

A QUICK ANALYSIS OF BRAZIL'S SECOND NDC

Technical note by Observatório do Clima

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1 - INTRODUCTION

The second cycle of Nationally Determined Contributions (NDCs) must be guided by the provisions of the Paris Agreement's First Global Stocktake (GST-1) as part of the Paris Agreement's ratchet mechanism.

Ambition Indicator	YES	NO	NOT ENOUGH INFORMATION
Target aligned to 1.5 (according to OC's benchmark for a fair share 2035) ¹		X	
Target aligned to 1.5 (according to IPCC AR6 2035)		X	
Double efficiency			X
Increases 2030 ambition		X	
Strong focus on adaptation	X		
Estimates means of implementation/cost/investment for implementation		X	
Ends expansion of fossil fuels		X	
Answers call of Art. 28d	X		
Halt and reverse deforestation by 2030		X	
Triple renewables			X

2 - AT A GLANCE

On November 13th, Brazil presented at COP29 its second NDC, for the period 2031-2035, being the second country and the first G20 member to do so. The early submission aims to deliver on the "lead by example" motto President Luiz Inácio Lula da Silva has set for his country, as it prepares to receive the incoming COP presidency from Azerbaijan at the end of the Baku meeting. Brazil pledges to limit its net emissions in a "band" that ranges from 59% to 67% emissions reduction from 2005 levels (~2,500 MtCO₂e). This translates into a 1,050 MtCO₂e (less ambitious) to 850 MtCO₂e (most ambitious end) limit of emissions in 2035.

Along with the UAE and Azerbaijan, Brazil is part of the COP presidencies' troika for implementing the so-called Mission 1.5, a Brazilian innovation that made its way into the GST decision in Dubai. The troika should lobby other countries

¹ https://oc.eco.br/wp-content/uploads/2024/08/EN-NDC-do-OC_2024-template.pdf

towards increased ambition on their NDCs, so as to keep the Paris Agreement's 1.5°C temperature stabilization goal within reach.

Troika countries have pledged to be among the first to submit their NDCs, ahead of the February 2025 deadline, supposedly to stimulate early delivery by other Parties. The UAE was the first to do so, on the 5th of November (remember, remember). Brazil came in second. Both countries did increase their 2035 ambition from 2030 levels, and both countries claimed their own NDCs are aligned to 1.5°C. Unfortunately, that was not the case for the UAE and, as we shall argue, is not the case for Brazil either.

3 – BENCHMARKS FOR AMBITION

There is no universally agreed benchmark for what a 1.5-aligned mitigation target means, which gives an awful lot of room for countries to interpret their own efforts as 1.5-consistent. The Brazilian government did not provide information on baseline emissions for the BLUES model. For evaluating Brazil's NDC, the Climate Observatory has used two available benchmarks: OC-CERF fair share approach and the IPCC.

- OC-CERF: In 2024, the Climate Observatory (OC) presented an NDC proposal for Brazil, using a customized version of the Climate Equity Reference Calculator, developed by the Climate Equity Reference Framework Project (Cerf). The calculator includes historical land-use emissions to derive Brazil's responsibility. According to Cerf's approach, Brazil's fair share ranges from -49 MtCO₂e to 117 MtCO₂e for 2035. OC has used the most conservative end of that range to propose a 200 MtCO₂e net emissions limit for Brazil in 2035, derived from an analysis of doable real-economy reductions. However, OC does include the target carbon removals from agricultural soils, which are not accounted for in the Brazilian official inventory. It also excludes removals from protected areas. In order to make it comparable with the Brazilian government's definition of "net emissions", OC's proposed limit for emissions as target would need to be higher, at 375 MtCO₂e.
- IPCC AR6: The Sixth Assessment Report of the Intergovernmental Panel on Climate Change estimates a 60% emissions reduction from 2019 levels would be necessary on the global scale if humankind is to have a >67% chance to stay within the 1.5 limit with limited or no overshoot. This yardstick does not reflect CBDR or historical responsibilities, so must be used with caution. The Brazilian NDC commits to only ~37% (less ambitious end) to ~50% (most ambitious end) emission reductions from 2019 levels, compared to the 60% the IPCC says the world needs to cut.

The 850-1,050 MtCO₂e band presented in the Brazilian NDC falls short of the benchmarks. Therefore, it can't be considered 1.5-compliant.

4 – AMBITION MEASURED AGAINST CURRENT POLICIES AND PLEDGES

During his campaign trail, at his victory speech and on several occasions afterwards, President Luiz Inácio Lula da Silva promised to end deforestation and degradation in all Brazilian biomes by 2030. The pledge goes beyond the 2015 iNDC Annex promise of zero illegal deforestation (compensating emissions from legal deforestation) and is in line with the Global Stocktake provision of halting and reversing forest loss by 2030.

Brazil has also signed the Global Methane Pledge in 2021, aiming at a 30% reduction in global CH₄ emissions. Current energy policies also provide for an increase in renewables, particularly wind and solar for electricity generation, biofuels and SAF, after Congress passed the Future Fuel Law (Lei do Combustível do Futuro). For more than a decade, Brazil has had a National Plan for Recovery of Native Vegetation (Planaveg), which provides for the recovery or reforestation of 12 million hectares of unlawfully deforested land.

Taken together, and considering removals from protected areas, all those current policies and pledges would take net emissions by 2035 to 642 MtCO₂e, according to estimates by the Climate Observatory (SEEG 2023, SEEG 2024). Therefore, Brazil’s NDC doesn’t even match the ambition that Brazil has already committed to, whether in domestic pledges or policies already underway.

Emissions projected according to current pledges and policies

MtCO₂e GWP-AR5

	2005	2023		2035	Data sources for projection:
Net emissions	2,281	1,653		642	(Calculation)
Removals	- 439	- 642	Planaveg →	- 797	IPAM
Gross emissions	2,720	2,296		1,439	(Calculation)
Land use change and forestry	1,751	1,062	Zero deforestation	61	OC's NDC proposal
Deforestation: Amazon	1,329	678		6	OC's NDC proposal
Deforestation: other biomes	353	361		13	OC's NDC proposal
Other emissions	68	23	Trend scenario (calculated based on sectoral policies)	42	OC's NDC proposal
Agriculture	518	631		752	OC's NDC proposal baseline
Energy	318	420		425	OC's Future of Energy (Trend scenario)
Waste	61	92		72	ICLEI
Industrial processes	72	91		129	OC's Future of Energy (Trend scenario)

5 – THE “BANDWIDTH”

The Brazilian NDC is unusual in that it presents not one but two very different targets for 2035: 850 MtCO₂e and 1.05 GtCO₂e, a 67% and 59% cut from 2005 levels, respectively. The 200 MtCO₂e (23,5%) difference between the upper and the lower bounds of the “band” equals Belgium’s annual emissions (WRI 2021) and its width has not been explained by the Brazilian government in its submission to the UNFCCC.

Brazil has already expressed a climate target as a “band” before: the 2009 Namas ranged between 36,8% and 38,9%. Other countries have also opted for leaving room for uncertainty in their NDCs, such as the United States (a 50% to 52% cut from 2005 levels by 2030). So the move, although rare, is not outlandish.

What is unheard of in Brazil's second NDC is the 23,5% bandwidth, way above the 2 percentage points uncertainty expressed in Brazil's and the US' previous targets, and also nearly twice as large as the 12% uncertainty level of Brazil's Fourth Inventory of Greenhouse Gases, from which the NDC and the modeling of the National Climate Change Plan ("Plano Clima Mitigação") are derived. For that reason, in our view, it would be wrong to call this an "error bar"; the range should really be regarded as two separate targets, resulting from a political decision, which creates complications to both analysis and implementation.

Needless to say, the mitigation effort needed is very different for both scenarios, therefore the range of policies to be implemented from now on will vary according to the chosen target. Just to mention Brazil's major emissions source, the way deforestation is dealt with to reach 850 MtCO₂e will need to be much more stringent than for 1,05 GtCO₂e (the latter would translate into gross emissions of about 1,8 GtCO₂e, which accommodates over 10,000 km² of deforestation a year in all biomes, while the former, with emissions about 1,6 GtCO₂e, would accommodate over 5,000 km²).

Accommodated deforestation emissions with current pledges and policies only applied to other sectors

MtCO₂e GWP-AR5

	2005		2023		2035		Data sources for projection:
	2005	2023	lower limit	upper limit	lower limit	upper limit	
Net emissions	2,281	1,653	850	1,050			
Removals	-439	-642			-797		IPAM
Gross emissions	2,720	2,296	1,647	1,847			(Calculation)
Land use change and forestry	1,751	1,062	269	469			(Calculation)
Agriculture	518	631			752		OC's NDC proposal baseline
Energy	318	420			425		OC's Future of Energy (Trend scenario)
Waste	61	92			72		ICLEI
Industrial processes	72	91			129		OC's Future of Energy (Trend scenario)

Planaveg → (between 2023 and 2035 Net emissions)

Accommodated emissions → (between 2023 and 2035 Net emissions)

Trend scenario (calculated based on sectoral policies) → (between 2023 and 2035 Net emissions)

On the other hand, assuming land use change policies will be met as compromised, the other sectors as a whole could have more than doubled average increase in their emissions.

Accommodated emissions with current pledges and policies only applied to LUCF

MtCO₂e GWP-AR5

	2005		2023		2035		Data sources for projection:
	2005	2023	lower limit	upper limit	lower limit	upper limit	
Net emissions	2,281	1,653	850	1,050			
Removals	-439	-642			-797		IPAM
Gross emissions	2,720	2,296	1,647	1,847			(Calculation)
Land use change and forestry	1,751	1,062			61		OC's NDC proposal
Other sectors	969	1,234*	1,586**	1,786***			(Calculation)

Planaveg → (between 2023 and 2035 Net emissions)

Zero deforestation → (between 2023 and 2035 Net emissions)

Accommodated emissions → (between 2023 and 2035 Net emissions)

*1.4% annual growth 2005-2023

**2.1% annual growth 2023-2035

***3.1% annual growth 2023-2035

Since it is impossible to have a single sectoral plan that covers both targets, decisions will have to be made. Right now, as the Brazilian Forum on Climate Change has pointed out (FBMC, 2024), it is the less ambitious target (1.05 Gt) that must be considered since it is obvious that, once it is met, technically the NDC emission target can be considered as achieved. The 1.05 Gt is also clearly mentioned by the Brazilian government as a base target as described in the official submission: *“Furthermore, for the purposes of Article 4.3 of the Paris Agreement, especially with regards to the progression of NDCs, the Brazilian government considers the base level of 59 percent below 2005 levels by 2035 or 1.05 GtCO₂e.”*

As the FBMC also points out, the 1.05 Gt limit is linearly derived from the previous NDCs and, also linearly projected into 2050, would fail to take Brazil to net zero by that year. A much steeper (and costlier) reduction curve would need to be adopted.

6 – MEETING THE GST?

Brazil’s NDC does not match some crucial GST recommendations, or does not present sufficient information for a proper analysis.

- **On energy**, Brazil states that it will “answer the call” of the GST. *“In addition, Brazil would welcome the launching of international work for the definition of schedules for **transitioning away from fossil fuels in energy systems**, in a just, orderly and equitable manner, with developed countries taking the lead, on the basis of the best available science, reflecting equity and the principle of common but differentiated responsibilities and respective capabilities in the light of different national circumstances and in the context of sustainable development and efforts to eradicate poverty, as per paragraph 6 of decision 1/CMA.5.”* The move is politically significant, since the transition will necessarily need to start by developed countries and a transition calendar is sorely needed. However, Brazil keeps silent about its own fossil fuel expansion plans, implying that the problem is all in the demand side. The way the issue is handled on the NDC does not fully align with 28d, not with IEA’s Net Zero Emissions scenario.
- **On land use change**, Brazil proposes a zero deforestation target based on compensation, which allows for the continuation of legal deforestation well into the 2030’s – therefore, the NDC states that President Lula’s pledge to zero deforestation and degradation in all biomes by 2030 will not be met. The amount of allowed deforestation will depend on the chosen mitigation scenario, and, as seen above, both targets do allow for high deforestation levels, less so in the 850Mt boundary.
- Also unclear is whether Brazil commits to **doubling renewables and tripling energy efficiency**. However, given the already high amount of renewables in the energy mix, those GST recommendations don’t apply to Brazil as stringently as to other countries.

- Brazil (as the UAE before it) is also **silent about the request of GST article 37 to increase its 2030 ambition**. If all other major emitters follow Brazil and the UAE in this, the 1.5°C target will be all but lost.

7 – CONCLUSION AND RECOMMENDATIONS:

- Brazil deserves credit for the early delivery of its NDC.
- The NDC shows strong policy signals, especially on means of implementation and deforestation control. Unlike the previous NDC and all its updates, this is the first time real-economy measures have been taken that align with a long-term decarbonization plan. The efforts of the Finance and Environment ministries go in the right direction and must be acknowledged (deforestation rates in the Amazon have dropped for two consecutive years and several pro-climate policies and measures have been adopted).
- The NDC makes extensive and important references to the topic of adaptation, describing national plan strategies, objectives, and sectoral guidelines. This is an extremely relevant issue for a country whose population is already experiencing the consequences of the climate crisis.
- However, neither of the NDC targets align with 1.5°C.
- The 1.05 Gt emissions limit of the NDC must be dropped immediately. The 850 Mt boundary must be a floor, not the ceiling, of ambition.
- The 2030 target must be revisited and strengthened in the light of the findings presented on section 4 of this document.
- Brazil still owes an explanation about how it intends to deal with the end of deforestation, as the mitigation targets allow for high levels of legal deforestation.
- Brazil owes an explanation about its fossil fuel expansion plans.
- As president of COP30, Brazil must show the leadership and ambition that it lacked in the NDC. Safe from the unlikely event that other G20 countries do submit truly 1.5-aligned NDCs, the group as a whole needs to develop ways to ratchet up ambition and implement the GST. COP30 is an opportunity that can't be missed.