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Diskussionspapier

Brazil’s New Emissions Trading System:
Design and Comparative Insights

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I. Introduction

Brazil is one of the world's fastest-growing economies and a member—currently holding the presidency—of the BRICS intergovernmental group, which plays an increasingly influential role in international climate negotiations. As the host of COP 30 in 2025, Brazil occupies a pivotal position in shaping the global climate agenda. Both a major emitter and a highly climate-vulnerable country, Brazil has recently faced extreme weather events with severe socio-economic impacts, especially for marginalised communities.[3]

The development of a Brazilian Emissions Trading System (ETS) had been under discussion for nearly a decade. Yet momentum only built after the European Union introduced its Carbon Border Adjustment Mechanism (EU CBAM) in early 2023, prompting growing concern from domestic industry about trade impacts.[4] In December 2024, Brazil enacted the *Sistema Brasileiro de Comércio de Emissões de Gases de Efeito Estufa* (SBCE), establishing a federal cap-and-trade system.[5]

The SBCE will be implemented progressively over five phases. Phase I comprises a 24-month period dedicated to regulation and institutional setup. Phase II provides a further year for operators to operationalise their greenhouse gas (GHG) inventories and reporting mechanisms. From 1 January 2028 until 31 December 2029 (Phase III), operators of activities emitting over 10,000 tons of carbon dioxide equivalents (tCO_2e) per year will face monitoring, reporting and verification (MRV) obligations. The first National Allocation Plan (NAP) will apply to the calendar year starting on 1 January 2030 (Phase IV), with compliance/surrendering obligations for operators emitting over 25,000 tCO_2e per year. From 2031 onwards (Phase V) the SBCE will be fully implemented.

The following sections examine the SBCE's design and place it in comparative perspective. By analysing how Brazil's emerging carbon market aligns with and diverges from established trading systems around the world, the report highlights both the opportunities and the challenges that lie ahead.

II. The *Sistema Brasileiro de Comércio de Emissões de Gases de Efeito Estufa* in comparative perspective

The SBCE's legislative structure is anchored in a framework law that delegates detailed rule-making to a central regulatory authority (*órgão gestor do SBCE*), reflecting the model of the California Cap-and-Trade Program, recently renamed the California Cap-and-Invest Program (CalCAI). The latter was

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[3] Sistema de Estimativas de Emissões e Remoções de Gases de Efeito Estufa (SEEG) <https://seeg.eco.br/> accessed 20 August 2025.
[4] ICC Brasil and WayCarbon, *Opportunities for Brazil in Carbon Markets* (Report, ICC Brazil 2023).
[5] Lei Nº 15.042, de 11 de dezembro de 2024, *Institui o Sistema Brasileiro de Comércio de Emissões de Gases de Efeito Estufa (SBCE).*

initially legislated through Assembly Bill No 32,[6] and subsequently implemented through a series of detailed regulations issued by the California Air Resources Board (CARB).

However, while CARB has functioned as an independent climate regulator since 1967, Brazil lacks an equivalent independent authority. The federal government had envisaged creating an autonomous entity to serve as the SBCE Management Body (*Órgão Gestor*), but budgetary constraints have so far delayed its establishment. In October 2025—ten months into Phase I—a presidential decree established the *Secretaria Extraordinária do Mercado de Carbono* (Semc), an interim authority operating under the Ministry of Finance's portfolio, coordinating two technical Subsecretariats responsible for developing the regulatory framework, MVR rules, and registry infrastructure for the new carbon market assets.[7]

The first, *Cotas Brasileiras de Emissões* (CBEs), are emission allowances, each representing the right to emit one tonne of CO_2-equivalent (tCO_2e). CBEs may be used for compliance or traded within the SBCE and secondary markets.[8] The second, *Certificados de Redução ou Remoção Verificada de Emissões (CRVEs)*, are offset credits corresponding to one tCO_2e reduced or removed through verified abatement or removal activities. Accredited and registered under the SBCE, CRVEs can be used for compliance and traded within both the SBCE and secondary markets.[9]

With this interim institutional structure in place, we turn our attention to the design features of the SBCE itself, as defined in its founding legislation.

1 Cap Setting

The NAPs will determine the emissions cap, including its declining trajectory for the following two compliance periods.[10] The SBCE legislation implicitly refers to Brazil's international commitments under the UNFCCC, and requires proportionality between covered and non-covered sectors.[11] Brazil's 2024 Nationally Determined Contribution (NDC) sets an economy-wide target of reducing GHG emissions by 59–67 per cent below 2005 levels by 2035, and achieving climate neutrality by 2050.[12]

Bases on a similar NDC target (minus 55 per cent by 2030), the EU has implemented an increasingly ambitious cap trajectory in its original ETS (EU ETS 1) for the power and industry sectors as well as for aviation and shipping that has reduced emissions of covered sectors by 47 per cent by 2023, aiming at 62 per cent by 2030.[13]

2 Coverage

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[6] Assembly Bill Nº 32, *Air Pollution: Greenhouse Gases: California Global Warming Solutions Act of 2006*, ch 488, adding Division 25.5 (commencing with §38500) to the California Health and Safety Code (approved 27 September 2006).
[7] Decreto Nº 12.677, de 15 de Outubro de 2025, *Altera o Decreto Nº 11.907, de 30 de Janeiro de 2024, que aprova a Estrutura Regimental e o Quadro Demonstrativo dos Cargos em Comissão e das Funções de Confiança do Ministério da Fazenda, cria a Secretaria Extraordinária do Mercado de Carbono, regulamenta o art 6º, parágrafo único, da Lei Nº 15.042, de 11 de Dezembro de 2024, e remaneja e transforma cargos em comissão e funções de confiança* (Brazil, 15 October 2025).
[8] Lei Nº 15.042, de 11 de dezembro de 2024 art 2, II, VI.
[9] Ibid art 2, III.
[10] Ibid arts 2 º, XVI and 21, I, § 1º.
[11] Ibid art 2º, XVI.
[12] Brazilian Government, *Brazil's NDC: National Determination to Contribute and Transform* (2024) 2.
[13] International Carbon Action Partnership (ICAP), *EU Emissions Trading System (EU ETS), Report 2024* (2024).

Pollutant coverage under the SBCE encompasses CO_2, methane (CH_4), nitrous oxide (N_2O), sulphur hexafluoride (SF_6), hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs).[14] While the legislation provides for broad sectoral coverage – excluding the agricultural sector – the Management Body retains discretion to define specific covered activities and to increase eligibility thresholds in future NAPs. As such, the ultimate scope of activities to be regulated under the SBCE remains to be conclusively determined.[15]

Importantly, the original draft of the SBCE Bill did not exclude agriculture.[16] This exemption was introduced in 2023 under pressure from the *Frente Parlamentar da Agropecuária* (FPA),[17] which made it a condition for the Bill's approval in the Senate.[18] Despite being Brazil's largest source of GHG emissions,[19] the agricultural sector will therefore not be subject to the emissions cap, surrender obligations, or the MRV requirements of the SBCE.

The exclusion was justified on the grounds that other ETSs have not yet regulated the sector and that reliable methodologies for measuring agricultural emissions are lacking.[20] This reasoning is weak, since the SBCE Managing Body will define covered activities contingent on the availability of credible methodologies for MVR, rendering the amendment unnecessary.[21]

In relation to sectoral coverage under other ETSs, New Zealand provides a pertinent comparison. Agriculture accounted for around 53 per cent of the country's total emissions in 2022.[22] Despite monitoring and reporting obligations on major processors since 2012,[23] New Zealand deferred full coverage and in 2024 removed agriculture from the NZ ETS.[24] In its place, a standardised calculation method for on-farm emissions will be introduced in 2025, followed by a pricing system to be implemented by 2030.[25]

In the European Union, where agriculture contributes roughly 12 per cent of total emissions,[26] debate is likewise intensifying over the creation of a dedicated ETS for agriculture,[27] as part of the EU's broader strategy to decarbonise the food and land-use sectors.

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[14] Lei Nº 15.042, de 11 de dezembro de 2024 art 2º XIII. Similar GHG coverage to the New Zealand ETS: Climate Change Response Act 2002 (NZ) s 4.

[15] The interim authority, Semc, has identified the definition of covered activities as a priority: Agro Estadão, 'Fazenda cria secretaria para impulsionar mercado de carbono' (*Estadão*, 17 October 2025) <https://agro.estadao.com.br/sustentabilidade/fazenda-cria-secretaria-para-impulsionar-mercado-de-carbono> accessed 10 November 2025.

[16] Projeto de Lei Nº 412/2022.

[17] The FPA is an influential coalition of over 200 Brazilian federal deputies and senators that advocates for agribusiness interests. Frente Parlamentar da Agropecuária (FPA), 'About' <https://fpagropecuaria.org.br/> accessed 4 August 2025.

[18] Anna Beatriz Anjos, 'Agro Emplaca Demandas em Projeto de Lei do Mercado de Carbono; Entenda Quais' *Agência Pública* (5 October 2023).

[19] Climate Watch, 'Brazil: Greenhouse Gas Emissions by Sector' (2022) World Resources Institute.

[20] Ibid.

[21] Lei Nº 15.042, de 11 de dezembro de 2024 art. 30, § 2º.

[22] Climate Watch, 'European Union: Greenhouse Gas Emissions by Sector' (2022) World Resources Institute.

[23] Climate Change Response Act 2002 (NZ).

[24] Climate Change Response (Emissions Trading Scheme Agricultural Obligations) Amendment Act 2024 (NZ).

[25] New Zealand Government, *Our journey towards net zero: New Zealand's second emissions reduction plan 2026-30* (2024) 65 – 66.

[26] Climate Watch, 'EU: Greenhouse Gas Emissions by Sector'.

[27] *Carbon Pulse*, 'BRIEFING: "Perfect Moment" to Talk EU ETS for Agriculture, as Commission Considers Next Steps' (19 February 2025); Mathieu Mal, *Reducing Emissions from Agriculture: Reflection on the Potential Design and Scope of an EU Emissions Trading System for Agriculture* (European Environmental Bureau 2024).

While it is true that agriculture is not yet regulated under most ETS, Brazil has yet to propose any alternative policy instrument to price or cap emissions from this sector. This omission stands in contrast to international developments, where jurisdictions such as New Zealand and the European Union are exploring pathways to bring agricultural emissions within carbon pricing frameworks.

3 Allocation

The SBCE legislation provides for 100 per cent of free allocation of CBEs in the first compliance year.[28] The criteria for this initial allocation will be established in the NAPs and may rely on historical emissions (grandfathering) or output-based benchmarking.[29] From 2031 onwards, the NAPs will determine the share of CBEs to be auctioned or sold, which is expected to increase progressively over time.[30]

This staged approach is consistent with the early stages of both the CalCAI and the EU ETS 1. In California, 100 per cent of allowances were distributed free of charge in the first compliance period, followed by a combination of auctioning and continued free allocation for Emissions-intensive, trade-exposed (EITE) sectors. By 2024, approximately half of the total cap was auctioned.[31] Likewise, in the EU ETS 1, most allowances were allocated free of cost during phases 1 and 2.[32] From phase 3 onwards, free allocation for non-leakage-exposed sectors was gradually reduced and is scheduled to be fully phased out by 2030.[33] EITE sectors continue receiving nearly 100 per cent of free allocation, but these entitlements will also be phased out by 2034 for industries covered by the EU CBAM.[34]

Auctioning not only generates public revenue but also enhances efficiency and innovation by providing immediate transparent price signals that guide long-term investment—particularly relevant for exporting economies as the EU CBAM enters into force.[35] The new EU ETS 2, covering CO_2 emissions from the transport and building sectors, will start with 100 per cent auctioning from the outset.[36] Similarly, the Regional Greenhouse Gas Initiative (RGGI) – an ETS covering CO_2 emissions from fossil fuel power plants in the north-eastern United States–has relied on full auctioning since its launch in 2009.[37]

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[28] Lei Nº 15.042, de 11 de dezembro de 2024 art 50, IV.
[29] Ibid art 21, § 3º.
[30] Ibid art 11, § 4º.
[31] California Air Resources Board, *'Allowance Allocation: Overview'* <https://ww2.arb.ca.gov/our-work/programs/cap-and-trade-program/allowance-allocation> accessed 11 November 2025.
[32] AD Ellerman, B Buchner and C Carraro (eds), *Allocation in the European Emissions Trading Scheme: Rights, Rents and Fairness* (Cambridge University Press 2007).
[33] Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC [2003] OJ L275/32, art 10a.
[34] Directive (EU) 2023/959 of the European Parliament and of the Council of 10 May 2023 amending Directive 2003/87/EC establishing a system for greenhouse gas emission allowance trading within the Union and Decision (EU) 2015/1814 concerning the establishment and operation of a market stability reserve for the Union greenhouse gas emission trading system [2023] OJ L130/134, art 1(11).
[35] Sven Rudolph and Elena Aydos, *Carbon Markets Around the Globe: Sustainability and Political Feasibility* (Edward Elgar 2021).
[36] Directive (EU) 2023/959 of the European Parliament and of the Council of 10 May 2023 amending Directive 2003/87/EC establishing a system for greenhouse gas emission allowance trading within the Union and Decision (EU) 2015/1814 concerning the establishment and operation of a market stability reserve for the Union greenhouse gas emission trading system [2023] OJ L130/134.
[37] Regional Greenhouse Gas Initiative, *'Fact Sheet – RGGI CO_2 Allowance Auctions'* (2016) (Regional Greenhouse Gas Initiative, New York).

A gradual transition towards auctioning of CBEs from Phase V onwards is therefore both expected and strongly recommended. However, until implementing regulations are issued, it remains unclear at what pace the share of allowances to be auctioned will increase.

4 Revenue Use

Once auctioning begins, the SBCE is designed to operate on a revenue-neutral basis, with proceeds distributed as follows: 15 per cent for the administrative costs of the SBCE; 75 per cent to finance low-carbon investments in covered sectors; and 5 per cent to compensate Indigenous peoples and traditional communities for the conservation of native vegetation and the provision of ecosystem services.[38]

The EU ETS 1 adopts a similar approach, directing the majority of auction revenues towards further climate-related investments.[39] In contrast, the CalCAI earmarks at least 35 per cent of state auction revenue for projects that benefit priority populations and redistributes an additional 37 per cent as a fixed per household Climate Credit directly to electricity and gas rate payers.[40] Similarly, the EU ETS 2 has set aside approximately 25 per cent of its proceeds to the Social Climate Fund, designed to mitigate distributional impacts on vulnerable households, while a climate dividend paid to citizens from (parts of) the remaining 75 per cent is still under consideration in some member states such as Germany.[41]

With roughly 27 per cent of Brazil's population living below the poverty line,[42] the SBCE's revenue distribution – aside from the five per cent share for Indigenous peoples and traditional communities – misses an opportunity to advance social justice through more equitable revenue recycling.

5 Offset Credits

The SBCE establishes a linked offset crediting scheme permitting the use of CRVEs for compliance, with quantitative limits to be set by the Management Body.[43] CRVEs must be registered and verified within the SBCE to ensure integrity,[44] while other carbon credits remain confined to voluntary markets.[45]

This design feature broadly aligns with the 'Compliance Offset Program' under the CalCAI, through which CARB issues ARB Offset Credits to certified projects that reduce or sequester greenhouse gases.[46] These compliance offsets function as cost-containment and compliance flexibility

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[38] Lei Nº 15.042, de 11 de dezembro de 2024 art 28, I, II, III and § 2º.

[39] European Environment Agency, *Use of Auctioning Revenues Generated under the EU Emissions Trading System* (19 December 2024) <https://www.eea.europa.eu/en/analysis/indicators/use-of-auctioning-revenues-generated> accessed 29 August 2025.

[40] California Air Resources Board, 'California Climate Investments: About' <https://ww2.arb.ca.gov/our-work/programs/california-climate-investments/about> accessed 10 November 2025.

[41] European Commission, *Social Climate Fund* (European Commission) <https://climate.ec.europa.eu/eu-action/carbon-markets/eu-emissions-trading-system-eu-ets/social-climate-fund_en> accessed 29 August 2025.

[42] Instituto Brasileiro de Geografia e Estatística (IBGE), *Em 2023, pobreza no país cai ao menor nível desde 2012* <https://agenciadenoticias.ibge.gov.br/agencia-noticias/2012-agencia-de-noticias/noticias/42043-em-2023-pobreza-no-pais-cai-ao-menor-nivel-desde-2012> accessed 18 July 2025.

[43] Lei Nº 15.042, de 11 de dezembro de 2024 arts 8, 10, 12, 25, 26.

[44] Ibid art 2, III.

[45] Ibid art 2, VI.

[46] California Air Resources Board, *Compliance Offset Program* (CARB, 2023) https://ww2.arb.ca.gov/our-work/programs/compliance-offset-program accessed 10 November 2025.

instruments. However, offset quantity and integrity rules are decisive for both price signals and abatement outcomes.

Under the CalCAI, covered entities may use offset credits to meet a limited share of their compliance obligations: up to 8 per cent through 2020, 4 per cent for 2021–2025, and 6 per cent for 2026–2045.[47] Following recent legislative reform, the cap is now automatically reduced by an equivalent number of allowances in the subsequent year's budget to compensate for any offsets used for compliance, thereby strengthening the environmental integrity of the program.[48]

The EU ETS 1 permitted the limited use of credits from the Kyoto Protocol's flexible mechanisms until 2020, with subsequent reforms eliminating offsets use entirely.[49] Recent developments, however, indicate a partial re-opening of the debate on offset use in the EU. The EU Council agreed on a binding intermediate climate target of a 90 per cent GHG reduction by 2040, explicitly allowing the potential use of offsets—up to a limit of 5 per cent—to support compliance with the new target.[50]

Experience from other jurisdictions illustrates the potential risks of excessive reliance on offset credits. In New Zealand, the extensive use of forestry-based New Zealand Units (NZUs) for compliance under the NZ ETS has diluted carbon price signals and reduced incentives for technological innovation in high-emitting sectors, while limiting the government's capacity to manage aggregate emissions within the cap.[51]

To avoid similar pitfalls, the SBCE should adopt strict quantitative limits on the use of CRVEs for compliance — ideally within CalCAI's range — and introduce a corresponding adjustment to the cap. These measures would align flexibility with environmental integrity, reinforcing both the credibility and the long-term stability of the emerging Brazilian carbon market.

6 Linking and International Cooperation

The SBCE provides for future linking with other carbon markets and for participation in international carbon trading under Article 6 of the Paris Agreement, including the transfer of internationally transferred mitigation outcomes (ITMOs).[52]

In comparison, California has a well-working link with the Canadian province of Quebec, the RGGI is constructed as a linked system of participating individual US states' own ETS, and the EU ETS 1

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[47] Assembly Bill Nº 1207, *An act to amend Sections 38501, 38562, 38590.1, 38591.1, 38591.2, 38592.5, 38592.6, and 38594 of, and to add and repeal Section 38562.1 of, the Health and Safety Code, and to amend Section 748.5 of, and to add Section 748.5.5 to, the Public Utilities Code, relating to climate change* (approved 19 September 2025, filed with Secretary of State 19 September 2025) ch 117.

[48] Ibid.

[49] European Commission, *EU Emissions Trading System (EU ETS): Use of International Credits* (European Commission, 2021) https://climate.ec.europa.eu/eu-action/eu-emissions-trading-system-eu-ets/use-international-credits_en accessed 10 November 2025.

[50] Council of the European Union, '2040 climate target: Council agrees its position on a 90% emissions reduction' (Press Release, 5 November 2025) <https://www.consilium.europa.eu/en/press/press-releases/2025/11/05/2040-climate-target-council-agrees-its-position-on-a-90-emissions-reduction/\> accessed 14 November 2025.

[51] New Zealand Ministry for the Environment, *Annual Updates to the New Zealand Emissions Trading Scheme Limits and Price Control Settings for Units 2023* (2023). Elena Aydos and Sven Rudolph, *Public Submission on the Review of the New Zealand Emissions Trading Scheme: Annual Updates to the New Zealand Emissions Trading Scheme Limits and Price Control Settings for Units 2023* (2023) <https://www.newcastle.edu.au/research/centre/law-and-social-justice/submissions> accessed 30 July 2025.

[52] Lei Nº 15.042, de 11 de dezembro de 2024 arts 8, XXI and 2º, XXXIV.

successfully operates a link with the Swiss ETS. The SBCE provisions on linking thus signal Brazil's intent to position its market within the broader global carbon trading architecture, allowing for additional efficiency gains.

III. Conclusion

Brazil's adoption of the SBCE marks a major step toward market-based climate governance in Latin America. By combining an absolute cap, tradable allowances, a regulated offset scheme, and the prospect of international linking, Brazil has created a framework compatible with global emissions trading practices.

Several key design elements remain to be defined by regulation, including the specification of covered activities, allocation criteria, proportion of allowances to be auctioned after 2030, and the quantitative limits and integrity requirements for CRVEs. These forthcoming regulatory decisions, together with the ambition of the cap, will be decisive for the system's environmental performance, cost efficiency, and potential linkage with other markets.

Equally crucial is the establishment of a permanent, independent agency with authority over rule-making, enforcement and market integrity beyond political cycles. Such an institution is essential to safeguard the SBCE's long-term predictability, transparency and equity.

Our comparative approach has provided design lessons from other ETS in Europe, North America and Oceania, which might provide good guidance for those further specifications of the Brazil ETS.