

PROMISES, PROMISES!

Analysis of European Supermarkets'
Implementation of the Retail Soy
Group's Roadmap to End Deforestation
Connected to Meat



MIGHTY
EARTH

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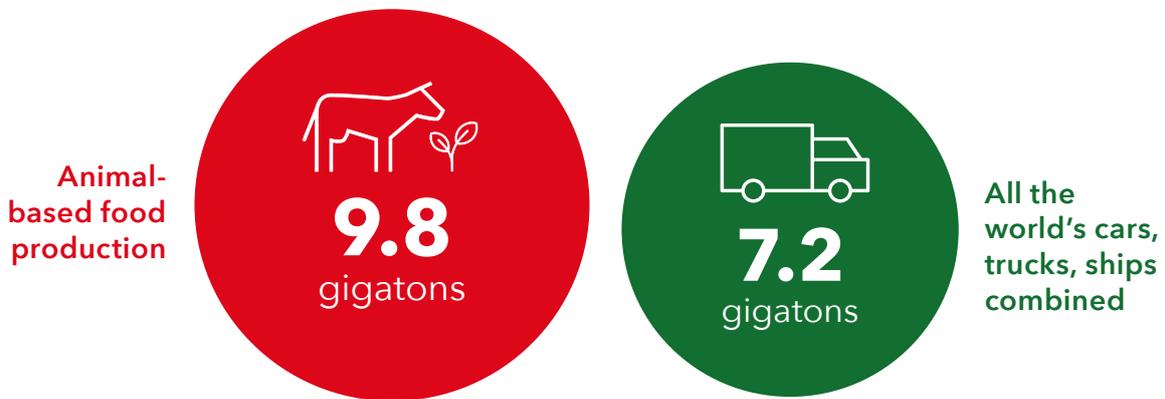


Brazil. Photo: Mighty Earth

OVERVIEW

Meat is the world's largest driver of deforestation, wildlife extinction, and displacement of Indigenous peoples. In October 2021, leading European supermarkets acknowledged both the meat industry's impact and the rising concerns of their customers about the environmental damage caused by meat. They came together with civil society organizations (CSOs) including Mighty Earth through the Retail Soy Group and adopted a Roadmap intended to drive an end to deforestation for meat, with a focus on animal feed. The core of the Roadmap was to cease sourcing meat, fish, and dairy products linked to destruction of forests or other natural ecosystems that occurred after August 2020. The Roadmap was a significant development after years of failure by meat and feed companies to take meaningful steps to combat destruction of native ecosystems. This analysis examines their implementation of the Retail Soy Group's Roadmap in the Cerrado tropical savannah in Brazil.

Figure 1: Climate pollution from animal based food production vs transport (CO₂eq/year)



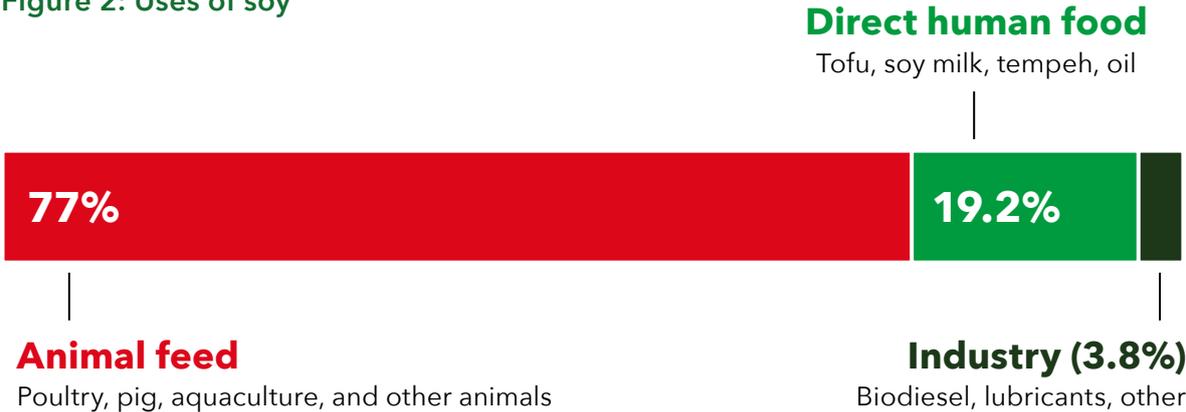
Credit: IEA (2021)

Meat, dairy, and aquaculture cause more climate pollution than all the world's cars, trucks, and ships combined.¹ Production of livestock feed, combined with the use of cows, pigs and other animals for food, is responsible for 57 percent of all food production emissions, about 9.8 gigatons of carbon dioxide equivalent per year.² In comparison, emissions from the global transport sector were about 7.2 gigatons in 2020.³

A considerable part of animal agriculture's climate pollution comes from methane, a greenhouse gas 84 times more powerful than carbon dioxide over 20 years,⁴ that is caused by decay linked to the destruction of natural ecosystems, as well as poor manure and land management practices.

For many years, consumers and scientists have called for the world's leading supermarkets to take simple steps to cease selling meat connected to ecosystem destruction and outsized climate pollution, and to drive a shift to protein produced with agroecological practices, plant-based or alternative proteins. To make protein more sustainable, the "lowest-hanging fruit" is to ensure that agricultural expansion happens on previously deforested lands instead of into pristine ecosystems. In fact, there are 1.6 billion acres of degraded lands in Latin America and the Caribbean alone onto which agriculture can be expanded without threatening native ecosystems.⁵ Cattle ranches and soy animal feed plantations are the greatest driver of this deforestation, with more than three quarters of the world's soy used to feed livestock.⁶

Figure 2: Uses of soy



Source: *Our World in Data: Drivers of Deforestation* (2022)

Large multinational agribusinesses such as Cargill, Bunge, Archer-Daniels-Midland Company (ADM), Louis Dreyfus Company (LDC), and COFCO have driven the establishment of monoculture soybean plantations on more than one million square kilometers of land,⁷ an area greater than the combined land of France, Germany, Belgium and the Netherlands. Much of that soy expansion occurred at the expense of forest, savannah, prairie, wetlands and other wildlife habitat around the world. The soy from these plantations is exported primarily for feed to raise chickens, pigs, farm-raised salmon, and cattle (including dairy-producing cows) that are sold around the world. Imported soy is the single largest contributor to Europe's global deforestation footprint,⁸ and is also a major reason China's food sector drives significant ecosystem destruction.

For many years, supermarkets, fast-food companies and others confined themselves to polite calls for major meat and animal feed suppliers to stop sourcing from companies connected to deforestation. Despite these appeals, leading meat companies and animal feed suppliers such as Cargill and Bunge continue to purchase from local suppliers engaged in deforestation.

But faced with continued high levels of deforestation, rising methane and carbon dioxide in the atmosphere, and anger from consumers, in October 2021, the Retail Soy Group (RSG) announced a Roadmap to cease sourcing meat linked to deforestation-based animal feed, as well as their desire to shift to plant-based and alternative protein.⁹

Figure 3: Soybean plantations land area greater than the combined land of France, Germany, Belgium and the Netherlands



The RSG is made up of major international retailers, including Ahold Delhaize, ALDI South, ALDI North, ASDA, Co-op (UK), Co-op Switzerland, Lidl, Marks & Spencer, Migros, Sainsbury's, Tesco, Waitrose & Partners, and Woolworths Group, representing approximately 50,000 individual stores.¹⁰ French supermarket chain Carrefour made an earlier, similar commitment.¹¹

The Retail Soy Group Roadmap represented a significant breakthrough. A large group of supermarkets was finally committing to change their buying behavior based on whether their suppliers engaged in deforestation. It included several features that gave the Roadmap credibility:

- An August 2020 cut-off date, committing them to cease buying meat connected to any supplier engaged in destruction of natural ecosystems.
- A group-level approach aimed at holding meat and feed suppliers responsible for deforestation anywhere in their supply chain - avoiding previous deforestation-laundering practices. The Roadmap has indicated that, not only should their specific soy purchases be free from deforestation, but that all of their suppliers - direct and indirect - should comply with the deforestation-free practices at a group level, across the globe.
- Retailers acknowledged that reducing dependence on soy means finding pathways to alternative proteins, meat reduction and non-soy animal feed.
- Critically, the Roadmap finally turned its back on relying exclusively on certification or credits: no deforestation means no deforestation.

Figure 4: Retail Soy Group: Principles for achieving deforestation free strategies



Although the supermarkets' commitments extend to global ecosystems, Mighty Earth focused its current analysis on the frontier of soy-driven deforestation, the Brazilian Cerrado. To expose specific links between soy traders and suppliers driving deforestation across the Cerrado savannah for soy, non-soy crops, and cattle pasture, Mighty Earth worked with Aidenvironment to conduct an analysis of deforestation occurring within a subset of farm properties across the Cerrado. All Cerrado properties managed or owned by three of the largest soy producers in Brazil - SLC Agrícola, BrasilAgro, and Condomínio Agrícola Estrondo - were analyzed. The Cerrado farms featured in Mighty Earth's earlier Rapid Response Soy & Cattle monitoring reports¹² were also examined to identify ongoing deforestation.

Even this limited analysis, which does not fully cover the supply base of soy traders in the Cerrado or other ecosystems, found significant deforestation since August 2020.

KEY FINDINGS:

- After the August 2020 deforestation cut-off date, five major soy traders - Bunge, Cargill, COFCO, LDC, and ALZ Grãos - continue to buy soy from suppliers engaged in deforestation; our research found that suppliers selling to these traders have cleared and deforested at least 27,000 hectares across 10 farms in the Brazilian Cerrado since August 2020. This is an area larger than the city of Edinburgh, or half the size of Chicago.
- Some of this deforestation occurs on soy farms; some, on cattle ranches and non-soy crop farms managed by these companies.
- Each of the five major soy traders have commercial relationships either directly with the farms engaged in deforestation, or with the parent groups (including mega-conglomerates such as BrasilAgro, SLC Agrícola and Condomínio Agrícola Estrondo).
- The scale of the destruction is vast. The most severe case of deforestation identified occurred within Condomínio Agrícola Estrondo in Bahia; research found more than 15,000 hectares were cleared after the 2020 cut-off date. Of this, more than 100 hectares was likely illegal, in what should have been the farm's protected Legal Reserve.
- Many other cases were significant as well. BrasilAgro's Fazenda Serra Grande in Piauí cleared more than 1,180 hectares of vegetation (equivalent to 1,652 soccer fields) in a single month. SLC Agrícola farm Fazenda Parnaíba in Maranhão cleared 668 hectares - equivalent to 935 soccer fields - of vegetation in six months.
- On three of the 10 farms showing deforestation and native vegetation clearance - those managed by Condomínio Agrícola Estrondo, Serra Branca Agrícola, and SLC Agrícola's Fazenda Parnaíba - some destruction took place in what should be the farms' protected Legal Reserves and Permanent Protection Areas, and was therefore likely illegal.

- Ongoing deforestation was found in farms owned by suppliers featured in Mighty Earth's previous Rapid Response reports: including SLC Agrícola, Estreito Agropecuária, Grupo Mizote and Grupo Tomazini. Major soy traders Bunge, Cargill, COFCO, LDC and ALZ Grãos continue to buy from one or more of these suppliers, although Mighty Earth publicly raised the alarm about deforestation in their farms more than a year ago.¹³
- In the first 12 months after the August 2020 cut-off date more than 106,000 hectares were deforested on Cerrado farms with existing soy crops (indicating a high risk or probability that the deforestation is to expand soy production) within a 50 km radius of a grain silo owned by ADM, AMAGGI, ALZ Grãos, Bunge, Cargill, COFCO, or LDC. Any soy produced on this area is at risk of being non-compliant with the RSG recommended August 2020 cut-off date set by the supermarkets in their zero-deforestation policies.
- As a result of our investigation, leading European supermarkets committed to the RSG Roadmap continue to be at risk of buying chicken, pork, beef and other products fed on non-compliant soy from suppliers linked to post-2020 deforestation from across the Brazilian Cerrado.

In some cases, we found the soy traders have commercial links directly with the properties engaged in recent clearing, although soy has not yet been planted on the cleared land; in others, the traders have commercial links with the suppliers' other farms (those without recent deforestation). The traders' commercial links to these soy producers provide the financial capital and incentives to continue expanding soy (and other commodity crops) across recently cleared land.

Our evidence shows that key soy traders are not following the RSG Roadmap and guidelines concerning the August 2020 cut-off date and have not moved quickly enough to eradicate deforestation in their direct and indirect supply chains in the Cerrado. These soy traders should urgently investigate and immediately exclude direct or indirect suppliers involved in deforestation, but have failed to do so adequately.

These traders continue to sell their soy to the market of soy users and buyers who committed to an August 2020 (or earlier) cut-off date. If major supermarkets are serious about fulfilling their RSG guided pledges, they must act urgently to have a positive impact: local producer BrasilAgro alone is planning to clear an additional 10,000 hectares in the near future¹⁴ - but would be unlikely to go ahead if its buyers show their clear unwillingness to purchase soy produced so destructively.

It is time for the retailers, manufacturers, investors, and financiers, who support the meat industry with their purchases, investment, and financing, to draw the line and enforce the 2020 cut-off date for deforestation and conversion. As part of this endeavor, supermarkets should work with CSOs and the Retail Soy Group to set up effective, fully transparent and cross-ecosystem soy monitoring and traceability systems for the Cerrado, Brazil and beyond. For although this analysis focuses primarily on the Cerrado savannah, a series of other reports show that the supermarkets also face significant risk of links to destruction of native habitat in other ecosystems that supply animal feed, including Brazil's Pantanal, the Bolivian Amazon Basin and Chiquitania, Paraguay's Atlantic Forest, and the Gran Chaco of Argentina and Paraguay.¹⁵



Clearance into the Cerrado landscape, Brazil. Photo: Mighty Earth

DEFORESTATION CONNECTED TO MEAT

MEAT'S UNSUSTAINABLE EXPANSION

In South America, the surface of land used to grow soy animal feed was more than 200 times greater in 2017 than in 1961,¹⁶ as major agricultural traders sought to profit from demand for meat and dairy in the absence of adequate environmental protections. The World Resources Institute reported that between 2001 and 2015, 8.2 million hectares of land was deforested for soy animal feed, 97 percent of that in South America. More than half of this deforestation (61 percent) occurred in Brazil, followed by Argentina (21 percent), Bolivia (9 percent), and Paraguay (5 percent). Within Brazil, nearly half (48 percent) occurred in the Amazon, and almost as much (45 percent) occurring within the Cerrado tropical savannah.¹⁷

Mighty Earth's previous investigations *The Ultimate Mystery Meat* (with Rainforest Foundation Norway)¹⁸ and *The Avoidable Crisis* (with Rainforest Foundation Norway and Fern)¹⁹ have found substantial evidence of deforestation in Argentina, Paraguay and Bolivia tied to specific traders. They do not seem to have taken meaningful steps to address deforestation in those regions either.

Deforestation is not inevitable for the growth of the soy sector. Researchers found that new soybean fields directly converted from forests (with soy planted within three years of forest

clearing) accounted for only 13 percent of soybean's expansion across South America.²⁰ This means many soy producers are operating on previously cleared land. There is no excuse for other producers not to do the same.

In the Brazilian Amazon, Cargill, Bunge and other companies have figured out how to protect ecosystems and still enhance their businesses, as evidenced by the successful Amazon Soy Moratorium. After pressure from consumers who wanted sustainably produced meat, the major players in the soy industry teamed up and announced that they would no longer buy any soy grown on land deforested after 2006 (later amended to 2008) in the Brazilian Amazon. The results were dramatic: in the two years prior to the announcement, 30 percent of new soy plantations in the Brazilian Amazon came from destruction of forests. After the agreement, that number dropped to just one percent.²¹

Many of these same traders have brought about the same types of success in other commodity production, such as palm oil in Indonesia, where similar policies have caused deforestation to drop by more than 95 percent as a result of traders' adoption of strict zero-deforestation policies that applied to their suppliers at a group level.²² The traders could see the same success for meat in the Cerrado and other regions, if they chose to apply their zero deforestation policies to all direct and indirect suppliers, at a group level.

THE CERRADO AND MEAT-DRIVEN DEFORESTATION

The Cerrado, South America's largest tropical savannah, is Brazil's hub of agricultural production and the current epicenter of deforestation in South America. This is the case despite the identification, in that region, of 23 million hectares of cleared land that is highly suitable to grow animal feed (and another 15 million hectares of potentially soy-suitable cleared land) as of 2015.²³ Soy is expected to expand by as many as 5 million hectares by 2029 in the Cerrado,²⁴ and if planned well, pastures and already cleared land could service all of that expansion.

Despite the abundance of suitable, cleared land, deforestation for meat continues. Experts attribute this deforestation primarily to large-scale agricultural producers. Researcher Xiaopeng Song noted that "In South America, we're not generally seeing an expansion of farmland due to subsistence farming. It is mostly large-scale growers who are raising soy for animal feed to meet the increasing demand for meat in China and Europe."²⁵

A number of huge farm conglomerates dominate animal feed production across the Cerrado, including publicly traded firms such as SLC Agrícola and BrasilAgro, and the privately owned mega-farm Condomínio Agrícola Estrondo in Bahía. The largest firms comprise dozens of farms across multiple states, with an aggregate landbank of hundreds of thousands of hectares. While some soy animal feed is destined for the domestic market, these conglomerates sell to the major agribusiness traders operating in the Cerrado, who then export soy abroad.

In fact, these traders export more than half of all Brazilian soy animal feed,²⁶ with Cargill in the lead, followed by Bunge, ADM, LDC, AMAGGI, Gavilon, COFCO, and others.²⁷ They are major suppliers to the EU, UK and Chinese markets, primarily for animal feed. For example, it is estimated Cargill ships 100,000 tonnes of soya beans to the UK every year from the Cerrado.²⁸ Cargill has its own soy animal feed crushing plants and poultry feed mills in Europe and produces chicken under the name Avara, its enterprise with the British producer Faccenda, which supplies chicken to McDonald's, Asda, Lidl, Nando's, and Tesco. Chickens are estimated to account for 60 percent of the UK's imported soy use.²⁹ The majority of chicken in the UK is produced by just three firms: Moy Park, Avara Foods, and 2 Sisters (the largest chicken producer in the UK).³⁰

THE 2020 COMMITMENT

With the growing awareness of the negative environmental, biodiversity, climate, human rights and social impacts of deforestation and destruction of native vegetation, many of the EU's largest supermarkets, food manufacturers and fast-food outlets endorsed a 2020 cut-off date: they pledged they would make commitments not to purchase meat or dairy linked to deforestation or conversion of native vegetation that happened after 2020. This aligns with the Consumer Goods Forum (CGF)³¹ and the New York Declaration on Forests (NYDF) 2020 commitments, as well as with global guidance emerging from the Accountability Framework initiative (AFi).³²

Downstream meat and dairy sellers across the globe have also endorsed a 2020 cut-off date:

- In its Roadmap targeting users of embedded soy in meat, the Retail Soy Group (RSG) indicates that a deforestation-free policy and an August 2020 cut-off date "applies to suppliers at their group level irrespective of your specific company supply chain." The Roadmap states: "Companies should require direct and indirect suppliers to have aligned public commitments, as well as to have time-bound action plans for delivering against them."
- Some 160 companies and institutional investors endorsed a 2020 cut-off date for conversion and deforestation in the Cerrado, through the Statement of Support (SoS) for the Cerrado Manifesto.³³
- German meat and dairy retailers have encouraged the adoption of a 2020 cut-off date in the Cerrado.³⁴
- The UK Soy Manifesto,³⁵ endorsed by more than 25 UK firms including food industry giants Tesco, Sainsbury's, McDonalds, Nando's, Nestlé and KFC, aims to ensure that all physical shipments of soy to the UK are deforestation- and conversion-free by a cut-off date of January 2020 at the latest.³⁶ The signatories represent 60 percent of soy imports to the UK.³⁷

While the retail customers have aligned around a 2020 cut-off date for deforestation, the major meat and feed companies that supply them have not. A recent report by Rainforest Foundation Norway and Harvest found that deforestation cut-off dates range from 2025 for AMAGGI and Bunge, to 2030 for ADM and Cargill, while ALZ Grãos and COFCO International have unclear cut-off dates or cut-off date definitions that are not consistent with AFi principles.³⁸ LDC announced a new commitment in February 2022 also committing to zero deforestation in its soy supply chains by 2025.³⁹

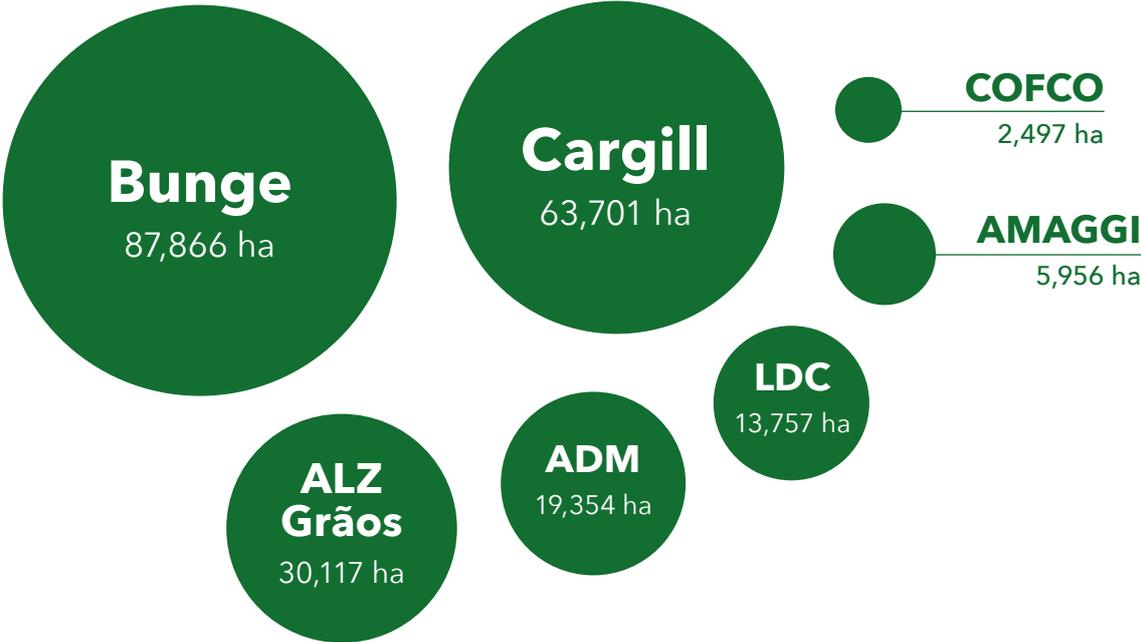
However, it is clear that every year that meat companies and agribusinesses fail to take action against a 2020 soy cut-off date leads to more conversion of natural ecosystems. Researchers project that up to 3.6 million hectares of native vegetation could legally be cleared in the Cerrado by 2050, underscoring the private sector's enormous influence over the protection of these areas.⁴⁰

New research for Mighty Earth by Aidenvironment found that in the 12 months following August 2020, more than 106,000 hectares were deforested on Cerrado farms alone with existing soy crops (indicating a high risk or probability that the deforestation was to expand soy production) within just 50 kilometers of a grain silo owned by ADM, AMAGGI, ALZ Grãos, Bunge, Cargill, COFCO, or LDC.⁴¹

That figure increased when examining deforestation outside a 50-kilometer radius of silos. Any soy produced on this cleared area risks being non-compliant with the 2020 cut-off dates set by various soy buyers and users. (In the Cerrado, there is often up to a five-year delay between conversion and planting,⁴² so most of this recently cleared land will not yet be planted with soy.)

We can analyze the risk of deforestation linked to individual traders by looking at how much deforestation occurred specifically within 50 km of each soy trader’s silo network (see Figure 5).

Figure 5: Deforestation risk by company in 50km buffer from silos (2021)



Source: Aidenvironment analysis for Mighty Earth

In addition to post-2020 deforestation in the Cerrado, deforestation that is likely driven in part by soy (and other agriculture) has been documented across South America after the cut-off date. In Bolivia, deforestation has accelerated since November 2020: soy farms appeared in and around protected area Bajo Paraguá,⁴³ while fires raged across the country in 2020, destroying 2.8 million hectares.⁴⁴ In Argentina’s Gran Chaco, Greenpeace found that more than 10,000 hectares of deforestation occurred between November 2020 and July 2021.⁴⁵

Despite committing publicly to a 2020 cut-off date, a number of members of the RSG continue to buy from traders that have not adopted that date for their farms or suppliers. For example, RSG members Tesco, ASDA and Lidl have allegedly purchased chicken produced in the UK using Cerrado-grown soy, via Cargill’s joint-venture brand Avara,⁴⁶ despite Cargill’s lack of compliance with the 2020 cut-off date and its failure to apply a group-level approach to deforestation-free suppliers.

DEFORESTATION ANALYSIS

Methodology

While deforestation is occurring throughout South America for soy, this report's analysis is limited to a subset of farms in the Brazilian Cerrado. New analysis for Mighty Earth by Aidenvironment focused on just a limited set of farms, including:

- Cerrado farms documented in Mighty Earth's previous Rapid Response Soy & Cattle reports #1-21,⁴⁷ in order to screen for additional or ongoing deforestation since August 2020.
- All farm properties in Aidenvironment's database that were a part of the Cerrado production base for the three largest mega-farm companies, SLC Agrícola, BrasilAgro, and Condomínio Agrícola Estrondo. The analysis surveyed all farm properties managed or owned by these companies, rather than only properties already planted with soy.

Research relied on official PRODES deforestation data (August 2020 - July 2021) to identify properties with more than 100 hectares of deforestation occurring in the 12 months after the August 2020 cut-off date. As the 2021-2022 PRODES data is currently not yet available, to determine all deforestation occurring after July 2021, DETER alerts were used instead. When either PRODES or DETER data identified deforestation, various data sets - including Planet Labs and EU data processed with EO Browser Copernicus Sentinel satellite data - were employed to analyze the date range of deforestation and the number of hectares cleared after August 2020. For all farms identified, the 2021 Hansen et al soy layer ⁴⁸ was overlaid to determine which had soy crops planted as of 2021. Fire events included in this report are based on data from NASA and have been visually confirmed.

For all farms where deforestation was found after 2020, supply chain links were confirmed through research, including export databases, public reports, and news articles. Mighty Earth also sent at least two emails to each major soy trader requesting confirmation about whether they had purchased soy (or any other crops) from either the farm or the owning supplier group (from another farm) from August 2020 to the present day. LDC, COFCO, ALZ Grãos, Cargill, and AMAGGI responded to our requests for information. LDC, COFCO and Cargill provided the most detailed information, clarifying whether they bought from either the supplier or the farm. AMAGGI and ALZ Grãos clarified only purchases from the farms, but not whether they purchased from the suppliers at group level (via other farms). ADM did not respond with any information about their purchases. Bunge chose not to reply to our request for information about purchases from the supplier or the farm, citing confidentiality concerns.

Definition of Linked Rapid Response Cases and other Cases in the Cerrado

Conversion on a property is attributed to a trader when the company has known supply chain links to either the property in question, the owning group/s, or producer. This definition covers the following types of linkages:

- The trader confirmed through direct correspondence in 2022 to Mighty Earth that the supplier is either a direct or indirect supplier
- The trader does not source directly from the farm in question, but has sourced from other farms owned or leased by the same supplier since 2020
- The trader buys another commodity from the supplier/property (e.g., corn, cotton).

Possible linkages between conversion on a property and a trader are indicated when the company had known supply chain links to either the property in question, the owning group/s, or producer prior to August 2020, but the trader failed to clarify with us through direct correspondence in 2022 if they do, or do not, have continued linkages from August 2020 onward to either the property in question, the owning group/s, or producer.

Summary of findings

We found suppliers selling to some of Brazil's largest soy traders – Bunge, Cargill, LDC, COFCO, and ALZ Grãos – have cleared at least 27,000 hectares across 10 farms in the Brazilian Cerrado since the August 2020 cut-off date (see Table 1 and Figure 6 below). These soy traders have commercial relationships either directly with the farms clearing forests, or with the deforesting parent-groups via other farms without recent clearance. The area cleared is larger than the size of Edinburgh, or roughly half the size of Chicago. Farms showing deforestation are managed by the mega-conglomerates BrasilAgro, SLC Agrícola and Condomínio Agrícola Estrondo, as well as smaller companies and farm owners.

Satellite images of fires suggest that the farms cleared were being prepared for pasture or crop production, illustrating that man-made fires are a key aspect of land conversion in Brazil. The research confirms that soy traders with zero-deforestation commitments purchase from farms that not only are clearly engaging in deforestation and land conversion, but also that had fire outbreaks following the clearance. Furthermore, certain agricultural groups and property owners implicated in deforestation cases were found also to be connected to land rights conflicts and environmental violations, as detailed in the case studies that follow.

The scale of some of this clearance is vast. The three largest soy-agribusiness conglomerates in Brazil – SLC Agrícola, BrasilAgro, and Condomínio Agrícola Estrondo – were responsible for more than 20,000 hectares of deforestation after August 2020 on just five farms in the states of Maranhão, Piauí, and Bahia in the Cerrado. Some of this deforestation occurs on soy farms; some on cattle ranches and non-soy crop farms managed by these companies.

In addition to new cases of deforestation, our analysis found ongoing deforestation in farms managed by SLC Agrícola, Estreito Agropecuária and Rio Pratudão Agropecuária, Grupo Mizote and Grupo Tomazini. Bunge, Cargill, COFCO, LDC and ALZ Grãos continue to buy from one or more of these suppliers, despite the alarm Mighty Earth raised about the deforestation already linked to these suppliers prior to August 2020.⁴⁹ Subsequent deforestation would likely have been prevented, had soy traders intervened earlier to impose the August 2020 cut-off date.

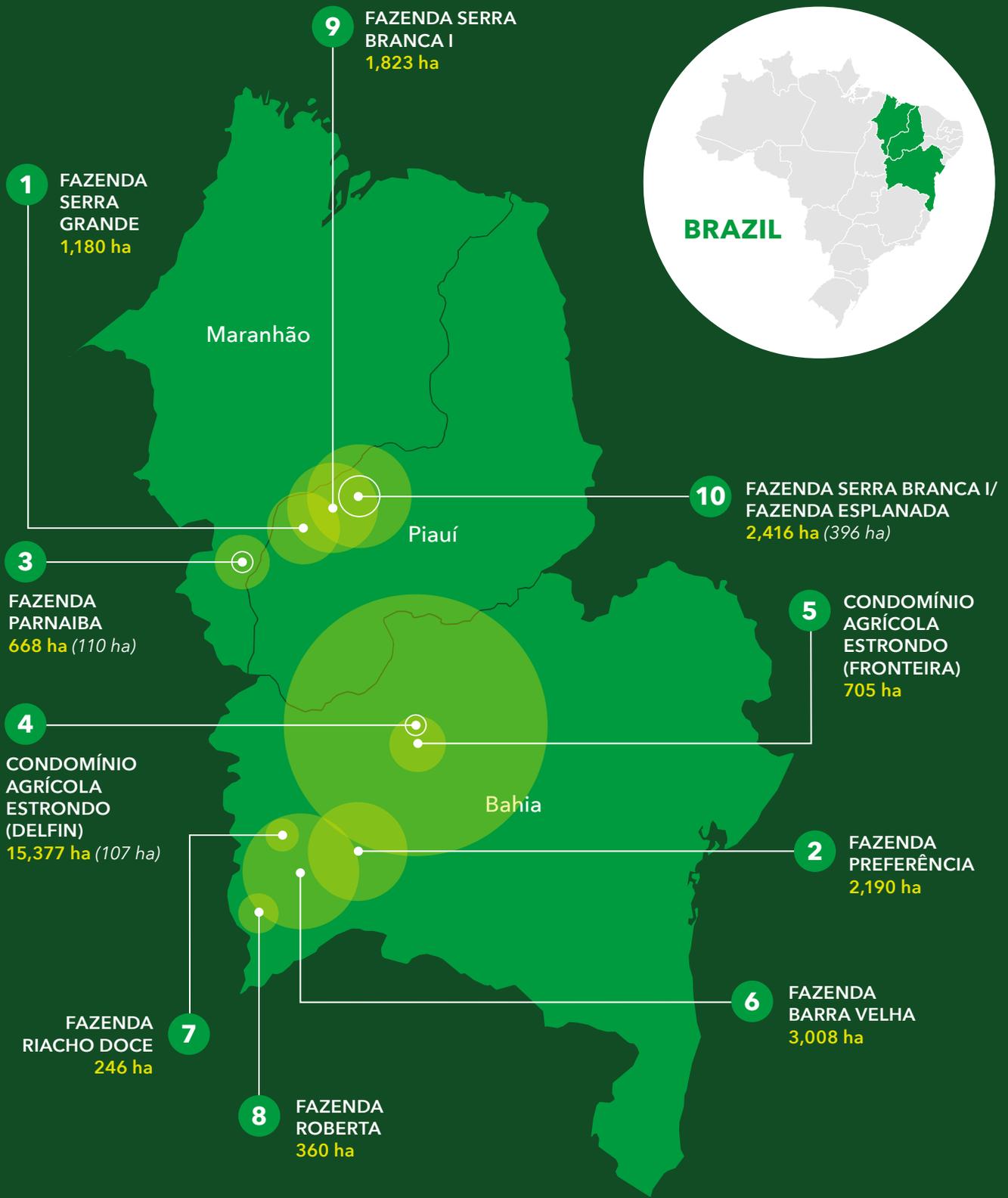
Cargill and ALZ Grãos illustrate the consequences of such inaction, continuing to source from the Fazenda Roberta farm in Bahia after Mighty Earth informed them of more than 900 hectares of clearance in 2019.⁵⁰ More than 300 additional hectares were cleared in 2021, it was found. The clearance carried out on this farm now totals more than 1,200 hectares. Another example is Cargill's purchasing from Grupo Tomazini, maintained after the traders were informed of nearly 4,000 hectares of clearance from December 2019 to March 2020 by Grupo Tomazini's Fazenda Serra Branca I.⁵¹ The farm saw continued clearance of more than 1,800 hectares after August 2020; the clearance now totals more than 5,800 hectares. Similarly, Cargill and LDC continue to source from SLC Agrícola, despite reports connecting the supplier to more than 11,000 hectares of clearance in the Cerrado over years of Mighty Earth's monitoring.

Table 1: 10 farms in the Cerrado exhibiting deforestation since August 2020

BrasilAgro	Deforestation (Illegal clearance)	Municipality and state	Traders buying from supplier and/or farm
1 FAZENDA SERRA GRANDE	1,180 ha	Baixa Grande do Ribeiro, Piauí	Bunge, Cargill, LDC
2 FAZENDA PREFERÊNCIA	2,190 ha	Baianópolis, Bahia	
SLC Agrícola			
3 FAZENDA PARNAIBA	668 ha (110 ha)	Tasso Fragoso, Maranhão	Bunge, Cargill, COFCO, LDC, ALZ Grãos
Agronegócio Condomínio Cachoeira do Estrondo			
4 CONDOMÍNIO AGRÍCOLA ESTRONDO (DELFIN)	15,377 ha (107 ha)	Formosa do Rio Preto, Bahia	Bunge,* Cargill, LDC
5 CONDOMÍNIO AGRÍCOLA ESTRONDO (FRONTEIRA)	705 ha		
Grupo Mizote			
6 FAZENDA BARRA VELHA	3,008 ha	Correntina, Bahia	COFCO
7 FAZENDA RIACHO DOCE	246 ha	São Desidério, Bahia	
Estreito Agropecuária			
8 FAZENDA ROBERTA	360 ha	Jaborandi, Bahia	Cargill, COFCO, ALZ Grãos
Serra Branca Agrícola (Grupo Tomazini, Nutriz/Friato Alimentos)			
9 FAZENDA SERRA BRANCA I	1,823 ha	Uruçuí, Piauí	Cargill
10 FAZENDA SERRA BRANCA I/ FAZENDA ESPLANADA	2,416 ha (396 ha)		
TOTAL	27,973 ha (613 ha)		

*Bunge has possible commercial linkages to Condomínio Agrícola Estrondo, given pre-2020 commercial activity, but neither confirmed nor denied post-August 2020 commercial relationships with the supplier.

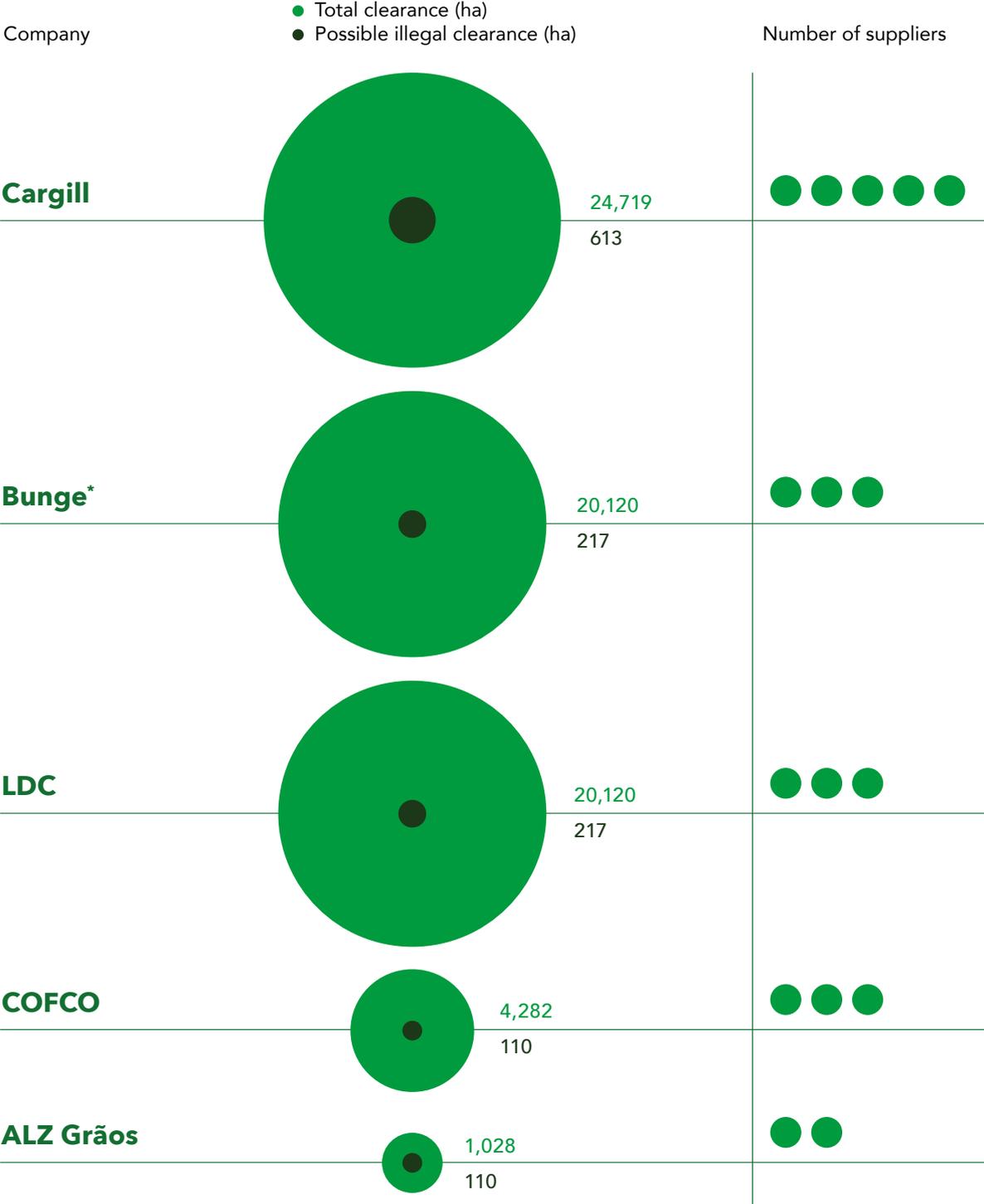
Figure 6: 10 farms in the Cerrado exhibiting deforestation since August 2020



● = 100 ha deforestation
○ = 100 ha illegal deforestation

This analysis reveals that Cargill represent the poorest overall performer, and is linked to 24,719 hectares of deforestation and 613 hectares of potentially illegal forest clearance. Bunge and LDC follow, with links to 20,120 hectares of deforestation and 217 hectares of potentially illegal clearance. COFCO and ALZ Grãos are next, with links to 4,282 ha and 1,028 ha of deforestation respectively (Figure 7).

Figure 7: Deforestation links



*Bunge has possible commercial linkages to Condomínio Agrícola Estrondo, given pre-2020 commercial activity, but neither confirmed nor denied post-August 2020 commercial relationships with the supplier.

CASE STUDIES

COMPANY LINKS TO POST-AUGUST 2020 DEFORESTATION RELATED TO SOY IN THE CERRADO

BRASILAGRO

BrasilAgro, a publicly traded farmland investor and soy, corn and sugarcane producer, manages 10 properties, most of which are in the Cerrado. The two cases presented here consist of one soy farm and one farm with cattle pasture. A recent Chain Reaction Research (CRR) briefing reports that BrasilAgro aims to convert at least 10,000 hectares of Cerrado native vegetation for livestock and grain production.⁵² CRR published earlier reports in 2017⁵³ and 2018,⁵⁴ showing BrasilAgro's significant clearance of native vegetation in the Brazilian Cerrado.

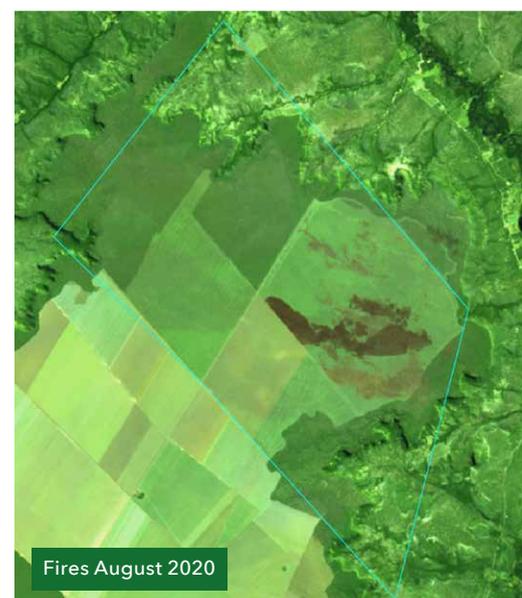
Soy buyers: BrasilAgro reports that its largest buyers of soybeans in the harvesting season of 2020/2021 were Cargill, Bunge and Agribrazil.⁵⁵ For the harvesting season of 2021/2022, its three largest customers, Agroserra, Brenco and Bunge, accounted for 50 percent of its total revenue.⁵⁶ In 2022, LDC also confirmed trading links to the supplier BrasilAgro at a group level, via direct correspondence to Mighty Earth.

1 FAZENDA SERRA GRANDE BAIXA GRANDE DO RIBEIRO, PIAUÍ

The analysis found 1,180 hectares of deforestation on this farm between August 2, 2020 and August 27, 2020; some 53 fire alerts occurred on the farm during this period.

Traders

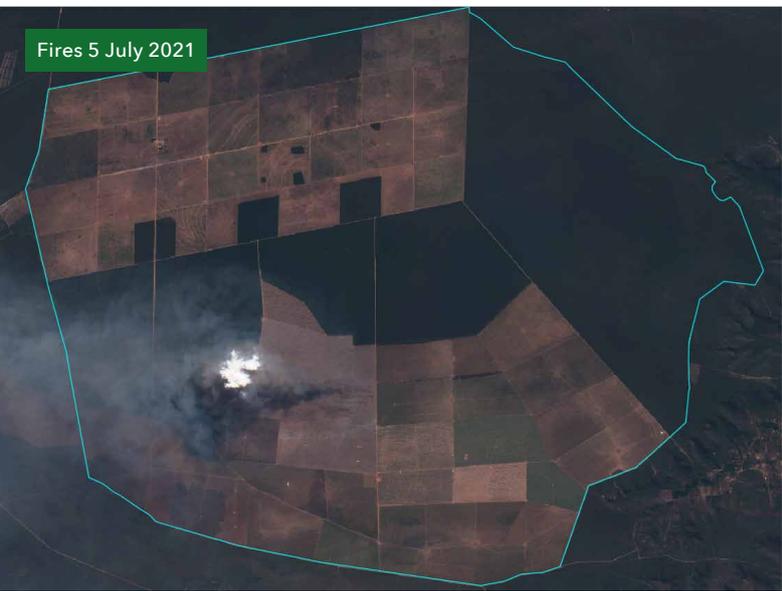
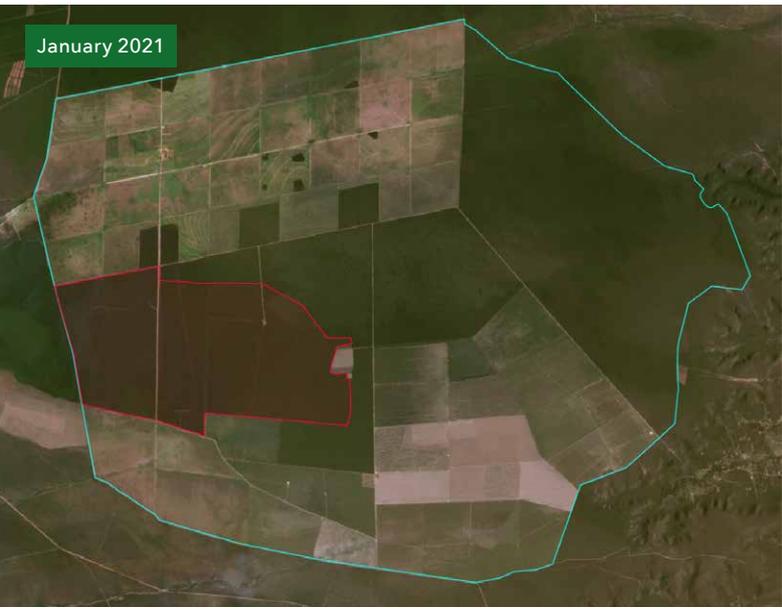
- Bunge
- Cargill
- LDC



2 FAZENDA PREFERÊNCIA
BAIANÓPOLIS, BAHÍA

We found 2,190 hectares of deforestation here between January 2021 and November 2021, and 208 fire alerts on the cleared area during that period. BrasilAgro reports that the farm is used for grain production and primarily for cattle pasture, with more than 7,000 hectares of active pasture as of June 2021.⁵⁷

- Traders
- Bunge
 - Cargill
 - LDC



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SLC AGRÍCOLA

SLC Agrícola, one of Brazil’s largest publicly traded farming companies, raises cattle and produces soy, cotton and corn on about 660,000 hectares of land on 22 farms across seven Brazilian states, with a significant footprint in the Matopiba region (the states of Maranhão, Tocantins, Piauí and Bahia). The company also manages a ‘real estate arm’ responsible for the acquisition and sale of farmland.⁵⁸ SLC Agrícola is associated with a corrupt US\$200 million land-grabbing scheme in Bahía, in the Cerrado.⁵⁹

While SLC Agrícola initially committed to stop deforesting by the end of 2020, it admitted that it still had more clearing to do before implementing the commitment and has actively opposed a deforestation cut-off date in the Cerrado.⁶⁰ The company continued its clearing in 2021, as confirmed during our analysis and seen through the satellite images below. Presumably, this is the last of its planned deforestation within its managed landbank. In its 2020 Management Report, it stated: “In the 2020-2021 crop, we completed the cycle of expansion with transformation of areas, enabling us to announce a commitment to zero deforestation for agricultural production.”⁶¹

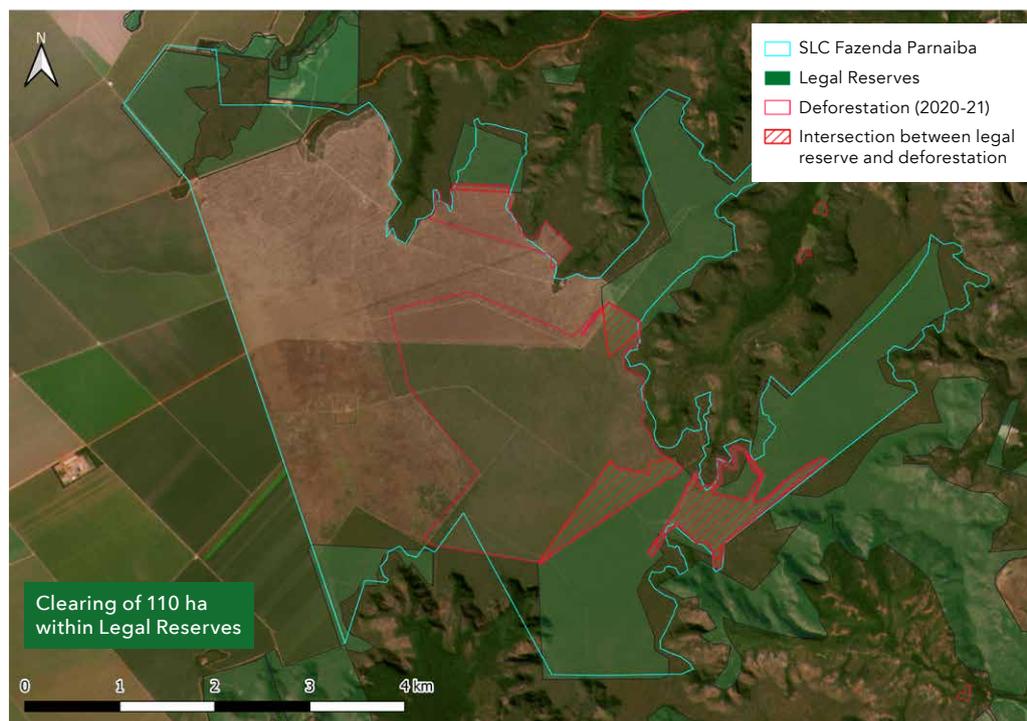
Soy buyers: According to SLC Agrícola’s 2021 Management Report, Cargill and LDC are among the company’s main soybean clients.⁶² Both Cargill and LDC confirmed via email to Mighty Earth that they purchased from the supplier since August 2020. Its 2020 Management Report noted that the company’s main soybean clients included Bunge as well.⁶³

3 FAZENDA PARNAÍBA TASSO FRAGOSO, MARANHÃO

The analysis found 668 hectares of deforestation on this farm between November 2020 and May 2021. Evidence shows that, during this period, 110 hectares were deforested in what should be the farm’s protected Legal Reserves and Permanent Protection Areas.

Traders

- Bunge
- Cargill
- COFCO
- LDC
- ALZ Grãos



AGRONEGÓCIO CONDOMÍNIO CACHOEIRA DO ESTRONDO

Agronegócio Condomínio Cachoeira do Estrondo is a mega-farm company owned by the Levinsohn family, made up of a number of Levinsohn family-linked companies⁶⁴ that operate more than 20 properties across more than 200,000 hectares in the Cerrado's high deforestation-risk Formosa do Rio Preto municipality.⁶⁵ The project was initially founded by Delfin Group, owned by millionaire Ronald Guimarães Levinsohn.⁶⁶ Levinsohn family-linked companies include the two from the case studies below, Delfin Rio S/A and Agropecuária Fronteira.

More than a third of the mega-farm estate has been deforested to grow commodities, primarily corn, soybean and cotton monocultures.⁶⁷ The full list of sub-companies jointly managing the land that fall under Agronegócio Condomínio Cachoeira do Estrondo are:

Agropecuária Alaska, Agropecuária Canadá, Agropecuária Despertar, Agropecuária Flórida, Agropecuária Fronteira, Agropecuária Indiana, Agropecuária Mississipi, Agropecuária Pennsylvania, Agropecuária Povo Novo, Agropecuária Taim, Cia Agropecuária Adelaide, Cia Agropecuária Sarmiento, Cia Melhoramentos do Oeste da Bahia, and Delfin Rio - Crédito Imobiliário. The area is also leased to 41 different producers.⁶⁸

Estrondo has been issued fines and an embargo by environmental agency IBAMA,⁶⁹ and the company and its security forces have long been accused of threatening and engaging in acts of violence against local community members. The company has allegedly restricted the movement of community members on public roads and access to communal and historic grazing and hunting areas, prompting community members to file legal cases against the company.⁷⁰ In June 2020, the Bahia Court of Justice determined that 43,000 hectares of land near the Condomínio's management area are collectively owned by 120 families of the Geraizeiros traditional communities and that the Condomínio's attempts to continue expanding its land base hinged on false property titles. The court also found that the existing farm was likely based on false titles, which would mean that the farm itself was established as the result of one of the largest cases of land-grabbing in Bahia.⁷¹

Soy buyers: LDC confirmed by email to Mighty Earth in 2022 that it has been supplied by Agropecuária Fronteira in other regions, though not via this specific farm.

For this analysis, Mighty Earth asked Cargill if they had commercial relationships with either of the two farms exhibiting deforestation, their owners, or any other Levinsohn family-linked companies that manage other farms within the Condomínio. Cargill clarified that they had "no negotiation with Delfin or the area recently opened," and "no negotiation with [the] farm mentioned" in the case of Agropecuária Fronteira. However, when asked if they buy from any of the related companies within the Condomínio Estrondo, given the shared ownership by the Levinsohn family, Cargill noted: "We buy from leased areas of those related companies, from lessors who are in compliance with the Brazilian laws and Cargill public commitments." In this case, despite direct commercial links with the Estrondo administration, their purchases from properties linked to Levinsohn family-owned companies nonetheless provide financial support to the Levinsohn family-owned company responsible for the clearance documented in the two Estrondo farms featured in this report.

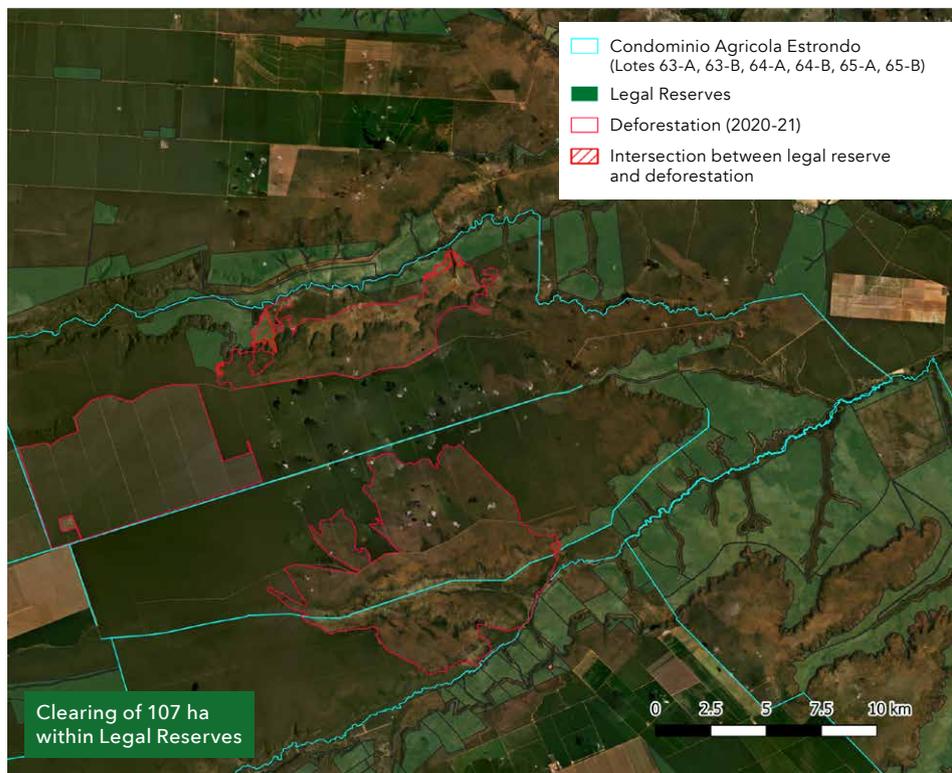
Bunge has also been linked previously to purchases from lessees of the Estrondo mega-complex, including the Centúria farm owned by Grupo Horita.⁷² Bunge noted in 2019 that it "does not maintain commercial relations with the Condomínio's management."⁷³ Citing commercial confidentiality concerns, Bunge said they would not provide any information to us as part of this investigation regarding whether they had commercial relationships with either of the two farms with deforestation, their owners, or any other Levinsohn family-linked companies

that manage other farms within the Condomínio. Given Bunge's response, it is currently impossible for Mighty Earth or other CSOs to determine whether Bunge buys from Levinsohn family-linked companies that manage lands within the Condomínio, or purchase from tenant farmers who lease land from the problematic Estrondo mega-complex.

4 CONDOMÍNIO AGRÍCOLA ESTRONDO
 (LOTS 63-A, 63-B, 64-A, 64-B, 65-A, 65-B), OWNER DELFIN RIO S/A, FORMOSA DO RIO PRETO, BAHIA

Some 15,377 hectares of deforestation took place here between July 2021 and January 2022, including what appears to be 107 hectares of clearance in the farm's protected Legal Reserves and Permanent Protection Areas; some 462 fire alerts were also recorded on this farm during the dates above.

- Traders**
- Bunge
 - Cargill
 - LDC

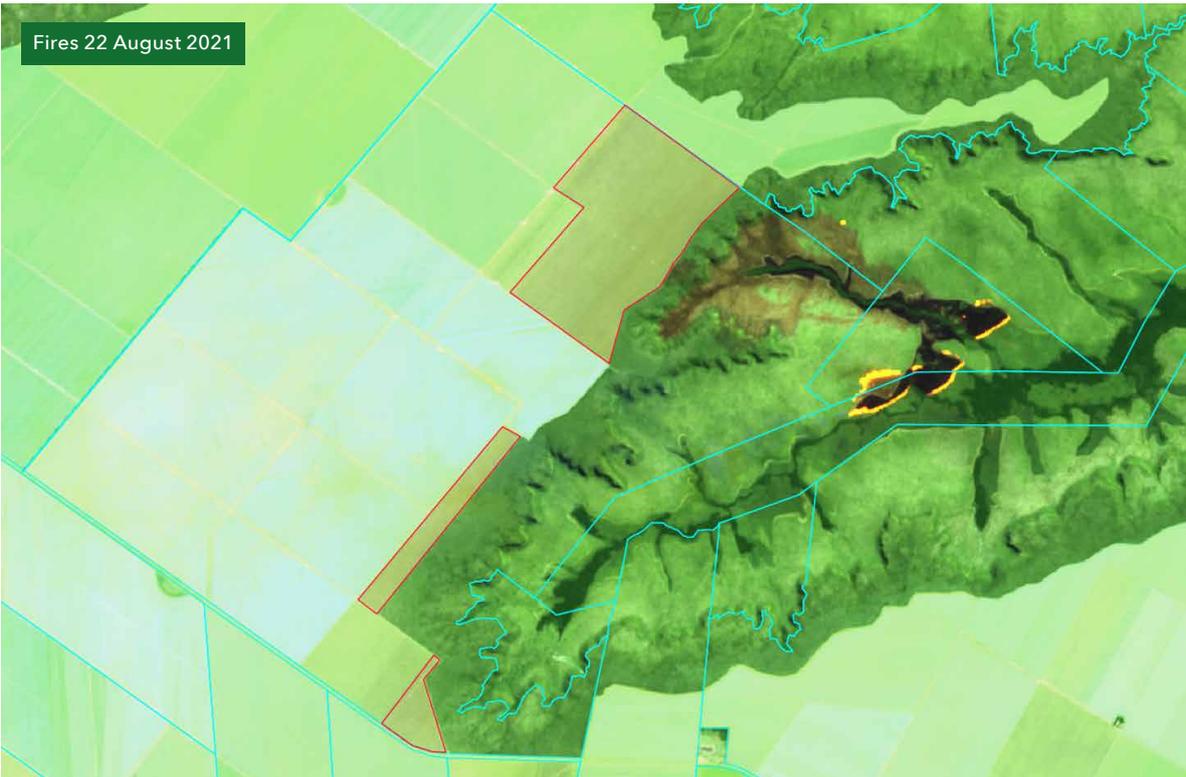
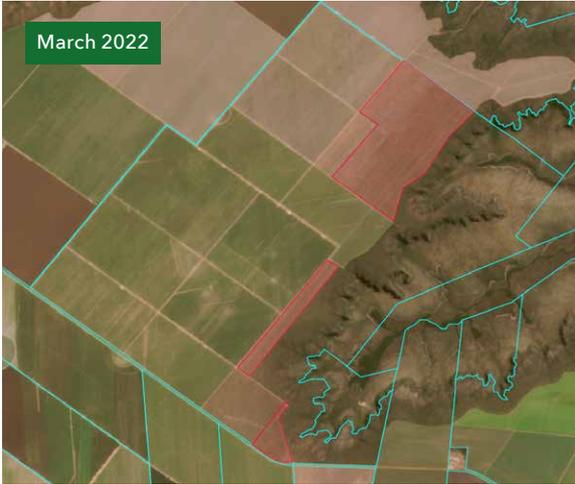


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5 CONDOMÍNIO AGRÍCOLA ESTRONDO
OWNER AGROPECUÁRIA FRONTEIRA,
FORMOSA DO RIO PRETO, BAHIA

- Traders
- Bunge
 - Cargill
 - LDC

The analysis found 705 hectares of deforestation between March 2021 and March 2022; some 73 fire alerts were also recorded on this farm during these dates.



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GRUPO MIZOTE

Grupo Mizote is composed of smaller companies Barra Velha Agropecuária, Mizote Company, FMP Algodoeira do Oeste, and Agropecuária e Armazéns Mizote. The group manages more than 40 properties totaling around 97,000 hectares, including properties in Correntina, São Desidério, and Formosa do Rio Preto, Bahia. Grupo Mizote is involved in the cultivation, commercialization and export of soy, corn, and cotton. It is one of the main cotton producers in western Bahia.⁷⁴

The company has a history of environmental and legal conflicts. In 2012, three members of the Mizote family were fined BRL 5.4 million for environmental violations in Fazenda Sassapão, in Formosa do Rio Preto, with 2,262 hectares embargoed by the environmental agency IBAMA.⁷⁵ In 2013, Correntina's community members started a movement called "Fora Mizote" ("Get out, Mizote") to halt the Mizote Group's plans to deforest 24,599 hectares of native Cerrado in Fazenda Barra Velha.⁷⁶

Soy buyers: The grain trader COFCO confirmed trading links to Grupo Mizote in direct correspondence with Mighty Earth in 2022. Research of export data documented that Bunge purchased soy from the group in June 2018; Bunge did not respond to Mighty Earth's recent email request with clarification about their commercial links to Grupo Mizote from August 2020 onwards.

6 FAZENDA BARRA VELHA CORRENTINA, BAHIA

Traders
■ COFCO

Our analysis found 3,008 hectares of deforestation on this farm between March 2021 and July 2021; some 170 fire alerts were detected on this farm during this period. It appears that there is currently no soy on the farm; it may produce other commodities, or soy may be planted in the future. Mighty Earth already informed soy traders of nearly 2,000 hectares of clearance on this farm from March 2018 to April 2019 in a Rapid Response monitoring report, but traders continue to buy from the group.⁷⁷



7 FAZENDA RIACHO DOCE SÃO DESIDÉRIO, BAHÍA

The analysis found 246 hectares of deforestation here between June 2021 and August 2021.

Traders

■ COFCO



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ESTREITO AGROPECUÁRIA AND RIO PRATUDÃO AGROPECUÁRIA

Estreito Agropecuária and Rio Pratudão Agropecuária are linked companies with the same registered owners. Relatively small-scale producers, they own 10 properties totaling slightly more than 4,000 hectares across Brazil. Rio Pratudão Agropecuária is an agricultural cooperative, controlled by José Ranulfo da Costa Queiroz Neto and his brothers-in-law Frederico Meira de Vasconcelos and José Vicente Meira de Vasconcelos Neto. The three businessmen own sugarcane and coconut plantations in the states of Pernambuco, Paraíba and Rio Grande do Norte, and soy and cotton farms in Bahía.

Soy buyers: In 2022 both ALZ Grãos and Cargill confirmed trading links to the farm Fazenda Roberta (see Case study #8 below), owned by Estreito Agropecuária and Rio Pratudão Agropecuária, in direct correspondence with Mighty Earth.

8

FAZENDA ROBERTA
JABORANDI, BAHIA

The farm shows 360 hectares of clearance from April 2021 to June 2021; three fire alerts took place on the farm during June 2021. More than 900 hectares of clearance were originally detected in August to November of 2019, as part of Mighty Earth’s Rapid Response report #8.⁷⁸ Although soy buyers ALZ Grãos and Cargill were notified of this deforestation years ago by Mighty Earth, both have continued to source from the farm.

- Traders
- Cargill
 - COFCO
 - ALZ Grãos



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SERRA BRANCA AGRÍCOLA (GRUPO TOMAZINI, NUTRIZA/FRIATO ALIMENTOS)

The group manages more than 88,000 hectares of farms in Uriçuí, Piauí. The company group consists of more than 30 companies, including companies such as Serra Branca Agrícola, Nutriza Agroindustrial de Alimentos, Agropecuária Tomazini, Olvego - Óleos Vegetais de Goiás, Agropecuária Santa Maria Agrícola, Agropecuária Água Fria, Agropecuária Ipuã Goiás, Agropecuária e Avicultura Santa Clara, and 24 other companies all registered in Goiás or in Uriçuí.

The group produces soy, including for animal feed for chickens marketed under its affiliated brand, Nutriza/Friato. The company produces both for the domestic market in Brazil, but for decades has exported chicken abroad; about 20 percent of its revenues are derived from global sales in Africa, Asia, and the Middle East, as well as Russia. The company produces approximately 200 tons of poultry and poultry products daily.⁷⁹

Grupo Tomazini is associated with an alleged illegal land grab in 2017, when Terra Imóveis (owned by João Batista Fernandes) bought the land for a paltry price and shortly afterward sold it to the Tomazini Group for BRL 80 million.⁸⁰ In a lawsuit against Serra Branca Agrícola filed by José Maria Martins de Sousa, the complainant declared that a farm inherited from his parents was illegally occupied by Serra Branca Agrícola crop plantations.⁸¹ Serra Branca Agrícola is an agro-industrial complex composed of corn and soy production, feeding industry, warehouses and poultry slaughterhouses. Nutriza/Friato has 30,000 hectares of soy plantations and 20,000 hectares of corn plantations.⁸² These plantations are used for feeding 35,000 animals in 500 poultry farms.⁸³

Soy buyers: In 2022 Cargill confirmed trading links to the supplier, via direct correspondence with Mighty Earth. In May 2020, Bunge confirmed trading links to the supplier, via direct correspondence with Mighty Earth; however, the company did not respond to our emails in 2022 with any details about the status of its more recent commercial relationships with this supplier. Thus, whether Bunge has direct commercial linkages from August 2020 onward to either the property or supplier in question could not be confirmed.

9 FAZENDA SERRA BRANCA I
URUÇUÍ, PIAUÍ

Traders
■ Cargill

Some 1,823 hectares of deforestation occurred on this farm between October 2020 and November 2021; 60 fire alerts were detected on this farm during this time.



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10 FAZENDA SERRA BRANCA I FAZENDA ESPLANADA
URUÇUÍ, PIAUÍ

Traders

■ Cargill

Some 2,416 hectares of deforestation occurred on this farm between November 2021 and February 2022; during this time, 41 fire alerts were detected on this farm. Evidence also shows that 396 hectares were deforested during this period in what should be the farm's protected Legal Reserves and Permanent Protection Areas.



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THE RESPONSIBILITY OF ACTORS IN THE SOY SECTOR

THE ROLE OF MEAT AND DAIRY RETAILERS

Retailers linked to soy traders who have non-compliant farms and suppliers in their supply chain must take immediate action, based on this and other recent evidence, to uphold their commitments regarding deforestation-free meat.

Recommendations for supermarkets, retailers and meat companies

- Investigate and immediately terminate any supply chain links to Bunge, Cargill, COFCO, LDC, and ALZ Grãos, and other soy companies who have continued links to deforestation or degradation of native ecosystems following the adoption of the Retail Soy Group Roadmap. Included in this commitment is the 'group-level accountability principle' which says companies will not source, directly or indirectly, from companies credibly linked to deforestation after an August 2020 cut-off date.
- Source only from suppliers with No Deforestation, No Peat and No Exploitation (NDPE) policies, with transparent and full traceability mechanisms established to the farm level for direct and indirect suppliers, and with annual or more frequent reporting on volumes of deforestation and conversion-free (DCF) soy based on a 2020 cut-off date.
- Include DCF clauses in the contracts of direct or indirect suppliers to specify DCF conditionality in sourcing agreements.
- Exclude suppliers who cannot show progress toward reaching 100 percent-verified DCF soy volumes and 100 percent of purchases from 'clean suppliers' at a group level, as of the 2020 cut-off date.
- Work with CSOs and other actors in order to jointly deploy transparent systems to monitor soy trader non-compliance that do not rely on self-reporting from traders.
- Require meat and animal feed suppliers to adopt basic best practice agriculture requirements to reduce methane emissions and other climate and water pollution:
 - Adopt changes in feed, such as inclusion of certain types of algae or local protein crops (such as beans, peas, lupins, etc.)
 - Improve animal health, welfare and husbandry
 - Improve manure management by, for example, covering outdoor slurry storage facilities, shortening indoor storage times, lowering slurry temperatures, and using air filtration and bio-digesters.

- Set timebound targets for alternative protein sales (including through blends of plant-based protein with conventional meat), and increased investment in alternative protein production
- Work with CSOs to advocate for strong government policies on rapidly reducing agricultural methane
- Require meat suppliers to work towards a goal of selling at least 20 percent plant-based or alternative proteins by 2030.

Recommendations for Retail Soy Group members

Additionally, Retail Soy Group members and other retailers should:

- Insert clauses in contracts for meat suppliers that specify deforestation-and conversion-free conditionality in soy-sourcing arrangements and impose group-wide commercial consequences for non-compliance.
- Improve transparency and traceability of their meat supply chains to ensure public information about the harbor of soybean origin, names of traders they are working with and details of direct and indirect suppliers, and establish an accessible grievance mechanism
- Adopt, promote and implement a goal of reaching 20 percent plant-based or alternative protein sales by 2030.

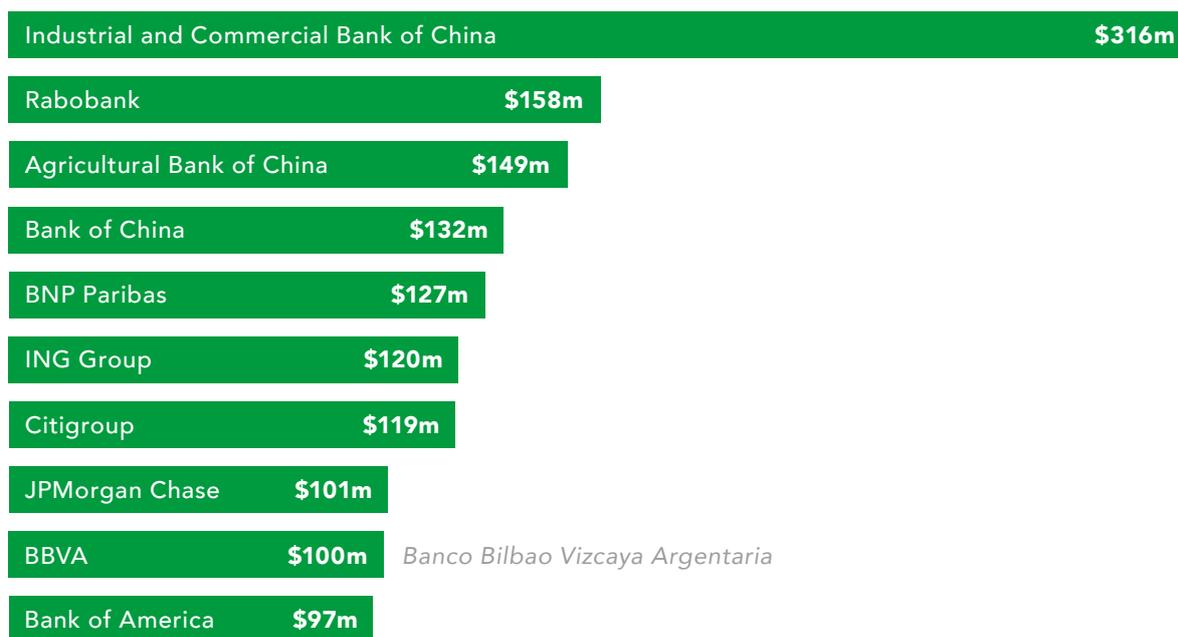
FINANCE AND INVESTMENT SECTORS

The current trajectories of the meat and animal feed industry are incompatible with deforestation-free finance, and the soy industry's future access to international capital markets will likely hinge on transforming the way the industry works. To date, however, the financial sector has failed to provide the necessary leadership or incentives to drive better performance by the meat and protein industry.

According to Forests & Finance, from 2019 through 2021, the eight largest soy traders operating in Brazil - ADM, Bunge, Cargill, COFCO, LDC, Viterro, AMAGGI, and Gaviola/Marubeni - collectively received US\$30 million in corporate loans, US\$7.5 million in bond issuance, and US\$ 3.8 million in revolving credit.⁸⁴ The same source showed that the 10 largest issuers of credit and bonds to these eight soy traders from 2019-2021 were the Industrial and Commercial Bank of China, Rabobank, the Agricultural Bank of China, the Bank of China, BNP Paribas, ING Group, Citigroup, JP Morgan Chase, Banco Bilbao Vizcaya Argentaria, and Bank of America.

Of these companies, only ING has a policy prohibiting deforestation for agriculture at present; ING expects its clients in agri-commodities "to refrain from deforestation of primary or High Conservation Value (HCV) forests and High Carbon Stock (HCS).⁸⁵ French bank BNP Paribas has announced that it will provide financial products or services to soy traders operating in the Cerrado in Brazil only if they have a strategy to achieve zero deforestation in their supply chains no later than 2025; it has introduced the requirement that its customers trace their entire supply chain by 2025, and has encouraged its customers not to buy soy from land cleared after January 1, 2020.⁸⁶ JP Morgan Chase requires companies involved in soy production to comply with the Roundtable on Responsible Soy (RTRS).⁸⁷

Figure 8: Top creditors (USD, millions)



Credit: Forest & Finance (2021)

Other companies' policies on deforestation are even weaker. For example, Rabobank claims that it does not finance deforestation, even if legally allowed, though it still finances companies engaged in (legal) deforestation; it excludes only customers involved in illegal deforestation after 2005.⁸⁸ Citibank's Environmental and Social Policy Framework does not address agribusiness companies in the soy sector.⁸⁹ Financial institutions such as UBS, Bradesco and XP Investimentos also invest in Brazil's largest publicly traded soy producers, including BrasilAgro and SLC Agrícola⁹⁰, although deforestation was found in our assessment.

Recommendations for financiers and investors

Financial actors have a duty to drive responsible meat and protein production practices. They should abide by Global Reporting Initiative guidance requiring due diligence for financiers of soft commodity supply chains that risk contributing to deforestation and ecosystem degradation. Both equity and debt investors should:

- Commit to zero-deforestation and zero-conversion portfolios.
- For new investments, invest only in soy traders with NDPE policies, traceability mechanisms established to the farm level for direct and indirect suppliers, and annual or more frequent reporting on volumes of verified DCF-compliant soy with a 2020 cut-off date; set financing agreements based on time-bound plans to meet zero deforestation goals.
- For existing investments, set clear criteria and time-bound targets for soy traders related to verified deforestation and conversion free-compliant soy volumes; establish processes for exclusion of meat companies and animal feed traders both from active and passive funds, based on traders' failure to meet these criteria and targets.

CONCLUSION

Meat free from links to deforestation or destruction of native ecosystems is possible. Retailers and meat companies can buy soy from producers using land that has already been cleared for pasture before the 2020 cut-off date. However, without adequate, ambitious and transparent interventions by soy traders, expansion for soy will continue to drive significant forest loss in the coming years. The decisions these soy traders make - which farms and suppliers to purchase from - play a key role in the future of the Cerrado savannah and the rest of South America.

Our evidence shows that soy traders are not following the Retail Soy Group guidelines relating to the August 2020 cut-off date, and have failed to move quickly enough to eradicate deforestation in their direct and indirect supply chains in the Cerrado. The evidence indicates that these soy traders will not act without adequate incentives. These traders should follow the RSG Roadmap and should urgently commercially sanction and exclude direct or indirect suppliers involved in deforestation.

After years of failed efforts to nudge the soy companies to sever ties with suppliers engaged in deforestation, the time has come for major supermarkets in the RSG to deliver on their promises, and deploy meaningful commercial consequences for non-compliance with their zero-deforestation pledges.

Ultimately, it is hoped that supermarkets will no longer rely on monitoring by external parties such as Mighty Earth and other groups, but rather will conduct - transparently - their own, externally verified monitoring of their supply chain and suppliers. We estimate the cost of setting up a comprehensive independent monitoring system for all of South America is just US\$ 750,000-\$1m per year - a tiny sliver of the hundreds of billions of dollars of the revenues of the supermarkets making deforestation-free pledges.

Soy users, buyers and soy sector financiers must now deploy meaningful consequences for non-compliance with zero-deforestation pledges. The Intergovernmental Panel on Climate Change has - again - sounded the alarm that time is running out to avert climate disaster. Retailers who maintain links to soy traders with non-compliant farms and suppliers in their supply chain could provide a significant part of the solution by acting urgently to redress the situation.

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