incentive in the opposite direction and its growing ethnic and religious nationalism encourages India to find its own path on the international arena and reduces the appeal of international cooperation. The availability of Russian fossil fuels at discounted prices after the outbreak of the war in Ukraine pushes toward that same direction.

South Africa's decarbonization process faces some major hurdles. South African economy was built around the exploitation of coal and energy-intensive mineral commodity industries. The economy is poorly diversified, unemployment and inequality rates created by apartheid-era discrimination remain and decarbonization is unlikely to advance without structural reforms. Russia is increasingly less committed to the climate agenda. The Russian government has resisted making emissions reduction commitments and, in recent years, adhered to climate denialism, with the aggravating factor that Russia sees the climate agenda as an international conspiracy to contain Russian development.

Brazil's circumstances differ from those of other BRICS countries. First, because Brazil's emissions profile is different: land use change and forestry, deforestation in particular, account for most of our emissions. Second, because Brazil made progress in decarbonization through the containment of deforestation from 2004 to 2012. Third, because despite domestic clashes over land use and agricultural policies, pressure from the international market for agricultural products operates as a powerful incentive to decarbonize. In the wake of the October 2022 elections, traditional and progressive players on land use policy issues will battle in Congress as the Federal Government engages in a fresh drive to curb deforestation. Brazil boasts the greatest carbon sequestration potential in the world through reforestation and afforestation thanks to its vast sun-bathed tropical territory. Brazil may have a large amount of carbon credits to trade as the regulated global carbon market envisaged in the COP 26 finds its stride. Taking advantage of this opportunity requires creating a domestic regulated carbon market and the prospects for that will be favorable in a Lula administration.

Given the differences in their emissions profiles and in their domestic policy and foreign policy positions, the BRICS group is not a consistent coalition in international climate policy. Understanding this is important both to form a clear picture of real conditions for global decarbonization progress and propose a research agenda on the issue.

References

Boese, Vanessa A. et al. 2022. *Autocratization Changing Nature? Democracy Report 2022*. Varieties of Democracy Institute (V-Dem), University of Gothenburg. https://v-dem.net/media/publications/dr_2022.pdf.

Brazil. 2002. *Lei n.º 10.438/2002. Programa de Incentivo às Fontes Alternativas de Energia Elétrica (Proinfa)*. http://www.planalto.gov.br/ccivil_03/leis/2002/l10438.htm.

Brazil. 2008. *Plano Nacional sobre Mudança do Clima*. Comitê Interministerial sobre Mudança do Clima. https://www.terrabrasilis.org.br/ecotecadigital/pdf/plano-nacional-sobre-mudanca-do-clima-brasil-pnmc.pdf.

Brazil. 2009. *Lei n.º 12.187/2009 (Política Nacional de Mudanças Climáticas)*. http://www.planalto.gov.br/ccivil_03/_ato2007-2010/2009/lei/l12187.htm.

Brazil. 2010. *Comunicação da República Federativa do Brasil à UNFCCC de seu compromisso voluntário de redução de emissões no âmbito do Acordo de Copenhague*. United Nations Framework Convention on Climate Change. https://unfccc.int/files/meetings/cop_15/copenhagen_accord/application/pdf/brazilcphaccord_app2.pdf.

Brazil. 2015. *NDC brasileira*. Nationally Determined Contributions Registry, United Nations Climate Change. https://unfccc.int/NDCREG.

Brazil. 2020. *NDC brasileira, primeira atualização*. Nationally Determined Contributions Registry, United Nations Climate Change. https://unfccc.int/NDCREG.

Brazil. 2022. *NDC brasileira, segunda atualização*. Nationally Determined Contributions Registry, United Nations Climate Change. https://unfccc.int/NDCREG.

China. 2007. *Energy Conservation Act*. Grantham Research Institute on Climate Change and the Environment, London School of Economics and Political Science._ https://www.climate-laws.org/geographies/china.

China. 2008. *Regulation 530/2008 on Energy Conservation in Buildings of Civil Usage*. Grantham Research Institute on Climate Change and the Environment, London School of Economics and Political Science. https://www.climate-laws.org/geographies/china.

China. 2009. *Renewable Energy Act (revisão da lei de 2006)*. Grantham Research Institute on Climate Change and the Environment, London School of Economics and Political Science._https://www.climate-laws.org/geographies/china.

China. 2011. *12th Five-Year Plan for the Development of National Economy and Society (2011-2015)*. Grantham Research Institute on Climate Change and the Environment, London School of Economics and Political Science. https://www.climate-laws.org/geographies/china.

China. 2014a. *Energy Development Strategy Action Plan (2014-2020)*. Grantham Research Institute on Climate Change and the Environment, London School of Economics and Political Science. https://www.climate-laws.org/geographies/china.

China. 2014b. *National Plan for Tackling Climate Change 2014-2020*. Grantham Research Institute on Climate Change and the Environment, London School of Economics and Political Science. https://www.climate-laws.org/geographies/china.

China. 2015. *China's NDC*. Nationally Determined Contributions Registry, United Nations Climate Change. https://unfccc.int/NDCREG.

China. 2016. *National Innovation-Driven Development Strategy Outline*. Grantham Research Institute on Climate Change and the Environment, London School of Economics and Political Science. https://www.climate-laws.org/geographies/china.

China. 2018. *Electric Power Law (revision of 1995 law)*. Grantham Research Institute on Climate Change and the Environment, London School of Economics and Political Science._https://www.climate-laws.org/geographies/china.

China. 2020. *New Energy Vehicle Industry Development Plan and 2020 New Energy Vehicle Promotion Subsidy Plan*. Grantham Research Institute on Climate Change and the Environment, London School of Economics and Political Science. https://www.climate-laws.org/geographies/china.

China. 2021a. *14th Five-Year Plan for the Development of National Economy and Society* (2021-2025). Grantham Research Institute on Climate Change and the Environment, London School of Economics and Political Science. https://www.climate-laws.org/geographies/china.

China. 2021b. *Action Plan for Carbon Dioxide Peaking before 2030 ('1+N')*. Grantham Research Institute on Climate Change and the Environment, London School of Economics and Political Science. https://www.climate-laws.org/geographies/china.

China. 2021c. *14th Five-Year Comprehensive Work Plan for Energy Saving and Emission Reduction 2021-2025 (Notice 33)*. Grantham Research Institute on Climate Change and the Environment, London School of Economics and Political Science. https://www.climate-laws.org/geographies/china.

China. 2021d. *China's NDC First Update*. Nationally Determined Contributions Registry, United Nations Climate Change. https://unfccc.int/NDCREG.

China. 2022a. *14th Five-Year Plan on Modern Energy System Planning*. Grantham Research Institute on Climate Change and the Environment, London School of Economics and Political Science. https://www.climate-laws.org/geographies/china.

China. 2022b. *Plan on Reaching Peak CO_2 Emissions by 2030 in Polluting Industries*. Grantham Research Institute on Climate Change and the Environment, London School of Economics and Political Science._https://www.climate-laws.org/geographies/china.

Climate Action Tracker. 2022. *India Climate Commitment Profile*. https://climateactiontracker.org/countries/india/.

Climate Watch Data. 2022. *Historical Emissions*. World Resources Institute. https://www.climatewatchdata.org/ghg-emissions.

Crespo, Samira & Pedro Leitão. 1993. *O que o brasileiro pensa da ecologia?* Rio de Janeiro: Gráfica Ebal- Editora Brasil América. Ltdahttps://www.iser.org.br/publicacao/outros/o-que-o-brasileiro-pensa-da-ecologia-1993/.

Evans, Simon. 2021. "Which Countries are Historically Responsible for Climate Change?" *Carbon Brief*, October 5, 2021. https://www.carbonbrief.org/analysis-which-countries-are-historically-responsible-for-climate-change/.

EPE. 2022. *Balanço energético nacional, séries históricas 1970-2021*. Empresa de Pesquisa Energética. https://www.epe.gov.br/pt/publicacoes-dados-abertos/publicacoes/BEN-Series-Historicas-Completas.

Fan, C. Cindy. 2006. "China's Eleventh Five-Year Plan (2006–2010): from 'Getting Rich First' to 'Common Prosperity'". *Eurasian Geography and Economics* 47 (6): 708–723. https://doi.org/10.2747/1538-7216.47.6.708.

Harari, Yuval Noah. 2018. *21 Lessons for the 21st Century*. London: Random House.

IEA. 2021. *2021 Key World Energy Statistics*. Report. International Energy Agency. https://www.iea.org/reports/key-world-energy-statistics-2021.

IEA. 2022a. *Country Profile: South Africa*. International Energy Agency. https://www.iea.org/countries/south-africa.

IEA. 2022b. "Global coal demand is set to return to its all-time high in 2022". *International Energy Agency*, July 28, 2022. https://www.iea.org/news/global-coal-demand-is-set-to-return-to-its-all-time-high-in-2022.

India. 2007. *11th Five Year Plan*. Grantham Research Institute on Climate Change and the Environment, London School of Economics and Political Science. https://www.climate-laws.org/geographies/india.

India. 2008. *National Action Plan on Climate Change*. Grantham Research Institute on Climate Change and the Environment, London School of Economics and Political Science._ https://www.climate-laws.org/geographies/india.

India. 2009. *National Policy on Biofuels*. Grantham Research Institute on Climate Change and the Environment, London School of Economics and Political Science._ https://www.climate-laws.org/geographies/india.

India. 2013. *12th Five Year Plan (2012–2017): faster, more inclusive and sustainable growth*. The Asia and Pacific Energy Forum. https://policy.asiapacificenergy.org/node/2511.

India. 2014. *National Auto Fuel Policy and Auto Fuel Vision and Policy 2025*. Grantham Research Institute on Climate Change and the Environment, London School of Economics and Political Science. https://www.climate-laws.org/geographies/india.

India. 2015. *India's NDC*. Nationally Determined Contributions Registry, United Nations Climate Change. https://unfccc.int/NDCREG.

India. 2016. *Tariff Policy 2006 (revision)*. Grantham Research Institute on Climate Change and the Environment, London School of Economics and Political Science. _https://www.climate-laws.org/geographies/india.

India. 2021. *India's NDC, First Update*. Nationally Determined Contributions Registry, United Nations Climate Change. https://unfccc.int/NDCREG.

Liang, Boyi et al. 2022. "Planted Forest is Catching up with Natural Forest in China in Terms of Carbon Density and Carbon Storage". *Fundamental Research* 2 (5): 688-696. https://doi.org/10.1016/j.fmre.2022.04.008.

MapBiomas. 2022. *Taxas de desmatamento Amazônia e Cerrado*. Projeto MapBiomas – Coleção 7 da Série Anual de Mapas de Uso e Cobertura da Terra do Brasil. https://plataforma.brasil.mapbiomas.org/.

MCTI. 2016. *Estimativas anuais de emissões de gases de efeito estufa no Brasil. Third Edition*. Report. Ministério da Ciência, Tecnologia, Inovações e Comunicações. https://www.gov.br/mcti/pt-br/acompanhe-o-mcti/sirene/publicacoes/estimativas-anuais-de-emissoes-gee/arquivos/estimativas_3ed.pdf.

NOAA. 2022. *Trends in Atmospheric Carbon Dioxide*. Global Monitoring Laboratory, National Oceanic and Atmospheric Administration. https://gml.noaa.gov/ccgg/trends/.

Rosen, Daniel H. & Trevor Houser. 2007. *China Energy: a Guide for the Perplexed*. Center for Strategic and International Studies & Peterson Institute for International Economics. https://www.cebc.org.br/sites/default/files/apresentacao_trevor_house.pdf.

Russia. 2009. *Climate Doctrine of Russia*. Grantham Research Institute on Climate Change and the Environment, London School of Economics and Political Science.__https://www.climate-laws.org/geographies/russia.

Russia. 2013. *Decree No. 449 on the Mechanism for the Promotion of Renewable Energy on the Wholesale Electricity and Market*. Grantham Research Institute on Climate Change and the Environment, London School of Economics and Political Science.__https://www.climate-laws.org/geographies/russia.

Russia. 2014. *State Program on Energy Efficiency and Energy Development (approved by Government Decree No 321)*. Grantham Research Institute on Climate Change and the Environment, London School of Economics and Political Science. https://www.climate-laws.org/geographies/russia.

Russia. 2015. *Russia's NDC*. Nationally Determined Contributions Registry, United Nations Climate Change. https://unfccc.int/NDCREG.

Russia. 2019. *Decree 216/2019 Approving the Energy Security Doctrine*. Grantham Research Institute on Climate Change and the Environment, London School of Economics and Political Science._https://www.climate-laws.org/geographies/russia.

Russia. 2020. *Russia's NDC, First Update*. Nationally Determined Contributions Registry, United Nations Climate Change. https://unfccc.int/NDCREG.

Russia. 2021. *Presidential Decree 400/2021 on the National Security Strategy of the Russian Federation*. Grantham Research Institute on Climate Change and the Environment, London School of Economics and Political Science. https://www.climate-laws.org/geographies/russia.

Ryan, Daniel. 2017. "Politics and Climate Change: Exploring the Relationship between Political Parties and Climate Issues in Latin America". *Ambiente & Sociedade* 20 (3): 271-286. https://doi.org/10.1590/1809-4422ASOCEx0007V2032017.

SEEG. 2022. *Emissões brasileiras* [Database]. Sistema de Estimativas de Emissões e Remoções de Gases de Efeito Estufa, Observatório do Clima. https://plataforma.seeg.eco.br/total_emission.

South Africa. 2010. *Comunicação da República da África do Sul à UNFCCC de seu compromisso voluntário de redução de emissões no âmbito do Acordo de Copenhague*. Department of Environmental Affairs. https://unfccc.int/files/meetings/cop_15/copenhagen_accord/application/pdf/southafricacphaccord_app2.pdf.

South Africa. 2011. *National Climate Change Response Policy White Paper (NCCRP)*. Grantham Research Institute on Climate Change and the Environment, London School of Economics and Political Science. https://www.climate-laws.org/geographies/south-africa.

South Africa. 2015. *South Africa's NDC*. Nationally Determined Contributions Registry, United Nations Climate Change. https://unfccc.int/NDCREG.

South Africa. 2017. *National Greenhouse Gas Emissions Reporting Regulations, 2016*. Grantham Research Institute on Climate Change and the Environment, London School of Economics and Political Science. https://www.climate-laws.org/geographies/south-africa.

South Africa. 2018. *Green Transport Strategy 2018-2050*. Grantham Research Institute on Climate Change and the Environment, London School of Economics and Political Science. https://www.climate-laws.org/geographies/south-africa.

South Africa. 2019a. *Carbon Tax Act 15*. Grantham Research Institute on Climate Change and the Environment, London School of Economics and Political Science. https://www.climate-laws.org/geographies/south-africa.

South Africa. 2019b. *National Energy Efficiency Strategy*. Grantham Research Institute on Climate Change and the Environment, London School of Economics and Political Science. https://www.climate-laws.org/geographies/south-africa.

South Africa. 2019c. *Integrated Resources Plan*. Grantham Research Institute on Climate Change and the Environment, London School of Economics and Political Science. https://www.climate-laws.org/geographies/south-africa.

The World Bank. 2022. *World Development*

Indicators, indicator EG.USE.COMM.GD.PP.KD. IEA Statistics. International Energy Agency, Organisation for Economic Co-operation and Development (OECD). https://data.worldbank.org/indicator/EG.USE.COMM.GD.PP.KD.

Tong, Xiaowei et al. 2020. "Forest Management in Southern China Generates Short Term Extensive Carbon Sequestration". *Nature Communications* 11, 129. https://doi.org/10.1038/s41467-019-13798-8.

UN News. 2021. "Russia will achieve carbon neutrality by 2060". *Climate and environment, UN News*, October 14, 2021. https://news.un.org/ru/story/2021/10/1411842.

Unterstell, Natalie & Nathália Martins. 2022. *NDC do Brasil: Avaliação da atualização submetida à UNFCCC em 2022*. Nota Técnica. Rio de Janeiro: TALANOA. https://www.politicaporinteiro.org/wp-content/uploads/2022/04/Analise-NDC-022_V0.pdf.

Viola, Eduardo & Matías Franchini. 2018. *Brazil and Climate Change: Beyond the Amazon*. New York: Routledge.

Viola, Eduardo, Matias Franchini & Thais Lemos Ribeiro. 2013. *Sistema internacional de hegemonia conservadora – governança global e democracia na era da crise climática*. São Paulo: Annablume.

Zhang, Lei et al. 2021. "Where Should China Practice Forestry in a Warming World?" *Global Change Biology* 28 (7): 2461-2475. https://doi.org/10.1111/gcb.16065.

To cite this work: Basso, Larissa & Eduardo Viola. 2022. "Are the BRICS Engaged in the Low Carbon Transition?" *CEBRI-Journal* Year 1, No. 4 (Oct-Nov): 123-151.

DOI: https://doi.org/10.54827/issn2764-7897.cebri2022.04.03.05.123-151.en

Submitted: November 13, 2022
Accepted for publication: November 17, 2022

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SPECIAL SECTION

Challenges to Achieving the Commitments of Brazil's NDC in the Amazon Biome

Gilberto Câmara, Rolf Simões, Heloisa M. Ruivo, Pedro R. Andrade, Marluce Scarabello, Wanderson Costa, Rafael Ramos, Fernando Ramos, Claudio Almeida, Ieda Sanches, Marcos Adami, Luiz Maurano, Aline Soterroni, Alexandre Coutinho, Julio Esquerdo, João Antunes & Adriano Venturieri

Abstract: The Brazilian Nationally Determined Contribution (NDC) established ambitious greenhouse gas emissions reduction targets. Using the Brazilian Forestry Code as reference, we describe the challenges Brazil will face to achieve its deforestation and forest restoration NDC commitments in the Amazon biome. This paper proposes a new perspective for public policy focusing on the extent of illegal deforestation and on current land use in the region.

Keywords: Nationally Determined Contribution (NDC); Amazon biome; Brazil; Brazilian Forest Code; illegal deforestation.

According to data from the National Institute for Space Research (INPE 2022), deforestation has reduced by 85.3 million hectares (Mha) Brazil's 402.7 Mha original Amazon forest cover. The 21.2% reduction has gathered pace since the 1980s. The deforestation rate has varied greatly since measurement began in 1988, peaking in 1995 (2.91 Mha) and 2004 (2.77 Mha). Robust command and control action by the federal government reduced forest clearing by 84% from 2004 to 2012. That decline motivated Brazil to include bold land use targets in its Nationally Determined Contribution (NDC) presented to the 2015 United Nations Framework Convention on Climate Change (UNFCCC) within the framework of the Paris Agreement. Brazil has pledged "to achieve, in the Brazilian Amazon, zero illegal deforestation by 2030 and compensate for greenhouse gas emissions from legal suppression of vegetation by 2030." Brazil further committed to "restoring and reforesting 12 million hectares of forests by 2030, for multiple purposes." The deliberate inaction of the Bolsonaro administration caused forest felling to increase significantly from 2018 to 2022. To regain control over the region and meet its 2015 NDC commitments, Brazil will need sound public policies supported by detailed information on the Amazon biome. This document contributes to this purpose by providing a detailed assessment of the challenges Brazil will face to achieve its zero illegal deforestation and forest restoration goals in the Amazon..

Law 12,651/2012 (Forestry Code) established the legal framework for Brazil's land use policy. The Code governs the private use of land and sets out the proportion of each property's area that can be used for agriculture and livestock farming. A certain proportion of rural properties, referred to as legal reserves, is to be preserved to protect natural vegetation. The Code also prohibits the removal of the natural vegetation on hilltops and near river basins, deemed permanent protection areas (APP) necessary to preserve water resources and to protect the soil. The size of the legal reserve depends on the biome; in the Amazon biome, it corresponds to 80% of each property, except in circumstances specified in statute. Landowners are required to sign compliance agreements under which they commit to restore any APP or legal

Gilberto Câmara, **Rolf Simões, Heloisa M. Ruivo, Pedro R. Andrade, Marluce Scarabello, Wanderson Costa, Rafael Ramos, Fernando Ramos, Claudio Almeida, Ieda Sanches, Marcos Adami & Luiz Maurano** *are from the Brazilian National Institute for Space Research (INPE)..*

Aline Soterroni *is from the Department of Zoology, University of Oxford.*

Alexandre Coutinho, Julio Esquerdo, João Antunes & Adriano Venturieri *are from the Brazilian Agricultural Research Corporation (EMBRAPA).*

reserve areas cleared until July 22, 2008. Removal of the native vegetation within legal reserve areas after July 2008 is banned and subject to penalties and fines.

When the legal reserve is smaller than required, the landowner incurs a deficit. Landowners whose properties include native vegetation areas in excess of the legal reserve accumulate surpluses. Landowners with deficits may offset them by purchasing surpluses from other properties within the same biome; this provision creates a market for forest credits.

To restore the forest and to satisfy its NDC, Brazil needs up-to-date information on Forestry Code compliance by rural properties. It is then essential to know the native vegetation recovery requirement for each property…

Compliance with the Forestry Code is essential for Brazil to achieve the emissions and land use targets in its 2015 NDC (Soterroni et al. 2018). That study found that full implementation of the Code will provide most of the 0.90 GtCO2eq reduction in greenhouse gas (GHG) emissions in 2030 compared to the 2005 level Brazil committed to in its NDC. Achieving zero illegal deforestation and restoring the Amazon rainforest are key for Brazil to reduce its emissions. If Brazil fails to enforce the Code to achieve zero illegal deforestation and restore forest cover, Brazil will not satisfy the land use portion of its NDC.

To restore the forest and to satisfy its NDC, Brazil needs up-to-date information on Forestry Code compliance by rural properties. It is then essential to know the native vegetation recovery requirement for each property and the Code therefore requires landowners to self-report the relevant information to the Rural Environmental Registry (CAR). The CAR record for each rural property includes ownership and coordinate details, its permanent preservation area and legal reserve so that the CAR can be used to find landowners in violation of the Forestry Code.

We compared INPE maps with property details in the CAR and INCRA databases to identify illegal deforestation areas and then calculated each property's legal reserve deficit or surplus. We organized deficits by property size and by type of land use to indicate the potential opportunity costs associated with forest restoration. Those hitherto unpublished results will supplement and expand prior studies (Soares-Filho et al. 2014; Rajão et al. 2020; Guidotti et al. 2020; Stabile et al. 2020; Charivari et al. 2021; Igari et al. 2021; CSR 2022). Our purpose is to contribute

with the creation of realistic public policies that can restore the forest and satisfy Brazil's NDC commitments.

DATA

We used the databases listed in Table 1 to make an up-to-date and in-depth review of land occupation in the Amazon.

Type	Source	Year
Indigenous Land	FUNAI	2021
Conservation Units (CUs)	ICMbio	2021
Quilombolas	INCRA	2021
Settlements	INCRA	2021
Private Properties	SIGEF (INCRA)	2021
	SNCI (INCRA)	2021
	Terra Legal	2019
	CAR (SFB)	2021
Ecological-Economic Zoning	SIAGEO (EMBRAPA)	2022
Deforestation (PRODES)	INPE	2021
Land Use in the Amazon	INPE/EMBRAPA	2020

Table 1: Land use and occupation databases. Prepared by the authors based on information provided by FUNAI, ICMBio, INCRA, CAR/SFB, EMBRAPA, INPE.

The National Institute for Space Research (INPE) has since 1988 fed satellite images into the Amazon Deforestation Monitoring Project (PRODES) system to map felled native forest areas in the Amazon biome. INPE and the Brazilian Agricultural Research Corporation (EMBRAPA) operate the TerraClass system to monitor land use and land cover in deforested areas (Almeida et al. 2016). EMBRAPA has also developed the Interactive Geospatial Analysis System for the Legal Amazon Region (SIAGEO) to process the region's Ecological-Economic Zoning (ZEE) data.

According to the Federal National Indigenous Peoples Office (FUNAI) there are 115.9 Mha of indigenous lands in the Amazon. FUNAI's database includes: (a) areas whose boundaries have been delimited but not yet certified; and (b) areas already legally recognized. We considered both to be legitimate indigenous lands.

The Chico Mendes Institute for Biodiversity Conservation (ICMBio) provides data on conservation units that include strictly protected areas (45.8 Mha) and sustainable use areas (81.8 Mha).

Data on *quilombola*[1] lands and on land-reform settlements come from the National Institute for Colonization and Agrarian Reform (INCRA). There are 156 *quilombola* areas in the Amazon adding to 1.9 Mha. The Amazon biome encompasses 76% of Brazil's land-reform settlements, divided into two groups. Traditional occupation areas, mostly created up to the early 2000s, are home to migrants from other regions and their descendants. Sustainable use areas are intended for traditional peoples and communities, including riparian and extractivist communities. The latter include: (a) agro-extractive projects (PAE); (b) sustainable development projects (PDS); and (c) extractive (RESEX) and sustainable development reservations (RDS). We considered a 80% legal reserve for PDS and PAE areas. Resex and RDS areas are fully protected.

INCRA maintains three databases on private land in the Amazon. The Land Management System (Sigef) encompasses 159,800 properties adding to 77.4 Mha. The National Land Certification System (SNCI) includes data on 15,260 properties adding to 32.2 Mha. SNCI and SIGEF data do not overlap. The Legal Land Registry (Terra Legal) was created in 2009 to certify land for small farmers who had occupied public lands. The database encompasses 165,580 properties covering 11.7 Mha in the Amazon.

The fourth source of land ownership data is the Rural Environmental Registry (CAR) managed by the Brazilian Forest Service. The CAR version used for this study lists 985,225 properties in the Legal Amazon Region. Because CAR data is self-reported, there are inconsistencies in relation to and overlaps with SNCI, SIGEF and Terra Legal information. By late 2022, most CAR records were pending validation (Charivari et al. 2021). CAR data is poor-quality and includes duplicate entries, geometric inconsistencies (such as overlaps and gaps), legal inconsistencies and missing or conflicting information. In the absence of validated data, we designed and used adjustment rules to produce consistent maps from CAR data. By removing duplicate properties or those deemed irregular, we found 677,630 unique properties in the Amazon biome. We grouped the properties in each land-reform settlement into a single unit for analytical purposes given that settlements share a common legal reserve. That arrangement found 502,953 private land units and 2,476 settlements. Private land in standing or felled natural forest areas adds to 107.61 Mha and land-reform settlements add to 30.80 Mha, so that the grand total is 138.41 Mha.

1. Settlements established by fugitive slaves in the Colonial period. Their descendants had land claims legally recognized in 2018.

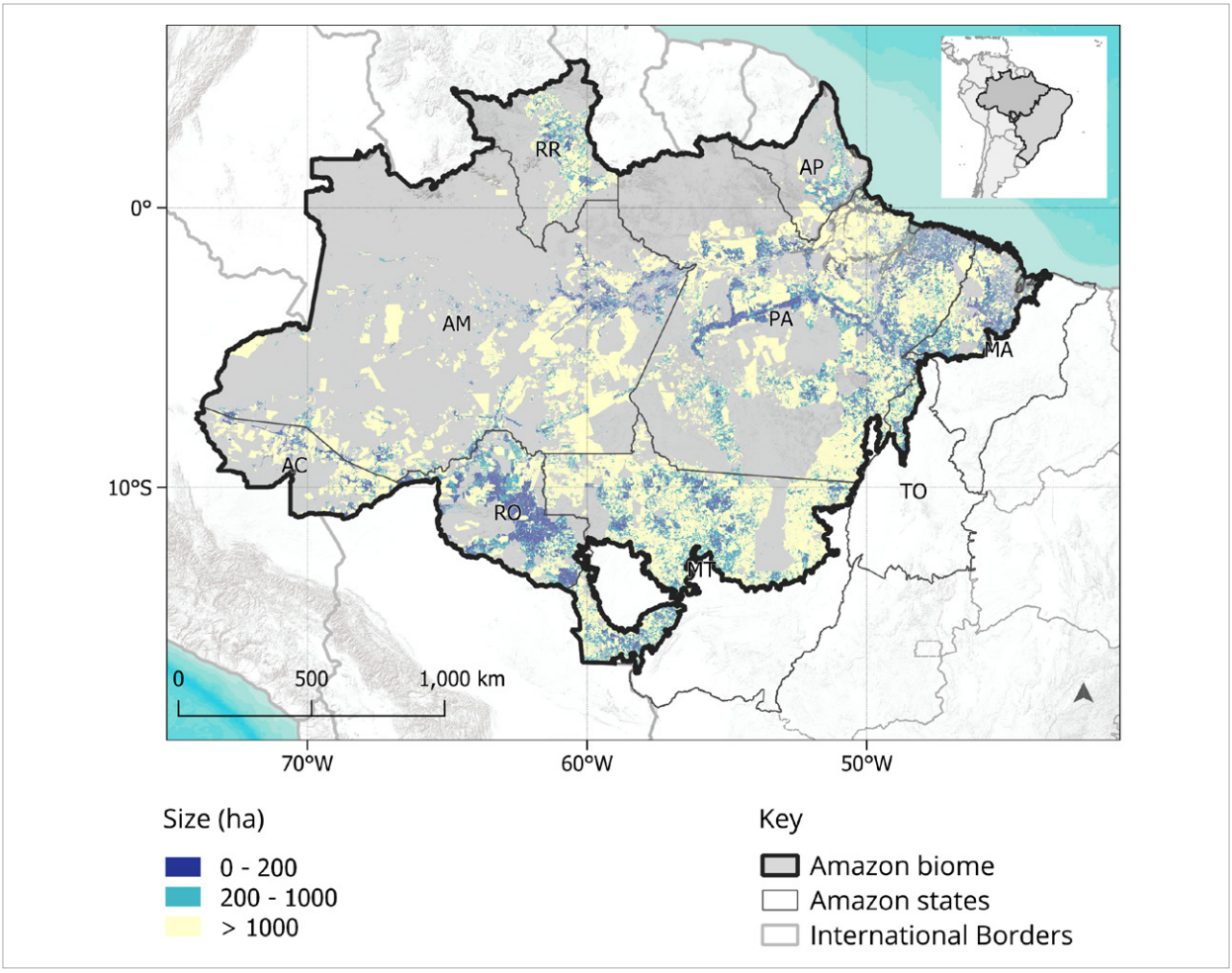

Figure 1: Rural properties and land-reform settlements in the Amazon biome. Prepared by the authors using INCRA and CAR/SFB data.

Figure 1 organizes private properties and land-reform settlements in the Amazon biome by size class. The largest concentrations of small properties (less than 200 ha) are in Rondônia, on the Pará portion of the Transamazônica highway, in the Bragantina area (PA), and the Maranhão portion of the biome. Most of them were settled by the 2000s. In the vicinity of the Xingu park, in Northern Mato Grosso, in Southern Pará, Southeastern Amazonas, and along the BR-163 highway, mid-size (200 to 1000 ha) and large (more than 1000 ha) properties predominate. These are areas of more recent occupation.

TRENDS IN LEGAL AND ILLEGAL DEFORESTATION

Based on the data described above, we used four rules to measure legal and illegal deforestation from 2008 to 2021: (a) forest clearing in fully protected areas is illegal; (b) clearing private land outside legal reserves is legal; (c) clearing private land within legal reserves is deemed illegal; and (d) land-reform settlements

are taken as single properties for legal reserve calculation purposes. We measured illegal deforestation by comparing property details with deforestation maps. We used PRODES/INPE data to calculate each property's primary forest portion and then found to what extent each had been legally or illegally cleared.

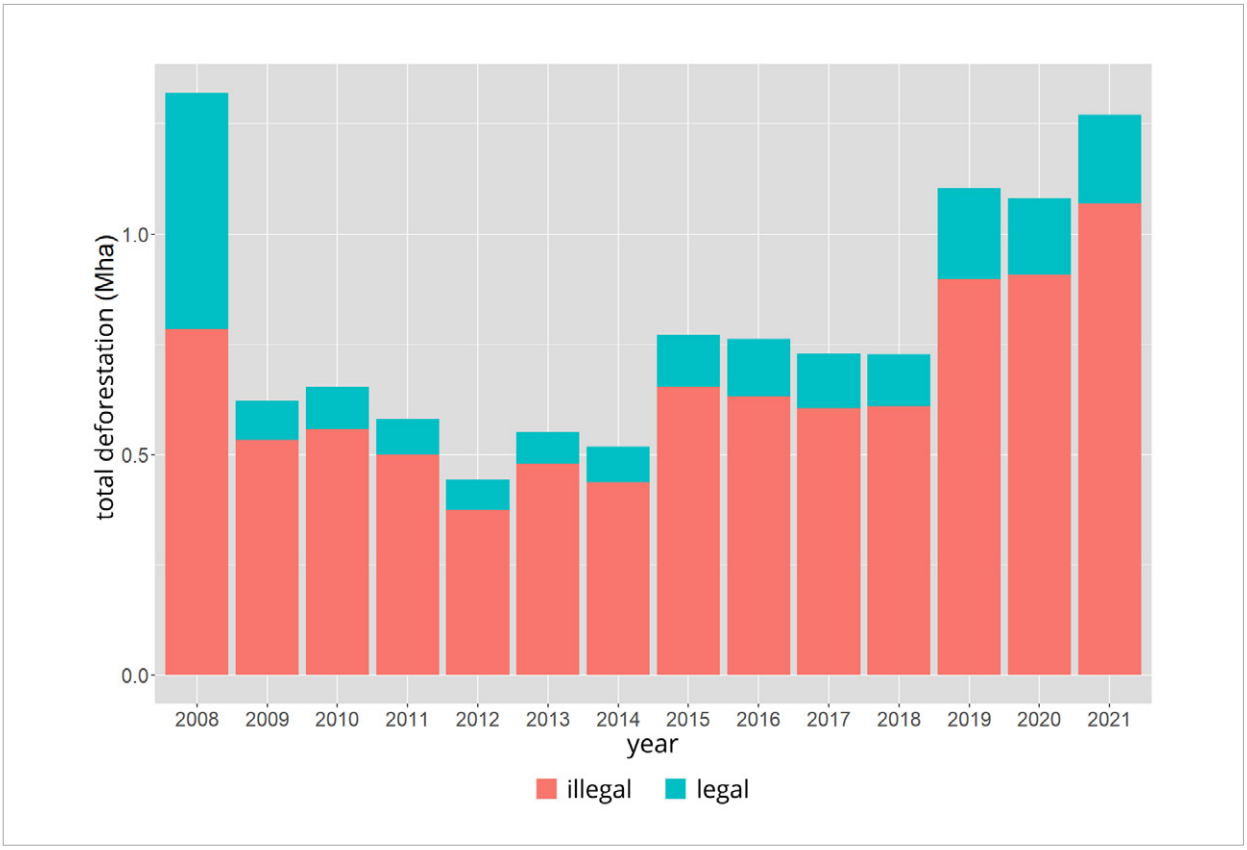

Figure 2: Legal and illegal deforestation on Amazon biome properties. Prepared by the authors using CAR/SFB, FUNAI, ICMBio, INPEdata.

Figure 2 shows total legal and illegal deforestation between 2008 and 2021. Except for 2008, the proportion of illegal clearing ranges from 81% to 87%. Figures from 2008 reflect the amnesty granted under the Forestry Code for areas cleared earlier. The proportion of legal deforestation follows three trends. Robust government action against deforestation from 2009 to 2014 drove down the proportion of legal deforestation, indicating that farmers reacted to command and control actions. The proportion of legal deforestation grew in 2015 and remained relatively stable until 2018. Illegal and legal deforestation increased from 2019 to 2021 because of virtually no enforcement during the Bolsonaro administration. Thus, the data suggest that legal and illegal deforestation respond to government control actions..

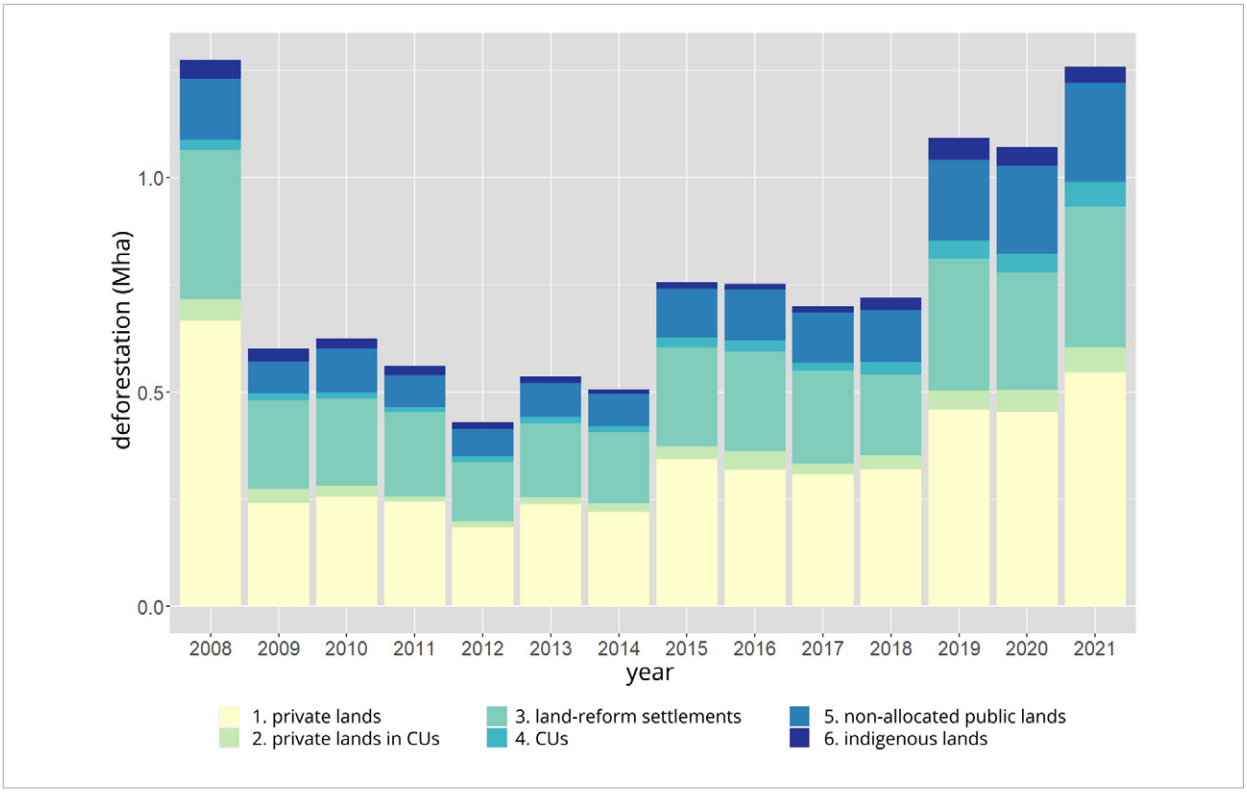

Figure 3: Total deforestation by type of land ownership. Prepared by the authors using CAR/SFB, FUNAI, ICMBio, and INPEdata.

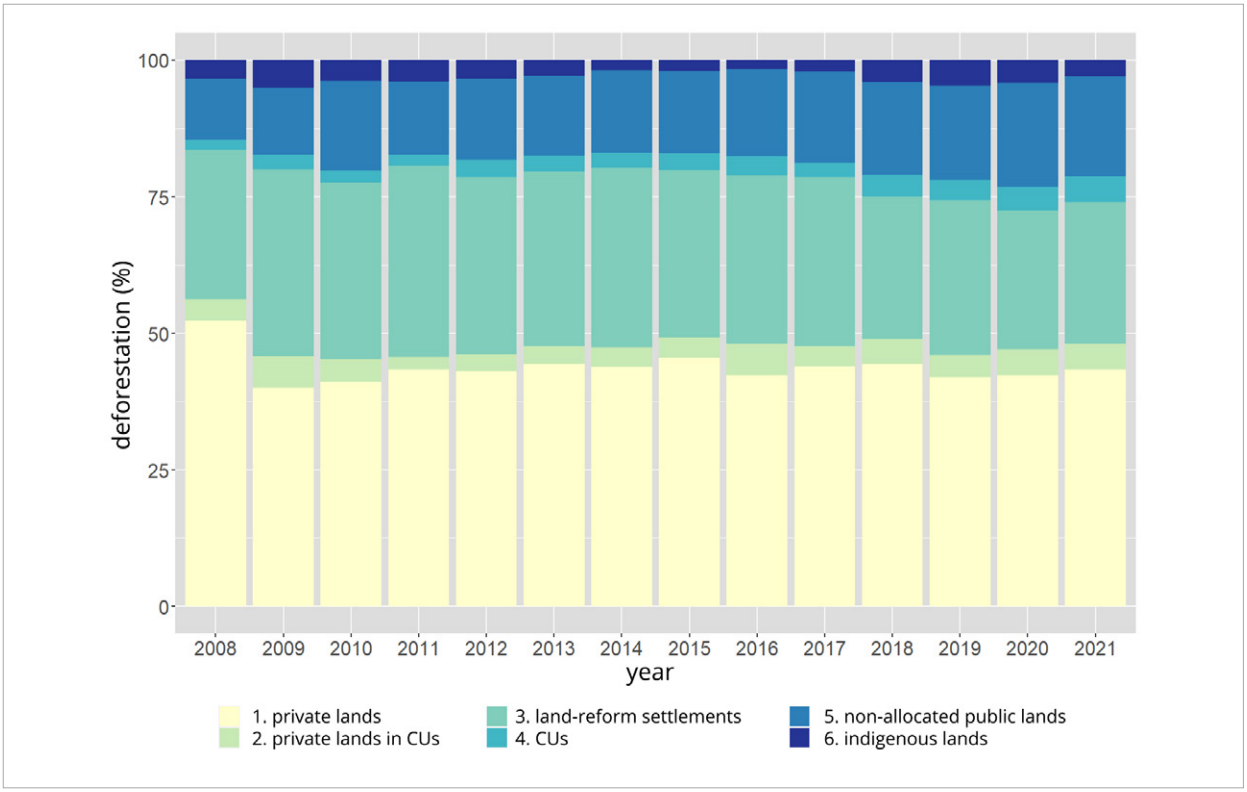

Figure 4: Relative deforestation by type of land ownership. Prepared by the authors using CAR/SFB, FUNAI, ICMBio, and INPE data.

We also calculated the extent of deforestation from 2008 to 2021 by type of land use for private lands, land-reform settlements, conservation units, indigenous lands, and non-allocated public lands. Figure 3 shows total deforestation by type of land use, and Figure 4 illustrates the relative variation. The data shows that some 50% of forest clearing occurs on private land and that clearing on land-reform settlements decreased from 30% in 2008-2012 to 25% of the total in recent years. Deforestation on non-allocated public land increased from 12% in 2008 to 20% in 2021. The latter increase is a critical sign that the land frontier is being pushed into new areas outside the traditional "deforestation arc" (Azevedo-Ramos et al. 2020).

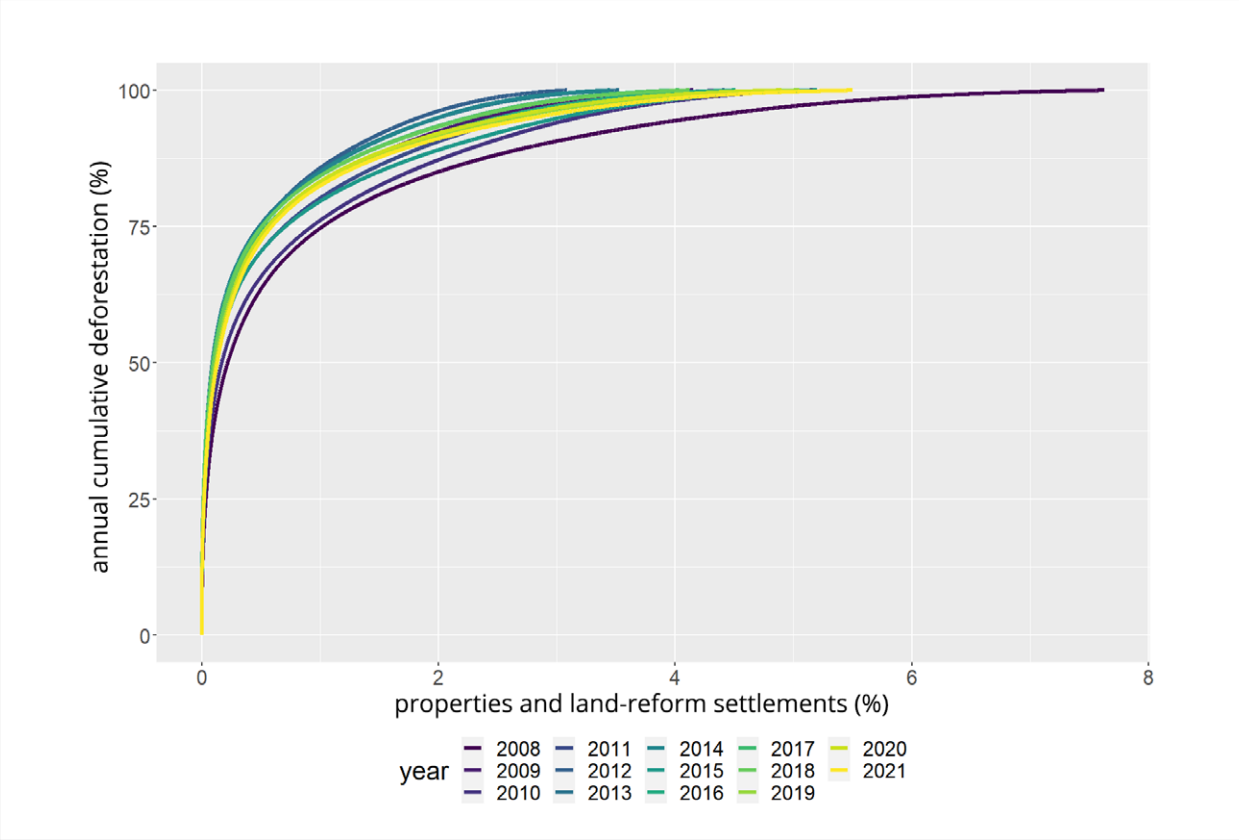

Figure 5: Accumulated deforestation from most to less deforested property types. Prepared by the authors using INCRA, CAR/SFB, and INPEdata.

Figure 5 shows the cumulative distribution of deforestation in properties and land-reform settlements. We ranked properties from most to less deforested annually to make that chart. It excludes forest clearing in non-allocated public lands, conservation units, and indigenous lands, which account for 20% to 25% of total annual deforestation. We found an extreme instance of Pareto's Law, where few elements cause most effects. In general, only about 5% of properties and settlements are responsible for 100% of deforestation each year within CAR areas.

During the robust government action period of 2008-2012, 75% of deforestation occurred in about 1% of properties. In 2018-2021, when enforcement actions were very limited, 75% of deforestation occurred in about 0.5% of properties. In other words, only 2,500 properties and land-reform settlements out of a total of 500,000 concentrated most of the deforestation in recent years, so forest clearing is strongly concentrated in a few players responsible for large-scale clearings. That suggests that targeted control actions may have a strong effect on preventing illegal deforestation.

Given that a small fraction of properties and settlements is responsible for most of the deforestation, their geographic distribution is significant. Figure 6 shows the location of all properties and land-reform settlements included in the CAR, highlighting the 1% of titled land in the Amazon that accounts for 83% of deforestation on said property groups in 2021.

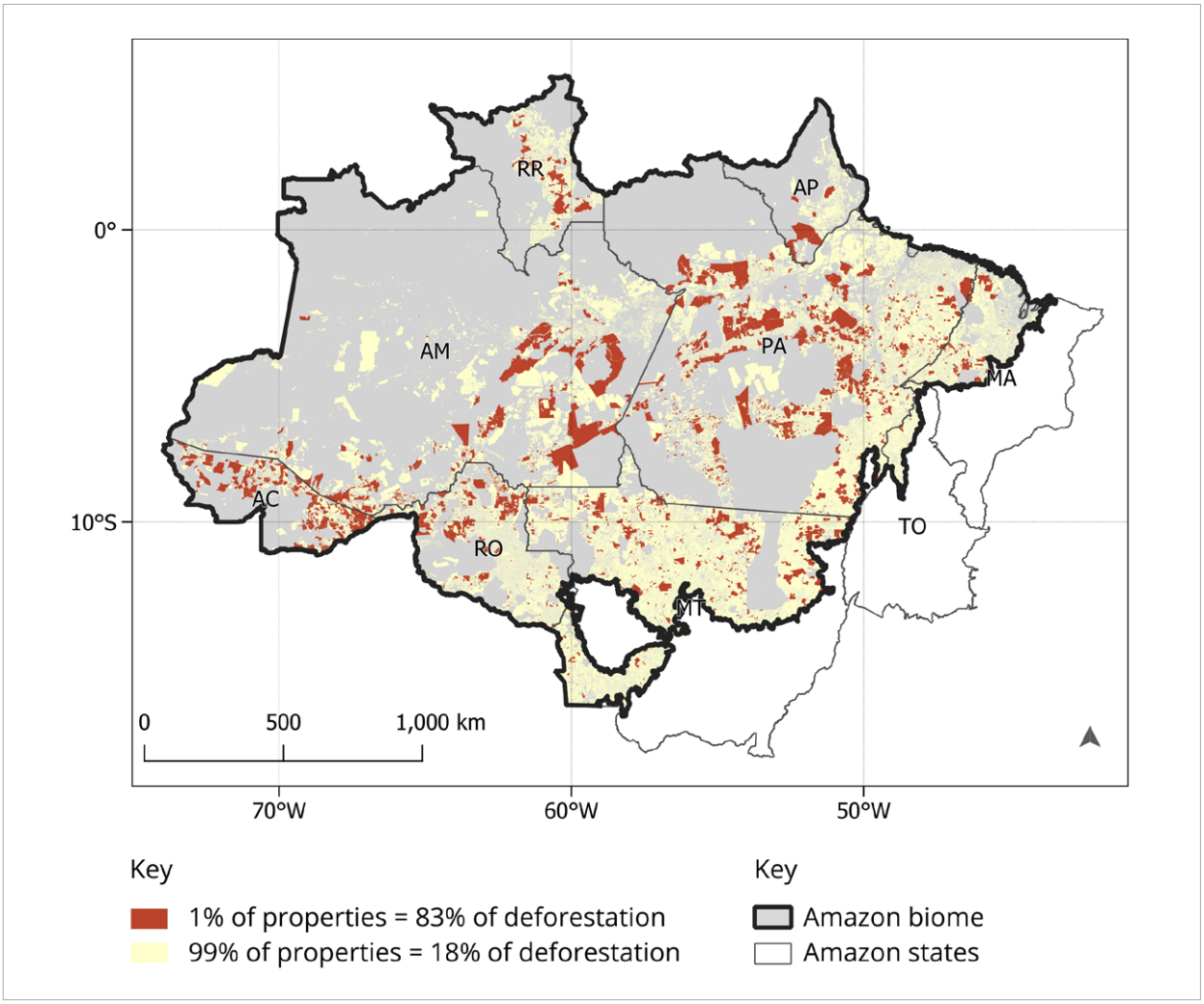

Figure 6: Geographic location of rural properties in the Amazon, highlighting 5,054 properties (1% of total) responsible for 83% of deforestation in CAR areas in 2021. Prepared by the authors using CAR/SFB, FUNAI, ICMBio, and INPE data.

LEGAL RESERVE DEFICITS AND SURPLUSES

The calculation of legal reserve deficits and surpluses in the Amazon biome must consider the exceptions in the Forestry Code reducing that reserve to 50% of the property solely for recomposition purposes. Those circumstances include: (a) properties in municipalities whose territory is more than 50% covered by conservation units and indigenous lands (article 12, para. 4); and (b) properties in reduced-reserve areas pursuant to state Ecological-Economic Zoning (ZEE) rules (article 13, item I). Said properties must restore their legal reserves to the percentages existing in 2008, provided that no less than 50%. For example, a property with 40% legal reserve in 2008 must recompose 10% of its area to native forest. By late 2022, only three states (Acre, Rondônia and Pará) had enacted legislation reducing the legal reserve to 50% in part of their territory. This study considers the ZEEs for those states and the states of Maranhão and Tocantins, also available in Siageo Amazônia (EMBRAPA 2022).

Article 12, para. 5, specified a third circumstance where the legal reserve is reduced from 80% to 50%: when protected areas and indigenous lands cover more than 65% of state territory.

Property Type	Size (ha)	Forest + cleared area (Mha)	Legal Reserve Deficit (Mha)	Legal Reserve Surplus (Mha)
Private Land	0–200 ha	19,06	1,03	0,40
	200–1000 ha	22,95	4,81	1,09
	> 1000 ha	65,60	9,92	5,83
Settlements		30,80	6,60	1,93
Total		138,41	22,36	9,25

Table 2: Total forest and cleared area by property size and type, and legal reserve deficits and surpluses. Prepared by the authors using INCRA, CAR/SFB, ICMBio, INPE, and EMBRAPA data.

Table 2 shows accumulated deficits and surpluses by property size and for land-reform settlements. Legal reserve deficits in the Amazon biome add to 22.36 Mha, and the surpluses available for trade in the environmental credit market total 9.25 Mha. In general terms, full compliance with the Forestry Code will require restoring 13.11 Mha to tropical forest. In theory, compliance with its legislation will allow Brazil to meet the restoration commitments established in its NDC. In practice, a number of considerable hurdles impede compliance. Understanding those challenges requires looking at the opportunity cost associated with land use in deforested areas, which we will examine below.

Land Use	Property Type	Class (ha)	Area (Mha)	Deficit (Mha)
Secondary Vegetation	private	0–200	2,49	0,30
		200–1000	2,22	1,34
		> 1000	4,03	2,82
	settlement		2,42	1,95
Shrub Pasture	private	0–200	2,65	0,32
		200–1000	1,85	0,94
		> 1000	2,63	1,52
	settlement		3,50	2,23
Grass Pasture	private	0–200	7,68	0,36
		200–1000	6,80	1,83
		> 1000	10,69	3,99
	settlement		7,66	2,28
One-Cycle Agriculture	private	0–200	0,10	–
		200–1000	0,20	0,06
		> 1000	0,37	0,15
	settlement		0,07	0,01
Two-Cycle Agriculture	private	0–200	0,50	0,01
		200–1000	1,30	0,50
		> 1000	2,76	1,23
	settlement		0,27	0,09
Permanent Crops	private	0–200	0,09	–
		200–1000	0,05	0,01
		> 1000	0,15	0,01
	settlement		0,02	–
Sugar Cane	private	0–200	0,02	–
		200–1000	0,05	0,02
		> 1000	0,07	0,03
	settlement		–	–
Forestry	private	0–200	0,01	–
		200–1000	0,06	0,01
		> 1000	0,23	0,21
	settlement		–	–

Table 3: Types of land use in deforested areas in the Amazon biome in 2020, with associated areas and corresponding legal reserve deficits. Prepared by the authors using INCRA, CAR/SFB, ICMBio, INPE, EMBRAPA data.

In practice, a number of considerable hurdles impede compliance. Understanding those challenges requires looking at the opportunity cost associated with land use in deforested areas…

We calculated legal reserve deficits associated with each type of land use based on 2020 data from the land use map of deforested areas (TerraClass) created by INPE and EMBRAPA (Almeida et al. 2016). The land use classes identified in TerraClass include: (a) forestry; (b) one- and two-cycle temporary agriculture, mainly related to one-cycle soybean cultivation or intercropped with corn or cotton; (c) permanent crops such as coffee and cocoa; (d) sugar cane; (e) grass pasture (cultivated with grasses); (f) shrub pasture (pasture with the presence of woody vegetation in addition to grasses); and (g) secondary vegetation (felled forest areas in the process of regeneration).

Table 3 shows areas by types of use and related deficits. For deficit calculation purposes, we considered a hierarchy of restoration opportunity costs in reverse order of the classes identified in TerraClass (see above). Our assumption is that landowners in a legal reserve deficit position will seek to offset their obligations through alternatives entailing lower to higher opportunity costs: initially using any secondary vegetation areas, then restoring shrub pastures, then grass pastures and, finally, agricultural land.

One of the benefits of TerraClass mapping is its ability to distinguish grass from shrub pastures. The former are areas where owners invested in sowing and maintaining exogenous grasses that allow for greater herd stocking and productivity rates. Shrub pastures are associated with smaller and less productive herds.

Our results show that secondary vegetation areas are those that can most easily be used for restoration purposes. The 11.16 Mha in that category is almost enough to cover Brazil's NDC commitment. But only 3.62 Mha of those areas correspond to legal reserve deficits with restoration obligations, which means that most secondary vegetation may be cleared legally. Using those areas as a basis for restoration will require a balanced set of incentives and agreements with their owners. If feasible, their restoration will be the lowest opportunity cost alternative to achieve Brazil's NDC goal.

Secondary vegetation refers to forest regeneration in abandoned and degraded land or pastures. The literature shows that secondary vegetation areas are temporary (Picoli et al. 2020; Tyukavina et al. 2017; Richards 2015; Miranda et al. 2019).

Forest in frontier areas is felled by land-grabbers (Schielein & Borner 2018, Azevedo-Ramos et al. 2020), speculators who obtain temporary land titles, sometimes issued improperly. They sell the land to farmers when prices allow them to turn a profit (Azevedo-Ramos et al. 2020). The forest can regenerate if those cleared areas are not used for agriculture for over three years. Once the land is sold, the secondary vegetation is again cleared. The secondary vegetation that appears on land left idle will also be cleared when that land is put to agricultural use (Picoli et al. 2020). Those facts indicate that CAR records must be urgently certified to verify properties' compliance with secondary vegetation areas.

With regard to livestock farming, grass pasture areas (90% or more of grasses) total 32.83 Mha, mostly associated with herds on mid-size and large properties. Some 26% of those areas (8.47 Mha) show legal reserve deficits and should be restored. That represents a substantial challenge. On the one hand, the government's non-enforcement of the Code in relation to a legal reserve deficit of that magnitude could convey the message that the government is willing to tolerate non-compliance. On the other hand, those landowners have strong political presences in the region and in Brasília and will certainly push for incentives and payments for environmental services associated with restoration. The practical implication of full compliance with the Code will be a 35% increase in the beef cattle herd stocking rate in the Amazon. The magnitude of such a productive transformation cannot be underestimated. It will be difficult to achieve without rural credit policies associated with compliance with the Forestry Code.

Shrub pastures occupy a much smaller total area than grass pastures (10.63 Mha) and compliance with the Code will require the restoration of almost half the shrub pasture areas (5.03 Mha). The shrub pasture area in small properties and in land-reform settlements totals 6.15 Mha, of which 2.55 Mha (41.5%) correspond to legal reserve deficits. It will be wise to create a special regime attuned to the peculiarities of those landowners: they are underfunded and earn lower incomes than large cattle farmers.

Most of the land used for one- and two-cycle agricultural activities (4.63 Mha) is in mid-size and large properties with an associated deficit of 1.93 Mha (41.7%). Those are capitalized farmers who own high-value land (Spera et al. 2014, Picoli et al. 2020) and have the wherewithal to buy environmental reserve credits in the biome. The percentage of non-compliance with the Forestry Code is significant and any public policy targeting those landowners should be carefully designed. As in the case of grass pastures, if owners of land used to grow grain do not restore their legal reserves or buy environmental reserve credits, the government will find it difficult to cause other landowners to comply.

CONCLUSIONS

This paper used the most recent information available on deforestation, land ownership and use in the Amazon biome to quantify the prospects and challenges of Forestry Code enforcement. On the positive side, the strong concentration of recent forest felling in a small number of properties suggests that a focused and efficient oversight and enforcement effort may suffice for Brazil to meet the zero illegal deforestation goal in its NDC.

Our findings indicate that relying on forest restoration in the Amazon for Brazil to satisfy the corresponding NDC item involves major challenges associated mainly with the reaction of large and mid-size landowners of grass pastures. Our findings also differ from earlier estimates that found large degraded pasture areas in the Amazon and therefore projected a relatively low opportunity cost to comply with the Forestry Code. In contrast, we calculated at 8.5 Mha the legal reserve deficit associated with grass pastures. Any compliance drive focused on those well-funded mid-size and large landowners will involve difficult negotiations.

The second hurdle concerns mid-size and large grain farmers engaged in one- and two-cycle agricultural activities. Those farmers own high-quality land in which they have made significant investments. Regarding non-compliance with the Code, those areas show a 43.9% deficit. If the government cannot find a viable solution to cause their compliance, it will have trouble making other landowners comply.

Land-reform settlements, small and mid-sized properties on secondary vegetation and shrub pasture areas total 15.13 Mha, of which 7.11 Mha (47%) are associated with legal reserve deficits. The government may circumvent the aforementioned difficulty in imposing forest restoration through an active policy of paying small and mid-size farmers for environmental services if they fully restore their secondary vegetation and shrub pasture areas. The challenge here is adjusting payments to cover the associated opportunity costs and maintain strict enforcement in the relevant areas to avoid improprieties.

This paper used the most recent information available on deforestation, land ownership and use in the Amazon biome to quantify the prospects and challenges of Forestry Code enforcement. (...) Our findings indicate that relying on forest restoration in the Amazon for Brazil to satisfy the corresponding NDC item involves major challenges…

In summary, the Brazilian government faces a major challenge in implementing the Forestry Code and NDC restoration goals in the Amazon biome. The opportunity costs for large and mid-size landowners to restore the forest are significant. Those landowners are politically strong and will certainly react to unilateral actions to force them to comply with the Forestry Code without financial compensation or targeted rural credit policies.

The Brazilian government currently has a substantial capacity to collect and analyze information on Forestry Code interests. Satellite environmental monitoring systems are highly sophisticated and capable. A focused intelligence effort involving experts and good algorithms to "clean up" CAR data will produce a reliable land database. Brazil has the ability to combine the large amount of data available with high-level studies in support of public policies. That indicates that many of the technical elements needed to implement the Forestry Code and the NDC are available. The great challenge lies in designing public policies conducive to achieving Brazilian commitments under the Paris Agreement.

Acknowledgements

This work was partially funded by the International Climate Initiative (IKI) of Germany's Ministry for the Environment, Nature Conservation and Nuclear Safety, through grant 17-III-084-Global-A-RESTORE+. It was also supported by the Amazon Fund, through BNDES/Funcate agreement 17.2.0536.1 (project "Monitoring Brazilian Biomes"). Additional funding was provided by Microsoft, the Group on Earth Observations and Instituto Clima e Sociedade. The European Commission also contributed through the Horizon Europe program, funded by the "Open Earth Monitor" project (grant no. 101059548). The TerraClass project (INPE/EMBRAPA) is supported by the World Bank and by the Amazon Protection System Management and Operations Center (Censipam). The PRODES system is funded by the Brazilian Government's Ministry of Science and Technology through action 20V9 (Monitoring the Brazilian Biomes Budget), with additional support from the National Council for Scientific Development (CNPq) through proceeding 444418/2018- 0.

References

Almeida, C., A. Coutinho, J. Esquerdo, M. Adami, A. Venturieri, C. Diniz, N. Dessay, L. Durieux, & A. Gomes. 2016. "High Spatial Resolution Land Use and Land Cover Mapping of the Brazilian Legal Amazon in 2008 Using Landsat-5/TM and MODIS Data". *Acta Amazonica 46* (3): 291–302. https://doi.org/10.1590/1809-4392201505504.

Azevedo-Ramos, C., P. Moutinho, V. L. d. S. Arruda, M. C. C. Stabile, A. Alencar,

I. Castro, & J. P. Ribeiro. 2020. "Lawless Land in No Man's Land: The Undesignated Public Forests in the Brazilian Amazon". *Land Use Policy 99*, 104863. https://doi.org/10.1016/j.landusepol.2020.104863.

Charivari, J., C. L. Lopes & J. N. de Araujo. 2021. *Onde estamos na implementação do Código Florestal? Radiografia do CAR e do PRA nos estados brasileiros. 2021 Issue.* Technical Report. Rio de Janeiro: Climate Policy Initiative/PUC-Rio. https://www.inputbrasil.org/wp-content/uploads/2021/12/REL-WEB-Onde-Estamos-2021.pdf.

CSR. 2022. *Panorama do Código Florestal Brasileiro.* Technical Report. Centro de Sensoriamento Remoto, UFMG. https://csr.ufmg.br/radiografia_do_cf/wp-content/uploads/2022/11/policy_brief_pt_final.pdf.

Dias-Filho, M. & C. Andrade. 2019. *Recuperação de Pastagens Degradadas na Amazônia*. Brasília: Embrapa. http://dx.doi.org/10.13140/RG.2.1.1854.5761.

Embrapa. 2022. *Siageo Amazônia (Sistema Interativo de Análise Geoespacial da Amazônia Legal)*. Database. https://www.amazonia.cnptia.embrapa.br/.

Guidotti, V., S. Ferraz, L. Pinto, G. Sparovek, R. Taniwaki, L. Garcia, & P. Brancalion. 2020. "Changes in Brazil's Forest Code Can Erode the Potential of Riparian Buffers to Supply Watershed Services". *Land Use Policy* 94: 104511. https://doi.org/10.1016/j.landusepol.2020.104511.

INPE. 2022. Projeto de Monitoramento do Desmatamento da Amazônia *(Prodes)*. Database. Instituto Nacional de Pesquisas Espaciais, Brasil. http://terrabrasilis.dpi.inpe.br/.

Igari, A., A. Brites, A. P. Valdiones, B. Junior, B. Salgado, et al. 2021. *O Avanço da implementação do Código Florestal no Brasil*. Technical Report. Observatório do Código Florestal. https://ipam.org.br/wp-content/uploads/2021/12/O-avanco-da-implementacao-do-Codigo-Florestal-no-Brasil-IPAM_V11-1-1.pdf.

Miranda, J., J. Borner, M. Kalkuhl, & B. Soares-Filho. 2019. "Land Speculation and Conservation Policy Leakage in Brazil". *Environmental Research Letters* 14: 045006https://www.doi.org/10.1088/1748-9326/ab003a.

Picoli, M., A. Rorato, P. Leitão, G. Câmara, A. Maciel, P. Hostert, & I. Sanches. 2020. "Impacts of Public and Private Sector Policies on Soybean and Pasture Expansion in Mato Grosso—Brazil from 2001 to 2017". *Land* 9 (1): 20. https://doi.org/10.3390/land9010020.

Rajão, R., B. Soares-Filho, F. Nunes, J. Börner, L. Machado, D. Assis, A. Oliveira, L. Pinto, V. Ribeiro, L. Rausch, H. Gibbs, & D. Figueira. 2020. "The Rotten Apples of Brazil's Agribusiness". *Science 369* (6501): 246–248. https://doi.org/10.1126/science.aba6646.

Richards, P. 2015. "What Drives Indirect Land Use Change? How Brazil's Agriculture Sector Influences Frontier Deforestation". *Annals of the Association of American Geographers* 105 (5): 1026–1040. https://doi.org/10.1080%2F00045608.2015.1060924.

Schielein, J. & J. Borner. 2018. "Recent Transformations of Land-use and Land-cover Dynamics across Different Deforestation Frontiers in the Brazilian Amazon". *Land Use Policy* 76: 81–94. https://doi.org/10.1016/j.landusepol.2018.04.052.

Soares-Filho, B., R. Rajao, M. Macedo, A. Carneiro, W. Costa, M. Coe, H. Rodrigues, & A. Alencar. 2014. "Cracking Brazil's Forest Code". *Science* 344 (6182), 363–364. https://doi.org/10.1126/science.1246663.

Soterroni, A. C., A. Mosnier, A. Carvalho, G.

Câmara, M. Obersteiner, P. R. Andrade, R. Souza, R. Brock, J. Pirker, F. Kraxner, P. Havlik, V. Kapos, E. Ermgassen, H. Valin, & F. M. Ramos. 2018. "Future Environmental and Agricultural Impacts of Brazil's Forest Code". *Environmental Research Letters* 13 (7), 074021. https://doi.org/10.1088/1748-9326/aaccbb.

Souza, C., J. Shimbo, M. Rosa, L. Parente, A. Alencar, B. Rudorff, H. Hasenack, M. Matsuoto, L. Ferreira, P. W. Souza-Filho, S. de Oliveira, W. Rocha, A. Fonseca, C. Marques, C. Diniz, D. Costa, D. Monteiro, E. Rosa, E. Vélez-Martin, E. Weber, F. Lenti, F. Paternost, F. Pareyn, J. V. Siqueira, J. L. Viera, L. C. Neto, M. Saraiva, M. H. Sales, M. Salgado, R. Vasconcelos, S. Galano, V. Mesquita, & T. Azevedo. 2020. "Reconstructing Three Decades of Land Use and Land Cover Changes in Brazilian Biomes with Landsat Archive and Earth Engine". *Remote Sensing* 12 (17): 2735. http://dx.doi.org/10.3390/rs12172735.

Spera, S, A. Cohn, L. VanWey, J. Mustard, B. Rudorff, J. Risso, & M. Adami. 2014. "Recent Cropping Frequency, Expansion, and Abandonment in Mato Grosso, Brazil, had Selective Land Characteristics". *Environmental Research Letters* 9 (6): 064010. https://doi.org/10.1088/1748-9326/9/6/064010.

Stabile, M., A. Guimarães, D. Silva, V. Ribeiro, M. Macedo, M. Coe, E. Pinto, P. Moutinho, & A. Alencar. 2020. "Solving Brazil's Land Use Puzzle: Increasing Production and Slowing Amazon Deforestation". *Land Use Policy* 91: 104362. https://doi.org/10.1016/j.landusepol.2019.104362.

Townsend, C., N. Costa & R. Pereira. 2009. *Aspectos econômicos da recuperação de pastagens na Amazônia Brasileira*. Technical Report. Porto Velho, RO: Embrapa Rondônia. https://ainfo.cnptia.embrapa.br/digital/bitstream/CPAF-RO-2010/14552/1/131-pastagem.pdf.

Tyukavina, A., M. C. Hansen, P. V. Potapov, S. V. Stehman, K. Smith-Rodriguez, C. Okpa, & R. Aguilar. 2017. "Types and Rates of Forest Disturbance in Brazilian Legal Amazon, 2000–2013". *Science Advances* 3 (4): e1601047. https://doi.org/10.1126/sciadv.1601047.

To cite this work: Câmara, Gilberto et al. 2022. "Challenges to Achieving the Commitments of Brazil's NDC in the Amazon Biome." *CEBRI-Journal* Year 1, No. 4 (Oct-Nov): 152-169.

DOI: https://doi.org/10.54827/issn2764-7897.cebri2022.04.03.06.152-169.en

Submitted: November 27, 2022
Accepted for publication: November 28, 2022

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ACADEMIC ARTICLE

CEBRI JOURNAL
Year 1 / No. 4 / Oct-Dec 2022

ACADEMIC ARTICLE

The Russo-Ukrainian War and Global Security Challenges in the South Atlantic

Ariel González Levaggi

Abstract: The new global context marked by the armed conflagration in Eastern Europe presents a series of risks and challenges to the South Atlantic, a zone of peace characterized by strategic stability and extended cooperation in the post-Cold War period. This article analyzes the systemic impact of the war in Ukraine in three dimensions: the risks of strategic competition between great powers, the response of regional actors to the Russo-Ukrainian conflict, and the impact on the economic development agenda.

Keywords: South Atlantic; Russia; Ukraine; security; peace zone; regional stability.

The South American peace zone of the South Atlantic is facing a turbulent international scene and raises great questions about the future of multilateralism and international cooperation.

A WORLD IN COMPETITION

The South Atlantic faces a new global reconfiguration of the post-Cold War order. The United States' (U.S.) hegemony is in crisis, while there is a growing challenge from Russia and China to the economic and security architecture led by the White House, which ranges from the development of post-Western economic projects to the quest to create zones of influence in the post-Soviet space and East Asia, thus isolating United States' influence. The Russian-Ukrainian war is not only an indicator of a less cooperative international pathway, but also a factor of systemic conflict. As Lebelem and Duarte Villa (2022) state, this armed conflict has triggered "strong pressures on international security," in addition to manifesting the presence of "systemic geopolitical factors that involve and counterpose the interests of actors with the capacity to act globally, such as the United States, China and NATO [North Atlantic Treaty Organization] itself."

In this context, the axis of world politics has been altered by a series of tectonic movements that have produced a shift from general cooperation toward confrontation, where the liberal rules-based order has motivated the return of traditional geopolitics characterized by "great power competition, imperial ambitions and struggles for resources" (Haass 2022). The economic, technological, and military rise of the People's Republic of China in light of containment efforts by the United States, the pandemic COVID-19 crisis, and the revisionism to the international order of the Russian Federation with the invasion of Ukraine reveal a different zeitgeist from the relatively peaceful Post-Cold War period. The unipolar, hegemonic world led by the United States and its network of allies is giving way to a "new world order in gestation" (Serbin 2022a, 11), characterized by a disorderly process of transition to a multipolar configuration in which a block of Eurasian powers — China, Russia, India, and Turkey, among others — have multiplied geoeconomic and geopolitical cooperation schemes on the margins of the West (González Levaggi 2019).

Ariel González Levaggi *is an Associate Professor of the Department of Political Science and International Relations of the Faculty of Social Sciences of the Pontifical Catholic University of Argentina. Co-Chair of the 'Asia and the Americas' Section of the Latin American Studies Association (LASA). His latest book is Del Indo-Pacífico al Atlántico Sur. Estrategias Marítimas de las Grandes Potencias del siglo XXI (Instituto de Publicaciones Navales, 2022).*

Increasing multipolarity has two types of effects: greater geopolitical competition between great powers and the weakening of the global governance system. On the one hand, multilateralism is undergoing a profound crisis. Efforts to advance global governance systems on international security issues are marked by increasingly fragmented agendas and interests. In parallel, global economic interdependence has been subject to a progressive instrumentalization (weaponization) of economic and financial tools to achieve geoeconomic and geopolitical objectives (Farrell & Newman 2019), expressed in the systematic package of sanctions imposed by the West on Putin's Russia. On the other side, deteriorating foundations of international security allowed the emergence of the short-lived but stable unipolar world. Regional dynamics in the post-Soviet space and the Indo-Pacific region are increasingly determined by a structure of cross-alliances between countries and institutions allied to the United States, and those within the framework of ascending Eurasian coordination efforts between Moscow and Beijing (Serbin 2019).

In light of the current global power transition and the growing disorder in global dynamics, the South Atlantic remains a regional security order with high levels of stability and an important degree of intergovernmental cooperation, especially on the South American coast, manifested through the longlasting idea idea of a South Atlantic Zone of Peace and Cooperation (ZPCAS) and the Coordination of the South Atlantic Maritime Area (CAMAS) (Hoffmann & Macondes 2017). Another interesting instance under the United States' leadership has been the Joint Statement on Atlantic Cooperation signed in September 2022, where a series of countries from both hemispheres — including Brazil, Argentina, and the United Kingdom — share the commitment of promoting a peaceful, prosperous, open, and cooperative Atlantic region (United States 2022).

This article reflects on the impact of the Russian-Ukrainian conflict on the South American Atlantic space. To this end, the first section frames the South Atlantic as a zone of peace and extended cooperation. The second section analyzes the impacts on regional dynamics related to systemic risks in the South Atlantic…

Except for the limited interregnum during the last two decades of the Cold War — resulting from the decolonization processes in Portuguese Africa, the South Atlantic Conflict in 1982, and the more active involvement of Soviet maritime and strategic interests in the area —, the region is highly stable and

shows low levels of conflict, partly due to its low strategic maritime relevance and the limited presence of existential counterpoints between great powers. However, given that most of the globe is under growing pressures from the global competition between the U.S. and its allies against China and Russia, the South Atlantic has also been subject to a series of impacts, although most of them indirect given that it does not represent a central strategic stage, like the emergence of the Indo-Pacific (Toro 2021; Cannon 2022) or the Eurasian space (Gresh 2020; Diesen 2017).

In light of the environment described above, this article reflects on the impact of the Russian-Ukrainian conflict on the South American Atlantic space. To this end, the first section frames the South Atlantic as a zone of peace and extended cooperation. The second section analyzes the impacts on regional dynamics related to systemic risks in the South Atlantic, the international positioning of Argentina and Brazil, and the consequences on economic development.

THE SOUTH ATLANTIC: A ZONE OF EXTENDED PEACE AND COOPERATION

In recent years, a multiplication of approaches to regional security issues has been reported, thus diversifying traditional visions beyond the issues of war and peace in Latin America (Mares & Kacowicz 2015). Despite the existence of a peaceful environment showing a significant degree of economic interdependence, advanced levels of democratic institutionality, and the diffusion of regional and sub-regional institutions, there are still certain aspects that keep the region away from a Kantian "paradise." While the existence of peace in terms of the absence of armed conflicts over the last three decades cannot be denied, there are issues, such as diplomatic crises, political conflicts, militarized disputes, and the expansion of transnational threats that raise certain questions about the scope of a certain peace based on the European Union model.

As Cameron Thies states, there are two dominant approaches to understanding war and peace in Latin America, which can be extended to the South Atlantic: "The first attempts to explain specific classes of conflict: war, rivalry, militarized interstate disputes (MIDs), and civil wars as phenomena in their own right. The second approach tries to explain the type of regional order (e.g., zone of peace) that prevails at any given time and is mostly oriented toward explaining relatively peaceful regional relations" (Thies 2016, 113).

Regions, per se, are not given objects but are socially constructed and thus express contested political visions. In this case, regions have both material and identity dimensions. On the one hand, they have a territory and a state organization, but

on the other hand, there is an additional element that is often difficult to concretize: a collective idea that gives meaning.

Regions are "given" by geography and "manufactured" through politics (Katzenstein 2005, 36). Therefore, politics — that authoritative assignment of values in its agonistic phase or that tool that allows consensus — plays a crucial role in defining a region. The South Atlantic maintains a peaceful dynamic and the probability of military conflicts is almost nil, beyond the existing militarization around the "Fortress Falklands" by the United Kingdom, an issue about which the Argentine Republic protests systematically in various international forums (MRECIC 2021), and the issue of sovereign claims over the Antarctic territory. Not only is the probability of an armed conflict limited, but in recent years a series of diplomatic and maritime security initiatives have been developed to allow the development of a "community of security practices" (Medeiros & Moreira 2017).

While militarized crises still occur in Latin America and border and territorial disputes exist in the Andean zone of South America, Central America and the Caribbean, there is a clear difference in the patterns of behavior in the western South Atlantic. On the one hand, traditional, realist mechanisms do not operate in the typical strict sense, due not only to the non-existence of armed conflicts since the South Atlantic Conflict in 1982 to date but also the low recurrence of militarized crises among main regional actors, the development of multiple bilateral agreements, and the impulse to build regional institutions such as MERCOSUR. On the other hand, despite the existence of a series of liberal variables considered fundamental to deepen cooperation — democratization, economic interdependence, and common institutions — the region has suffered from stagnation with regard to regional integration (Malamud & Gardini 2012) and little progress in the development of a collective defense structure and, even less, of military integration (Frenkel 2020).

What structural geostrategic factors attach importance to the Atlantic maritime space? Carlos De Meira Mattos (1990, 222) pointed out three elements: constituting a transportation route, forming an area of military power projection, and being a source of resources. With regard to the former, Cape Horn is shown as a vital communications artery given its alternative role in the transport of oil from the Persian Gulf to European markets, especially in the case of transportation through the Suez Canal being limited. The same would apply to the Strait of Magellan if the Panama Canal suffers any serious inconvenience. Secondly, the United Kingdom's strategic dominance of the island triangle of St. Helena, Ascension (also used by the United States), and Tristan da Cunha and the complex of the Falkland Islands, South Georgia, and South Sandwich Islands claimed by Argentina, but under the colonial control of the United Kingdom. In addition, "Fortress Falklands" is pro-

jected as an alternative gateway to the Antarctic territories outside the South American continent. In terms of resources, the exploitation of living resources — fish, krill, and whales — and non-living resources — hydrocarbons and polymetallic nodules — has been an element of additional interest not only for the Soviets, but also for the major naval powers in the region.

In a cooperative environment, the South Atlantic remains a vital reference point for the global interests of Argentina (Fraga 1983, Alessandrini 2019) and Brazil (Saraiva 1997, Duarte 2016). Moreover, the sustained presence of extra-regional powers such as the United Kingdom (Dodds 2012) and the United States (Espach 2021) cannot be ignored, in parallel with the growing projection of Eurasian powers such as the People's Republic of China, Russia and India (Abdenur & Marcondes 2013, González Levaggi 2022). The literature on the South Atlantic has various interpretations of the regional reality, characterized by the turbulence following the Falkland Islands conflict, the impact of the Soviet presence in the area during the last stage of the Cold War (Coutau-Bégarie 1988, Kelly & Child 1990), the uncertainty surrounding the irresolution of the sovereignty dispute over the Falkland Islands (Dodds 2012, Alessandrini 2019) and, finally, the existence of stable patterns of cooperation that have allowed the development of peace zone (Medeiros 2002, Abdenur, Mattheis and Seabra 2016). Concerning the latter approach, it is possible to offer an interpretation of the trajectory of the South American South Atlantic regional order by looking at the contributions made by the Southern Cone's peace zone literature.

According to Battaglino (2013, 8), the Southern Cone can be interpreted as a zone of positive peace in which the possibility of using force is unlikely. In the same vein, later interpretations present the region as normal (Miller 2007) or stable (Oelsner 2009) peace. However, it is important to recapitulate on the concept of a zone of peace. This concept was coined by Arie Kacowicz (1998, 9), who defined it as a "discrete geographical region of the world in which a group of states have maintained peaceful relations among themselves for a period of at least thirty years — a generation span — though civil wars, domestic unrest, and violence might still occur within their borders, as well as international conflicts and crises between them." According to this definition, this concept includes the Southern Cone region, since its member States have maintained relations without armed conflict since the War of the Triple Alliance (1864-1870), where Brazil, Uruguay, and Argentina confronted Paraguay led by Francisco Solano Lopez.

In addition, Kacowicz distinguishes negative or precarious peace, stable peace, and pluralist security community, the latter in line with Karl Deutsch (1957) and later Emanuel Adler and Michael Barnett (1998). In the first scenario, war is a concrete possibility, although States generally have no intention of changing the

territorial status quo. In stable peace, the use of military force is not expected since maintaining peace relies on reciprocal consensus, while economic rather than military issues set the agendas. Finally, the pluralistic security community (or security community) posits the existence of expectations of peaceful change rooted in States that share common norms, values, and institutions, with the development of a common identity and a high degree of interdependence (Kacowicz 1998, 9-10).

The Southern Cone will also be presented as an incipient pluralist security community (Kacowicz 1998, 21). However, the authors do not fully agree on whether to designate the Southern Cone as a pluralist security community or simply as a zone of stable peace. Based on Hurrell's (1998) contribution, Adler and Barnett (1998, 21) interpret that in the Southern Cone, there seems to be

> *stable expectations of non-use of force, non-fortified borders, and institutionalized habits of dialogue between the military establishments of Argentina and Brazil indicate that a security community may already exist between these two states. Moreover, a security community seems to be embedded in an increasingly dense process of economic integration and in the idea of a "club of states" to which only some governments are allowed to belong, and cooperative security becomes the symbol of democratic identity and the end of old rivalries.*

However, Oelsner (2016, 182) posits that, although Southern Cone seems to be a security community, there are certain limits in relation to the emergence of a common identity in this region. An advance that seems to have remained frozen in the second stage of evolution but reflects a series of positive expectations regarding the peaceful change that allowed the Southern Cone regional order to transform in the 1980s from a negative peace zone to a positive peace.

In any case, the consensus on the applicability of the notion of a zone of peace is relatively widespread, both in the academic world and among foreign policy decision-makers, expressed in two fundamental aspects. Firstly, in the development of regional institutions in the economic sphere (MERCOSUR), the diplomatic sphere (ZPCAS), and in relation to maritime security (Coordination of the South Atlantic Maritime Area). Secondly, the approval of regional documents such as the Ushuaia Protocol of 1998 by MERCOSUR and Associated States leaders, later extended to the South American Peace Zone at the first Meeting of the Presidents of South America — a predecessor of UNASUR —, held in Brasília in 2000.

Although this cooperative and peaceful prospect was not subsequently chal-

lenged, a trend towards the "logic of decoupling" between Argentina and Brazil can be glimpsed during the last decade. Moreover, in the South Atlantic, it is reflected in the "stagnation of the South Atlantic Zone of Peace and Cooperation (ZPCAS) mechanism" and the positioning of the maritime region as a "space of dispute and geostrategic projection of the great powers" (Malacalza & Tokatlian 2022). In any case, within the framework of a more conflictive context, there is a regional interest in revitalizing instances of cooperation such as the ZPCAS; or also creating spaces for new hemispheric cooperation that coordinate the North and South Atlantic, such as the Joint Statement on Atlantic Cooperation previously mentioned.

Regarding this aspect, the perspective of the zone of peace centered on State-centric dynamics and limited to the regional sphere fails to address challenges from transnational threats, in addition to the systemic factor in which the regional periphery is increasingly subject to global pressures due to the strategic competition between great powers (Russell & Calle 2022).

In a more dangerous world, the South Atlantic presents itself as an oasis of peace and stability, but there are a series of challenges for the regional "zone of peace." Among the main ones, we consider the risks derived from the strategic competition between great powers, the international positioning of regional actors in the face of the Russian-Ukrainian conflict and the impact on the economic development agenda.

THE RUSSIAN-UKRAINIAN CONFLICT: CHALLENGES TO REGIONAL STABILITY

The Russian military intervention in Ukraine has changed perceptions of decision-makers in the region on their relations with Russia, resulting in an alteration in the security agenda calculations with the United States and NATO partners. While uncertainty about the medium and long-term consequences prevails, the impact of the crisis in the South Atlantic has several dimensions. In a more dangerous world, the South Atlantic presents itself as an oasis of peace and stability, but there are a series of challenges for the regional "zone of peace." Among the main ones, we consider the risks derived from the strategic competition between great powers, the international positioning of regional actors in the face of the Russian-Ukrainian conflict and the impact on the economic development agenda.

SOUTH ATLANTIC: RISKS IN LIGHT OF NEW GLOBAL GEOPOLITICAL COMPETITION

The literature on regional security orders underlines the interconnection between the projection of extra-regional powers in such spaces, whether by overlapping (Lake & Morgan 1997), penetration (Buzan & Wæver 2003), or the type of involvement (González Levaggi 2020). In this regard, translating global geopolitical competition to the South Atlantic and Latin America has three potential difficulties.

First, the possibility of more assertive responses by Russia to respond to the United States' and NATO's actions in the war in Ukraine that go beyond traditional "symbolic reciprocity" (Rouvinski 2022) would imply the deployment not only of military personnel but also advanced weapons systems in Latin America and the Caribbean. As an indicator, during the turmoil of the Venezuelan crisis surrounding the conflict over international legitimacy, a series of Russian actions ranged from explicit support for Nicolás Maduro to the dispatch of Russian military contractors from the Wagner group to reinforce the security of the Venezuelan leader.

Second, a potential formal or informal expansion of the transatlantic military alliance beyond Europe or simply increased security cooperation to counter China or Russia may affect the South Atlantic. For now, Colombia, Brazil, and Argentina have achieved Grand Ally status outside NATO, although their commitment varies depending on the governments in office. For example, Bogota remains the U.S.' South Atlantic key security partner since the inception of Plan Colombia in the late 1990s, but the recent arrival of Gustavo Petro to the Palacio de Nariño raises doubts in Washington about whether this strategic partnership will continue. Countries such as Bolivia, Nicaragua, or Cuba may assist China or Russia in establishing a military presence in Latin America to counter the threat from Washington and its allies. In addition, Russia and China could alternatively pressure their allies in Latin America and seek an advanced presence in the "backyard" of the U.S., although this is still a remote possibility, given that Washington's strategic priorities are the Indo-Pacific and Eastern Europe. While this scenario is conjecture, Latin America and the South Atlantic were peripheral contested territories in the Cold War period. The projection and activism of the Eurasian powers — mainly Beijing — is a fact of reality. In light of a series of bilateral agreements with Argentina, China installed a Deep Space Station in the Argentine province of Neuquén, which collaborates with the Chinese Program for Moon Exploration but created doubts regarding an eventual dual use; in turn, establishing an Antarctic Logistic Pole in Ushuaia with potential Chinese financing has attracted the attention of the Southern Command of the U.S. Department of Defense.

Third, a shift in multilateral support for the nonproliferation regime could become problematic (Tokatlian 2022). At the Tenth Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons in August, President Gustavo Zlauvinen acknowledged that the "nuclear risk is at the highest levels since the end of the Cold War" (Bañez 2022). This statement reflects high-level concerns about the responsible handling of nuclear devices and a renewed fear of the spread of nuclear technology or the disruption of nuclear programs currently used for peaceful purposes. The proliferation regime could be challenged if extraterritorial countries such as China, Russia, or North Korea attempt to transfer nuclear technology to United States' enemies in direct confrontation. In this context, the declaration of Latin America and the Caribbean as a nuclear-weapon-free zone under the 1967 Treaty of Tlatelolco and the strong commitment to nonproliferation by the region's peaceful nuclear powers — Argentina and Brazil — has been key to the strategic stability of the region. In the case of Argentine-Brazilian cooperation, the creation in 1991 of the Brazilian-Argentine Agency for Accounting and Control of Nuclear Materials and its support to the present — beyond political changes — continues to be the basis of bilateral understanding (Nascimento Plum & Rollemberg de Resende 2016) and its scope of application become more legitimate by including naval nuclear propulsion.

INTERNATIONAL POSITIONING IN THE FACE OF THE RUSSIAN-UKRAINIAN WAR

The region's countries reacted with relative affinity, but without consensus. Although most Latin American countries condemned the actions in different international forums and various public statements by their main leaders, the region not only did not have a homogeneous position, but also lacked cooperation to establish common positions. During the vote on resolution ES-11/1 of the United Nations General Assembly condemning Russia for its actions in Ukraine, Argentina, Brazil and Mexico, among others, voted in favor and a number of countries such as Nicaragua, Cuba, Bolivia and El Salvador abstained, while Venezuela was unable to vote due to suspended voting rights because of unpaid debts to the international organization. In another multilateral instance, within the United Nations Security Council, both Brazil and Mexico condemned the invasion in Resolution 2623 (vetoed by Russia) on February 27, 2022. Finally, Argentina — which holds the Presidency of the UN Human Rights Council — voted in favor of suspending Russia from the Council, while Brazil and Mexico abstained, although they had supported investigating human rights violations in certain regions of Ukraine. At the Organization of American States (OAS), Argentina, Brazil and Mexico abstained in the vote that

suspended Russia as a permanent observer to the OAS, while, despite Western recommendations, none of the region's countries chose to accompany the sanctions against Russia, in line with the diplomatic tradition against implementing measures of this type.

Russia and Latin America have a long tradition of ties but have never been as close as in the last two decades (Jeifets, Khadorich & Leksyutina 2018). The Putin era has been characterized by having a great political initiative toward the region and fostering the generation of friendly ties with these countries, whether due to political affinity — as in the case of Venezuela —, shared visions on the international order — as it occurs with Brazil — or merely a pragmatic agenda based on mutual benefit. This is the case of Argentina. Beyond the reactions to the invasion and the opposition to the sanctions, Latin American countries' relations with Moscow are likely to diminish for a considerable time to avoid displeasure with Washington and Brussels, while the White House has approached Venezuela to normalize bilateral ties and avoid a Russian reaction in the region — as happened after the crises in Georgia in 2008 and Ukraine in 2014 — based on the logic of "symbolic reciprocity" (Rouvinski 2022, 23).

In terms of ties with South Atlantic countries, Russia perceives both Brazil and Argentina as partners in a post-hegemonic multipolar world, although given the weight of trade ties, strategic stature and participation in the Brazil, Russia, India, China and South Africa (BRICS) forum, Russian diplomacy prioritizes ties with Brasília. As for Buenos Aires, the agenda's focus is more pragmatic than geopolitical, of low strategic intensity but great political content, expressed both in the signing of the Comprehensive Strategic Partnership Agreement in 2015 between the Cristina Fernández de Kirchner Administration and the Kremlin; and in the preferential provision of Sputnik V vaccines to the region to face the COVID-19 pandemic; as well as with Moscow's support for Argentina's entry into the BRICS+ platform, looking to a forthcoming expansion of the global forum. In recent years, political dialogue has been maintained at good levels beyond the political changes in Buenos Aires, trade returned to exceed the one billion dollars barrier in 2021, and there are investments in areas such as hydroelectric power and railroads, together with a series of projects in the port, space, and nuclear areas.

As an expression of this relationship, President Alberto Fernandez visited Russia at the beginning of February this year. He voluntarily declared that "Argentina has to be the gateway for Russia to enter Latin America" (Bimbi 2022). Beyond the controversy surrounding this proposal, the phrase was not entirely accurate. The doors to the region were already open for Russia in several dimensions. Venezuela has been the main Latin American buyer of Russian weapons and Brazil Russia's

main trading partner, while Argentina facilitated the entry of the Sputnik V vaccine into the region. However, Russian access to Latin America (and vice versa) after 24F has a problem that is difficult to solve in the short term. The costs of amplifying relations have risen in light of sanctions and the decoupling of the Russian economy from developed countries. Every advance in Russian-South American relations almost automatically entails a call for attention — or the exertion of pressure or even the application of sanctions — by the United States and European countries.

In general terms, the Argentine reaction after the Russian invasion was relatively prudent. From the point of view of its international positioning, it condemned the illegitimate use of force by Russia. It called on the parties to de-escalate the conflict using peaceful means and return to the negotiating table. In addition, Argentina stressed the importance of respect for the sovereignty of the United Nations' (UN) Member States and their territorial integrity, a key principle of Argentine foreign policy linked to the Falkland Islands. Furthermore, in line with the normative traditions of the country and the region, the country did not adhere to any sanctions regime nor explicitly limit any of the channels of economic ties with Russia. In a position of equidistance, defense ties suffered with the slowdown of the implementation of the military-technical cooperation agreement signed in December 2021, which included training of Argentine military personnel in academies of the Russian Ministry of Defense, and the Russian offer of MiG-35s are no longer priorities. At the same time, there is an intention not to take advantage of sanctions to perceptibly improve business with Russia.

In Brazil's case, the Bolsonaro administration has shown a progressive rapprochement with Moscow based on an agenda of critical concrete needs for the large South American economy, such as ensuring the secure supply of fertilizers and making diesel purchases at more affordable prices (Cronista 2022). Toward the end of September of the same year, Brazil refrained from condemning the annexation of four Ukrainian regions to the Russian Federation in UN Security Council Resolution 2652 — vetoed by Moscow — while Mexico condemned the action. This attitude presents a rather paradoxical standpoint for the Bolsonaro administration, which has managed to incorporate itself as an extra-NATO ally during the Trump era but has had a refractory position to the priorities and guidelines of the White House and its NATO allies in supporting Zelenski-led Ukraine. While the divergence of agendas between the Biden and Bolsonaro administrations explains part of the Brazilian equidistance in the conflict, the global visions on the construction of a multipolar world, as well as the affinity in populist narratives that appeal to a conservative and nationalist paradigm are relevant elements for understanding the Russian-Brazilian agenda beyond economic interests.

Finally, global tensions may also appear in the Antarctic, where the growing strategic competition between great powers may generate additional incentives for China or Russia to take a revisionist stance with greater militarization; this would break the original status quo, while forcing geopolitical alignments in countries with sovereign claims over territorial portions of the white continent — particularly Argentina, Chile, and the United Kingdom. One of the indicators of the problems in Antarctic multilateral cooperation has been the Russian decision to reject — for the first time — a limit on the fishing of Patagonian toothfish within the the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR), which has caused the United Kingdom to issue licenses that Argentina considers illegal due to the sovereignty dispute, giving rise to tensions in the South Georgia waters (MRECIC 2022).

IMPACT ON THE REGIONAL DEVELOPMENT AGENDA

In the face of growing concerns about potential energy and food insecurity in the world (European Commission 2022, Besheer 2022), the region has a historic opportunity as a global supplier of raw materials and beneficiary of commodity booms. Brazil, Mexico, Venezuela, and Colombia are the main regional producers of crude oil; Mexico, Bolivia, and Argentina lead the rankings in gas production; Brazil and Argentina play an important role in the global food chain, especially for products such as wheat, soybeans, meat, and corn; and several Latin American countries are key suppliers of silver, lithium, copper, zinc and iron ore, among others. However, not all countries have an equitable distribution of these resources, so disruptions in the global supply chain and rising energy and food prices affect each country differently. The economic consequences of COVID-19 and the war in Ukraine have also affected government finances, and many economies have yet to recover. Chile, Colombia, Peru, and Ecuador have witnessed widespread protests and social unrest in the last five years.

Despite the difficulties, the current global economic crisis also offers opportunities. Commodity prices, for example, have risen by almost 30% between August 2021 and 2022, according to the S&P Goldman Sachs Commodity Index, and oil prices have exceeded US$100/barrel on several occasions during the year. While the coming winter looks complicated in the northern hemisphere, the impact in the region appears to be much milder, although it may lead to an inevitable increase in subsidies in the coming years, which will affect limited national budgets. In addition, with the need to resort to international borrowing to address the lack of funds, it will likely face higher interest rates in the Global North.

The outcome of these dynamics in the South Atlantic is mixed; Brazil and Uruguay have the chance to optimize their international insertion in the commodities sector, while Argentina faces serious macroeconomic problems with a strong currency devaluation and inflation above 80% in 2022. In any case, unilateral responses can hardly be fully effective. The South Atlantic development agenda requires rethinking new forms of regional economic cooperation that allow for greater flexibility in addressing trade links without neglecting the commitments undertaken within MERCOSUR.

THE SOUTH ATLANTIC: REGIONAL CHALLENGES IN A DISORDERLY WORLD

The Russian-Ukrainian war presents economic and security challenges to the South Atlantic that require prudence and balance to avoid falling into the trap of global geopolitical competition. As Serbin (2022b, 71) states, in this new international context, "navigating is difficult." The commitment to condemn unjust wars remains, but so does the quest for international autonomy and support for multilateralism and global governance. In an increasingly complex and competitive global environment, the region's countries have presented positions based on their agenda, in addition to avoiding the logic of alignment. Faced with a geopolitically more competitive global environment, the region finds itself fragmented and with important internal dilemmas, especially in the political sphere, with a decline in the quality of democracy and the rise of left and right-wing populism. In addition, there is a possibility that extra-regional powers — in light of progressive global disorder — may want to increase their strategic projection toward the South Atlantic space, and specifically the Antarctic space, seeking to affect the position of the United States in the Western Hemisphere.

The Russian-Ukrainian war presents economic and security challenges to the South Atlantic that require prudence and balance to avoid falling into the trap of global geopolitical competition.

Nevertheless, there is an opportunity for the region's main countries to develop a "possible strategic autonomy" that would allow them to have a greater margin of freedom in the face of potentially greater instability in the global economic

and financial system. The key to this equidistant positions in conflict and greater regional integration based on successful initiatives such as the Brazilian-Argentine Agency for Accounting and Control of Nuclear Materials (ABACC). Finally, the region — especially the Southern Cone — has a historical trajectory that has allowed it to become a regional peace zone, something that could be offered as a counterexample to the Russian-Ukrainian conflict and the destabilization of security in Eastern Europe. However, the peace zone must face global challenges where the drums of war are beating louder and louder.

References

Abdenur, Adriana & Danilo Marcondes de Souza Neto. 2013. "Brazil in the South Atlantic: growing protagonism and unintended consequences." Policy Briefs. NOREF: Norwegian Peacebuilding Resource Centre.

Abdenur, Adriana, Frank Mattheis & Pedro Seabra. 2016. "An ocean for the Global South: Brazil and the zone of peace and cooperation in the South Atlantic". *Cambridge Review of International Affairs* 29 (3): 1112–31. https://doi.org/10.1080/09557571.2016.1230592.

Adler, Emanuel & Michael Barnett. *Security communities*. Cambridge Studies in International Relations. Cambridge: Cambridge University Press. https://doi.org/10.1017/CBO9780511598661.

Alessandrini, Ricardo. 2019. "Escenario geopolítico del Atlántico Sur". In *La política de defensa en debate,* edited by Universidad de la Defensa Nacional, 139-158. Buenos Aires: UNDEF Libros.

Bañez, Gonzalo. 2022. "Un argentino preside la conferencia de armas nucleares más importante del mundo: 'Hay altos niveles de riesgo'". *Todo Noticias*, August 8, 2022. https://tn.com.ar/internacional/2022/08/08/un-argentino-preside-la-conferencia-de-armas-nucleares-mas-importante-del-mundo-hay-altos-niveles-de-riesgo/.

Battaglino, Jorge. 2013. *La evolución de la zona de paz sudamericana*. Ministerio de Defensa. Escuela de Defensa Nacional.

Besheer, Margaret. 2022. "WFP Chief Raises Alarm on Potential Food Shortages in 2023". *VoA News*, July 20, 2022. https://www.voanews.com/a/wfp-chief-raises-alarm-on-potential-food-shortages-in-2023-/6667210.html.

Bimbi, Bruno. 2022. "Argentina tiene que ser la puerta de entrada para que Rusia ingrese en América Latina". *Telam digital*, February 3, 2022. https://www.telam.com.ar/notas/202202/582589-argentina-tiene-que-ser-la-puerta-de-entrada-para-que-rusia-ingrese-en-america-latina.html.

Buzan, Barry & Ole Wæver. 2003. *Regions and Powers - The Structure of International Security*. Cambridge: Cambridge University Press.

Cannon, Brendon & Kei Hakata. 2022. "The Indo-Pacific as an emerging geography of strategies". In *Indo-Pacific Strategies: Navigating Geopolitics at the Dawn of a New Age*, edited by Brendon Cannon & Kei Hakata, 3-21. London: Routledge.

Coutau-Bégarie, Hervé. 1985. *Geoestrategia del Atlántico Sur*. Buenos Aires, Instituto de Publicaciones Navales

Cronista. 2022. "Bolsonaro rompe el bloqueo a Rusia y anuncia un acuerdo para comprarle diésel a Putin". *El Cronista*, July 11, 2022. https://www.cronista.com/internacionales/bolsonaro-rompe-el-bloqueo-a-rusia-y-anuncia-un-acuerdo-para-comprarle-diesel-a-putin/.

Deutsch, Karl. 1957. *Political Community and the North Atlantic Area: International Organization in the Light of Historical Experience*. Princeton: Princeton University Press.

Diesen, Glenn. 2017. "Russia, China and 'Balance of Dependence in Greater Eurasia". Valdai Papers, Valdai Discussion Group. https://valdaiclub.com/files/13795/.

Dodds, Klaus. 2012. "Stormy waters: Britain, the Falkland Island and UK-Argentine relations". *International Affairs* 88 (4): 683-700. https://www.jstor.org/stable/23255613.

Duarte, Érico. 2016. "Brazil, the Blue Economy and the maritime security of the South Atlantic". *Journal of the Indian Ocean Region*, 12 (1): 97–111. https://doi.org/10.1080/19480881.2015.1067384.

Espach, Ralph. 2021. "A New Great Game Finds the South Atlantic". *War on the Rocks*, 22 de marzo de 2022. https://warontherocks.com/2021/03/a-new-great-game-finds-the-south-atlantic/.

European Commision. 2022. "Ensuring Global Food Supply and Food Security". Agriculture and Rural Development, European Commision. https://agriculture.ec.europa.eu/common-agricultural-policy/agri-food-supply-chain/contingency-plan_en.

Farrell, Henry & Abraham L. Newman. 2019. "Weaponized Interdependence. How Global Economic Networks Shape State Coercion". *International Security* 44 (1): 42–79. https://doi.org/10.1162/isec_a_00351.

Fraga, Jorge. 1983. *La Argentina y el Atlántico Sur: Conflictos y objetivos*. Buenos Aires, Pleamar.

Frenkel, Alejandro. 2020. "Argentina, el Mercosur y los intentos de establecer una política común de defensa". *Revista De Relaciones Internacionales, Estrategia Y Seguridad* 14 (2): 59-82. https://doi.org/10.18359/ries.3973.

González Levaggi, Ariel. 2019. "Eurasia en ascenso: cambios y continuidades en los órdenes regionales de Asia Central, el Cáucaso y Medio Oriente". *Pensamiento Propio:* 143-168. https://repositorio.uca.edu.ar/handle/123456789/10789.

González Levaggi, Ariel. 2020. Confrontational and Cooperative Regional Orders: Managing Regional Security in World Politics. London: Routledge. https://doi.org/10.4324/9780429198199.

González Levaggi, Ariel. 2022. *Del Indo-Pacífico al Atlántico Sur: Estrategias Marítimas de las Grandes Potencias del siglo XXI*. Buenos Aires: Instituto de Publicaciones Navales.

Gresh, Geoffrey. 2020. *To Rule Eurasian Waves: the New Great Power Competition at Sea*. London: Yale University Press.

Haass, Richard. 2022. "The Dangerous Decade. A Foreign Policy for a World in Crisis". *Foreign Affairs* 101 (5): 25-38. https://www.foreignaffairs.com/united-states/dangerous-decade-foreign-policy-world-crisis-richard-haass.

Hoffmann, Andrea & Danilo Marcondes. 2017. "Maritime Regions and the South Atlantic". *Contexto Internacional* 39 (2): 229-236. https://doi.org/10.1590/S0102-8529.2017390200001.

Hurrell, Andrew. 1998. "An Emerging Security Community in South America?" In *Security communities*, edited by Emanuel Adler & Michael Barnett, 228–64. Cambridge Studies in International Relations. Cambridge: Cambridge University Press. https://doi.org/10.1017/CBO9780511598661.007.

Jeifets, Victor, Lilia Khadorich & Yana Leksyutina. 2018. "Russia and Latin America: Renewal versus continuity." *Portuguese Journal of Social Science* 17 (2): 213-228. https://doi.org/10.1386/pjss.17.2.213_1.

Kacowicz, Arie. 1998. *Zones of Peace in the Third World: South America and West Africa in Comparative Perspective.* Albany: State of New York Press.

Kacowicz, Arie. 2005. *The Impact of Norms in International Society: The Latin American Experience, 1881- 2001*. Notre Dame: University of Notre Dame Press.

Katzenstein, Peter. 2005. *World of Regions: Asia and Europe in the American Imperium*. Ithaca &

London: Cornell University Press. http://www.jstor.org/stable/10.7591/j.ctvrf8bbc.

Kelly, Philip & Jack Child. 1990. *Geopolítica del Cono Sur y la Antártida*. Buenos Aires: Pleamar.

Lake, David A. & Patrick M. Morgan. 1997. *Regional Orders: Building Security in a New World*. University Park, PA: The Pennsylvania State University Press.

Lebelem, Cristiane & Rafael Duarte Villa. 2022. "The Russia-Ukraine War: Impacts on Regional and International Security." *CEBRI-Journal* 1 (3): 112-136. https://cebri.org/revista/br/artigo/47/a-guerra-russo-ucraniana-impactos-sobre-a-seguranca-regional-e-internacional.

Malacalza, Bernabé & Juan Gabriel Tokatlian. "Argentina and Brazil: Between isintegration and Decoupling?" *CEBRI-Journal* 1 (3): 138-167. https://cebri.org/revista/br/artigo/48/argentina-e-brasil-entre-desintegracao-e-dissociacao.

Malamud, Andrés & Gian Luca Gardini. 2012. "Has Regionalism Peaked? The Latin American Quagmire and Its Lessons". *The International Spectator* 47 (1): 116-133. http://dx.doi.org/10.1080/03932729.2012.655013.

Mares, David & Arie Kacowicz (orgs.). 2015. Routledge Handbook of Latin American Security. London/New York: Routledge. https://doi.org/10.4324/9781315867908.

Medeiros, Roberto. 2002. "O Acordo de Cooperação Militar Brasil-Namíbia como instrumento de consolidação da Zona de Paz e Cooperação do Atlântico Sul". *Revista Marítima Brasileira* 122 (7/9): 167-190.

Medeiros, Sabrina & William de Sousa Moreira. 2017. "Maritime Co-operation among South Atlantic Countries and Repercussions for the Regional Community of Security Practice". *Contexto Internacional* 39 (2): 281-303. https://doi.org/10.1590/S0102-8529.2017390200005.

Miller, Benjamín. 2007. *States, Nations, and the Great Powers: The Sources of Regional War and Peace.* Cambridge: Cambridge University Press.

MRECIC. 2021. "La Cuestión de las Islas Malvinas". *Ministerio de Relaciones Exteriores y Culto de la República Argentina*. https://cancilleria.gob.ar/es/politica-exterior/cuestion-malvinas/la-cuestion-de-las-islas-malvinas.

MRECIC. 2022. "Pesca ilegal británica en Georgias del Sur desafía el sistema multilateral". *Ministerio de Relaciones Exteriores y Culto de la República Argentina*, 24 de junio de 2022. 2022. https://www.cancilleria.gob.ar/es/actualidad/noticias/pesca-ilegal-britanica-en-georgias-del-sur-desafia-el-sistema-multilateral.

Nascimento Plum, Mariana Oliveira do & Carlos Augusto Rollemberg de Resende. 2016. "The ABACC experience: continuity and credibility in the nuclear programs of Brazil and Argentina". *The Nonproliferation Review* 23 (5-6): 575-593. https://doi.org/10.1080/10736700.2017.1339402.

Oelsner, Andrea. 2009. "La amistad, la confianza mutua y la evolución de la paz regional en el sistema internacional". *Miríada*. *Investigación en Ciencias Sociales*, 2 (3): pp. 9-46. https://p3.usal.edu.ar/index.php/miriada/article/view/397.

Oelsner, Andrea. 2016. Pluralistic Security Communities in Latin America. In Mares, David & Arie Kacowicz (orgs.). 2015. Routledge Handbook of Latin American Security. London/New York: Routledge, 173-184.

Rouvinski, Vladimir. 2022. "Russia in Latin America: A Framework of Analysis". In *Rethinking Post-Cold War Russian–Latin American Relations*, edited by Victor Jeifets & Vladimir Rouvinski, 15-31. London: Routledge.

Russell, Roberto & Fabián Calle. 2022. "Turbulent and Penetrated Peripheries: Their Role in Expanding U.S. Security Interests in Latin America." *CEBRI-Journal* 1 (1): 167-189. https://cebri.org/revista/br/artigo/19/periferias-turbulentas-y-penetradas-su-papel-en-la-expansion-de-los-intereses-de-seguridad-de-estados-unidos-en-america-latina.

Saraiva, José Flávio Sombra. 1997. *O lugar da África: a dimensão atlântica da política externa brasileira (de 1946 a nossos dias)*. Brasília: EdUnB.

Serbin, Andrés. 2019. *Eurasia y América Latina en un Mundo Multipolar*. Buenos Aires: CRIES y Editorial Icaria.

Serbin, Andrés. 2022. "Navegar es Difícil", *Foreign Affairs Latinoamérica*, Vol. 22 (2): 71-74.

Serbin, Andrés. 2022. *Guerra y Transición Global. ¿Cómo se gestó la guerra en Ucrania y como nos afecta?* Buenos Aires: Areté-CRIES.

Thies, Cameron. 2015. "Traditional Security. War and Peace". In *Routledge Handbook of Latin American Security*, edited by David Mares & Arie Kacowicz London, 113-126. New York: Routledge.

Tokatlian, Juan Gabriel. 2022. "Ucrania y la proliferación nuclear". *Clarin*, April 7, 2022. https://www.clarin.com/opinion/ucrania-proliferacion-nuclear_0_2htUs4GGn8.html.

Toro, Juan Pablo. 2021. "La emergencia del Indo-Pacífico: Nuevas narrativas para la competencia estratégica". *AthenaLab*. https://athenalab.org/la-emergencia-del-indo-pacifico-nuevas-narrativas-para-la-competencia-estrategica/.

United States. 2022. "Joint Statement on Atlantic Cooperation". *U. S. Department of State*, September 20, 2002. https://www.state.gov/joint-statement-on-atlantic-cooperation/.

To cite this work: González Levaggi, Ariel. 2022. "The Russo-Ukrainian War and Global Security Challenges in the South Atlantic." *CEBRI-Journal* Year 1, No. 4 (Oct-Nov): 171-188.

DOI: https://doi.org/10.54827/issn2764-7897.cebri2022.04.04.01.171-188.en

Submitted: October 17, 2022
Approved for publication: November 14, 2022

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BOOK REVIEW

CEBRI JOURNAL
Year 1 / No. 4 / Oct-Dec 2022

BOOK REVIEW

Female Resilience, Climate Injustice and Sustainable Development

Robinson, Mary. 2018. *Climate Justice: Hope, Resilience, and the Fight for a Sustainable Future*. New York: Bloomsbury Publishing USA.

Pascoal Teófilo Carvalho Gonçalves

As a researcher of sustainable development and the 2030 Agenda, my reading of the book was motivated by and will be reviewed based on those references. I then warn the purely academic reader: the book does not deal with concepts; it is not a theoretical book. It tells the author's practical experience in several international forums and the struggle of local leaders around the globe to minimize the effects of climate change.

The idea that lends the book its title, climate justice, is introduced in the first chapter and is much more intuitive than actually "conceptual": all human beings already are affected by climate change, but the poor are affected much more intensely and pay a much higher price. Those who contribute the least to climate change are penalized first and that is unfair.

Bearing that in mind, where is the book situated? Its use of the concept of

Pascoal Teófilo Carvalho Gonçalves *is a graduate and master in International Relations from the Pontifical Catholic University of Minas Gerais and a doctor in Political Science from the State University of Campinas (Unicamp). He is currently a tenured professor at the Department of International Relations at the Federal University of Paraíba (UFPB) and a Researcher of the Nucleus of Public Policies and Sustainable Development.*

climate justice prioritizes the human element of the economic, environmental, and social tripod that underpins sustainable development. In the first chapter, narrated in first person, the author tells how her work with the United Nations (UN) High Commissioner for Human Rights led her to fight for basic rights such as food, drinking water, health, education, and decent work. However, according to her, the climate issue appeared as key on all fronts of this battle.

> *[The book's] use of the concept of climate justice prioritizes the human element of the economic, environmental, and social tripod that underpins sustainable development.*

Its focus on the human being and individual action gives the book a somewhat liberal quality. The State, when mentioned, appears instead as a passive agent that responds to the demands of individuals than as an active player that proposes and implements public policies. The author starts from a microsocial perspective and emphasizes local bottom-up development, as conceived by Tenório (2007). I will discuss the implications of this option when commenting on Chapter 8. From a narrative point of view, the book is particularly successful in emphasizing the human element, using photographs and real stories. The author presents ten women and two men whose lives were affected and who decided to take action. They all became leaders in their communities, and their work was internationally acknowledged.

The cases described in Chapters 2 to 6 discuss: gender – about 70% of the food produced worldwide is cultivated by millions of small family or subsistence farmers in Africa and Asia, the vast majority of whom are women (Chapter 2); gender and race – those affected the most by the devastation wrought by Hurricane Katrina in the U.S. in 2005 were the poorest and, in particular, African-American women and women from other ethnic groups, who were subsequently denied government aid (Chapter 3); traditional/indigenous communities and their female leaders – indigenous peoples should be protagonists in preserving the environment and in resisting climate change, as they feel the ongoing impact much more intensely than dwellers of large urban centers around the world and have valuable knowledge about nature (Chapters 4, 5, and 6).

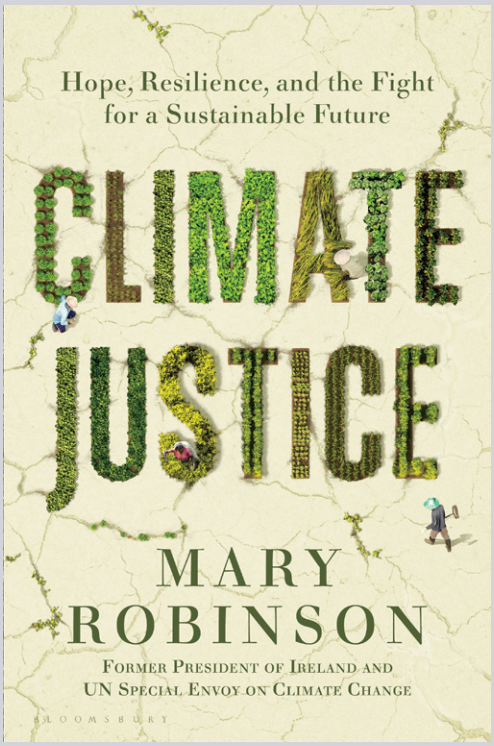
Chapter 7 tells of the inhabitants of the small Pacific Ocean archipelago of Kiribati, the first country in the world that will cease to exist due to rising sea levels. Kiribati's government plans to buy vast tracts of land on Fiji's second-largest island, 1,000 miles away,

and to prepare young people to migrate with dignity. The author could have developed this very important issue (environmental refugees) better. Refugees and immigrants pose far-reaching challenges to national and international agendas, and xenophobia and nationalism already are noticeable in relation to climate change exiles.

> *From a narrative point of view, the book is particularly successful in emphasizing the human element, using photographs and real stories.*

Chapter 8 addresses the change in the standard of living and in consumption in rich countries, in this case, Australia. This is a core issue that I think should have been discussed since Chapter 1. John Robinson's (2004) notion of two currents of thought in the environmental debate provides a useful backdrop against which to read this chapter in particular and the book in general. On the one hand, there are those who favor adjusting the existing development model by uniting economic growth to the rational use of natural resources in the concept of sustainable development. On the other hand, the idea of sustainability is more critical and entails changing the development pattern, and using new values and beliefs to end the anthropocentric cycle.

Throughout the book, Robinson indirectly takes a sustainable development position: we need more technologies (even if they come from indigenous peoples' knowledge) to deal with climate problems. That is particularly disappointing in relation to Chapter 8, which deals with specific changes in the day-to-day actions mainly of women in rich countries and conveys no deep-seated concern with nature and with humankind's place therein. In other words, Chapter 8 does not involve recognizing the limits of nature and the need to adhere to them. On the contrary, sustainability, in this context simply means ensuring the continuity of raw materials for industrial production, the continuous flow of commodities and the endless accumulation of capital (see Waters 2008). The author's



strategy of placing human beings center stage in the narrative loses sight of macro-social/structural elements and misses the opportunity to criticize contemporary capitalism and its values and practices, even if subtly.

Chapter 9 is particularly successful in bringing the issue of work to the table: it addresses the impact the economic transition needed to curb, stabilize and reduce climate change causes on existing jobs in "dirty" industries, such as oil & gas. Chapter 10, the final one in the book, focuses on the Paris Agreement and on its implementation challenges. It describes in general terms the targets and responsibilities defined: limiting global warming to no more than 2°C above pre-industrial temperature; reducing gross greenhouse gas emissions to zero by 2050; meeting again in five years to present plans to reduce carbon emissions and reporting every five years, beginning in 2023, on progress towards achieving the targets. The book puts great emphasis on the setback Donald Trump's election represented for international efforts (the then president removed the U.S. from the Agreement) and on the contrast with the rest of the world's sense of responsibility. The fact that some U.S. cities and states assumed Agreement commitments, despite the federal government's reneging on it, is, in my view, the most interesting development of the case.

Finally, some considerations about the scope and limits of the book are in order. Starting with the limits, the author does not mention the 2030 Agenda. The Sustainable Development Goals (SDGs) the UN launched in 2015[1] are fully aligned with Robinson's (2018) purpose: to unite economic growth with social justice and environmental preservation. Indeed, several SDGs pervade the discussions in the book, such as 1 – No Poverty; 5 – Gender Equality; 6 – Clean Water and Sanitation; 8 – Decent Work and Economic Growth; 11 – Sustainable Cities and Communities; 12 – Responsible Consumption and Production; 13 – Climate Actions; or 17 – Partnerships for the Goals.

As to the book's merits, I highlight: its emphasis on women as key players affected by climate change and as protagonists in the search for solutions, whether mitigation or adaptation; its emphasis on resilience, which at the same time warns us that time is of the essence and inspires us not to stand still and to act locally to spark global effects; its human character (referred to at the beginning of this review) through its focus on several community leaders with international visibility, which contributes with the international dissemination of ideas and policies (Gilardi 2013) and with international cooperation geared toward the seventeen SDG mentioned above.

1. See: https://brasil.un.org/pt-br/91863-agenda-2030-para-o-desenvolvimento-sustentavel.

References

Gilardi, F. 2013. "Transnational Diffusion: Norms, Ideas, and Policies". In *Handbook of International Relations*, edited by Walter Carlsnaes, Thomas Risse & Beth Simmons, 453–477. London: SAGE Publications Ltd. https://fabriziogilardi.org/resources/papers/gilardi_handbook_IR_v2.pdf.

Robinson, John. 2004. "Squaring the Circle? Some Thoughts on the Idea of Sustainable Development". *Ecological Economics* 48 (4): 369-384. http://dx.doi.org/10.1016/j.ecolecon.2003.10.017.

Robinson, Mary. 2018. *Climate Justice: Hope, Resilience, and the Fight for a Sustainable Future*. New York: Bloomsbury Publishing USA.

Tenório, Fernando G. 2007. *Cidadania e desenvolvimento local*. Rio de Janeiro: Ed. Unijuí.

United Nations. 2015. "Transformando nosso mundo: A Agenda 2030 para o desenvolvimento sustentável". Traduzido pelo Centro de Informação das Nações Unidas para o Brasil (UNIC Rio). *Nações Unidas Brasil*, October 13, 2015. https://brasil.un.org/sites/default/files/2020-09/agenda2030-pt-br.pdf.

Waters, J. 2008. "Sustainable Development". In *The International Encyclopedia of Communication*, edited by Wolfgang Donsbach. Hoboken, N. J.: Wiley-Blackwell Publishing.

To cite this work: Gonçalves, Pascoal Teófilo Carvalho. 2022. "Female Resilience, Climate Injustice and Sustainable Development." Book Review of Climate Justice: Hope, Resilience, and the Fight for a Sustainable Future (New York: Bloomsbury Publishing USA, 2018), by Mary Robinson. *CEBRI-Journal* Year 1, No. 4 (Oct-Nov): 190-194.

DOI: https://doi.org/10.54827/issn2764-7897.cebri2022.04.05.01.190-194.en

Submitted: November 1, 2022
Approved for publication: November 8, 2022

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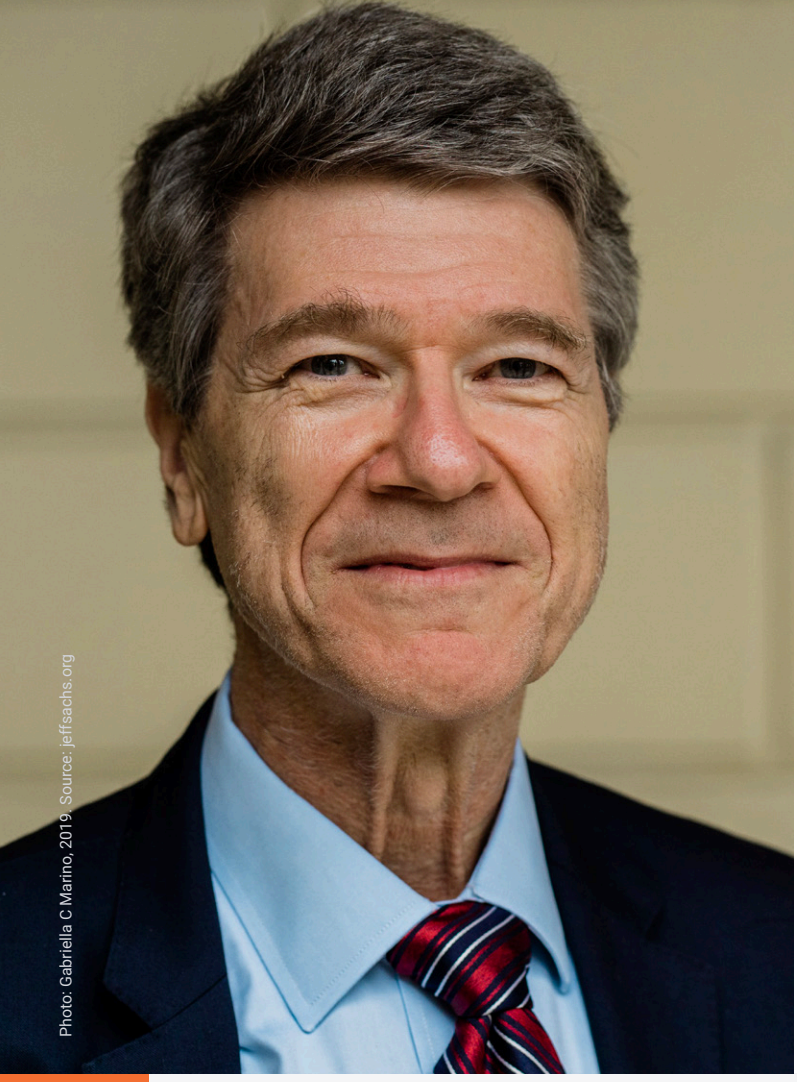

Photo: Gabriella C Marino, 2019. Source: jeffsachs.org

Photo: Dinho Lima

INTERVIEWS

CEBRI JOURNAL
Year 1 / No. 4 / Oct-Dec 2022

INTERVIEW

"Brazil is primed for an important advance. I am optimistic"

JEFFREY SACHS

Jeffrey D. Sachs is University Professor and Director of the Center for Sustainable Development at Columbia University, where he directed the Earth Institute from 2002 until 2016. He is President of the UN Sustainable Development Solutions Network, Co-Chair of the Council of Engineers for the Energy Transition, Commissioner of the UN Broadband Commission for Development, academician of the Pontifical Academy of Social Sciences at the Vatican, and Tan Sri Jeffrey Cheah Honorary Distinguished Professor at Sunway University. He has been Special Advisor to three United Nations Secretaries-General, and currently serves as an SDG Advocate under Secretary General António Guterres. He spent over twenty years as a professor at Harvard University, where he received his BA, MA, and PhD degrees. Sachs has received 41 honorary doctorates, and his recent awards include the 2022 Tang Prize in Sustainable Development, the Legion of Honor by decree of the President of the Republic of France, and the Order of the Cross from the President of Estonia. His most recent book is *The Ages of Globalization: Geography, Technology, and Institutions* (2020). (Source: jeffsachs.org)

The following is the interview given to CEBRI-Journal in November 2022.

In the book *A New Foreign Policy: Beyond American Exceptionalism* (Columbia University Press 2018), you argue that the U.S. approach should shift from military might and wars of choice to a commitment to shared objectives of sustainable development. Yet, the book heavily criticizes Trump's foreign policy. After two years of the Biden administration, do you see the U.S. foreign policy more in tune with the shared objective of sustainable development? Do you

think Biden's environmental policy can be seen as a step forward in this direction? And if so, how can a divided Congress from the midterm elections affect such policy?

JEFFREY SACHS: Biden's foreign policy mix is good and bad. On the positive side, his administration is far more attentive to environmental crises–including climate changes and threats to ecosystems–than was the previous administration. On the negative side, Biden has continued the path of American exceptionalism (or "neoconservatism"), aiming to expand U.S.-led military alliances in both Europe and Asia. The desire to expand the North Atlantic Treaty Organization (NATO) to Ukraine was a major cause of the war this year. The desire to expand military alliances in East Asia (such as the launch of AUKUS, with Australia and the UK) is stoking dangerous tensions with China.

In August 2022, the United States Congress passed President Biden's Inflation Reduction Act which aims to inject more than US$370 billion into climate and energy programs to cut greenhouse emissions significantly until 2030. What are, in your opinion, the most important aspects of such a bill for the U.S. climate and environmental policy? How do you see this law affecting U.S. foreign policy, in general, and the potential for cooperation with Brazil?

JS: The new law (which has nothing really to do with Inflation Reduction, by the way) gives significant tax incentives for investments in green energy in the U.S. This is good for the environment, but almost surely violates the WTO trade arrangements by giving preferences to local U.S. production. On the whole, this will not have a huge impact for Brazil. The positive side is that Biden and Lula will concur on the need for environmental policies. The Biden policies will generally support Lula's efforts to protect the Amazon, but there is a big question about whether the U.S. should contribute financially, as it should.

In the book *The Ages of Globalization: Geography, Technology, and Institutions* (Columbia University Press 2020), you argue that a growing number of public goods are global in nature. In your view, the provision of public goods should follow the doctrine of subsidiarity–that for goods inherently public in nature, it is better to provide them at the most local level of governance feasible. However, you also argue that it does not make sense to assign local governments to deliver goods that can only be addressed at a larger geographical scale. Those problems require transnational authorities. In this context, the protection of biodiversity in the Amazon basin requires cooperation on a conti-

nental scale. In this sense, how do you see "Pan-Amazon" initiatives related to climate change? More precisely, how do you see regional policies and organizations involving all Amazonian countries (Brazil, Bolivia, Venezuela, Colombia, Peru, and Ecuador) aiming to stop deforestation and improve energy transition? There is no doubt that any regional commitment to climate policies is affected by a lack of funding. In your view, can the United States, under the Biden administration, provide funding for such initiatives?

> *The protection of the Amazon definitely requires regional cooperation, and the decarbonization of South America's energy system should proceed at the continental scale.*

JS: The protection of the Amazon definitely requires regional cooperation, and the decarbonization of South America's energy system should proceed at the continental scale (including the Amazon countries with the rest of South America, notably Argentina, Chile, and Uruguay). Lula will be a great leader and champion of regional-scale policies. Also, as Brazil will hold the presidency of the G20 in 2024, the country will be in a strong position to exert global leadership as well (including Lula's recent initiative for Brazil-Indonesia-Congo, or BIC, cooperation for the world's tropical rainforests).

The U.S. is very stingy when it comes to global development finance. While it is a large donor in absolute size, its spending is tiny as a share of the U.S. GNP (gross national product). The main hope for regional finance would be the dramatic expansion of the region's development banks, including both the CAF (the Latin American Development Bank) and the Inter-American Development Bank. These two banks (and other national and international development finance institutions) can play a pivotal role in the region's sustainable development.

The recent electoral victories of center-left leaders in Colombia, Peru, Chile, and Brazil, as well as the Biden administration's environmental policy, represent a new geopolitical context in the Americas. Can the United States be an active partner in promoting and financing regional climate policies among South American countries? Can preserving the Amazon be the decisive chapter that would push the United States government to finally and genuinely cooperate with South American countries?

JS: In the past, the U.S. has divided the region rather than united it. The U.S. policies towards Cuba and Venezuela have been retrogressive and divisive. They are geared towards right-wing politics in Florida rather than the good of the region. The U.S. "war on drugs" has been another retrogressive policy, which has militarized much of the region and expanded the drug-related violence.

Biden needs to do better. In general, the Republicans are the divisive force in Latin America, while the Democrats are generally afraid of political attacks by the Republicans. So far, Biden has shown little interest or leadership vis-à-vis Latin America, but there is hope.

How do you evaluate the future of Brazil in the next two decades? And what will be the impact of a new Lula administration not only for the country, but also for the global order?

JS: Lula's election is remarkably good news. He will put the correct emphasis on Brazil's sustainable development, including quality education for all; technological advancement; protection of the Amazon, Atlantic Forest, and other threatened biomes; and social inclusion. He will also be a highly effective leader regionally and globally, as was the case in his previous presidency. Brazil is primed for an important advance. I am optimistic.

To cite this work: Sachs, Jeffrey. 2022. "Brazil is primed for an important advance. I am optimistic." Interview to *CEBRI-Journal*. CEBRI-Journal Year 1, No. 4 (Oct-Nov): 196-199.

DOI: https://doi.org/10.54827/issn2764-7897.cebri2022.04.06.01.196-199.en

Interview granted through written medium on November 15, 2022.

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INTERVIEW

"To promote sustainable socio-economic development in the Northern Region of Mozambique"

ERNESTO MAX ELIAS TONELA

Ernesto Max Elias Tonela is, as of March 2022, Mozambique's Minister of Economy and Finance after having successively held the positions of Minister of Mineral Resources and Energy (December 2017-March 2022) and Minister of Industry and Trade (2015-2017). He participated in the Mozambique, Portugal, and South Africa tripartite negotiation process regarding the Cahora Bassa Hydroelectric Complex and the definition of the strategy, structure, and negotiation of funding for plant capital reversal following the agreements between the Mozambican government and the Portuguese Republic. With extensive business management experience, Tonela has held the positions of executive manager at Hidroeléctrica de Cahora Bassa, SA, economics and finance manager at Electricidade de Moçambique, EP, and non-executive manager at Sociedade de Desenvolvimento do Corredor de Maputo, SARL. Tonela holds degrees in Business Management from the Eduardo Mondlane University (UEM) School of Economics, in Mozambique and in Business Management and Finance from the Centre for Financial, Economic and Banking Studies in Marseille, France. He holds a master's degree in Financial Management from the Institute of Business Management of the University of Paris I, Panthéon, Sorbonne, France.

Below are excerpts from the written interview Mr. Tonela gave to CEBRI-Journal.

According to the UN Global Assessment Report on Disaster Risk Reduction, Mozambique is the third most vulnerable African country to disaster risk. In recent years, the country has suffered two droughts and seven cyclones, including Cyclone Idai in 2019, the strongest to hit the African continent. In response, in 2020, the Ministry of Land and the Environment launched the Improving Local Climate Resilience in Mozambique (MERCIM Program) in strategic partnership with the European Union, with the Catalan Agency for Development Cooperation, with technical assistance from the United Nations Capital Development Fund (UNCDF) and its LoCAL (Local Climate Living Facility) methodology. In your view, how is Mozambique preparing for the effects of climate change, and how does its environmental foreign policy help raise global awareness of East Africa's climate problems?

MAX TONELA: Mozambique has, over the past decade, been working on implementing a clear and transparent legal framework to manage an effective disaster risk management response. In 2014, Mozambique passed its Disaster Risk Management Act (Law 15/2014), followed by adopting a Master Plan for Disaster Risk Reduction establishing priority actions and measures to implement in 2017-2030. In 2017, the government of Mozambique also established a Disaster Risk Management Fund to respond more efficiently and quickly to extreme weather events. The Fund is financed through an annual commitment of 0.1% of the State budget, supplemented with financial contributions from key donors such as the World Bank. More recently, the government put out a tender for sovereign disaster risk insurance and began implementing an early warning system to prevent and minimize losses and damage associated with extreme weather events.

Mozambique is expected to become a major world producer of liquefied natural gas (LNG) in coming years. The European Union recently proposed that Mozambican gas could become a significant alternative to the energy crisis the EU is going through. In addition, the world has been talking about the importance of the energy transition to the move toward cleaner energies. What is Mozambique's position on this issue? What role can LNG play in this energy transition process in Mozambique? And what role will gas play in Maputo's foreign policy?

MT: Gas will be a part of energy transition plans in many countries as a means to reduce their CO_2 emissions. Mozambique boasts one of the world's largest known natural gas reserves and is expected to become one of the largest

exporters of LNG in the next decade. When combined with Carbon Capture and Storage (CCS) solutions, Mozambican LNG can provide the world with one of the cleanest natural gases on the market. In addition to natural gas, Mozambique has unique renewable energy assets that can significantly contribute to boosting green industrialization and an energy transition process, both domestically and in the southern African region. Thanks to our large water potential on the Zambezi River, we are uniquely poised to support the decarbonization of the regional electricity system. Mozambique can potentially displace about 7 GW of coal-fired power generation and further facilitate some 5 GW of additional solar and wind power. Put together, these resources are estimated to save more than 40 million tCO2e (tons of CO_2 equivalent) in annual emissions, which correspond to Portugal's current annual emissions.

In addition to natural gas, Mozambique has unique renewable energy assets that can significantly contribute to boosting green industrialization and an energy transition process, both domestically and in the southern African region.

Nearly one million people are currently displaced in northern Mozambique after fleeing their homes seeking safety as a consequence of the conflict that flared up in Cabo Delgado province in October 2017. Five years later, some communities in Cabo Delgado still live in constant fear and suffer trauma and loss. Troops from Southern African Development Community (SADC) countries, deployed in Cabo Delgado in July 2021 in a joint effort with the Mozambican Army, met relative success to quell the insurgency. However, insurgents continue to destabilize pockets of territory and have sallied across neighboring Niassa province and Tanzania. In addition, they can increasingly call on ISIS networks in East Africa for support. SAMIM (SADC Mission in Mozambique) troops working along the local army have reclaimed significant territory from insurgents, while donor money has brought Cabo Delgado's population some relief. Yet these remedies alone are unlikely to resolve a conflict born of local grievances. With those untreated, the insurgency will persist as a source of regional insecurity. In your view, what are the next steps to completely stabilize the region? If SAMIM leaves the region, will Mozambican Armed

Forces be able to maintain stability in Cabo Delgado?

MT: Supporting the populations of northern Mozambique is one of the government's most important goals. The government has, with partner support, established programs and initiatives to promote a stable and inclusive economic environment. The region's stability involves creating social and economic conditions that foster regional development in line with the implementation of on-site projects. Take, for example, the Northern Mozambique Integrated Resilience and Development Program (PREDIM), which has a vision of peace and fast-paced development with inclusion and participation, and a mission to restore and consolidate peace and promote sustainable social and economic development in Northern Mozambique. The program is supported by the AfDB (African Development Bank), the European Union, the United Nations and the World Bank Group. Regarding your second question, the insurgency in Cabo Delgado poses a challenge to regional stability. It is only natural that the government works on joint solutions to tackle the challenge of maintaining stability.

By all indications, the insurgents claim a significant role in Cabo Delgado's economy so they can benefit from the opportunities created by major mining and gas projects. If the insurgents' motivations go unaddressed, the roots of the conflict will remain untreated, and the conflict will likely reignite as insurgents adapt to the presence of foreign troops. Mozambique and its regional partners should start thinking about how they might obtain peace through means other than military operations and development money, as these measures, on their own, are unlikely to stop conflict dead in its tracks. In your view, is there a political way out of the conflict? Or is the military solution combined with development programs the only solution?

MT: As I mentioned earlier, the region's stability depends on creating social and economic conditions that foster regional development. Major mining and gas projects are enabling a new economic development environment in the country, particularly the North. Project sponsors have been developing opportunities to encourage regional entrepreneurship that have already created new jobs and benefited local livelihoods. The government is using the recently announced Economic Acceleration Package (PAE) to implement economic improvement actions to enhance regional stability. Paradigm-changing actions such as allocating 10% of natural resource revenues to the province of origin, creating a sovereign fund and fiscal tools directly impacting on the production sector, among others, will stimulate job creation

and improve local livelihoods. Better social and economic conditions are the cornerstone for stability in the region.

Mozambique will become a rotating member of the UN Security Council for the first time in the 2023-2024 biennium. It is more than natural for the country to contribute to the debate on terrorism, given the situation in Cabo Delgado. In your view, will greater involvement of UN Security Council countries in the conflict be necessary? Should UN-sponsored peacebuilding missions be deployed in Cabo Delgado?

MT: Mozambique is receiving various types of support from diverse partners from various friendly countries in Africa, Europe, and in different latitudes, and any support to fight terrorism is very useful. We have received support from the Southern African Development Community (SADC), we have received support from Rwanda, the African Union, and we have received support from the United Nations. We thank everyone for their help, including even those countries that, facing other challenges, condemn and criticize the faceless and savage violence imposed on defenseless populations in Cabo Delgado and elsewhere in Northern Mozambique. The support we receive contributes to bringing home the populations affected by terrorism. In short, Mozambique is receiving assistance and continues to obtain various types of assistance in this chapter of the fight against terrorism. Several United Nations organizations are widely known to be present in Cabo Delgado so that we are receiving a lot of support and it is certainly desirable that we put an end to this aggression as soon as possible so that we can focus on development challenges and provide full security for the relevant populations to resume their normal lives. Taking a rotating seat in the UN Security Council is a great honor for Mozambique, and we hope to use our government's tradition of regional mediation to contribute in the best possible way.

To cite this work: Tonela, Ernesto Max Elias. 2022. "To promote sustainable socio-economic development in the Northern Region of Mozambique." Interview to *CEBRI-Journal*. CEBRI-Journal Year 1, No. 4 (OctNov): 200-204.

DOI: https://doi.org/10.54827/issn2764-7897.cebri2022.04.06.02.200-204.en

Interview given in Portuguese through written medium on November 17, 2022.

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Photo: José Augusto Lindgren Alves. Por Maria Leonor de Calasans/Mediateca IEA-USP

TRIBUTE

CEBRI JOURNAL
Year 1 / No. 4 / Oct-Dec 2022

TRIBUTE

In Memory of José Augusto Lindgren Alves: A Singular Diplomat[1]

Gelson Fonseca Jr.

Abstract: In memory of José Augusto Lindgren Alves' diplomatic performance and intellectual contribution to human rights promotion.

Keywords: human rights; United Nations; International Convention on the Elimination of All Forms of Racial Discrimination; Vienna World Conference on Human Rights.

1. I thank Celso Lafer, Benoni Belli and Silvio Albuquerque for their valuable comments. They and Lindgren were friends and each in his own way contributed to the defense of human rights in Brazil.

José Augusto Lindgren Alves joined the foreign service in 1968 and was a career diplomat for fifty years. He held leadership positions at the Ministry of Foreign Affairs State Secretariat, was Ambassador to Bulgaria, Hungary and Bosnia-Herzegovina, as well as Consul General in San Francisco and Barcelona. His professional record is impeccable and his contribution to Brazilian public life, while born from his career, extends far beyond the foreign service. One cannot write about the defense and promotion of human rights, in Brazil and internationally, without mentioning Lindgren. This review of his work and thinking will not only commemorate a singular diplomat but also show that the cause he championed must be constantly renewed. He left us in May 2022, a victim of COVID-19.

Lindgren's connection with human rights began in 1985 when he was transferred to Brazil's Mission with the United Nations (UN) and allocated to the Third Committee of the General Assembly, which was in charge of social issues. The human rights agenda was one of the cornerstones of Brazil's successful democratization process. Article 4 in the 1988 Constitution enshrined human rights as a guiding principle of Brazil's international relations. Although in 1985 Brazil initiated its accession process to regional and universal agreements on human rights, our foreign policy's engagement with the issue at the multilateral level remained timid. Brazil found it difficult to interact with non-governmental organizations, still seen as intrusive when they reported human rights violations. And adherence to conventions did not automatically introduce the issue into the metabolism of Brazil's foreign policy. Diplomatic discourse and action had to be updated and Lindgren played a crucial role in making that happen.

In New York, Lindgren felt drawn to the human rights issue, certainly as a reflection of the generosity that marked his personality. Upon returning to Brazil in 1989, he submitted a groundbreaking graduation thesis – *United Nations and Human Rights* – for the Advanced Studies Course (a requirement for career advancement). When heading its United Nations Division (1990-1995) he convinced the Ministry of Foreign Affairs that human rights deserved a higher place on the institutional agenda. The Department of Human Rights and Social Issues was then created and Lindgren was appointed its first Head. In that capacity and drawing from his past experience as one of the main negotiators of the final document of the World Con-

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Gelson Fonseca Jr. *is a CEBRI founding member and member of CEBRI-Journal's Advisory Board. He is the director of the Center for History and Diplomatic Documentation at the Alexandre de Gusmão Foundation (Funag). He was Brazil's permanent representative to the United Nations, Ambassador in Santiago, and Consul General in Santiago and Porto. He was a professor at the Rio Branco Institute (Brazil's diplomatic academy), and has published books and articles on international issues.*

ference on Human Rights (UN 1993), Lindgren took active part in defining Brazil's positions and negotiating other United Nations Global Conferences addressing social issues. The agenda included issues of direct and permanent interest to civil society such racism, women's rights, urban settlements and social development that to a certain extent were new to Brazilian diplomacy. So as to buttress the legitimacy of Brazil's positions, Lindgren created commissions within his Department to engage in a systematic and organized debate with NGOs and social movements about the path Brazilian diplomacy should take in those conferences. That practice had been rehearsed in the 1992 Conference on Sustainable Development and, once fully implemented, operated to transform how the Ministry of Foreign Affairs approached society and responded to the challenges of democracy.

Lindgren thus played a key role in making Brazilian foreign policy consistent with an international agenda where human rights was gaining ever greater significance. In his graduation thesis and subsequent intellectual output, Lindgren *explained* human rights, showed their political and social implications and, in particular, *described* why it was in Brazil's interest to openly participate in that growing debate. The diplomatic response would have consequences in defining Brazil's international identity. The creation of the Department opened a conduit for that intellectual argument to find an adequate institutional solution and those new avenues of dialog with organized society added consistency and legitimacy to Brazil's diplomatic positions in multilateral forums.

Still at that early stage, Lindgren's efforts alongside another notable diplomat, Ambassador Gilberto Saboia, were decisive to bridge the gap that opened between different groups in the 1993 Vienna Conference on Human Rights. As Benoni Belli recalls in his significant testimony, as a member of the delegation led by Saboia, Lindgren helped "save the conference from failure" by finding equitable formulas acceptable to all countries. Belli adds: "the idea that the international community may be legitimately concerned with the situation of human rights in any country, one of the principles enshrined in the Vienna Declaration and Programme of Action, has Lindgren's unmistakable fingerprint" (Belli 2022). The partnership was repeated in the 2001 Durban Conference against Racism, which originated from a proposal Lindgren made in 1994 when he was a member (independent expert) of the then-extant Subcommittee for the Prevention of Discrimination and Protection of Minorities, the main affiliate of the then UN Commission on Human Rights. The proposal was approved by consensus.

Lindgren's intellectual output gathered pace after Vienna. In 1994, he published *Human Rights as a Global Issue*, with a foreword by Celso Lafer. The book was well received in academic circles and enthusiastically praised by professor Maria

Victoria Benevides (1994) in a review for magazine Lua Nova (to which, incidentally, Lindgren became a frequent contributor). At that stage, Lindgren dedicated himself mainly to the multilateral dimension of the debate. Books such as *The International Architecture of Human Rights* (Alves & Bicudo 1997) and *International Relations and Social Issues: The Decade of Conferences* (2001) have through their combination of knowledge, intellectual rigor and diplomatic sensitivity become mandatory reading material for anyone studying the evolution of Brazil's human rights diplomacy. From the 2000s onward, Lindgren broadened his horizons beyond diplomacy, looking at human rights as a civilizational issue involving choices that set the course of modernity. It is impressive how Lindgren interacts with classic authors such as Weber, Marx and Hannah Arendt, with modern thinkers such as Bobbio, Zizek, Lyotard, Alain Badiou, Derrida, Amartya Sen, Bernard-Henry Levy and Brazilian intellectuals such as Abdias Nascimento, Flávia Piovesan, Celso Lafer, and Paulo Sergio Pinheiro. Lindgren's major books in this phase are *Human Rights in Post-Modernity (2005) and Human Rights Must Be Saved!* (2018).[2]

Participation in United Nations meetings and committees gave Lindgren personal prestige and international respect. Between 2002 and 2017, he was elected and successively reelected expert member of the Committee for the Elimination of Racial Discrimination (CERD), a body of independent experts tasked with monitoring the implementation of Member States' obligations under the Convention for the Elimination of All Forms of Racial Discrimination, in force since 1968. From 2018 to 2020, Lindgren was Executive Secretary of the Mercosur Institute of Public Policies on Human Rights (IPPDH). Lindgren's work with CERD offered him a privileged position to monitor and comment on the changes in the human rights agenda and on their multilateral implications. Lindgren saw from the inside how a multilateral body works, and wrote notable papers on the institutional limits to the application of rules and resolutions in the area of human rights and on the difficulties of dealing with conflicting interpretations about their scope.

The collection of papers he selected for his last book covers a wide time span, from 1996 to 2018, and provides a valuable record of Lindgren's assessment of the history of the struggle for human rights that begins with the 1948 Universal Declaration. Lindgren therein focused on the visible achievements: recognition of women's rights as part of universal human rights; imposing respect for homosexuality (and the LBGTQIA+ community) gained respect; slavery made a crime against humanity; and the term afro-descendants gaining traction in international forums. Brazilian law ceased to recognize crimes against honor; the notions of bastard and adulterous children were abolished; adultery itself ceased to be a crime; same-sex

2. This biographical sketch is partially based on the foreword I wrote for the book.

marriages were recognized as family units governed by the same rules applicable to domestic partnerships of heterosexual couples; affirmative actions were used to redress historical inequalities. Each of those achievements has its own unique history but the universal character of human rights, by creating a consistent ideological framework in defense of individual dignity, is present in all of them.

Those many achievements did not dampen Lindgren's realism and his late writings contain a measure of disenchantment. Not by coincidence, the title of his last book sounds like an appeal: "human rights must be saved!" Lindgren therein explains why action was urgently required and describes how the Vienna consensus was weakened and how achievements that seemed secure were being undone. Lindgren believes the creation of a large multilateral human rights bureaucracy made it difficult to oversee what the many bodies and agencies do and, above all, to verify their efficiency. The book reviews the torture episode in Guantánamo and its consequences to examine how intolerance and xenophobia emerge in societies that have been at the forefront of promoting human rights. That scenario is made worse by a multiculturalist essentialism that risks fragmenting the essentially universal perspective that Lindgren defended as the platform upon which to organize the best defense of human rights. Lindgren offers significant insights on how the identity agenda, valid in itself, should be used to fertilize and to support a struggle that is essentially universal. He had the intellectual courage to confront intricate and controversial societal issues and the answers he proposed were always balanced and sensitive.

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The total sum of Lindgren's experiences is unique; no other Brazilian citizen has ever acted on so many fronts in the struggle for human rights. As a diplomat, Lindgren was a pioneer who helped shape Brazil's foreign policy on human rights. He realized that institutional changes were needed and led their implementation. He trained diplomats. He negotiated the key documents that wove the contemporary patterns of international legitimacy. He actively participated in the drafting of the 1st National Human Rights Plan. What he learned as a diplomat was elaborated into conceptually sound thinking recorded in books and papers one always reads with profit. He became, on his own merit, a United Nations expert and got to know the innards of the multilateral system and its limitations. He

disseminated his knowledge through numerous seminars, interviews, lectures and, more recently, webinars. Public recognition came when Lindgren was awarded the Heleno Fragoso National Prize for Human Rights, in 2001, and the Sergio Vieira de Mello Medal for Human Rights and Humanitarian Law, in 2013.

The diversity of his experience and the way he lived through it made Lindgren a singular diplomat whose efforts went beyond the Ministry of Foreign Affairs to serve foreign policy and to serve the country. Lindgren spoke of human rights with authority. He left a significant intellectual legacy and, above all, an example of integrity in his dedication to the cause of a more equal, more tolerant and better world. His legacy is "at the service of citizenship to obtain social advancement with justice" (Alves 2018, 11).

References

Alves, José Augusto Lindgren. 1989. *As Nações Unidas e os direitos humanos*. Graduation Thesis, Instituto Rio Branco.

Alves, José Augusto Lindgren. 1994. *Os direitos humanos como tema global*. São Paulo: Editora Perspectiva.

Alves, José Augusto Lindgren. 2001. *Relações internacionais e temas sociais: a década das conferências*. Brasília: Instituto Brasileiro de Relações Internacionais (IBRI).

Alves, José Augusto Lindgren. 2005. *Os direitos humanos na pós-modernidade*. São Paulo: Perspectiva.

Alves, José Augusto Lindgren. 2018. É preciso salvar os direitos humanos! São Paulo: Perspectiva.

Alves, José Augusto Lindgren & Hélio Pereira Bicudo. 1997. *Arquitetura internacional dos direitos humanos*. São Paulo: FTD Educação.

Belli, Benoni. 2022. "José Augusto Lindgren Alves: diplomata e intelectual público". *International Law Agendas*, January 6, 2022. http://ila-brasil.org.br/blog/jose-augusto-lindgren-alves/.

Benevides, Maria Victoria de Mesquita. 1994. "Os direitos humanos como valor universal". *Lua Nova* 34: 179-195. https://doi.org/10.1590/S0102-64451994000300011.

United Nations. 1993. *Vienna Declaration And Programme Of Action*. World Conference On Human Rights, Vienna, June 14-25, 1993. https://www.ohchr.org/en/about-us/history/vienna-declaration.

To cite this work: Fonseca Jr., Gelson. 2022. "In Memory of José Augusto Lindgren Alves: A Singular Diplomat." *CEBRI-Journal* Year 1, No. 4 (Oct-Nov): 206-211.

DOI: https://doi.org/10.54827/issn2764-7897.cebri2022.04.07.01.206-211.en

Submitted: October 26, 2022
Approved for publication: November 11, 2022

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