

Harnessing the power of global supply chains to halt deforestation driven by soy

A briefing for policymakers and the private sector



Cerrado

A biome under threat

The Cerrado in Brazil is recognized as the world's most biodiverse savannah¹. But it is being lost at an alarming rate as soy production increases². This briefing explores the opportunities to improve soy production practices in the Cerrado to reduce deforestation and safeguard its remaining vegetation.

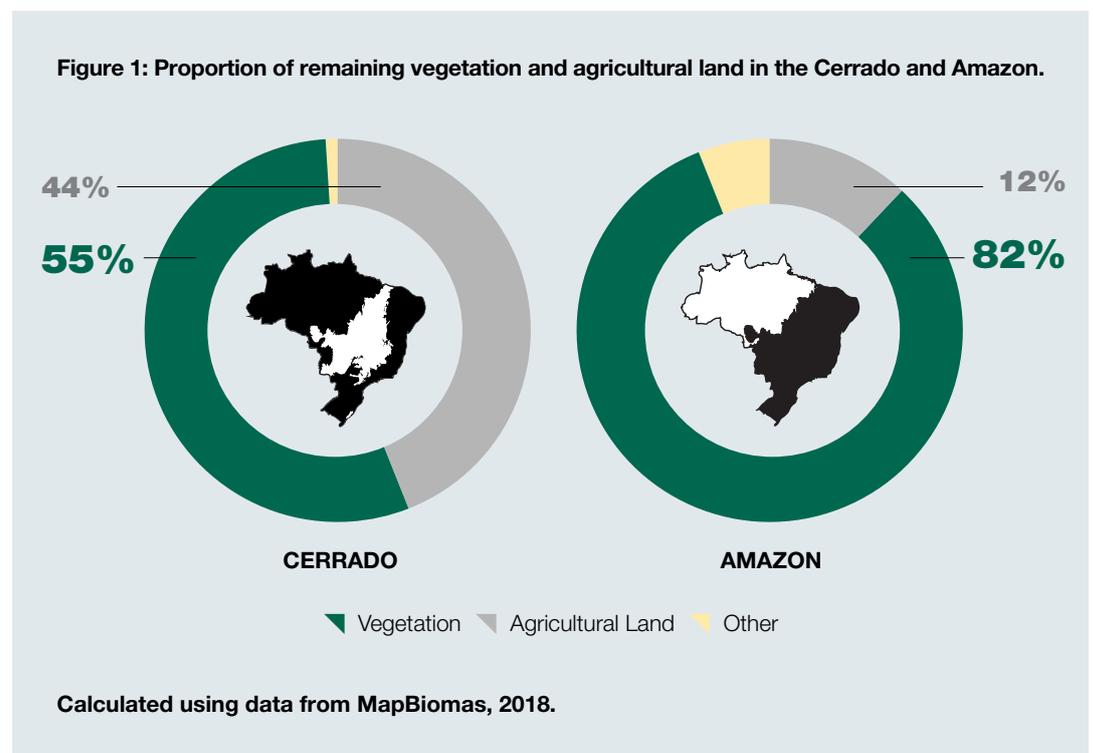
Soy accounts for 90% (15.6 million hectares) of the Cerrado's cultivated crops³. Soy production is driving the loss of native vegetation, both directly through the conversion to soy plantations, and indirectly as pasture in recently cleared areas is replaced with soy. We identify regions that are exposed to high risks of deforestation for soy, highlight potential risks for companies which trade in soy from this region, and outline a three-tiered approach for the private sector to help reduce deforestation.

The Cerrado is an important ecological region in Brazil, providing ecosystem services that underpin Brazil's energy, water and food security. It hosts up to 11 types of vegetation, ranging from dense forests, to open savannah and grassland formations⁴. It is also one of the most poorly protected biodiversity hotspots in the world⁵; only 14% of the biome is

officially protected, either as indigenous territories (6%) or as Conservation Units (8%)⁶.

As a result of sustained land conversion, primarily for agriculture, just 55% of the Cerrado's native vegetation remains. This contrasts with the neighbouring Amazon, where despite extensive deforestation, 82% of the native vegetation remains (Figure 1)⁷. Since 2000, the rate of clearance of remaining Cerrado vegetation was approximately 2.4 times the rate of vegetation loss in the Brazilian Amazon⁸.

This land conversion in the Cerrado has significant implications for carbon emissions. Carbon dioxide emissions related to land-use change and land cover in the Cerrado biome totalled 1,8 million Gg of CO₂ between 2002 to 2010⁹.



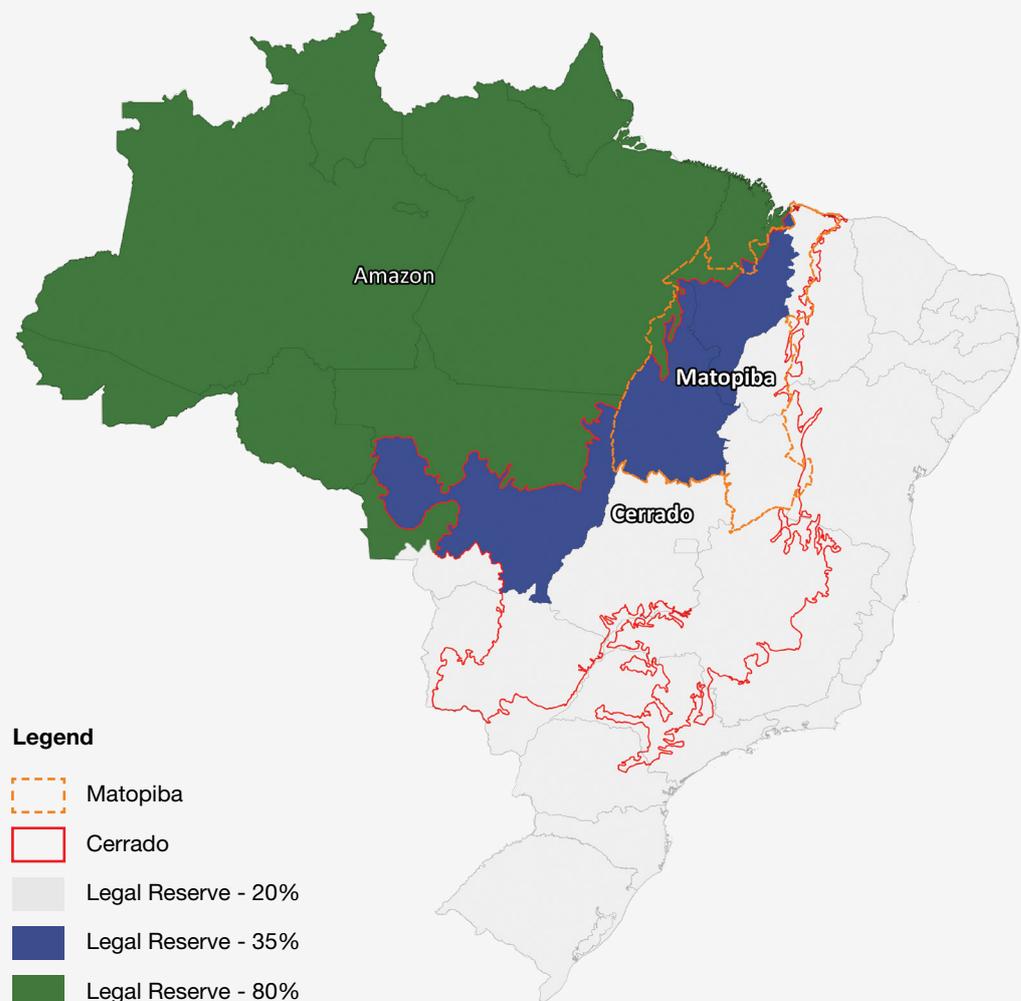
1 MMA, 2017
2 This brief focuses on soy. Other commodities, in particular cattle, have also been linked to deforestation in the Cerrado.
3 Filho and Costa, 2016: 11
4 Ribeiro and Walter, 2008
5 MMA, 2017
6 Calculated using data from MMA, 2017 and FUNAI, 2017.
7 Calculated using data from MapBiomas, 2018, version 2.3.
8 Calculated using data from PRODES, 2017 and MapBiomas, 2018.
9 BRAZIL, 2016

Legal Reserve Requirement

Under Brazil's 2012 Forest Code, all rural landowners must maintain a proportion of their land as a Legal Reserve (LR) to protect native vegetation. The proportion of LR required varies according to property size and location.

A distinction between the Legal Amazon and the Amazon biome is central to an understanding of the application of the LR requirement in the Cerrado. The boundaries of the Legal Amazon actually reach beyond the Amazon biome and encompass part of the Cerrado (see the area in dark blue below). Landowners located in this part of the Cerrado, which sits within the limits of the Legal Amazon, must safeguard 35% of their land as a LR. In the rest of the Cerrado, LR requirements stand at a reduced 20%. In contrast, within the Amazon biome - highlighted in green below - property holders must maintain 80% of their property as a LR.

For further information see [Brazil's Forest Code: Assessment 2012-2016](#)



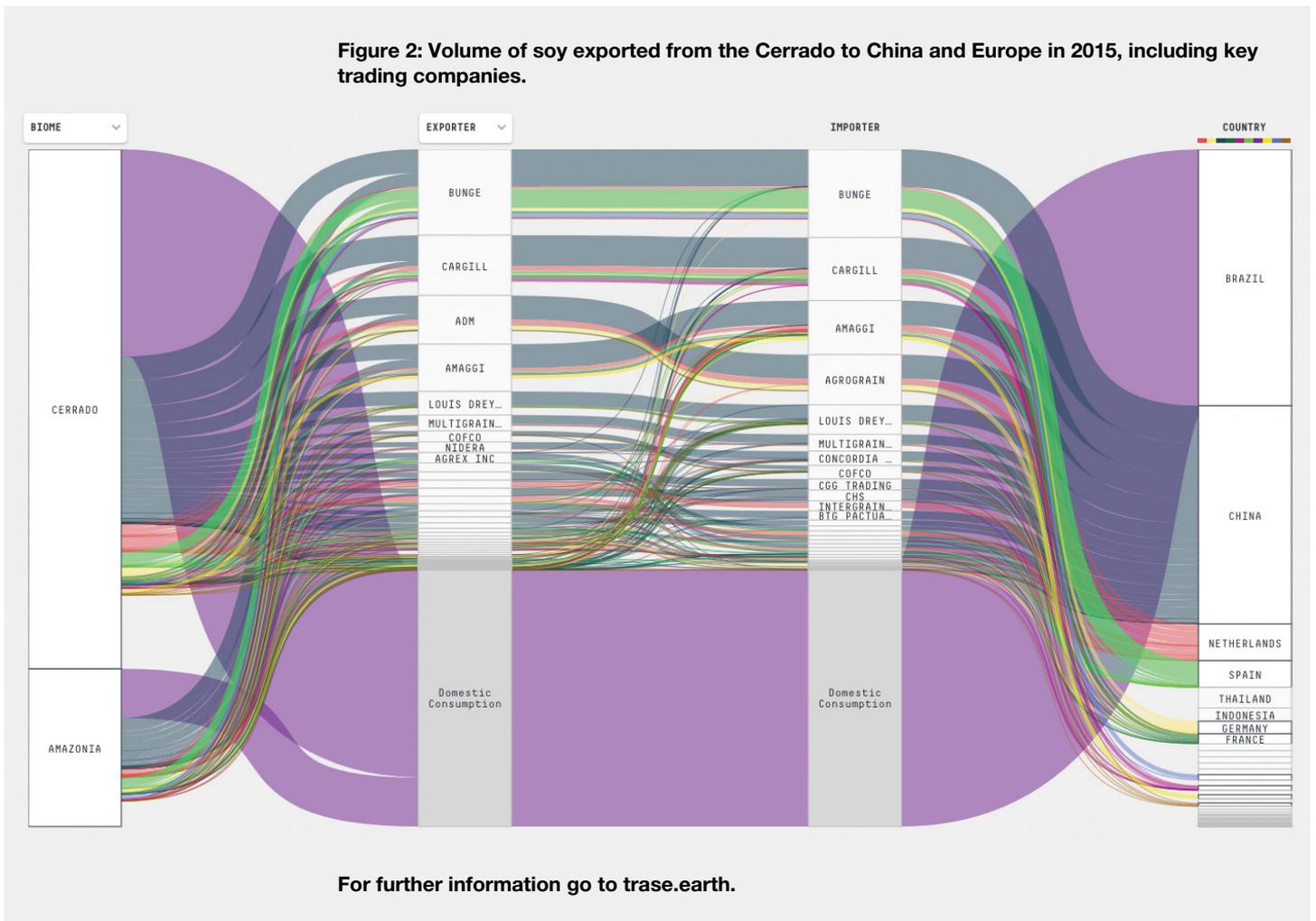
Soy as a driver of deforestation in the Brazilian Cerrado

With demand set to continue to grow, Brazil is predicted to become the number one producer of soy in the world by 2026¹⁰. However, soy production has been repeatedly shown to be both a direct and indirect driver of deforestation¹¹, biodiversity loss and land conflicts in Brazil¹².

In response to growing global demand for soy, especially for animal feed, soy expansion increased markedly in the Cerrado from the 1980s onwards¹³. More than half (52%) of Brazil's total soy production came from the Cerrado in 2013/2014, where it accounts for 90% of the crops grown¹⁴.

In 2015, 60% of the soy produced in the Cerrado was exported (24 million tonnes), with 40% used domestically for animal feed and other purposes. More than half (54%) of soy exported from the Cerrado was shipped to China (see Figure 2), with a further 21% exported to the EU-28.

Figure 2: Volume of soy exported from the Cerrado to China and Europe in 2015, including key trading companies.



10 OECD/FAO (2017), OECD-FAO Agricultural Outlook 2017-2026, OECD Publishing, Paris, p.104.
 11 In this briefing deforestation includes any clearance of native vegetation, including all types of native vegetation in the Cerrado.
 12 For example, see Greenpeace, 2006; Macedo et al., 2012; Filho and Costa, 2016, Van Solinge, 2010
 13 Matos and Pessoa, 2014
 14 Filho and Costa, 2016: 11

The highest soy deforestation risks are concentrated in one region

A significant proportion of recent soy expansion in the Cerrado occurred in the north-east part of the biome, a region known as MATOPIBA, which covers the state of Tocantins and part of the states of Maranhão, Piauí and Bahia:

- Within this area, soy cultivation increased by 253% from 2000 to 2014, covering 3.4 million hectares of land, an area over 20 times the size of Greater London¹⁵.
- Between 2010 and 2013, cropland conversion in this region contributed to a staggering 45% of the total forest carbon emissions from cropland expansion in the Cerrado¹⁶.

Analysis of soy trade and direct soy deforestation in the Cerrado reveals that¹⁷:

- From 2009 to 2013, 73% of direct soy deforestation in the Cerrado took place in MATOPIBA.
- Over the same period more than 70% of all the direct soy deforestation in MATOPIBA took place in just 15¹⁸ out of 337 municipalities.
- In 2015, an average of 57% of the soy produced in the 15 high-deforestation municipalities was exported, but in a few municipalities the rate was much higher – in Alto Parnaíba, Balsas and Tasso Fragoso more than 90% of the soy produced was exported.

Soy deforestation in the Cerrado presents risks to companies

Companies sourcing soy from deforested land, such as the 15 municipalities in MATOPIBA, face significant business risks. These risks include:

- Operational risks:** soy deforestation has direct and indirect impacts on ecosystem services (especially water provision), which can lead to lower productivity and higher production costs for farmers;

- Market risks:** companies without responsible environmental policies may not be able to access markets for deforestation-free products;

- Reputational risks:** increasing global attention on deforestation puts pressure on companies linked to deforestation and other social and environmental risks in the Cerrado;

- Regulatory risks:** as international pressure to act on climate change and to halt deforestation increases, regulations are likely to change. For example, a new French law on “Corporate Duty of Vigilance” requires that from 2018, multinational companies operating in France must disclose and implement mechanisms to map, monitor and prevent environmental and social impacts in their global supply chains¹⁹.

Analysis of companies’ disclosures to CDP’s forests program in 2017 showed that of the 29 companies with links to Brazilian soy:

- 86% (25 companies) recognised at least one physical, reputational and/or regulatory risk to business;
- 27% (8 companies) had already experienced impacts from these risks;
- 72% of the sample (21 companies) identified a barrier or challenge to achieving a deforestation free operation and supply chain, including limited market availability of sustainably certified soy.

However, there are also business opportunities:

- 86% (25 companies) identified that engaging in sustainable practices has the potential to benefit their organisation²⁰.

By managing deforestation risks and shifting towards a deforestation-free supply chain, companies can create opportunities to improve their businesses. They can benefit from access to emerging markets for sustainably sourced products, secure long-term availability of raw materials, and strengthen brand value by associating their products with environmentally-friendly practices.

¹⁵ Filho and Costa, 2016: 11

¹⁶ Noojpady et al., 2017.

¹⁷ We used Trase data to map and assess the soy trade and soy direct deforestation. Soy deforestation: annual deforestation due to direct conversion for soy cultivation. Calculated by crossing per-pixel annual deforestation alerts and soy crop maps. Our analysis does not capture soy as an indirect or underlying driver. We recognise that these indirect impacts are inherently complex, and difficult to measure with the data currently available. For a more comprehensive discussion of soy’s role in Brazilian ILUC, see Barona et al., 2010 and Richards et al., 2014.

¹⁸ Municipalities: Alto Parnaíba, Baixa Grande do Ribeiro, Balsas, Barreiras, Jaborandi, Bom Jesus, Gilbués, Tasso Fragoso, Correntina, Currais, Formosa do Rio Preto, Ribeiro Gonçalves, Santa Filomena, São Desidério, Uruçuí. 12 out of these 15 municipalities have been highlighted by the Brazilian government since 2012 as priority areas for monitoring and combating illegal deforestation within the Cerrado (PORTARIA Nº. 97, DE 22 DE MARÇO DE 2012).

¹⁹ LOL number 2017-399, 2017, <https://www.legifrance.gouv.fr/eli/loi/2017/3/27/2017-399/jo/texte>

²⁰ Disclosures on risk and opportunity by these multinational companies do not specify geographical location. CDP has inferred that because these companies deal with Brazilian soy, and because Brazil is one of the largest soy producers and exporters in the world, information disclosed by these companies around soy is likely to reflect operating conditions in Brazil.

The role of the private sector in addressing deforestation

Of the remaining native vegetation in the Cerrado 76% (84.4 million hectares) is privately owned²¹, positioning the private sector to play a crucial role in land protection efforts.

In 2006, many soy traders operating in the Amazon signed a Soy Moratorium, agreeing not to purchase soy grown on land deforested after July 2006 in the Brazilian biome. Some companies, including ADM, Bunge, and Cargill, also drafted zero-deforestation commitments which cover all of their operations and sourcing regions.

However, the proportion of soy exports from the Cerrado that are covered by such commitments is still significantly lower than the comparable proportion in the Amazon, indicating a lower level of overall protection of forest land from these voluntary commitments (see Figure 3).

In 2015, private sector zero-deforestation commitments (ZDCs) covered 44% of the total soy exported from the Cerrado, against 93% from the Amazon.

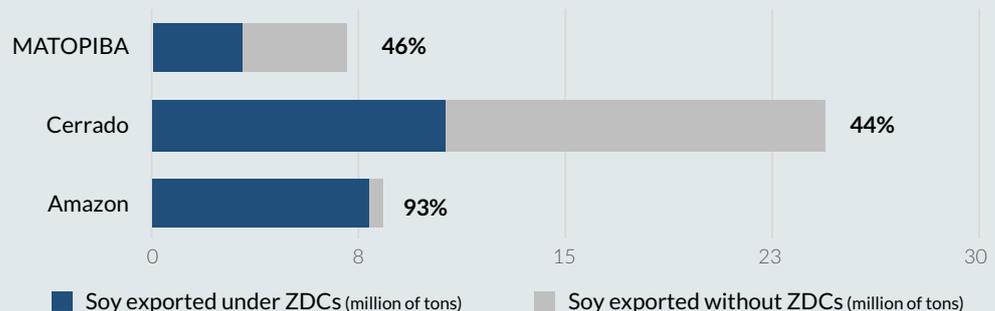
The Cerrado Manifesto and its Statement of Support

In September 2017, 60 civil society organisations signed the 'Cerrado Manifesto' calling on the private sector to take immediate action to protect the Cerrado²². The Cerrado Manifesto has also been endorsed so far by 61 companies, including Carrefour, Colgate-Palmolive Company, L'Oréal and McDonald's Corporation²³, through a Statement of Support.

Although the Statement of Support does not amount to a zero-deforestation commitment, it shows that the private sector is increasingly aware that it is expected to play a role in protecting the Cerrado, for example by ensuring soy is sourced sustainably.

However, implementation of the Manifesto still presents practical challenges, especially given that nearly 90% of the signatories are consumer-facing companies which are not directly involved in soy production that must engage with their supply chains to address deforestation risk. It is still too early to say how effective the Manifesto will be in driving change.

Figure 3: Percentage of soy exported under zero-deforestation commitments (ZDCs) in the Amazon and the Cerrado in 2015²⁴.



21 Filho and Costa, 2016: 11
22 Cerrado Manifesto, 2017
23 Statement of Support, 2018
24 Data from TRASE, 2017

Our recommendations for effective company action

The private sector needs to work with its suppliers to remove risk, create opportunities and transition into a more sustainable business model. As such, we recommend companies act on the following steps.

Assess

Companies should first assess their supply chain by:

- ▼ **Identifying and mapping suppliers in their supply chain:** CDP's voluntary disclosure platform provides a framework through which members can map their supply chain and understand business practices.
- ▼ **Identifying risks:** retailers and manufacturers should then assess socio-environmental risks upstream. Several platforms, such as Trase²⁵ and Agroideal²⁶, enable companies to assess risks related to soy deforestation.
- ▼ **Monitoring risks:** given that risks may change over time, monitoring land use at production level gives companies a better understanding of the risks associated with specific commodities. Ongoing monitoring is possible using initiatives such as the Global Forest Watch platform²⁷.

Commit

Private sector decision-makers should publicly commit to combating deforestation:

- ▼ **Zero-deforestation policies:** All companies sourcing soy from South America should adopt a soy zero-deforestation policy as part of their sustainability strategy. Zero-deforestation policies should encompass all types of native vegetation, include time-bound goals, cut-off dates for deforestation, reporting progress, and commitments to developing and implementing supply chain traceability systems.
- ▼ **Signing up to the Cerrado Manifesto Statement of Support:** companies are also encouraged to publicly demonstrate their commitment to the production of more sustainable soy from the Cerrado by signing the Statement of Support for the Cerrado Manifesto.

Implement

To incentivise producers to shift towards deforestation-free production systems, purchasing companies – supported by governments – should offer strong incentives and develop business cases to support producers. The implementation of zero-deforestation policies can be facilitated through:

▼ Engagement and collaboration:

- Purchasing companies can work together to identify common suppliers and sourcing regions. Companies sourcing from the same suppliers can collaborate to build the capacity of their suppliers. Companies sourcing from the same municipalities can collectively explore pre-competitive agreements and public-private partnerships to change unsustainable practices across a region^{28,29}.
- Governments from producing countries can work with companies through public-private partnerships to verify and certify deforestation-free producers, and collaborate on developing more efficient monitoring and verification systems.
- Consumer countries can introduce regulations that incentivise sustainable consumption, including the threat of sanctions (for example, the EU Timber Regulation prevents sales of illegally harvested timber and timber products on the EU market).

- ▼ **Incentives:** purchasing companies can provide technical support and/or commercial incentives to encourage their suppliers to adopt sustainable practices, such as favourable terms of contract for producers to expand production on degraded pastures, rather than on recently deforested land³⁰.

Companies operating across the supply chain can share the costs of developing and financing initiatives³¹. Last year CDP found that while 84% of manufacturers and retailers disclosing to the CDP forests program report working with their direct suppliers across commodities, only 3% offer financial support to suppliers. Enabling suppliers to realise such opportunities can accelerate action on deforestation by strengthening the business case to do so.

- ▼ **Satellite monitoring systems:** companies can join new initiatives that use satellite monitoring systems to monitor, report and verify the conversion of native vegetation into soy and other crops on a periodic basis³². By using the data provided in Brazil's environmental registry³³, companies can verify whether producers are complying with their zero-deforestation policies.

25 <https://trase.earth/>

26 <https://www.agroideal.org/>

27 <http://www.globalforestwatch.org/>

28 Lambin et al., 2018

29 See Trase.earth

30 According to IPAM, there are 7.7 million hectares of such pasture land in MATOPIBA which could be used for soy cultivation.

31 Lambin et al., 2018

32 See example on <http://www.mightyearth.org/mystery-meat-ii/>

33 Brazil's environmental registry (CAR – Cadastro Ambiental Rural) regulates under the Forest Code that obliges all rural landowners to register themselves and provide land use information in an electronic platform).

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