The Beijing–Brasília effect: A new paradigm for sustainable commodity trade?

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Front cover image: A bulk cargo ship unloads soybeans at a port in China (Jinli Guo/iStock)

Foreword

Steering global trade to a more sustainable future

Ana Toni,
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COP30 climate summit

Brazil and China have articulated long-term national visions that place sustainability and ecological balance at the centre of development. Brazil's Ecological Transformation and China's Ecological Civilization reflect a shared understanding that economic prosperity, social well-being and environmental stewardship must advance together. The consistent and stable leadership shown by both countries at the UN forums related to climate change and biodiversity is also a demonstration of their commitment to these agendas both at the national and international level.

The agricultural trade relationship between Brazil and China is among the most significant in the world, generating substantial economic and social benefits for both countries. Its scale also highlights the opportunity to strengthen cooperation so that global supply chains increasingly support resilient food systems, climate objectives and biodiversity protection. Addressing risks related to deforestation, greenhouse gas emissions, biodiversity loss and impacts on water systems is an essential part of this shared challenge.

Both countries have demonstrated leadership in advancing sustainability at scale, from the energy transition to land restoration and environmental governance. Combined with the depth of their trading relationship, this creates a strong foundation for cooperation on sustainable agriculture and responsible commodity supply chains. Such cooperation, developed on a voluntary and reciprocal basis, has the potential not only to reduce future risks, including those posed by climate change, but also to inform and inspire broader efforts toward more sustainable trade.

"This report provides timely insights into how cooperation on commodity trade can contribute to more resilient economies, protected ecosystems and a more sustainable future."

Greening global commodity supply chains can appear complex, involving diverse actors across multiple jurisdictions. This report shows how robust data and scientific analysis can help cut through that complexity. It highlights that deforestation-related risks in international commodity trade are not pervasive across supply chains, but tend to be concentrated in specific regions and value chains. This concentration creates a clear opportunity for targeted and scalable action, enabling cooperation to focus where it can deliver the greatest impact, without disrupting the broader flow of sustainable trade.

At a time when cooperation on global challenges faces increasing constraints, constructive partnerships between major trading countries in the Global South can offer valuable examples of how collaboration, data and shared ambition can support sustainable development. Drawing on evidence and practical experience, this report provides timely insights into how cooperation on commodity trade can contribute to more resilient economies, protected ecosystems and a more sustainable future.

At COP30 in Belém (2025) there was a consensus decision to officially integrate trade into climate negotiations for the first time through a series of dialogues within the UNFCCC process. Additionally, through COP30 Action Agenda, the Integrated Forum on Climate Change and Trade (IFCCT) was also launched to explore ways to better align countries' climate and trade goals. The practical experience of cooperation on agriculture trade between Brazil and China and the evidence of this report will significantly inform both new forums.

Leading the global transformation of sustainable agriculture and food systems through China–Brazil cooperation

Dr. ZHU Chunquan, Director of Nature-Positive Research Centre; Former Head, China Nature Initiatives, World Economic Forum; Former IUCN China Country Representative

We are at a critical juncture for humanity, where climate change and biodiversity loss threaten our planet's life-support systems. In 2024, global temperatures surpassed a 1.5°C rise above pre-industrial levels, bringing us closer to irreversible tipping points. Agriculture and food systems are major contributors to both issues, accounting for about 30% of human-induced greenhouse gas emissions and impacting about 72% of endangered species. Reshaping them into green, resilient and sustainable systems is essential for both food security and meeting the goals of the Paris Agreement on climate change and the Kunming-Montreal Global Biodiversity Framework.

This report by Trase, with its rigorous data analysis, clearly highlights the unique significance of bilateral agricultural trade between China and Brazil, as two of the world's largest developing nations, in efforts to tackle these issues. This trade, worth nearly $47 billion, represents not just a critical economic relationship, but a strategic lever for environmental governance. China purchases more than half of Brazil's agricultural exports, while Brazil supplies over a third of China's imports, with trade dominated by soybeans and beef. This strong trade relationship means that consumption choices in China can have a profound effect on the sustainability of distant production systems in Brazil. This challenge underscores immense potential: transforming this vast trade flow into an engine for sustainability that could yield positive effects worldwide.

Both nations have demonstrated strong environmental leadership. China has achieved food security while contributing a quarter of the world's new forest area and building the largest renewable energy system. It spearheaded the Kunming-Montreal Framework and its associated Kunming Biodiversity Fund. Brazil has become an agriculture powerhouse while still keeping over 60% of its territories covered by natural vegetation. It has also shown strong leadership on the global stage, hosting the COP30 climate summit and launching world-leading initiatives such as the Tropical Forest Forever Fund (TFFF).

Successful cooperation in greening agricultural supply chains between Brazil and China already exists. A landmark example is the partnership between China Mengniu Dairy Company and commodity trader COFCO International to supply certified deforestation- and conversion-free soybeans from Brazil. Using on-the-ground audits, blockchain traceability and satellite verification, they have built a fully transparent supply chain. Since 2024, over 600,000 tonnes of soybeans have been imported for producing premium dairy products, proving that large-scale, sustainable sourcing is viable and competitive.

"China and Brazil have a unique opportunity to strengthen South–South cooperation and lead a green revolution in agri-food systems."

As some nations retreat from climate commitments, China and Brazil have a unique opportunity to strengthen South-South cooperation and lead a green revolution in agri-food systems. This report is a timely scientific assessment and call to action. I believe China and Brazil can – and must – turn their massive trade volume into a powerful force for protecting globally significant biomes such as the Amazon and Cerrado, curbing global warming and conserving biodiversity. By unlocking a 'Beijing-Brasilia effect', China and Brazil can forge a new paradigm where development and ecological protection advance together.

Key messages

1 **Brazil and China have demonstrated global environmental leadership, from the energy transition to tackling land degradation.** Both countries have committed to work collectively to halt forest loss and land degradation by 2030 and shown leadership status in key multinational fora, including the UNFCCC and UN CBD.

2 **Brazil–China trade is by far the most significant bilateral trading relationship for agricultural commodities in the world.**

52%
of Brazil's agricultural exports go to China (2023)

34%
of China's agricultural imports come from Brazil (2023)

3 **A growing body of evidence shows that agricultural production is becoming increasingly vulnerable to climate change, with escalating impacts on yields, economic stability and food security. These risks are already materialising in Brazil:**

$13 billion
in losses from Amazon soy harvest failures due to droughts (2021–2022), contributing to a 12% drop in Brazil's agricultural GDP in early 2022

46%
drop in soy production in Rio Grande do Sul due to drought (2020) – one of Brazil's top exporting states

4 **Brazil and China hold an outsized potential to influence the sustainability of global agricultural supply chains.**

25% of the total deforestation risk linked to global international trade in agricultural commodities is associated with Brazil–China trade alone

5 **Deforestation risk in Brazil–China supply chains is highly concentrated,** providing the opportunity for targeted and scalable action that can drive systemic change.

5% of producing regions in Brazil account for the majority (75% for soy and 70% for beef) of China's deforestation risk

6 **By working together, Brazil and China have the opportunity to reframe the debate on sustainable agriculture and trade,** shifting the focus to be less on compliance and more on cooperation and collective action. Scaling up this cooperation can help set a powerful proof of concept – a 'Beijing–Brasilia effect', paving the way for broader South–South cooperation on sustainable trade.

7 **The conditions for a Beijing–Brasília effect on sustainable commodity trade are already firmly in place.** To seize this unique opportunity to transform the sustainability of global agricultural commodities markets, the development of a green supply chain roadmap could provide a clear and practical way forward. This can be framed around at least five priorities for collaboration: knowledge exchange, unlocking finance, setting joint standards, tackling illegality and strengthening South–South cooperation, each of which is underpinned by actions already in place.

From energy transition to forest protection: Joint Brazil–China environmental leadership as a potential game changer

In the last decade, Brazil and China have emerged as pivotal to global environmental governance. Brazil's hosting of the COP30 climate summit in 2025, and China's presidency over the Kunming-Montreal Global Biodiversity Framework in 2022, demonstrate their growing leadership amid shared and rapidly evolving environmental challenges and an increasingly multipolar world. This leadership from Brazil and China is reinforced by the deepening cooperation between the two countries, alongside other partners in the Global South, and builds on significant progress made already by both countries towards a green transition. The emerging cooperation between Brazil and China also reflects their shared recognition that jointly addressing global environmental challenges is fundamental to an equitable and prosperous future.

The global energy transition provides a striking example of the pivotal role already played by the two countries. Brazil generates close to 90% of its electricity from renewable sources (Ember, 2025) and is a global leader in biofuel production, accounting for around one quarter of global output (IICA, 2024). At the same time, China has become a central driver of the global expansion in renewable energy capacity, currently producing over 80% of the world's solar panels and 60% of the wind turbines (IEA, 2022; CCICED, 2024). China is also the largest producer of electric vehicles, with sales representing more than 60% of the global market (CCICED, 2024). These advances have driven down the costs of low-carbon technologies, accelerating their deployment worldwide.

"The global energy transition provides a striking example of the pivotal role already played by the two countries."

The scale of innovation and industrial capacity built by China's clean energy sector, combined with Brazil's vast renewable resources, position both countries as powerful and complementary leaders in the transition to a low-carbon economy. Brazil and China are increasingly seen as influential actors capable of setting examples and providing the enabling conditions for further 'South-South' cooperation that is needed to drive systemic change at the global level.

Alongside the energy transition, protecting forests and other ecosystems is central to meeting climate and biodiversity goals. The production and trade of agricultural commodities remain vital to global food security and economic development, sustaining the livelihoods of billions of people. Yet unsustainable practices, particularly the conversion of natural ecosystems for agricultural expansion, pose a direct threat not only to climate and biodiversity, but also to the resilience of food production systems and global supply chains.

Agricultural exports from Brazil to China represent by far the world's most significant trading relationship in agricultural commodities, averaging $46.9 billion annually – 40% larger than the second-largest flow, which is from the United States to China ($29.4 billion). This report explores how Brazil and China can capitalise on the strength of this relationship to expand their joint leadership in the energy transition, as well as on forest protection and restoration within their own countries, to fundamentally reshape the sustainability of agricultural commodity trade.

A shared global challenge: deforestation as a nature, climate and food security risk

The world is off-track to meet commitments to halt and reverse forest loss and land degradation by 2030 (Forest Declaration, 2025), with 2024 marking record rates of global forest loss (WRI, 2025). Deforestation accounts for an estimated 10–15% of global greenhouse gas emissions and up to 50% in forest-rich countries such as Brazil (SEEG, 2025). This makes it nearly impossible to achieve the goals of the Paris Agreement without significantly curbing the loss of forests and other ecosystems. Addressing deforestation is equally critical to meet targets under the Kunming-Montreal Global Biodiversity Framework, in which governments have agreed to halt and reverse biodiversity loss by 2030 (CBD, 2024).

Agricultural expansion drives almost all tropical deforestation and conversion (Pendrill et al, 2022). At the same time, deforestation and climate change also have negative impacts on agricultural productivity and the resilience of food systems. Quantifying the precise and long-term impacts of deforestation and climate change on agricultural productivity at a global scale remains a complex task. Studies projecting future yields under various climate and deforestation scenarios present mixed outcomes, depending on the region and crop. Some forecast a significant decrease in yields (Zhu et al, 2022), particularly for crops like soy and maize in tropical and subtropical regions (Lesk et al, 2021; Spera et al, 2020), while others point to potential gains in certain higher latitude areas (Yuan et al, 2024). Despite regional differences, evidence consistently points to growing vulnerability of agricultural production to climate impacts, making yields increasingly unpredictable and threatening food security (Rezaei et al, 2023; Bibi et al, 2023; Wu et al, 2023).

"Evidence consistently points to growing vulnerability of agricultural production to climate impacts, making yields increasingly unpredictable and threatening food security."

The impacts of increasing climate variability on agricultural production in Brazil alone, one of the world's most important breadbaskets, clearly demonstrates the economic impact of these risks. In 2020, a drought in southern Brazil caused a reduction of 46% and 32% of soy and maize production in Rio Grande do Sul – one of the country's top exporting states (Globo Rural, 2020). Another drought in 2021–2022 affected the soy harvest in the Amazon, resulting in an estimated $13 billion loss and contributing to a 12% decline in Brazil's agricultural GDP in early 2022 (Leite-Filho et al, 2024). Similarly, extreme flooding in Rio Grande do Sul in 2024 led to estimated agribusiness losses of around $250 million (Santos et al, 2024).

Between 2006 and 2019, climate change linked to deforestation led to an estimated economic loss of $761 million for soybean production and $273 million for maize in the Brazilian Amazon region alone, equivalent to 10% and 20% of net revenues, respectively (Leite-Filho et al, 2024). According to a study published in the scientific journal Nature, preventing further deforestation in the southern Brazilian Amazon alone could avoid annual agricultural losses of up to $1 billion (Leite-Filho et al, 2021). As climate change intensifies, such negative impacts are projected to become increasingly more frequent and severe.

As the world's second-largest agricultural exporter, Brazil's exposure to climate and deforestation risks has global implications, posing systemic threats to its economy as well as to the food security of import-dependent countries worldwide. And with China as the world's largest agricultural importer, there are no bilateral trading relationships more salient to the global food system than agricultural exports from Brazil to China.

The interdependence of Brazil and China on agricultural commodities

Between 2021 and 2023, the most significant bilateral trade flow of agricultural commodities was from Brazil to China, averaging $46.9 billion per year. This far exceeded the second-largest annual flow, which was from the United States to China, at $29.4 billion. Over the past decade, Brazil's agricultural exports to China have nearly doubled as a share of global trade (Figure 1), underscoring the scale of the interdependence between the two countries.

Origin	Destination	Value (billion US$)	Share of global trade (%)	10-year change in share of global trade	10-year % change in share of global trade
Brazil	China	46.9	6.2%	+2.9%	+88%
USA	China	29.4	3.9%	-0.2%	-4%
Mexico	USA	21.3	2.8%	+1.1%	+62%
Brazil	EU27	16.5	2.2%	-0.6%	-21%
EU27	UK	16.3	2.2%	-0.8%	-28%
Canada	USA	16.3	2.2%	+0.3%	+16%
USA	Mexico	13.9	1.8%	-0.2%	-8%
USA	Japan	10.3	1.4%	-0.6%	-29%
EU27	USA	10.2	1.4%	+0.2%	+13%
Ukraine	EU27	9.6	1.3%	+0.5%	+58%

Figure 1: Trade in agricultural commodities between Brazil and China is the largest in the world. Most important bilateral trade flows of agricultural commodities over the period 2021–2023 in terms of value in US$. Also shown is the share of global trade made up of that bilateral flow, and how this share has changed over a ten-year period (since 2011–2013) in absolute and relative (%) terms. Data from the Food and Agriculture Organization of the United Nations (FAO).

Trade data illustrates how this relationship has strengthened over the last two decades, with Brazil increasingly relying upon the Chinese market, and China increasingly depending on Brazil's agricultural production. In 2000, China made up just 6.5% of Brazil's exports, while by 2023 it imported more than half (52%) of Brazilian agricultural exports by value (Figure 2a). China's imports tell a complementary story, with the country now depending on Brazil for more than one third (34%) of its agricultural imports, up from 8% in 2000 (Figure 2b).

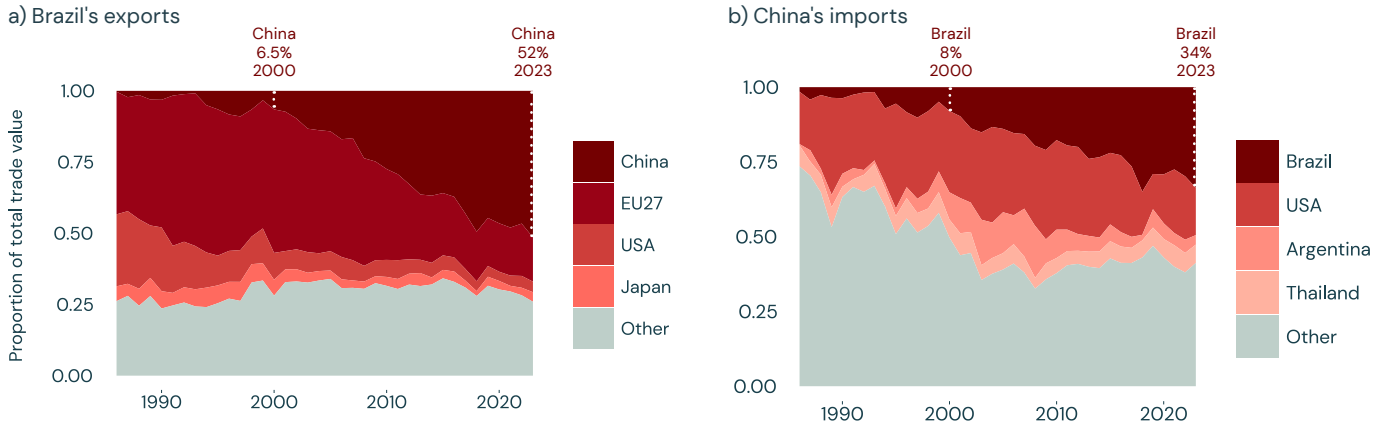


Figure 2: Brazil and China increasingly rely on each other for agricultural commodity trade. Charts show the proportion of trade value (US$) for the top four destination markets of Brazil's exports (a) and the top four countries of origin of China's imports (b), with other countries grouped together in grey. Data from the Food and Agriculture Organization of the United Nations (FAO).

This trend and growing interdependency is even more pronounced in the case of soybean trade, a critical commodity that underpins food security in China. Today, around 84% of China's soybean demand is met by imports, with Brazil supplying more than half of this demand (58% in 2023). During periods of heightened trade tensions with the United States, such as in 2018, Brazil's share rose even further, reaching as much as 63% of total demand, a dynamic likely to repeat under future market or geopolitical shocks.

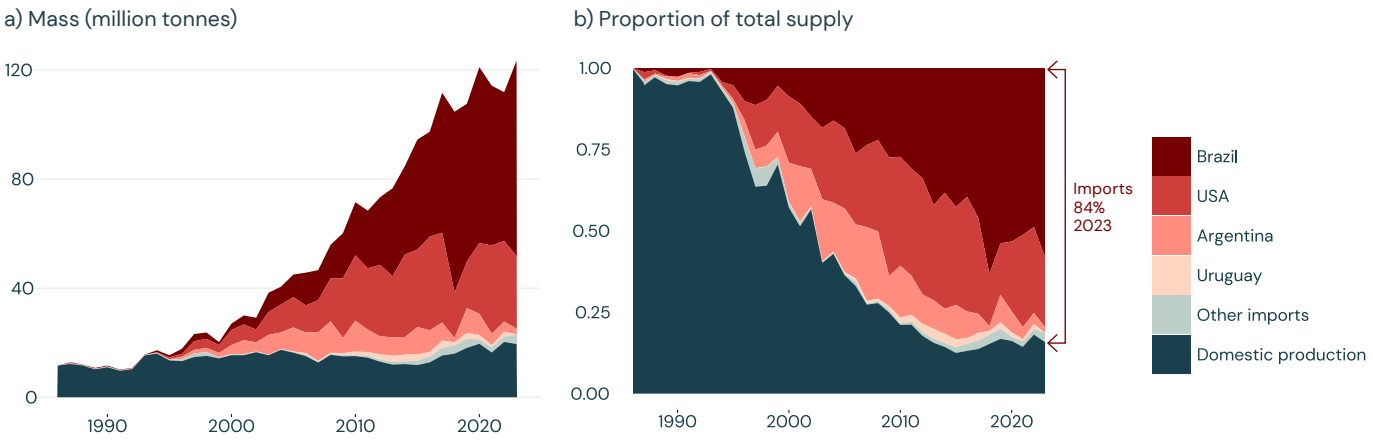


Figure 3: China's increasing reliance on imported soy. The origins of China's supply of soybeans, soybean meal and soybean oil by country, in terms of mass (a) and proportion of supply (b). Data from FAO (2025). Domestic production is shown in dark blue, while soy of imported origin is shown in shades of red. The top four origins are shown, with other countries grouped together (grey).

Assessing deforestation risk in commodity trade

Our analysis demonstrates that Brazil and China hold an outsized potential to influence the sustainability of global agricultural supply chains and thereby contribute to safeguarding food security for billions of people.

To identify the potential contribution that Brazil-China cooperation can have on greening agricultural trade, we assessed how markets across the world are exposed to deforestation risks through importing agricultural commodities produced in recently deforested areas. For this, we combined global trade records with data on commodity-driven deforestation for more than 160 agricultural commodities, including spatial data identifying production on recently deforested land. This helps to identify the trade flows of commodities at risk of being produced on recently deforested land, and the areas where targeted interventions could deliver the greatest sustainability gains. The analysis uses the best-available global data on deforestation and trade, but given the lack of traceability and transparency needed to link individual trade flows to specific farms at the scale required, it should be seen as a risk assessment rather than as establishing causal links between imports and specific instances and locations of deforestation.

The analysis focuses on where there is a risk that trade involves products sourced from *recently* deforested land while acknowledging that production often takes place on land cleared many years ago. We therefore assess deforestation risk and trade over the period 2021–2023, the most recent three years for which data is available. See the accompanying methods document for more information.[1]

1. The Beijing-Brasília effect: Methods and data sources

Harvesting soybeans in Mato Grosso, Brazil (alffoto/iStock.com)

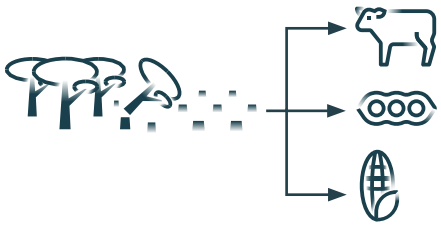
For the purposes of this analysis, deforestation is defined as the conversion of natural forests to other land uses. However, it does not take into account compliance with specific national or regional regulations in particular producer countries (such as Brazil's Forest Code) or importing markets (such as the EU Deforestation Regulation). It also does not distinguish between legal or illegal deforestation, due to limited availability of reliable legal compliance data at scale. Nevertheless, estimates indicate that in Brazil, for example, over 90% of deforestation has some level of irregularity (Mapbiomas, 2025; Trase, 2023).

This analysis covers the trade of primary (e.g. soybeans) and lightly processed (e.g. soybean meal, soybean oil) forms of commodities, but not heavily processed or modified forms. For commodities often imported in more processed forms (such as rubber and palm oil), estimates of deforestation risk for consumer markets should be seen as conservative.

Box 1: Methods to assess deforestation risk in global agricultural commodity trade

1. Deforestation associated with the production of specific commodities

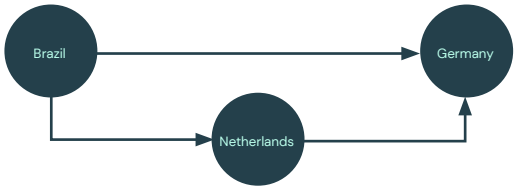
We used data from the **DeDuCE model** (Singh & Persson, 2024), which attributes forest loss (Hansen et al. / University of Maryland) to individual FAO agricultural commodities. Where data allows, such as for palm oil or South American soy, this is done in a **spatially explicit** way, overlapping forest loss with high-resolution maps of commodity production in the subsequent three years. Where such maps are not available, attribution is based on a land-balance model using national statistics on the expansion of planted area for different crops.



Commodity, country and year-specific deforestation values were then converted to values of **deforestation per tonne of production**, using FAO production statistics.

2. Linking deforestation risk to trade data

First, FAO trade records were **adjusted to account for re-exports**, estimating the 'true' countries of production and destination for global agricultural commodity trade.



For the trade of commodities that have undergone processing, such as palm oil, trade flows were then **expressed in mass of 'raw' commodity equivalents** (effectively giving the amount of production required to supply that trade flow) using conversion factors derived from FAO data on commodity processing steps.

Finally, this mass (tonnes) was **multiplied by the deforestation hectares per tonne** from part 1 for the relevant commodity, producer country and year. **This gives a risk measure (in hectares of deforestation) that any given trade flow was sourced from recently deforested land.**

Main results

Looking across all agricultural commodity markets, domestic and international, Brazil and the Democratic Republic of the Congo (DRC) are the two markets most at risk of sourcing agricultural commodities from recently deforested land, accounting for 26% and 11% of the global total respectively. In both cases, the vast majority (>99%) of this risk is from their own domestic production rather than from international trade. In Brazil, deforestation risk is largely linked to the consumption of domestically produced cattle products, while in the DRC it is mainly associated with consumption of domestically grown cassava. By contrast, in other major consumer markets, including China and the EU (whose consumption accounts for 7.5% and 2.7% of the global risk), the majority of this deforestation risk is associated with imported products (Figure 4).

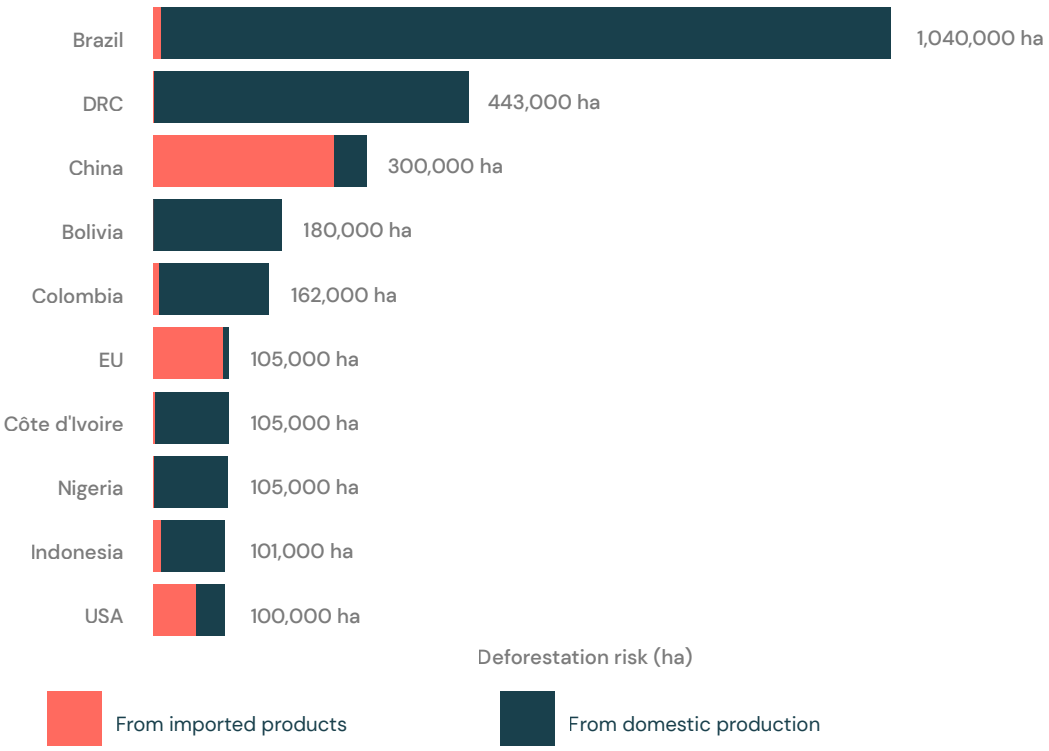


Figure 4: Brazil's deforestation risk comes from domestic consumption while China's comes from imports. The top ten destination markets for agricultural commodities, ranked by the risk that these commodities were produced on recently deforested land (measured in hectares of deforestation). Data are annual averages over 2021–2023. Bars are coloured according to whether that risk was associated with domestic production (dark blue) or imported products (red). Total deforestation risk for each destination market is indicated by black text at the end of each bar. Analysis by Trase using data from Singh & Persson (2025) and FAO. Trade data was adjusted to account for re-exports using methods adapted from Croft et al. (2018). See the accompanying methods document for more information.[2]

2. The Beijing-Brasília effect: Methods and data sources

Looking specifically at international bilateral trade, exports from Brazil to China account for around one quarter of commodity-driven deforestation linked to international trade in agricultural commodities between 2021 and 2023, with almost all of this associated with trade in cattle and soy (Figure 5). The second and third most significant bilateral trade flows in terms of their risk of being produced on deforested land were those between Côte d'Ivoire and the European Union, and Brazil and the European Union. However, these flows only account for 4% and 2.7% respectively of global risk.

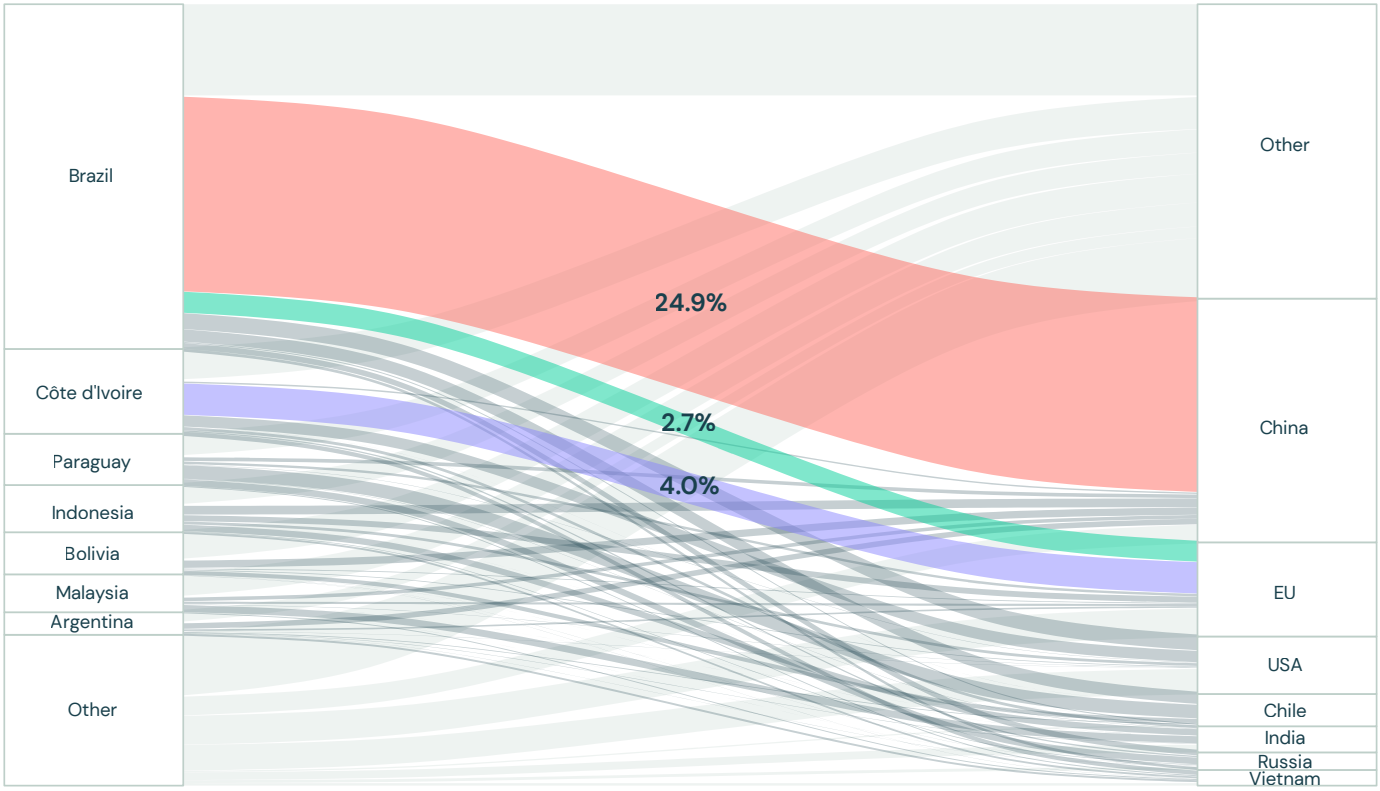


Figure 5: Brazil and China have outsized potential to influence the sustainability of global agricultural supply chains. Global risk of exported commodities being produced on recently deforested land, shown as bilateral trade flows between countries of production (left) and countries of destination (right). Flow widths represent each trade flow's percentage contribution to total global deforestation risk associated with commodity exports, averaged over 2021–2023. The largest bilateral flow of commodities at risk of being linked to deforestation was from Brazil to China, shaded in red. This trade flow makes up one quarter (24.9%) of the global deforestation risk associated with trade, mostly due to trade of cattle products and soy. The second largest flow is shown in purple (Côte d'Ivoire to the EU, with cocoa the largest contributor) and the third largest in green (Brazil to the EU, mostly from soy and cattle products). Analysis by Trase using data from Singh & Persson (2025) and FAO. Trade data was adjusted to account for re-exports using methods adapted from Croft et al. (2018). See the accompanying methods document for more information.[3]

3. The Beijing-Brasília effect: Methods and data sources

Looking in more detail at the risk of China importing commodities grown on recently deforested land (Figure 6), we find that Brazil accounts for 80% (203,000 hectares) of this risk. The majority of this risk is associated with imports of cattle products from Brazil (77%), with soy accounting for almost all of the remaining 23%. Notably, Brazilian cattle products alone represent 61% of the overall risk to China, corresponding to an estimated 155,000 hectares of deforestation per year.

The risk that China's global commodity imports come from recently deforested land (in Brazil and elsewhere) has increased over recent years, rising from 174,000 hectares in 2014 to 251,000 hectares in 2023. This rise was mostly driven by surging imports of cattle products. In 2014, around 20% of Brazilian cattle products exports were destined for China, rising to over 45% in 2024 (ABIEC, 2025), underscoring the growing weight of this bilateral trade relationship in shaping global forest outcomes.

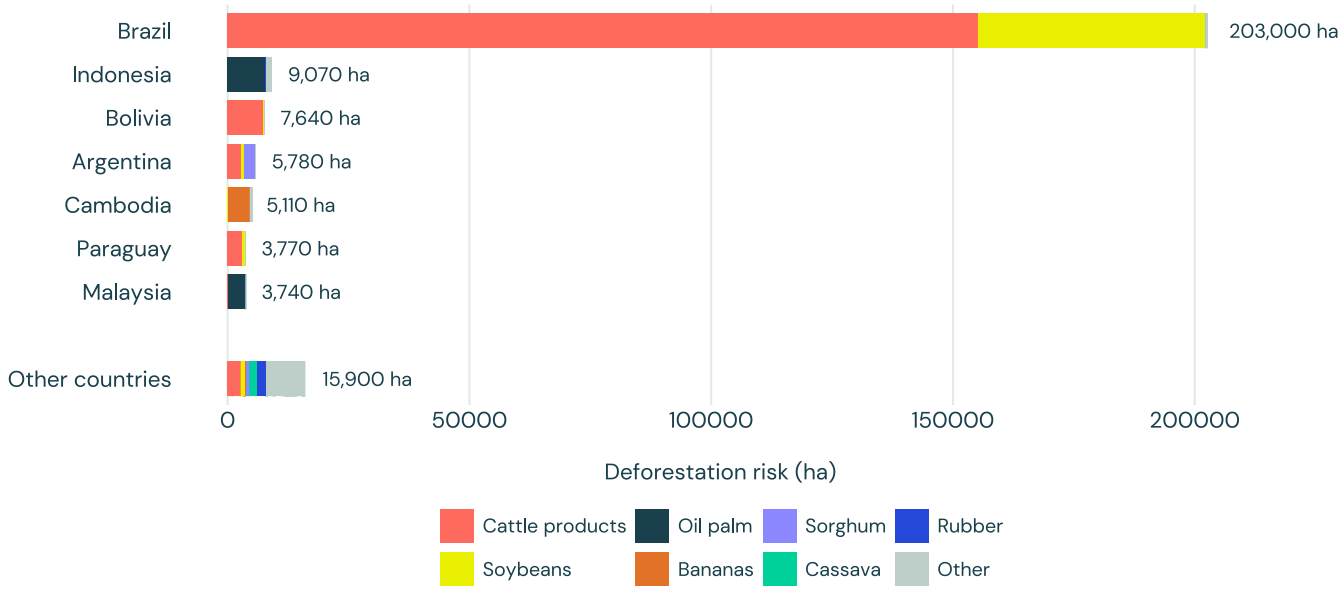


Figure 6: Brazilian cattle and soy products are the Chinese imports most likely to have been sourced from recently deforested land. The top seven origin countries and commodities where China is most at risk of importing commodities produced on recently deforested land. Data are annual averages for the period 2021–2023, and are adjusted to take into account re-exports.

Concentration of supply chain risks reveals potential leverage points

At first glance, the task of leveraging global commodity supply chains to curb deforestation can appear highly complex and intractable. Supply chains are long, involve thousands of actors, and cross multiple jurisdictions. Yet our analysis of subnational sourcing of commodities grown on recently deforested land shows that deforestation is concentrated in a relatively small number of producing regions, and that a few companies and markets hold disproportionate potential to drive systemic change. This concentration creates an opportunity for interventions that are both targeted and scalable (Grabs et al, 2024).

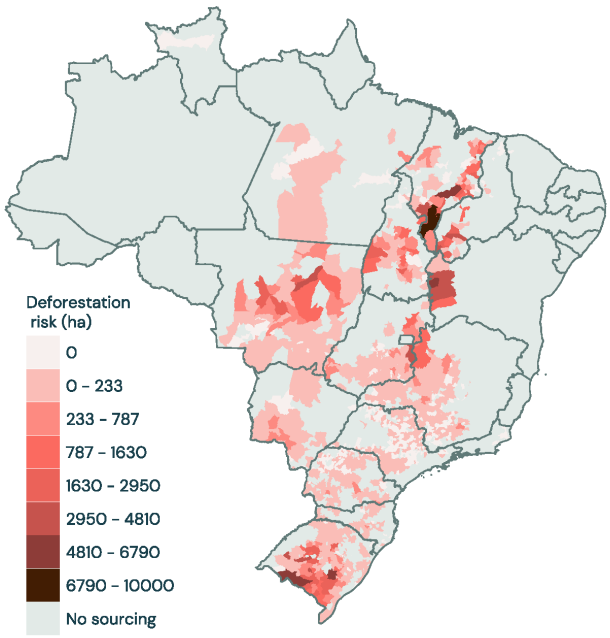
Our analysis shows that in 2022, more than 1,500 Brazilian municipalities supplied soy to China, but only 73 accounted for 75% of all deforestation risk linked to those trade flows. These municipalities represented only 24% of Brazil's total exports to China in 2022 (9.6 million tonnes). Conversely, 74% of the municipalities that China sourced soy from in 2022 (1,161 in total, representing 26% of the total volume at 10.4 million tonnes) were associated with less than 1% of total soy deforestation and conversion risk.

Trading companies also play a decisive role in shaping the sustainability of this trade. Only five companies (ADM, Cargill, Amaggi & LD Commodities, Gavilon and COFCO, in decreasing order of export volume) handled more than half (52%) of all the soy exports from these high-risk municipalities to China. Importantly, all of these companies have made public commitments to implement deforestation-free supply chains, positioning them as potential allies in driving a transition towards more sustainable trade. For example, COFCO began a landmark initiative to ship zero-deforestation soy from Brazil to China in 2024.

The cattle sector reveals a similar pattern. Only around 100 Brazilian municipalities, approximately 5% of cattle-producing regions that supply China, accounted for 70% of deforestation risk linked to Brazil-China trade. Three companies – JBS, Marfrig and Minerva – accounted for 60% of the beef exports to China from these high-risk municipalities.

These insights underscore the potential to increase effectiveness and efficiency by directing resources, policy measures and supply chain interventions towards the municipalities with the highest levels of deforestation.

a) China's soy imports (2022)



b) China's beef imports (2023)

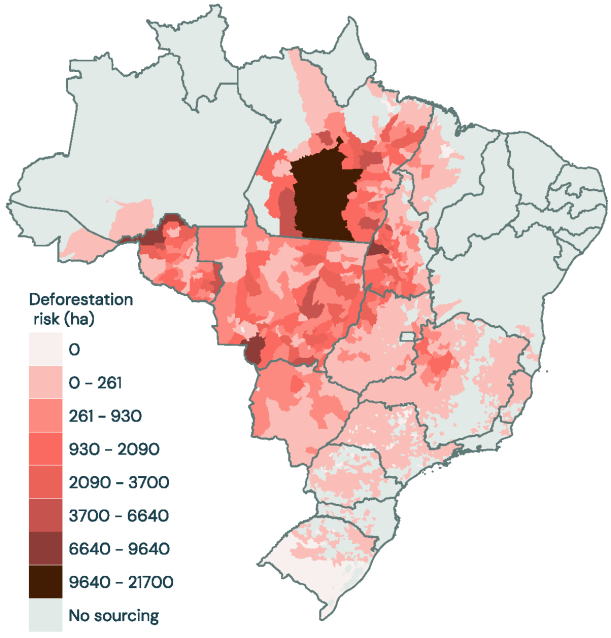


Figure 7: China's risk of importing soy and beef from recently deforested land is concentrated in a few subnational regions. Municipality-level risk of China's imports of Brazilian soy (a) and beef (b) being sourced from recently deforested land. These maps take into account China's particular sourcing patterns, market share and the amount of soy and pasture-driven deforestation in each municipality. They represent the most recently available subnational supply chain data for each commodity. Source: Trase.

The Beijing–Brasília effect: transforming the sustainability of agricultural supply chains

China and Brazil have individually demonstrated their commitment and ability to lead on the global sustainability agenda in many areas, including in both the energy and land sectors. China's land restoration and reforestation programmes are world-leading in ambition, scale and speed (Binbin et al, 2024). Brazil's federal Action Plan for Deforestation Prevention and Control in the Legal Amazon (PPCDAm) has achieved the largest absolute reductions in deforestation for any country (Killeen, 2025).

As we have demonstrated in this report, China and Brazil have a truly unique partnership in the trade of agricultural commodities. This partnership is part of the bedrock of the economies and food systems of both countries and is mutually beneficial for both parties. However, the resilience of this partnership, and therefore the resilience of Brazil's agricultural sector and China's food security, is increasingly threatened by climate-driven yield losses in key crops such as soy.

By working together to curb deforestation and tackle shared supply chain risks, China and Brazil have an extraordinary opportunity to strengthen the resilience of their agricultural trading partnership while advancing their wider climate and biodiversity goals. This includes their Nationally Determined Contributions (NDCs) to reduce global carbon emissions, their National Biodiversity Strategy and Action Plans (NBSAPs), as well as targets to reduce the global footprint of consumption (Global Biodiversity Framework, Target 16), and commitments to work collectively to halt forest loss and land degradation by 2030 agreed at the COP26 climate summit in Glasgow, UK.[4]

Given the scale of Brazil and China's agricultural trading relationship, joint action has the potential to drive positive spillovers for the sustainability of commodity trade globally, creating what we term the 'Beijing-Brasília effect'. By building on past successes in tackling major environmental challenges, as well as the mandate afforded by their global leadership in discussions under the UN conventions on climate change (UNFCCC) and biodiversity (CBD), they can fundamentally reset the sustainability of commodity trade worldwide, protect their own economies and accelerate progress on global goals.

This opportunity is particularly important in today's political context. Global environmental stewardship faces a yawning gap in leadership, created by challenges to multilateralism, shifting political priorities in the United States and domestic pressures within the European Union that are undermining political ambition on the climate and biodiversity agendas. In this context, South-South cooperation has emerged as one of the most promising avenues for advancing global environmental governance.

"Given the scale of Brazil and China's agricultural trading relationship, joint action has the potential to drive positive spillovers for the sustainability of commodity trade globally, creating what we term the 'Beijing–Brasília effect'."

4. Further information at: Glasgow Leaders' Declaration on Forests and Land Use

Unlocking the Beijing–Brasília effect

The foundations for unlocking a Beijing-Brasília effect on sustainable commodity trade are already firmly in place: a proven record of environmental leadership, the significance of the bilateral trading partnership, and the central role of deforestation and low-carbon agriculture in ensuring supply chain resilience.

Fully capitalising on this opportunity requires a joint roadmap. Five promising strategic priorities are:

Knowledge exchange and innovation. Brazil and China share a long tradition of scientific and technological collaboration. A notable example is their partnership in satellite monitoring through the CBERS programme, which played a critical enabling role in the development and operation of PRODES, Brazil's flagship system for tracking deforestation. More recently, in May 2025, both countries signed an agreement to strengthen collaboration on forest restoration focusing on the exchange of knowledge, technologies and expertise (MMA, 2025). Building on this legacy, deeper cooperation on sustainable production and trade of beef and soy could establish new global benchmarks for supply chain resilience. Effective governance of international agricultural trade requires not only the establishment of laws and strict supervision by exporting countries, but also cooperation between trading partners, supported by innovation and new technologies. Partnerships between civil society and research organisations present valuable opportunities to facilitate learning, test pilot projects and support the scaling up of innovations that promote low-carbon, fully traceable and deforestation-free supply chains.

Unlocking finance. Brazil and China have both expressed strong support for scaling up green finance to advance the restoration of degraded pastures, sustainable intensification and forest conservation. Their recent backing and leadership of the Tropical Forest Forever Facility (TFFF)[5] is a clear example of this commitment. China and Brazil's experience in mobilising green finance for the energy transition, infrastructure investments and supply chain cooperation, including under the auspices of China's Green Belt and Road Initiative and its Green Investment Principles, can help further accelerate this progress. Strategic opportunities lie in the new Resilient Agriculture Investment for Net-Zero Land Degradation (RAIZ) programme[6], launched by Brazil and FAO at COP30 and Brazil's Green Way programme[7]. The latter aims to incorporate 40 million hectares of degraded pastures into productive systems for food, biofuels and forestry systems. In its first phase, the programme has already mobilized $6 billion to support the recovery of two million hectares.

Tackling illegality. In their 2023 joint statement, Brazil and China committed to engage collaboratively to combat illegal deforestation. Brazil has some of the most advanced environmental legal protections in the world, as well as a pledge to achieve zero deforestation by 2030. Strengthened Brazil-China cooperation on greening supply chains can help Brazil achieve its national ambitions. Analyses by Trase and others have consistently shown that illegality is typically concentrated in relatively few regions and properties (Trase, 2023; Rajão et al, 2020). Cooperation focused on high-risk regions, combining financial incentives, enforcement and support to jurisdictional approaches, offers significant potential to curb forest loss while optimising the use of resources.

5. Further information at: tfff.earth
6. Further information at: RAIZ
7. Further information at: Caminho Verde Brasil

Setting joint standards. Significant opportunities to help unlock a Beijing-Brasília effect exist in setting common principles and standards for green supply chains, both between these two countries and more broadly. Steps have already been taken to introduce minimum standards for agricultural production and zero deforestation in Brazil-China commodity trade. This includes action from Chinese industry, most notably COFCO's commitment to eliminate deforestation from soy and maize in its global supply chains by the end of 2025, as well as the first shipment of deforestation-free soy from Brazil to China in 2024. There are also valuable opportunities to build on and learn from emerging initiatives from civil society, including the Beef on Track (BoT) certification[8], which sets clear socio-environment standards for certifying the sustainability of beef exported from Brazil. These examples offer opportunities for Brazil and China to start from a stronger base when designing cooperative mechanisms for sustainable trade.

8. Further information at: Beef on Track

Strengthening South-South cooperation. Brazil-China cooperation on the green transition and global sustainability goals stands out among other South-South partnerships due to its scale and influence. The depth of bilateral trade, strong state financing programmes, and their prominence in key multinational fora including BRICS and G20, give this partnership unique influence. With such a strong foundation in place together with the timely platform provided by Brazil's presidency of COP30, China's 15th Five-Year Plan and the recent BRICS commitments on sustainable governance (BRICS, 2025), both countries now have an unparalleled opportunity to demonstrate the transformative effect of a stronger partnership between Brasília and Beijing. Together, they can advance a joint program on sustainable commodity trade that can set an important precedent, raise incentives and lower the entry costs for other nations and markets to follow.

Delivering on these priorities will require coordinated action across sectors, so jointly developing a green supply chain roadmap could be a useful way forward. Government leadership is critical for such a roadmap: setting strategic direction, aligning policies and making early investments that can unlock broader private and financial sector engagement. The private sector, including financial institutions, are essential for mobilising capital, implementing sustainability standards and driving innovation. Civil society and research organisations play a vital role in bringing ideas and creativity, piloting solutions, generating knowledge, and promoting transparency and accountability.

"An initial focus on high-risk municipalities and companies, where targeted interventions could have disproportionately beneficial impacts, could then be gradually expanded to other regions and broader sustainability objectives."

Such a roadmap needs to build on existing work including prominent civil society and industry-led initiatives such as BoT certification and the Chinese Sustainable Meat Declaration (China Development Brief, 2023). Given the highly concentrated nature of risks in agricultural commodity trade between the two countries, our analysis highlights the benefits of a targeted approach. An initial focus on high-risk municipalities and companies, where targeted interventions could have disproportionately beneficial impacts, could then be gradually expanded to other regions and broader sustainability objectives. If designed through a robust multi-stakeholder process, drawing on research, existing protocols, corporate commitments and coordinated government engagement, such a targeted approach would lower entry barriers and help set a powerful proof of concept, paving the way for broader South-South cooperation on sustainable trade.

Five priorities to unlock the Beijing–Brasília effect

Knowledge exchange and innovation

Spur innovation in resilient and deforestation-free supply chains by building on longstanding scientific and technical collaboration – from the CBERS satellite monitoring program, to recent agreements to share forest restoration expertise.

Unlocking finance

Build on Brazil's leadership of the Tropical Forests Forever Facility, China's leadership of the Kunming Biodiversity Fund, and their joint experience mobilising green finance for the energy transition to accelerate and scale up action in forest conservation and sustainable trade.

Setting joint standards

Develop shared principles for green supply chains to strengthen mutually beneficial and forest-friendly trade, building on emerging industry commitments (such as from COFCO), innovative sector-wide standards (such as Beef on Track), and improved traceability systems.

Tackling illegality

Build on Brazil and China's joint 2023 commitment to tackle illegal deforestation, via collaboration to support law enforcement and provision of targeted financial incentives, to support Brazil's ambitions on curbing deforestation and to reduce risks in China's commodity supply chains.

Strengthening South-South cooperation

A stronger Brazil-China partnership – rooted in globally significant trade ties and joint leadership in multilateral forums – provides a unique opportunity to build on Brazil's COP30 Presidency and use China's 15th Five-Year Plan to advance a joint sustainable-trade agenda that could set a powerful precedent and generate the enabling conditions for other countries to follow.

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Data and methods

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About Trase

Trase is a data-driven transparency initiative that revolutionises our understanding of the international trade and financing of agricultural commodities which drive tropical deforestation. Its unique supply chain mapping capabilities bring together disparate, publicly available data to connect consumer markets to deforestation and other impacts in producer countries. Trase's free online tools and actionable intelligence enable governments, companies, financial institutions and civil society organisations to take practical steps to address deforestation. Trase is a global not-for-profit partnership co-founded in 2015 by the Stockholm Environment Institute and Global Canopy.

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