

Deforestation related to Beef & Leather Supply Chains in Latin America and export to Europe

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DISCLAIMER

This document has been prepared by Mekon Ecology to inform the Amsterdam Declarations Partnership (ADP) on sustainability aspects related to the beef & leather supply chain. This document does not reflect any position or decision by the ADP countries.

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1 Introduction

The European countries Denmark, France, Germany, Italy, Netherlands, Norway, United Kingdom joined forces under the AD Partnership (ADP) and committed to deforestation-free and sustainable supply chains with their countries. Belgium and Spain participate as observers in the ADP. The ADP was launched in the context of the Paris Climate Agreement and focuses on deforestation to reduce greenhouse gas emissions and enhance climate resilience. The impact of deforestation goes beyond emissions and has impact on local and indigenous communities and on biodiversity. Addressing deforestation therefore also supports achieving the Sustainable Development Goals.

The focus of the ADP so far has been mainly on the agricultural commodities cocoa, palm oil and soya because of their deforestation-risk and trade relevance for Europe. In 2019, the European Commission presented the Communication ‘Stepping up EU Action to Protect and Restore the World’s Forests’ (EC COM 2019-352). One of the priorities is to reduce the European union (EU) consumption footprint on land and encourage the consumption of products from deforestation-free supply chains in the EU.

Although cattle ranching is the main driver of deforestation (see chapter 2, including linkages with illegal logging and land speculation) the sector has not been the focus of attention of European countries due to the perceived limited trade and relevance of Europe in the beef & leather supply chains with South America. There is however a high deforestation risk, major social issues with illegal expansion and high greenhouse gas emissions, and, Europe represents a billion euros market with influential retailers, commercial banks and high fashion brands involved. For Europe’s main trading partners Argentina, Brazil, Paraguay and Uruguay, Europe is maybe not the largest buyer but it is a well-paying market. And besides the commercial interest there is an reputational risk for companies and investors.

The purpose of this document is to inform European stakeholders about the beef & leather supply chain and European linkages and leverage.

Throughout this document terminology related to ‘deforestation’ is defined by and related to the Accountability Framework initiative¹ and includes both (tropical) rainforests as well as woodland savannah areas. Hence, deforestation is equivalent to ‘conversion’ in this document.

¹ <https://accountability-framework.org/the-initiative/>

2 Climate change, cattle ranching, deforestation, and forest fires

Climate change

The Paris Climate Agreement defined a global action plan to limit global warming below 2 °C and to pursue efforts to limit it to 1.5 °C. However, global emissions are not going down and global warming is estimated to be already at 1.1 °C. The recent 2018 and 2019 IPCC special reports Global Warming, Land Use and Oceans show that climate change is happening, felt around the world already and accelerating. Land use change and deforestation contribute significantly to these emissions and without stopping deforestation, climate goals on mitigation and adaptation cannot be met. On the contrary, restoring forests and peatlands² is an important and cheap way (in comparison to carbon capture and storage) to fight climate change. The global meat and dairy sector accounts for half of the food-generated GHG emissions (CO₂, methane) and occupies a huge amount of land.

Cattle ranching

Low input costs, limited labour requirements and increasing market demand make cattle ranching an attractive economic activity. Ruminant cattle in South America are raised mainly on natural grazing of a planted forage species (*Brachiaria brizantha*) that is sturdy with deep roots but has a lower nutritional value and cattle is rarely supplemented with additional protein. The grass is burned on purpose every few years in order to rejuvenate. The average density of cattle is just one cow per hectare.³

Drivers of deforestation

The 2013 EC report (063) on imported deforestation stated that in the period 1990-2008 an estimated 239 million hectares was deforested. The main region was South America with 33% where Brazil and Paraguay have high deforestation rates. About 132 million ha could be directly contributed to conversion for crop production (29%), ruminant livestock production (24%) and logging (2%). If the agricultural commodities are subdivided, 46% can be attributed to cattle pastures, 43% for crops for non-feed use, 8% crops for feed (pigs and poultry), and 3% crops for feed (ruminants). Overall, conversion for cattle pastures was the single most important driver.

Historically, deforestation and land conversion starts when areas are opened for logging and mining and roads are constructed. The Amazon rainforest spreads across nine countries and cattle ranching – often interlinked with land speculation and illegal logging - has been the largest driver of deforestation in every Amazon country, accounting for 80% of current deforestation rates. It is important to realise that cattle ranching does not only expand over forested areas but also still over natural grasslands and woodland savannah areas in both Latin America as well as Sub-Saharan Africa. Cattle ranching is the primary driver of tropical deforestation in Argentina, Brazil, Uruguay and Paraguay and regions of major concern are the Amazon, the Gran Chaco and the Cerrado. The location of roads and slaughterhouses are directly linked to the level of deforestation surrounding the infrastructure. Studies show that deforestation in the Amazon and Gran Chaco mainly occurred in the cattle supply zones of the slaughterhouses (Imazon 2017, USAID 2017).

Although historically understandable from an economic-commercial point of view, the world can no longer afford further deforestation with more greenhouse gas emissions and loss of biodiversity. Issues associated with the - often uncontrolled - expansion are:

- Land grabbing from indigenous and traditional people and social conflicts

² <https://www.iucn.org/resources/issues-briefs/peatlands-and-climate-change>

³ <https://globalforestatlas.yale.edu/amazon/land-use/cattle-ranching>

- Forced and slave labour⁴
- Loss of biodiversity
- Illegality and tax evasion
- Carbon dioxide emissions contributing to climate change
- Soil degradation and water pollution

Linking ADP beef consumption to GHG-emissions and Amazon forest fires

The European Union has stated the ambition to become climate neutral by 2050.⁵ In order to be fully climate neutral, considering the climate carbon footprint of imported products including beef and leather is therefore important (embedded deforestation and conversion, direct greenhouse gas emissions). Estimating the carbon footprint is complex given the lack of accurate data although some research suggests it is significant⁶.

The 2019 forest fires in Brazil triggered much international attention. As stated above, fire is used by cattle ranchers to rejuvenate their pastures. Fire is also used to clear land that has been (often illegally) deforested months earlier. Not surprisingly then that 70% of the fires were in beef-producing regions⁷. On August 10th 2019, the “day of fire” in Para, fires jumped with 700%. Until September 2019, 43,421 fires were recorded in the Brazilian Amazon. The National Wildlife Federation (NWF) researched the link between the 2019 forest fires in Mato Grosso and Para states, cattle ranches with fires and Brazilian slaughterhouses-meatpackers that exported to Europe.

Table 1: Beef import – Forest Fire link.

Source: National Wildlife Federation, analysis from UW-Madison’s GLUE lab.

Country	Number of plants imported from that are linked to fires	Number of ranches with fires linked to plants	Beef import-Fire %
Denmark	2	29	64%
France	0	0	0%
Germany	12	236	35%
Italy	14	268	51%
Netherlands	14	268	40%
Norway	1	23	23%
United Kingdom	10	175	48%

Beef import-Fire %: Percentage of Brazilian beef imports linked to plants who purchased from ranches with fires.

⁴ <https://www.reuters.com/article/us-brazil-slavery/brazils-chicken-catchers-are-victims-of-forced-labor-report-idUSKBN1DU2ZR>

⁵ https://ec.europa.eu/clima/policies/strategies/2050_en

⁶ <https://www.earth-sight.org.uk/news/idm/carbon-lottery-europe-blind-potentially-huge-brazilian-beef-carbon-footprints>

⁷ <https://www.theguardian.com/environment/2019/dec/10/revealed-fires-three-times-more-common-in-amazon-beef-farming-zones>

3 The beef and leather supply chains

3.1 Beef & leather production and market

The main products from cattle ranching are beef (incl. processed beef), dairy products⁸ and leather but also gelatine and collagen. In Brazil beef tallow for biodiesel is the second largest raw material after soya oil (Sousa, 2017).

Beef

The United States of America (USA), Brazil and the European Union (EU) are the largest producers of beef in the world. India has more cows but produces less beef. In 2017, Brazil had about 232 million cows (#2 after India) of which 60-85 million in the Brazilian Amazon. Europe has over 88 million cows, producing app. 7.3 million tonnes of beef (60% comes from the dairy herd), and exports app. 733,000 tonnes. The main beef producers are France, Germany and Italy. Extra-EU import is small in comparison to total EU production (3.7%). Argentina has approximately 54 million cows (#6).

EU import of dairy products from Mercosur is small (1% in 2016 of total dairy import). The EU established Hilton Quota, a tariff quota for the import of high-quality, de-boned beef. Under this quota, the EU imports mainly beef (frozen or chilled) from Brazil (41% of total import), Argentina (20%), Uruguay (15%) and USA (6%). Mercosur countries (Brazil, Argentina, Uruguay and Paraguay) are the largest extra-EU supplier accounting for almost 75% of imports (app. 87% goes to ADP countries). The beef trade with the EU is subject to a 20% tariff for 67,000 tonnes or 43% tariff outside the quota. The annual out-of-quota EU imports from Mercosur in high quality fresh beef is 40,000 tonnes and 10,000 tonnes for frozen beef. Beef imports from Mercosur represent app. 3% of total import value from Mercosur.

Brazil (#1 world) and Argentina (#6) also export prepared/preserved beef (HS-160250, e.g. corned beef). The main destinations for Brazil are USA (39% in volume, 56% in value) and Europe (34% in volume, 30% in value, incl. United Kingdom, Netherlands, Italy, Belgium, Germany, France, Spain). The export to Europe in 2019 was 34,152 tonnes (150,000 euros). In 2019 European countries did not import from Argentina. Corned beef in the UK, Italy and Belgium has been associated with deforestation in the Amazon⁹.

Table 2: Exports of main bovine products from Mercosur countries to Europe (ITC COMSTAT).

Country	Export value (millions Euros)					
	0201			0202		
	World	Europe	%	World	Europe	%
Argentina	689	449	65%	2,085	8.7	0.4%
Brazil	787	136	17%	5,011	226	5%
Paraguay	418	17	3.5%	496	7.9	1,6%
Uruguay	302	214	71%	1,344	64	5%
TOTAL	2,275	817	36%	8,938	307	3,4%

0201 = Fresh or chilled bovine meat

0202= Frozen bovine meat

In addition, there is also some export of processed beef (corned beef) and offal of bovine.

⁸ The Brazilian dairy sector has over 900,000 dairy farmers with 20 million cows and a production of about 36 billion litres. Production is mainly concentrated in in the Southern and South-eastern states where deforestation is absent or limited.

⁹ <https://qz.com/1619161/uk-stores-sell-beef-from-company-charged-with-amazon-deforestation/>

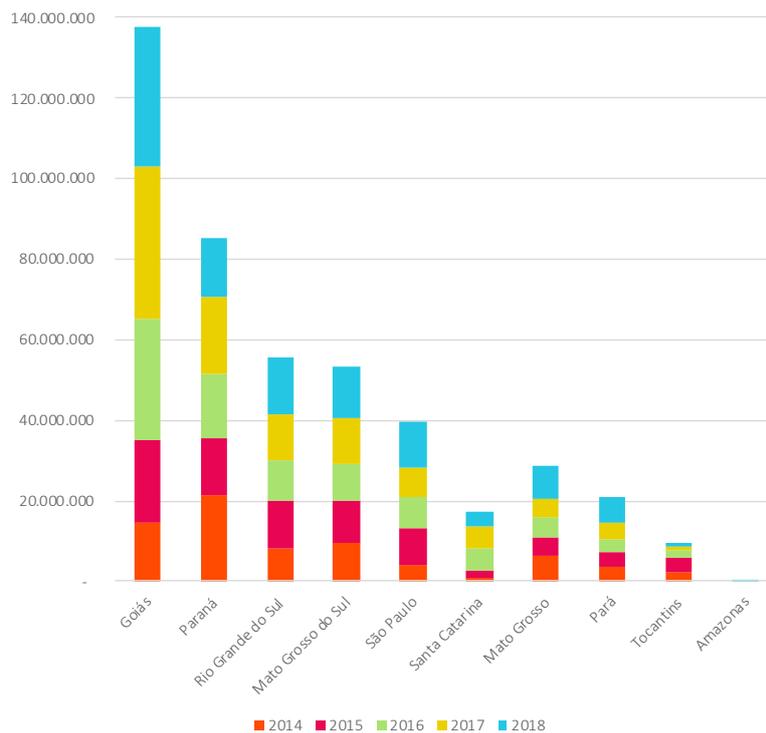
Key export markets for Mercosur are China (Hong Kong and mainland China; 44%) and Egypt, Russian Federation, Iran and Chile. The EU imports only 5% in volume but represents almost 17% in total value. The above table shows Europe mainly imports fresh or chilled beef and has a very significant market share in Argentinian and Uruguayan export. However, the export value of frozen beef is much higher, and the market relevance of Europe is much lower. The combined beef export value for the Mercosur countries to the EU is app. 1.1 billion euros.

Brazil produces app. 9.6 million tonnes and consumes 81% of its total beef production. The remaining 19% is exported making Brazil the global leader. Brazil mainly exports to China and Hong Kong with 0.8 million tonnes compared to 0.1 million tonnes to the EU.

Leather

Brazil, Argentina, Paraguay and Uruguay also export hides and leather. Brazil is one of the world’s largest leather producers and exporters. China, Vietnam, Italy and the USA are the most important buyers. Italy, Spain, Austria, Portugal and Germany are the main European importers and 25% of total leather export value was imported by ADP members. Paraguay also exported about 9 million pounds of leather in 2018 to Europe, used for furniture, fashion products and cars (NWF, 2019). Italy also imports 60% of leather exports from Paraguay (40% of which goes to the Italian tannery Pasubio), some of which is linked to illegal deforestation (Earthsight, 2020).

Figure 1: Top Brazilian states exporting bovine leather to Italy 2014-2018 (Mamadova, 2020)



Mamadova (2020) states that the Italian imports of Brazilian leather are exposed to deforestation risk at different stages of the supply chain, unless there are proper traceability systems in place till the farm level to demonstrate the opposite.

Mercosur – EU Free Trade Agreement

The Mercosur is the South American trade bloc consisting of Brazil, Argentina, Paraguay and Uruguay. Bolivia is a potential member but has not fully joined yet. In 2019 an in principle Free Trade Agreement was agreed upon between Mercosur and the EU. The Agreement will come

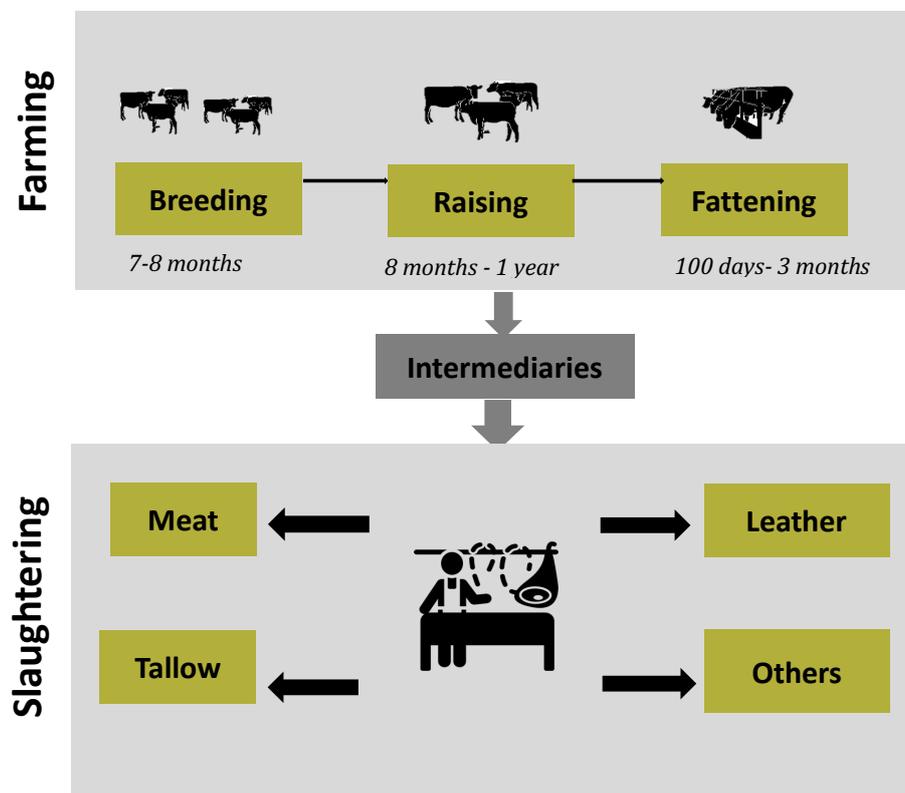
into force after ratification. The agreement includes tariff-free quotas (TRQ) for Mercosur of 99,000 tonnes (carcass weight equivalent), which equates to around 1% of EU production. The split between fresh/chilled and frozen beef is currently reported as 55/45. Brazil will have around 44,000 tonnes of this TRQ with around 30,000 tonnes for Argentina. The in-quota tariff is set at 7.5%.

According to the Strategic Impact Assessment (SIA) interim report (LSE, Dec 2019), in the most conservative scenario EU imports from Mercosur will expand between 26% and 37% depending on the country (or 54-78% in the ambitious scenario with lower tariffs). The 2009 SIA (MU, 2009) assessed a significant increase in cattle production in all countries and with a significant expansion over natural areas in the absence of appropriate sustainable production measures and strong law enforcement. The 2019 interim report does not raise this concern but states “it may be possible [that there is] a limited expansion of the agricultural frontier in Mercosur associated with an increase in the cattle stocks; it is also possible that exports to the EU may be generated without increasing stocks, by increasing the animal density and/or by substituting land with other animal uses”. In addition, European farmers have voiced concerns that the social and environmental standards (for example, measures to limit climate emissions from cattle raising such as carbon dioxide, methane, nitrous oxide) differ and lead to an unequal playing field and they fear a loss of farms and jobs. The 2019 SIA assesses this impact will be limited.

3.2 The supply chain from ranch to slaughterhouse (example Amazon)

The Brazilian Amazon is a region with high deforestation pressure from cattle ranching and well documented. It is also the focus of attention for many European consumers. Therefore, it is used as an example to describe the supply chain.

Figure 2: the cattle supply chain (courtesy A. Mamadova).



Farming (direct and indirect suppliers to the slaughterhouses)

The cattle supply chain starts with calves that are born and raised on numerous ranches (more than 390,000 ranches but there is no official number. Imazon 2017). Because cattle and calves are also raised on small farms that are often not registered their cattle is not officially counted (an estimated 10-20% of total - FAO). More than half of all cattle ranches are probably under 100 ha (7% <25ha; 18% 25-50ha; 27% 50-100ha) (NWF). Cattle for the meat industry is often sold from one farm to another from breeding to raising and fattening. In 2009 the three main slaughterhouses committed to no deforestation on the farm from which they buy their cattle directly (farms for 'fattening').

The level of control towards indirect (tier 1) suppliers (farms for calving and rearing) is limited. Farms that are not fully legally compliant (with the Forest Code and other laws) can sell their cattle to slaughterhouses via the direct suppliers who are legally compliant.

Slaughtering (slaughterhouses and meatpackers)

Research by Imazon shows that in the Brazilian Amazon 128 active slaughterhouses process 93% of all cattle raised in the region¹⁰. The slaughterhouses are owned by 99 companies, some of which have a state license (SIE – State Inspection System) allowing them to sell within the state (capacity up to 180 animals/day) and those with a federal license (SIF- Federal Inspection System) allowing them to sell country-wide and export (capacity up to 700 animals/day).

Most slaughterhouses are owned by the companies JBS (slaughters 40% of all cattle in the Amazon), Marfrig and Minerva. JBS is the world's largest producer and exporter of meat. JBS is originally a Brazilian company but went global by taking over many foreign companies. They now slaughter 77,000 cows, 116,000 pigs and 13.6 million chickens per day and have \$50 billion in revenues.¹¹

Level of control

In 2002, Brazil introduced its Brazilian Tracking Service of Bovines and Bubalus (SISBOV), which is mandatory for farmers wishing to export to countries that require traceability (such as the EU). The goal was to achieve full registration by 2007 but farmers have been very slow to implement the system due to the costs involved (0.5% of Brazilian farms are registered). There is still a serious lack in traceability, hampered by the fact that cattle is owned by various farms over their lifetime. A key loophole is that the records of the mandatory Animal Transit Guide (GTA, a record that has to be retained at every farm each time an animal is relocated) are not linked together and cannot be easily tracked.

The slaughterhouses need a license to operate and are subject to government inspections to ensure legal compliance (food, hygiene and safety standards). According to Amigos de Terra up to 30% of all beef for the domestic market is slaughtered without an appropriate license. The majority of the illegally produced meat is sold to the poor, which might be a reason for the absence of strong enforcement. On the other hand, the slaughterhouses with SIE or SIF registration can directly or indirectly influence 390,000 ranches, with an estimated 79 million head of cattle or 93% of the total (Imazon, 2017).

¹⁰ <https://imazon.org.br/en/will-meat-packing-plants-help-halt-deforestation-in-the-amazon/>

¹¹ <https://www.thebureauinvestigates.com/stories/2019-07-02/jbs-brazilian-butchers-took-over-the-world>

JBS¹² and other slaughterhouse companies have been involved in various scandals¹³ ranging from buying cattle from companies that illegally deforest and occupy land, bribes and selling rotten meat to consumers. In 2017, JBS admitted bribing 1,829 politicians and agreed to pay a fine of \$3.2 billion. Also in 2017 it was discovered that JBS (and 30 other companies including BRF, the world's largest poultry exporter) was bribing meat inspectors and forging documents in order to sell rotten meat (which was treated with chemicals) in what became the 'carne fraca' scandal. This led to an EU and Chinese embargo of Brazilian meat.

The legal requirements for meat do not cover non-food items such as hides and leather and has led to a lack of government attention. Amigos de Terra found in 2011 a difference of 5 million animals between the number of animals formally slaughtered and the number of hides produced. Another study assessed that in 2015, tanneries processed almost 2.5 million hides that could not be attributed to documented cattle slaughter¹⁴.

Associated deforestation

Approximately, 450,000 km² (45 million ha) of deforested Amazon in Brazil are now cattle pastures¹⁵. The 'cattle supply range' of Brazilian Amazon slaughterhouses coincide with 88% of all deforestation between 2010-2015. Amazon forecasts that 90% of all future deforestation will be in the cattle supply zones of the slaughterhouses. Deforestation associated with cattle ranching can be roughly be divided in two groups:

1. Farmers that deforest to expand their herd and put cattle on the newly formed pastures and increase their income. They could be sensitive to economic sustainability market measures if it also increases their income.
2. Land speculators (grilagem^{16, 17, 18}) who hire others to deforest and put some cattle on the cleared land to claim it, and subsequently arrange land titles so the value of the land increases dramatically (till 10-15 times higher). They are influential and politically well-connected and will probably not be sensitive to market measures.

It seems that being non-compliant with the Forest Code and not sustainable is profitable and more attractive than legally compliant and sustainable.

3.3 Developments in South American countries

3.3.1 Argentina

Argentina has an estimated 54 million head of cattle in total on 142 million ha of permanent pasture (FAO)¹⁹. The government of Argentina has been actively promoting cattle ranching and currently Argentina is one of the worlds' largest beef producers and exporters (2010-2020 Agroalimentary and Agroindustrial Strategic Plan). 90% of the beef production goes to the domestic market. Export goes to China, Israel, Russia and Europe (Germany, Netherlands, Italy) (EUROSTAT). In 2015, the government eliminated taxes on beef export, and export grew by 77% in 2017-2018. China is the main importer. On average, the EU accounts for 9% of total

¹² <https://www.thebureauinvestigates.com/stories/2019-07-02/jbs-brazilian-butchers-took-over-the-world>

¹³ <https://www.theguardian.com/environment/2019/jul/02/revealed-amazon-deforestation-driven-global-greed-meat-brazil>

¹⁴ <http://www.zerodeforestationcattle.org/#/reading/ch2t2>

¹⁵ <https://globalforestatlas.vale.edu/amazon/land-use/cattle-ranching>

¹⁶ <https://www.dw.com/pt-br/a-dimensão-da-grilagem-em-florestas-públicas-na-amazônia/a-53932221>

¹⁷ <https://greenpeace.org.br/amazonia/pdf/grilagem.pdf>

¹⁸ <https://www.youtube.com/watch?v=jx7Vq3Scld8>

¹⁹ <http://www.fao.org/3/y5210e/y5210e05.htm#TopOfPage>

beef export. Argentine meat exporters are organised in the Consorcio de Exportadores de Carnes Argentinas (22 companies)²⁰.

Argentina's traceability system is based on the National Health Registry of Farming and Livestock Producers (RENSPA) with producers' National Identity Card Number (DNI) and a single code of fiscal identification CUIG (Código Único de Identificación Ganadera). Combined they form the SGS (Sistema de Gestión Sanitaria) to track health standards. Transporting or moving cattle requires a DTe (Documento para el Tránsito de Animales) to track animal movement amongst farms (mainly to track Foot and Mouth Disease). The system is implemented and considered as a low risk for corporate social responsibility (NEPcon, 2017). Most of Argentina's cattle used to be free ranging on open grasslands. But here is a risk that animals move from illegally established farms to legal farms because land tenure is not properly registered due to a lack of coordination between federal and lower levels of government. This leads to insecure land rentals, insufficient protection of indigenous lands, informal contracting and illegal sales of public lands (NEPcon, 2017). The last decade a major shift occurred to more intensive meat production in fattening corals²¹. The associated problems are an increased concentration of methane and nitrous oxide emissions. Conversion is also associated with soya production that is used for cattle feed even though the majority of the soya is still exported.

The last two decades, the Chaco woodland savannah area in northern Argentina lost around 5 million ha of forests in the past two decades (or 87% of total deforestation in Argentina)²². Around 80% (or 113,000 ha/yr) of Argentina's conversion of native vegetation and forests is currently concentrated in the Chaco region in the provinces of Santiago del Estero, Salta, Chaco and Formosa. Land clearing is mostly linked to ranching (Greenpeace, 2019). At first by cattle ranching that was displaced by soya from the pampas to the Gran Chaco. Nowadays a new drought resistant soya variety is also planted in the Gran Chaco, adding to the pressure on natural areas. The government promotes Management of Forests with Integrated Livestock Farming (MBGI in Spanish) in the Chaco, which allows clearing of forests (10% for fodder) Based upon the National Forest Act (26-231), provincial governments define the zoning of their forests zoning (I = reserve (red); II = sustainable use (yellow); and III - deforestation allowed if it does not affect indigenous territories (green)). 80% of the forest zones are category I and II. It will be difficult to balance this forest protection with the government's ambition to increase the cattle herd in the Chaco (700,000 in Chaco province alone). Also, Argentine's indigenous communities in the region are negatively affected by increased social and environmental pressures.

A preliminary meeting related to the GRSB was organised in 2017 and 17 organisations committed to join. The Mesa Argentina recently joined the GRSB.

3.3.2 Brazil

The Brazilian government actively promotes agricultural expansion and Brazil has app. 232 million cows (beef and dairy). Around 55% of Brazilian cattle production is located in the Cerrado biome of which a significant amount is considered degraded (app. 46% but estimates vary²³). The estimated number of cattle in the Brazilian Amazon ranges widely from 60 to 85 million. The main production regions in Brazil are the states Mato Grosso, Mato Grosso do

²⁰ <http://www.abc-consorcio.com.ar/Institucional/6/Empresas-asociadas.html>

²¹ <https://www.dandc.eu/en/article/cattle-industry-argentina-changing-rapidly-not-better>

²² <https://news.mongabay.com/2020/08/the-lost-forests-of-the-argentine-gran-chaco/>

²³

https://www.researchgate.net/publication/328832232_Assessing_Pasture_Degradation_in_the_Brazilian_Cerrado_Based_on_the_Analysis_of_MODIS_NDVI_Time-Series

Sul, Goiás, São Paulo and Minas Gerais (SIGSIF data, website Ministry of Agriculture). The main regions for export are the states São Paulo with 22%, Mato Grosso 20% and Goiás 14% (ABIEC website). Beef export has grown faster than domestic consumption from 1.229,272 tonnes to 1.866,474 tonnes, or +52% between 2010-2019. According to the Brazilian Beef Exporters Association (ABIEC)²⁴ the growing export demand drives expansion, especially in the Amazon.

In 2009, the Federal Public Prosecutor's Offices (Ministério Público Federal, or MPF) in Pará sued large ranchers who cleared forest illegally and the slaughterhouses that bought from them. MPF used threats of litigation to convince Brazilian retailers to boycott slaughterhouses connected to illegal deforestation. In response, individual meatpacking companies began signing legally binding TAC (Terms of Adjustment of Conduct) agreements with the MPF. Such agreements forestall prosecution in return for the meatpackers' commitments to avoid purchases from properties with illegal deforestation. They are now in place for two-thirds of the federally inspected slaughterhouses (SIFs) in the Legal Amazon. (Gibbs et al, 2015).

In 2009, the companies JBS, Marfrig, Minerva and Bertin (now bought by JBS) responded to the increased criticism by agreeing on a 'G4/ Zero Deforestation Cattle Agreement' not to buy cattle from ranchers who raised their beef in newly deforested areas. Part of the agreement included collecting supply chain data from direct and indirect suppliers and make information public. As a result, transparency has increased significantly. JBS made available data from >26,000 suppliers linked to property boundaries to assess supplier compliance and response. Already in 2010, a huge increase was seen in direct suppliers in Pará to JBS to register their properties under CAR (basically from 0% in 2008 to 60% in 2010). This was interestingly followed by increased registration by neighbouring properties. JBS clearly significantly reduced probability of purchase from suppliers linked to deforestation in the state of Pará in comparison to other states although using the same system. Likely this is related to the enforcement by the MPF in Pará. However, this did not yet have an effect on deforestation in the cattle supply zones in the Amazon in general. Most deforestation now occurs on land owned by indirect suppliers. A complicating factor is that JBS suppliers can also sell to other slaughterhouses that do not monitor, ranchers own more than one property (and move cattle between them), middlemen combine cattle, and plain forgery of documents and laundering. (Gibbs et al, 2015). Greenpeace left the agreement in 2017 due a lack of commitment and improvement by the companies.

The multi-stakeholder Grupo de Trabalho de Pecuária Sustentável (GTPS²⁵) was established to enhance sustainability in the cattle sector and has launched various sustainability initiatives²⁶. According to GTPS, supply chains are highly interconnected whereby 88% of the direct suppliers buy a on average from 23 indirect suppliers. 5% of the direct suppliers sell 60% of the cattle and 80% bought from indirect suppliers with deforestation. As a result, 85-90% of properties are indirect suppliers and they are more likely to deforest. Therefore, by including the indirect suppliers in the current traceability system 89% of the deforestation can be traced (Gibbs, NWF). An Indirect Suppliers Working Group (GTFI) was started in 2015 with participation of supply chain actors, researchers, Amigos da Terra Brasil and NWF. In 2019, the WG agreed on good practices, which are currently being tested.

Another notable initiative is PECSA (Sustainable Cattle Ranching in the Amazon) in the State of Mato Grosso, the largest cattle producing region. The main aim of the initiative is to significantly increase the production per hectare (from 1 to 5 cattle per hectare) on severely

²⁴ <http://abiec.com.br/exportacoes/>

²⁵ <http://gtps.org.br>

²⁶ <http://gtps.org.br/mips-gtps/>

degraded pastures in a sustainable manner and thus reduce the need for expansion in primary forests.²⁷ Already in 2010, Brazil was thinking about promoting integrated crop-livestock forest systems (ICLIF) to mitigate GHG-emissions from agriculture. Based upon ICLIF, Embrapa developed a concept and label for carbon neutral Brazilian beef (Embrapa, 2017)

It is also important to note that the Brazilian Forest Code formally protects a large amount of land on private properties (80% within the Legal Amazon). However, most forest is cleared illegally. In October 2017, then President Temer implemented an amnesty for illegal deforestation and related fines worth US\$ 2.1 billion (95% of all fines posed by the environmental agency IBAMA)²⁸. In addition, the influential agribusiness sector continues to lobby for further weakening of Brazilian law protecting the environment and indigenous peoples and supportive institutions such as IBAMA, INPE and FUNAI.

3.3.3 Paraguay

Paraguay has an estimated 150,000 ranchers with 26 million ha of pastures. Large producers dominate the market with app. 1.7% of producers owning more than half of the total head of cattle. Most producers (61%) have 1 to 20 heads (SENACSA). The ARP (Asociación Rural del Paraguay) is an interest group representing the interests of 3,000 cattle producers (app. 30% total head of cattle) but a producer can only become a member if they own more than 50 head. Producers and exporters are organised in the Paraguayan Association of Meat Producers and Exporters (APPEC). Paraguay is now one of the main global exporters (mainly to Russia, Chile, Brazil, Hong Kong). The main exporters are Minerva, Concepcion (bought Frigonorte in 2020), Chorittzer, Fernheim, Neuland and Guarani (Trase.earth). Marfrig is considering investing in the country²⁹. Only Minerva - the largest meatpacker company - and McDonalds mention Paraguay specifically in their commitment. Export goes mostly to Russia, Chile, Paraguay and Vietnam. According to Forest Trends' Supply Change (2020)³⁰, 81 companies source beef, dairy and leather from Paraguay of which 15 have sustainability and deforestation commitments. In general, meatpackers do not experience much attention or pressure to become sustainable due to a lack of international attention, and beef is sold mostly to non-premium foreign markets. Exceptions are Guarani that supplies McDonalds, Minerva that participates in the Alianza para el Desarrollo Sostenible (with WWF, Neuland, USAID, IFC), and Neuland (a Mennonite cooperative in Chaco with 1,200 members) that sells to the domestic market as a premium brand with high traceability standards.

Similar to Argentina, the Gran Chaco in Western Paraguay is the new agricultural expansion frontier. Cattle ranching is expanding in the Paraguayan Chaco and the main cause of deforestation (250,000 km² divided over three local government departments. Home to 2% of the population). Since 2000, the Gran Chaco has one of the highest rates of deforestation (an estimated 3.4 million ha by GFW) and 19.2% of forest land has been converted to pasture. Today, approximately 5 million ha is in use for cattle and 90,000 ha for soya (tripled in the last 3 years).³¹ Several large land holdings with a high level of mechanisation are the primary deforestation actors. Indigenous land rights and deforestation are major concerns (with the last uncontacted tribe outside the Amazon). Like in the Amazon, most cattle is pasture-raised with only 12-15% fattened for slaughter with grain.

²⁷ <https://www.csmonitor.com/Environment/2020/0304/Saving-the-Amazon-How-cattle-ranchers-can-halt-deforestation>

²⁸ <https://news.mongabay.com/2017/10/temer-offers-amnesty-erasing-up-to-2-1-billion-in-environmental-crime-fines/>

²⁹ <https://www.reuters.com/article/us-marfrig-paraguay-idUSKBN25V21L>

³⁰ <https://www.forest-trends.org/publications/commitments-in-country-paraguay/>

³¹ <https://www.ft.com/content/7a25413c-56d3-11e9-8b71-f5b0066105fe>

In 1825, land without titles, i.e. indigenous lands, were declared state property and could be sold to private landowners. The Carlos Casado company from Argentina bought 5,6 million ha in the 1880s and the company is still a major landowner. Under the regime of the Colorado party (1954-2008) 75% of the land in the Chaco was privatised (given away or sold at low prices to supporters and foreign companies). Dispossession of indigenous people was a fundamental part of this strategy (Oxfam, 2014). Today, 95% of the land in Paraguay is privately owned. Land speculation is high with forested land selling for US\$150-600 and cleared ranch land selling for US\$500-2000. Publicly available land ownership data in the National Cadastre and Registry Information System (SICAR) is of poor quality and incomplete. Argentinian, Brazilian and Paraguayan Mennonite companies hold most of the land in the Chaco. An estimated 120,000 campesino families live in the Chaco, often on informal plots of public land alongside the roads. Less than 5% of the land in the Chaco is legally held by indigenous people (9 indigenous tribes, 1 uncontacted) but more is claimed. These lands are typically small, fragmented parcels and use is restricted. In practice, land boundaries are often violated by cattle ranchers. Paraguay has the highest number of complaints in the Inter-American Court regarding failure of respecting indigenous land rights (USAID, 2017).

In general, cattle-related regulation focuses on beef-safety standards, not on sustainability. Traceability is generally weak. Forest protection is weak because of ambiguous environmental laws, limited enforcement and government support for expansion in the Gran Chaco. For example, the National Plan for Meat would, according to FAPI (Federación por la Autodeterminación de los Pueblos indígenas), lead to licensing another 5 million ha of cattle ranching in the Chaco. According to the Forest law (#422/3 from 1973), farms with more than 20ha must preserve at least 25% of native forests (cut-off date is 17 December 1986). Until 2008 a loophole existed by the possibility to transfer this legal reserve to others who could deforest them further (another 75%) and the law required to reforest 5% of the land if cleared improperly. Since 2008, sold properties have to be reforested up to 25% of the original forests (SEAM Resolution 531/2008) and pasture have to maintain 30% of the original number of trees (INFONA Resolution 1136/1). However, sanctions are limited. In Eastern Paraguay a zero-deforestation moratorium has been in effect since 2004 (till 2020), though enforcement is minimal and much of the remaining forest has been cleared anyway. At present, forest cover in the Eastern region is estimate at being around 10% instead of 25% or more if the mandatory buffers are included (IBS, 2015). Early 2019, the government of Paraguay signed an agreement with the World Resources Institute to develop a national forest monitoring system.

Paraguay does have a regulation to trace herds of cattle, the Sistema Informatico de Gestion de Oficinas Regionales (SIGOR), in order to track compliance with the beef-safety standards. Individual animals need to be only traceable to the slaughterhouse. An existing voluntary initiative, the Traceability System of Paraguay (SITRAP), documents adherence to higher food safety requirements throughout the supply chain to meet higher standards for key import markets like the EU (Agencia de Información Paraguaya 2019a). Currently, 600 cattle owners have registered and purchased ear tags for tracking individual animals from birth to slaughter (SITRAP 2019).

In 2013, INTN (the national institute of technology) presented documents with best practices for the cattle sector (animal health, welfare, management and transport infrastructure). Research in 2015 showed that Paraguayan producers were not aware of international sustainability standards and social issues were underestimated. There was more awareness on national standards (Verijdt, 2015). The Carne Natural Initiative by the ranchers' association ARP and Solidaridad developed a national certification protocol for natural beef, which includes guidance for environmental management (does not exclude deforestation). Since

2017, the Mesa Paraguaya de Carne Sostenible initiative (MPCS) brings together the main cattle ranchers and linked to the GRSB (2017 MoU, now 20 members) and mentions ‘zero illegal deforestation’. Other sustainability initiatives are for example the Alianza del Pastizal³² (by Guyra Paraguay) to integrate cattle farming with nature and biodiversity. The Alianza para el Desarrollo Sostenible - WWF Paraguay, Neuland, Minerva, IFC, USAID – also produced a best practices manual.³³ The Good growth Partnership by UNDP works on sustainable beef in the Chaco region.³⁴ IFC is also working with Frigorifico Guarani, to design an energy and water efficient beef processing facility with a supply-chain-verification scheme.

3.3.4 Uruguay

Cattle ranching was and is an important economic activity in Uruguay (3.4 million people). Uruguay exports 70% of its production and beef export generated \$1.5 billion in 2015.³⁵ Already in 1930s the country had 8 million cattle, which increased to 12 million today. Most cattle is free-ranging. 33% of the cattle are on ranches less than 500 ha, while ranches larger than 5,000 ha own 8% of the cattle. Uruguay’s beef export is worth more than \$1.5 billion annually. Deforestation and conversion of natural ecosystems is currently limited in Uruguay in comparison to the other countries in this report (1.7 million ha is forested of which 17.5 % is primary forests. FAO). According to Global Forest Watch, Uruguay lost 361,000 ha between 2001-2019.

In 2006, Uruguay introduced SIRA, the Animal Identification and registration System, whereby all cattle is electronically tagged at birth and every single farmer has to take part making the supply chain fully traceable. SIRA is paid for by the state and free of charge to the farmer (IICA, 2009). Uruguay has approximately 38 slaughterhouses of which Marfrig (BR) owns several (IICA, 2009). Uruguay strives to be recognised as a country of origin and branded as high-quality beef for premium markets such as Europe and USA. Uruguay therefore introduced the voluntary Certified Natural Meat Program in 2001, whereby ranchers and packers can certify their produce according to phyto-sanitary, quality and environmental standards according to a protocol by the National Meat Institute and independent accreditation. As a result, the meat can be branded as “Uruguay Certified Natural”. The premium beef can also sold to the EU under the high quality (Hilton) quota and quota 418.

Although the country lost app. 4% of natural forests per year it actually gained in forest cover by increasing planted forests and forestry is a fast-growing industry. However, 80% of Uruguay’s climate emissions relate to cattle and climate smart cattle farming will be the next challenge. It is therefore no surprise that Uruguay’s National Determined Contribution under the UNFCCC Paris Climate Agreement includes 2025 targets to reduce at least methane emissions by 32%, and nitrous oxide emissions by 34%. The NDC also commits to maintaining all native forest areas as of 2012 (849,960 ha) and decrease CO2 emissions from grasslands and peatlands.³⁶

In 2017, stakeholders in Uruguay convened a first preliminary meeting for a national roundtable for sustainable beef related to the GRSB. Initial interest comes from some international companies and national institutes (Marfrig, Minerva, Las Moras, BPU, San Jacinto, INAC, INIA).

³² <http://www.alianzadelpastizal.org/en>

³³ https://www.wwf.org.py/que_hacemos/proyectos/alianza_para_el_desarrollo_sostenible/

³⁴ <https://goodgrowthpartnership.com/our-work/>

³⁵ <https://gro-intelligence.com/insights/articles/uruguay-small-country-big-beef>

³⁶ <https://cccoalition.org/en/news/how-uruguay-can-have-environmental-sustainability--and-eat-its-beef-too>

4 Deforestation-free, sustainable supply chain with Europe

4.1 From slaughterhouse to Europe and European leverage

Export from South America includes mainly high-quality beef (fresh, frozen), leather and some processed beef (corned beef).

In the absence of strong national action there are various ways to influence developments in commodity supply chains towards no deforestation, climate neutrality and overall sustainability while ensuring commercial viability. These include legislation and enforcement, mandatory due diligence, multi-stakeholder partnerships in combination with company commitments and direct engagement. Direct engagement based upon a clear economic and commercial leverage is perceived as an important way to enhance sustainability practices. So far, even with various consumer-oriented companies reaching their sustainability commitments the impact on the ground with production-oriented companies and on social and environmental sustainability in production areas is very limited. Deforestation is actually rising globally. In the case of the beef and leather supply chain company supply chain commitments have not yielded results.

Supply chain linkages with European companies

Beef products are mainly consumed domestically, and retailers are the key supply channel towards consumers. Beef and leather from Latin America is also exported and sold on the European market (annex 1). The European retail companies Casino and Carrefour also have commercial ties in Latin America. Grupo Pão de Açúcar (now GPA) is the second largest retail company in Latin America and is mainly owned by Grupo Casino (22.8%) and Grupo Exito (18.7%). Carrefour has Carrefour supermarkets in a.o. Argentina and Brazil (which is its biggest market outside France). Also Walmart Brazil is a major retail chain. Together they control 75% of the Brazilian retail market. The parent companies Carrefour, Casino-GPA and Walmart have committed to zero deforestation but still source from the main meatpackers without full traceability and assurance that beef is not linked to deforestation.

According to Trase.earth (based on customs data) JBS, Marfrig, Minerva and Mataboi Alimentos are the main companies exporting beef to Europe from Brazil. JBS, Marfrig and Minerva also have slaughterhouses in the other Latin American countries. Export-Import companies from Latin America include a.o. Weston Importers, JBS, Global Fleish, Merlo Ercole, Bervini Primo, Quabas Spain, Intervlees and Zandbergen. Major importer countries are United Kingdom, Italy, The Netherlands, Belgium, Germany and Spain.

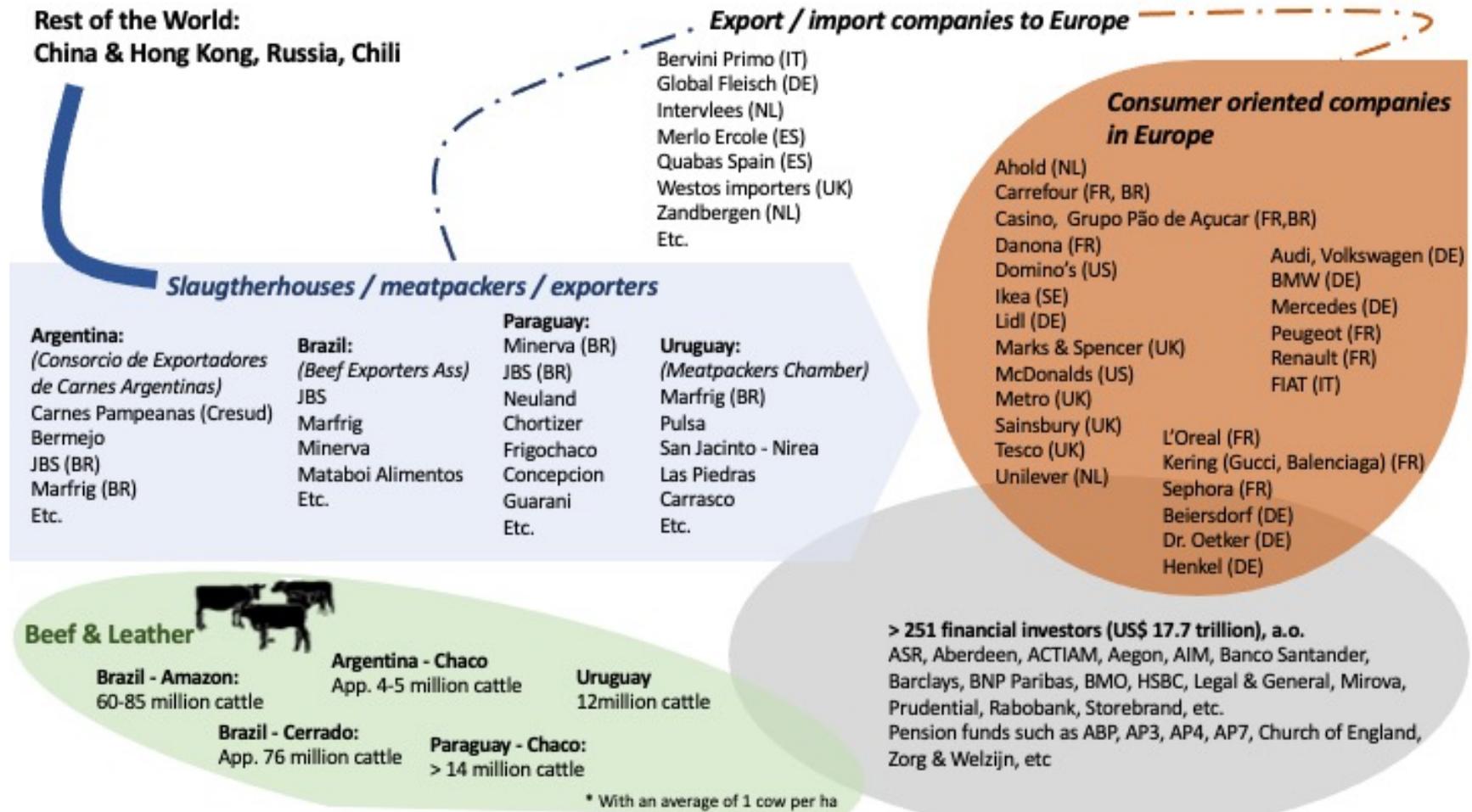
Brazilian tannery-exporters include JBS, Vancouros, Minerva, Fuga Couros, Durlcouros and Viposa. The facilities are located in the Amazon and Cerrado. The main export product is traditional wet-blue leather. Around 90% of Brazilian leather exports to Italy is in wet-blue (HS4104 semi-processed) stage. Italy also buys 83% of Brazil's 'wet white' leather export (a specific category of chrome-free processed leather) and 91% comes from the port of Belem in Para. In Italy, tanned leather is mostly used by the footwear industry (38%) followed by leather goods (27%), upholstery furniture (14%) and the car industry (15%)³⁷. Research shows car manufacturers such as BMW, Jaguar and Landrover sourced leather from cattle linked to illegal deforestation on indigenous lands in the Gran Chaco Paraguay (Earthsight, 2020).³⁸

³⁷ <https://www.statista.com/statistics/614244/use-of-italian-leather-by-industry-in-italy/>

³⁸ <https://www.earthsight.org.uk/grandtheftchaco-en>

Figure 3: Supply chain linkages with Europe

* It has proven impossible to obtain sound figures on sales and buying volumes of companies. Therefore, the presentation of companies in this figure is mainly qualitative and based on existing literature. It also does not include all companies involved but present some in alphabetical order.



According to research by NWF, major European companies using and selling cattle-based products (beef, leather, gelatine, collagene) include Carrefour, Sephora, L’Oreal, Kering (Gucci, Balenciaga, Alexander McQueen), Peugeot and Renault in France; Beiersdorf, Dr.Oetker³⁹, Henkel⁴⁰, BMW, Audi, Mercedes, Volkswagen in Germany; Barilla, Prada, Dainese, Fiat and Ferrari in Italy; and Unilever in Netherlands and United Kingdom.

Financial linkages

On 29 October 2019, 251 investors representing app. US\$ 17.7 trillion in assets voiced their concerns on deforestation and forest fires in the Amazon. This statement not only showed their concern but also their level of investment (see annex 2).

As an example: since 2015, 58 banks have provided US\$10.6 billion in loans and US\$16.1 billion in underwriting to JBS, Minerva and Marfrig (Feedback report, 2020). The main shareholder of JBS is the Brazilian national bank BNDES (federal public company). The European commercial banks Barclays, Rabobank and Banco Santander are among the main direct investors (see table below). In addition, pension funds invest either directly in meat and dairy companies or indirectly via supply chain companies such as retailers and commercial banks. According to research the Dutch pension funds ABP and Zorg & Welzijn invest €580 million and €383 million in companies associated with deforestation in the Amazon (Fair Finance Guide, 2020). But there are many others from European countries that invest in JBS. Minerva and/or Marfrig such as HSBC⁴¹ (US\$1.8 billion in loans, US\$9 million in JBS shares). The British bank Prudential is UK’s largest investor in JBS and also invests in Marfrig and Minerva Foods.⁴²

Table 3: investors in JBS in million US\$ (Feedback report, 2020)⁴³.

Investor	Country	Loans	Underwriting	Grand Total
Barclays	United Kingdom	2,786	920	3,706
Royal Bank of Canada	Canada	1,711	495	2,205
Rabobank	Netherlands	1,065	186	1,251
BMO Financial Group	Canada	729	495	1,224
Truist Financial	United States	591	186	777
JP Morgan Chase	United States	751	-	751
US Bancorp	United States	491	186	678
Santander	Spain	60	607	667
Banco do Brasil	Brazil	-	507	507
BTG Pactual	Brazil	-	457	457

At the moment, it is clear that deforestation and scandals associated with the main Brazilian meatpackers and its suppliers to not meet the responsible business practices and commitment of European investors and retailers. The direct engagement over the last decade also did not make the supply chain more sustainable. On the contrary, business-as-usual continued, associated deforestation increased, traceability is still lacking and major corruption and meat scandals erupted. As a result, Nordea Asset Management decided to disinvestment

³⁹ Uses gelatine packages from beef derivatives and has a production site in São Paulo. The origin of their beef product is not clear.

⁴⁰ Henkel has 3 production sites in Brazil and they use collagen in adhesives and hair care products.

⁴¹ <https://www.theguardian.com/environment/2020/aug/12/hsbc-sounds-alarm-over-investment-in-meat-giant-jbs-due-to-deforestation-inaction>

⁴² <https://www.theguardian.com/environment/2020/jun/04/revealed-uk-banks-and-investors-2bn-backing-of-meat-firms-linked-to-amazon-deforestation>

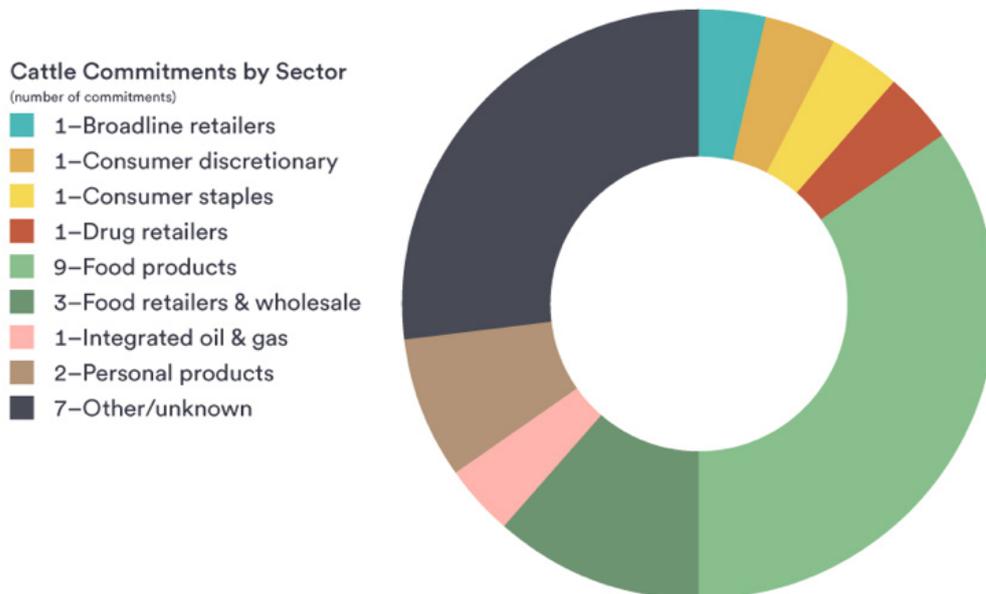
⁴³ <https://feedbackglobal.org/the-brazilian-butcher-the-big-banks-and-the-deforestation/>

in JBS. Although its investment U\$45 million is small, its decision to disinvestment over 'Amazon concerns' is an important market signal. If other commercial banks and pension funds would also disinvestment this would have major impact.

4.2 Supply chain commitments

The past decade saw a surge in company commitments on zero deforestation and other environmental and social issues. Tools⁴⁴ and standards exist. Meatpacking companies also joined initiatives and presented commitments. In 2009, JBS, Marfrig and Minerva committed to zero deforestation, no invasion of indigenous lands and no slavery.⁴⁵ As described, these commitments were not reached. In 2010, the Consumer Goods Forum pledged to mobilise resources to achieve zero deforestation, which led to the Tropical Forest Alliance (with financial support by government and companies). In comparison to palm oil, paper & pulp, beef & leather and soya-related companies are lacking behind. In 2014, the New York Declaration on Forests was launched whereby a.o. companies committed to zero deforestation. Very few companies that signed the NYDF relate to beef & leather.

Figure 4: Cattle commitment by sector (National Wildlife Federation)⁴⁶



According to Forest Trends (Supply Change, 2020), there are now globally 484 large companies with cattle exposure and only 12% (56) have sustainability commitments. Over half of them are located in Europe (31) providing an opportunity to take action.

On 25 September 2020, 26 banks, asset managers and impact funds, with over 3 trillion in assets, collectively committed to collaborating, assessing their own biodiversity impact, setting targets and reporting on biodiversity by 2024 (The Finance for Biodiversity Pledge)⁴⁷.

⁴⁴ Example:

https://www.dnb.nl/binaries/DNB%20Deforestation%20Guideline%20Document ASN 21_08%20DNB_tcm46-390356.pdf

⁴⁵ <https://www.greenpeace.org/usa/wp-content/uploads/legacy/Global/usa/report/2010/1/minimum-criteria-for-i.pdf>

⁴⁶ <http://www.zerodeforestationcattle.org/#/home>

⁴⁷ <https://www.duurzaam-beleggen.nl/2020/09/25/financial-institutions-launch-finance-for-biodiversity-pledge-during-un-general-assembly/>

Sustainability standard for cattle production

The Rainforest Alliance (2017) developed a Sustainable Agriculture Standard with principles and criteria for certification of cattle production. A critical criterion is no conversion of forests and other natural ecosystems in the past five years or after January 2014. This standard has not been widely adopted yet. The Global Roundtable for Sustainable Beef defined five principles and underlying criteria for sustainable production but these have not been fully adopted yet. For leather production no standard has been specifically developed but the GRBS standards could also apply.

National sustainability platforms

In each producer country there are important national initiatives, national tracking systems and beef-related commitment. The Global Roundtable for Sustainable Beef (GRSB) is a global, multi-stakeholder initiative (established in 2012) to advance continuous improvement in sustainability of the global beef value chain through leadership, science and multi-stakeholder engagement and collaboration. It consists of national initiatives whereby each initiative defines its own agenda. In each producer country there are national platforms that relate to the Global Roundtable for Responsible Beef (GRSB) such as the Argentina roundtable MACS (Mesa Argentina de Carne Sustentable). The main platform in Brazil - that has been operational since 2012 - is the Working group for Sustainable Livestock (GTPS, Grupo de Trabalho de Pecuária Sustentável, gtps.org.br). The GTPS committed to sustainable beef production. So far, it does not effectively discuss or address cattle-driven deforestation and traceability (pers. comm) even though the main companies are involved (producers, meatpacker such as JBS, Marfrig, Minerva, exporters).

Box 1: Examples of sustainable cattle production.

Since 2013, Marfrig has partnered with The Nature Conservancy (TNC) and with retailer Walmart in a pilot project for sustainable livestock farming in São Félix do Xingu (southeastern Pará). This project includes the provision of technical assistance to ranchers for sustainable intensification, the development of a traceability model, and a model of supportive rural credit operations. Meat from these properties was first sold in 2016 in two Brazilian Walmart stores, supplying 70 tons per month. Phase II, running from 2016 until 2018, includes expansion to low-productivity pastures in the Amazon and Cerrado Biomes, along with the introduction of an improved tracking system from breeding stage to the final product. That would cover the complete supply chain and involve the addition of 300 farms with 170,000 ha that undergo intensification.

In 2015, Minerva Foods joined the Alliance for Sustainable Development of the Chaco in Paraguay USAID, Neuland Cooperative, IFC, WWF, Wildlife Conservation Society (WCS), and the municipality of Filadelfia. The Alliance aims to reduce deforestation related to beef and soy production in Paraguay, and to improve field productivity and sustainability. Later, Minerva decided to create an organic certification program with 150 private ranches already certified by European Union for organic production (#834/2007). Minerva expects this will open the door to new markets and increase sales volume.

Europe has various national initiatives related to domestic production. There is a European Roundtable for Beef Sustainability (ERBS, SAI platform as secretariat)⁴⁸. Within Europe there is currently no initiative that addresses the sustainability and deforestation-risk of imported beef and leather. According to Forest Trends (Supply Change, 2020), there are 31 companies

⁴⁸ <https://saiplatform.org/working-groups-committees/the-european-roundtable-for-beef-sustainability/>

in Europe with cattle exposure with sustainability commitments, providing an opportunity to take action.

Importantly, another major market, China has also shown an interest in sustainability. The China Meat Association (CMA) and 64 Chinese company members, announced the Chinese Sustainable Meat Declaration. The declaration was signed in 2017 at the "Shuanghui - China Meat Sustainable Development Conference" and declares commitments and calls to other stakeholders for concerted efforts towards promoting sustainable meat production, trade and consumption.

The international leather supply chain

The production of leather – which is considered by many as a by-product of the meat and dairy industry – has additional consequences related to pollution and water use. The tanning process is the most toxic phase in leather processing, with 90% of production using chromium tanning. There are alternatives and different processes available.

The Leather Working Group (LWG, 2016⁴⁹) is an international group whose members include some of the world's largest footwear and fashion brands. They have developed an environmental auditing protocol. This protocol requests traceability back to slaughterhouse (which can avoid purchase of hides originating from clandestine slaughter). And hides from animals originating in the Brazilian Amazon should be traceable to a ranch with no post-2009 deforestation.

The 2019 Forest500 assessment⁵⁰ showed the leather industry was seriously lacking behind in tropical deforestation commitments (81% does not have such a commitment). The moment hides or leather are processed in a country the product can be labelled as originating from that country, hiding the fact the leather actually originates from South America. The assessment also states that 30% of the companies do not work on improving supply chain traceability.

In May 2019, CICB (Brazilian Tanneries Association), UNIC (National Union of Italian Tanneries), along with their certification arms, ICEC (the Quality Certification Institute for the Leather Sector) and CSCB (the Brazilian Leather Certification of Sustainability), signed an MoU agreement with NWF to incorporate land use change principles and criteria in their platforms and to use the cattle traceability tool VISIPEC in a pilot project with a group of tanneries that source leather from the Amazon focusing on enhance supply chain governance for the leather sector (i.e. a set of Good Practices for how to expand monitoring to indirect suppliers in the Brazilian Amazon). Another initiative is the Leather Impact Accelerator, which provides a set of tools to align actions towards meaningful impacts⁵¹.

In August 2019, the G7 Fashion Pact was launched, which has been joined by 150 brands. The Pact focuses on climate, biodiversity and oceans. Under the theme 'climate' the issue of deforestation could be addressed but this is not clear.

Traceability

As described in the previous traceability – with the inclusion of direct and indirect suppliers - is a crucial but complex element of achieving deforestation-free, sustainable production.

⁴⁹ <https://www.leatherworkinggroup.com>

⁵⁰ <https://forest500.org/analysis/insights/commodity-series-no-more-hiding-leather-industry>

⁵¹ <https://textileexchange.org/leatherimpactaccelerator/>

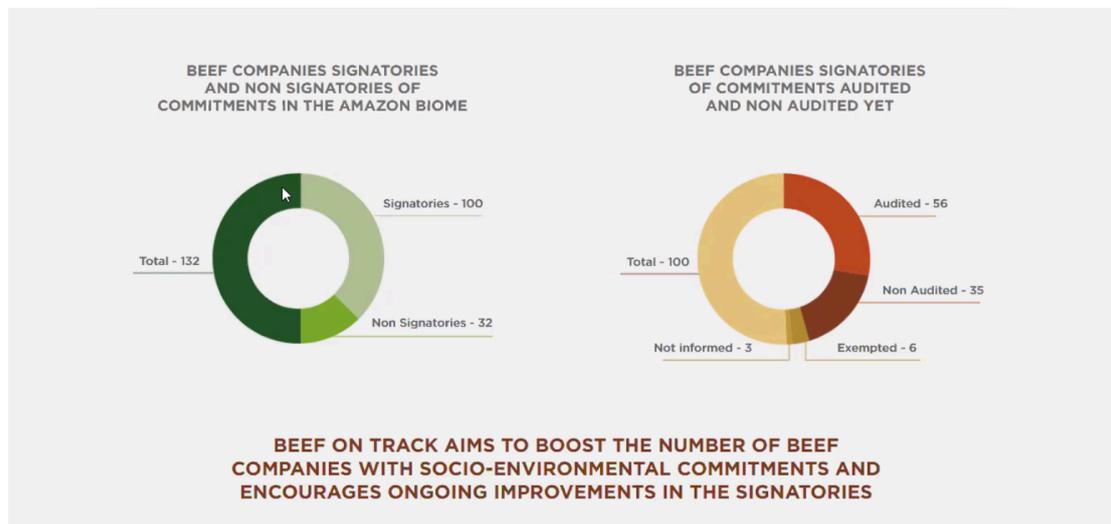
Without traceability and transparency, a company cannot assure the supply chain is deforestation-free and sustainable.

In 2002, Brazil introduced its Brazilian Tracking Service of Bovines and Bubalus (SISBOV) but it has been adopted by few producers. Paraguay has SIGOR to trace herds of cattle and track compliance with the beef-safety standards. In addition, there is the voluntary initiative SITRAP that documents adherence to higher food safety requirements to meet higher standards for key import markets like the EU. The tracking systems in these countries have yet to be fully implemented. Argentina has a tracking system (RENSPA + CUIG + DTe) to track monitor health standards and track animal movement amongst farms. The system is implemented and assessed as low-risk but there remains is a risk that animals move from illegally established farms to legal farms. Uruguay has SIRA since 2006 and it has been fully implemented with a good reputation.

NWF (National Wildlife Federation developed in partnership with the University of Wisconsin, the monitoring tool VISIPEC⁵². The tool increases the monitoring capabilities of (Brazilian) meatpackers, extending visibility in the cattle value chain to additional tiers of supplying ranches (direct and indirect suppliers). into their supply chains, linking lots of animals to direct and indirect supplying ranches. IN Brazil the Indirect Suppliers Working Group provides information on good practices for indirect suppliers.⁵³

The Brazilian organization IMAFLORA leads the ‘Beef-on-Track platform’ to provide expertise on monitoring tools, policies and procedures. The initiative also includes JBS, Marfrig, Carrefour, GPA (Casino) and CSOs Amigos de Terra, Instituto Centro de Vida, IPAM and WWF Brasil. The platform provides a list of commitments⁵⁴ and also provides an overview of slaughterhouses in the Amazon and whether these companies were audited.⁵⁵

Figure 5: Overview of commitments and audits ‘Beef-on-Track’ (Imaflora).



⁵² www.visipec.com.

⁵³ <https://gtfi.org.br/boas-praticas/>

⁵⁴ <https://www.beefontrack.org/categoria/commitments/>

⁵⁵ <https://www.beefontrack.org/transparency>

5 Towards deforestation-free, sustainable supply chains

Towards deforestation-free and sustainable

Sustainability is interpreted differently by country actors and therefore is often a politically charged discussion that has to take into account the views and interests of all stakeholders concerned. Overall, there is sufficient pasture available for enhanced, sustainable cattle production without the need for expansion. But this land is either degraded or owned by someone else. In order to achieve a transparent, sustainable and inclusive beef & leather supply chain, the concerns and livelihoods of the cattle ranchers have to be balanced with global concerns regarding deforestation and climate change, to ensure fairness and legitimacy of outcomes. Ranchers need to become more aware about the genuine concerns by consumers and civil society on climate, deforestation and social issues. On the other hand, producers need to be enabled by companies, consumers and/or governments to benefit from sustainability investments and gain a proper livelihood (e.g. by price premiums, which is often not the case).

Overview of potential actions

<i>Producer country</i>	<i>European (ADP) countries</i>
1. Action on climate, deforestation and trade	
Develop and enforce public policies in producer countries that stops clearing forests as an economic development option. Investments in sustainable practices could be supported by public policies, financial incentives and market demand.	Support the implementation of the EU Green Deal and the Communication on Stepping-up Action to Protect and Restore the World's Forests": support European-wide implementation and support to producer countries
Use the Mercosur trade agreement to enhance sustainability in the cattle sector especially related to greenhouse gas emissions: reduce carbon & deforestation footprint as well as methane and nitrous oxide emissions.	Use the Mercosur trade agreement to enhance sustainability in the cattle sector and establish a level playing field. Include carbon & deforestation footprint as well as criteria for methane and nitrous oxide emissions (see EU regulations on these subjects).
	Develop and introduce meat-related sustainability criteria in Public Procurement: The current EU Green Public Procurement criteria do not include criteria for beef, pork or chicken. The ADP countries together with the EC Joint Research Centre could take the lead in developing national and maybe EU-wide procurement guidelines for beef, dairy and leather.
	Enhance the EU Directive on Non-Financial Reporting and introduce EU-wide regulation on Mandatory Due Diligence with supply chain responsibility. Either the Commission or individual member states can develop due diligence regulation, which could include provisions for cattle (beef, leather, dairy) as well as agricultural commodities.
2. Partnerships	
Develop and strengthen in-country multi-stakeholder partnerships related to the Global Round Table for Sustainable beef	Develop and support an ADP wide "European Sustainable Beef & Leather import" initiative: a multi-stakeholder initiative with importers,

<p>Support implementation of the ‘Amazon Beef Agreement’ a zero deforestation partnership with the Amazon slaughterhouses (export-oriented facilities owned mainly by JBL, Marfrig and Minerva) by enhancing inclusion of direct and indirect suppliers,</p>	<p>retailers, financial sector and CSOs on promoting and rewarding sustainable beef & leather production that links producer country initiatives to (national) ADP demand-side initiative(s).</p>
<p>Support commercial cattle producers in the Amazon to shift from large-scale extensive grazing systems towards more intensive production based upon improved breeds, feeds, pastures and animal health. This could be coupled with enhanced protection of forests, support for indigenous people lands, proper land use planning and stringent law enforcement. Smallholder farmers can be supported to raise cattle in mixed farming and agroforestry systems.</p>	<p>Price premiums for deforestation-free, sustainable beef could convince cattle farmers and benefits should reach local producers.</p> <p><i>This is in addition to national GSRB initiatives in Europe that focus on domestic production.</i></p>
<p>Private procurement (sustainable sourcing) could be limited exclusively to meatpackers and suppliers, which have implemented systems for traceability for verified zero deforestation production. Input to a global standard for deforestation-free, sustainable beef and leather production can be provided by initiatives such as the Global Roundtable for Sustainable Beef, the Rainforest Alliance standard, national initiatives (PECSA, GTPS, MACS), the environmental auditing protocol by the Leather Working Group.</p>	
<p>3. Dialogue & diplomacy</p>	
<p>Initiate an active dialogue between producer countries, ADP countries and China and supply chain stakeholders related to beef & leather. This could include engagement in multilateral environmental forums and policy processes to support the adoption and implementation of strong commitments and provisions halting deforestation and forest degradation.</p>	
<p>4. Monitoring & transparency</p>	
<p>Establish and enforce a nation-wide and production traceability system for tracking the cattle-trade and related supply chain (beef, dairy, leather). Transaction data and property data should be standardised and linked.</p>	<p>Strengthen the implementation of the EU requirements regarding full supply chain traceability and regularly report the status of the beef & leather supply chain in relation to EU trade.</p>
<p>Integrate beef, dairy and & leather supply chain into due diligence reporting by producers, processors and exporters.</p>	<p>Make due diligence reporting by beef, dairy and & leather supply chain companies mandatory to create a level playing field.</p>

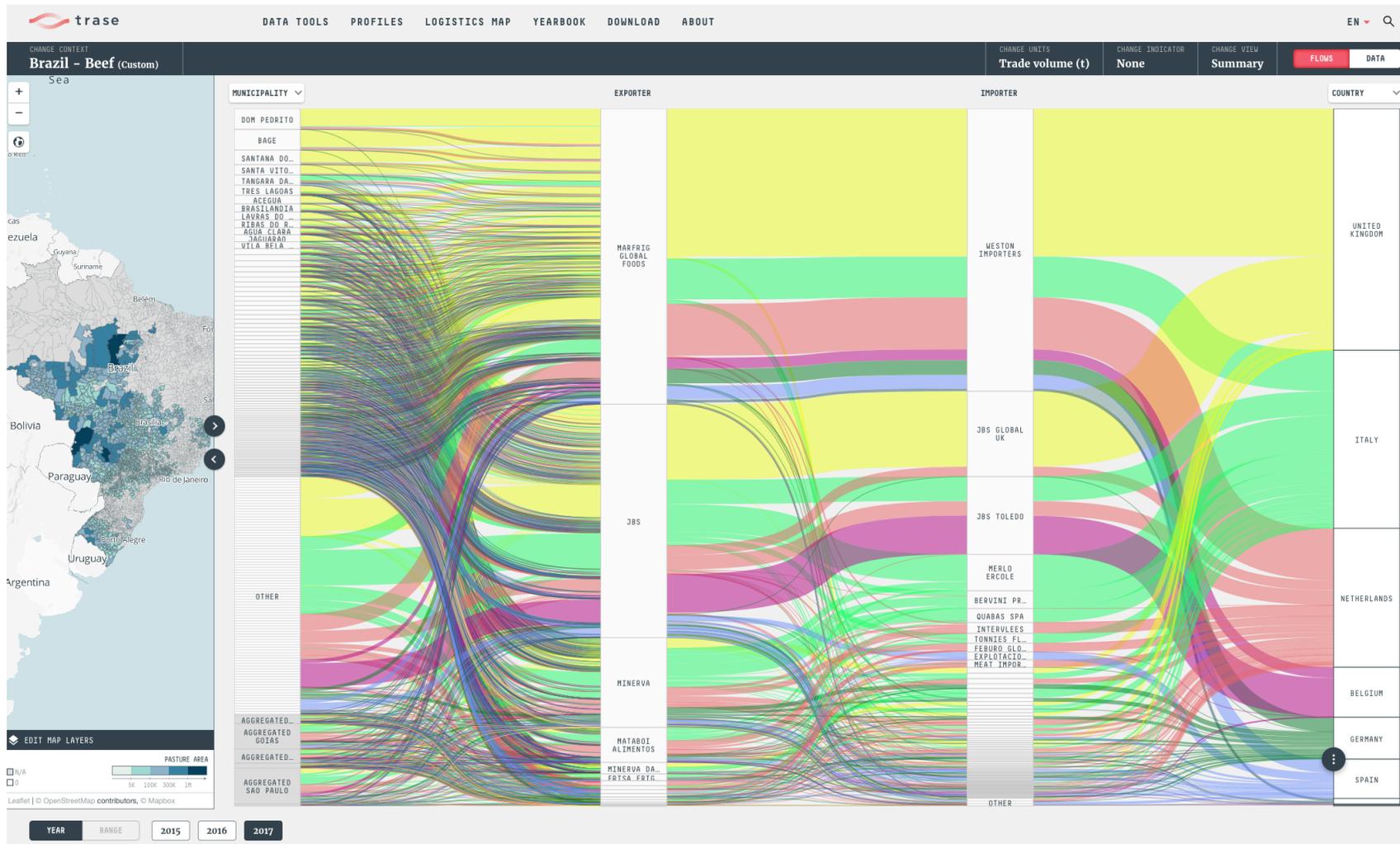
Potential next steps

Engage with private sector stakeholders (retailers, financial sector, importers) to discuss the sustainability of beef import and scope for action (based upon this document). Subsequently, engage other supply chain stakeholders and civil society organisations.

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Annex 1: Beef supply chain with Europe (Trase.earth)



Annex 2: Letter by investors 29 October 2019

Investor statement on deforestation and forest fires in the Amazon

This statement is endorsed by 251 investors representing approximately US \$17.7 trillion in assets.

It is with deep concern that we follow the escalating crisis of deforestation and forest fires in Brazil and Bolivia. As investors, who have a fiduciary duty to act in the best long-term interests of our beneficiaries, we recognise the crucial role that tropical forests play in tackling climate change, protecting biodiversity and ensuring ecosystem services.

The recent reports from the Intergovernmental Panel on Climate Change (IPCC) and Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Service (IPBES) highlight the close links between unsustainable land use and climate change. With CO₂ emissions rising and biodiversity declining faster than any time in human history¹, these reports highlight the urgency in promoting sustainable land management to halt biodiversity loss, enhance food security and meet the goals of the Paris Agreement².

The Amazon, as the world's largest rainforest, is a global repository of biological diversity, and provides invaluable ecosystem services which underpin economic activities across the globe. As the largest tract of continuous rainforest in the planet, the Amazon plays a critical role in the Earth's climate system. Deforestation in the region could potentially bring the entire ecosystem [dangerously near to a tipping point](#), after which the rainforest will not be able to maintain itself, gradually turning into a more Savannah-like system which is much dryer, less biodiverse, and stores significantly less carbon. This would severely disrupt the agricultural sector and other economic activities, by reducing rainfall and increasing temperatures in the longer-term.

We are concerned about the financial impact deforestation may have on investee companies, by potentially increasing reputational, operational and regulatory risks. Considering increasing deforestation rates and recent fires in the Amazon, we are concerned that companies exposed to potential deforestation in their Brazilian operations and supply chains will face increasing difficulty accessing international markets.

We commend the recently released [statement](#) by the [Brazilian Business Council for Sustainable Development](#) (CEBDS), on behalf of its associated [60 companies](#), which advocates for the improvement of control and monitoring systems to immediately eliminate illegal deforestation and fires in the Amazon and other biomes, and reduce legal deforestation. We would also like to express our support for the recently released [manifesto](#) by the [Brazilian Coalition on Climate, Forests and Agriculture](#), which includes important stakeholders and companies from the Brazilian agribusiness sector, who have also pledged the national government to regain control of the situation as a matter of urgency.

Companies producing, trading and using agricultural commodities have been under increasing pressure from stakeholders to demonstrate deforestation-free supply chains. While several hundred companies have committed to end commodity-driven deforestation by 2020, recent research indicates that [very few companies are on track to reach this goal](#). Several global institutional investors have already laid out [their expectations](#) of companies with respect to eliminating deforestation from their operations and supply chains. We therefore call for business leadership to reverse the worrying deforestation trends we are witnessing.

¹ Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services [Summary for policy makers of the global assessment report on biodiversity and ecosystem services](#)

² Intergovernmental Panel on Climate Change [Climate Change and Land](#)

As investors, we see deforestation and the associated impacts on biodiversity and climate change as systemic risks to our portfolios and see the reduction of deforestation as a key solution to managing these risks and contributing to efficient and sustainable financial markets in the longer term. Considering the growing risks due to increased deforestation in Brazil, Bolivia and other Amazonian countries, we therefore urgently request companies to redouble their efforts and demonstrate clear commitment to eliminating deforestation within their operations and supply chains, including by:

1. Publicly disclosing and implementing a commodity-specific no deforestation policy with quantifiable, time-bound commitments covering the entire supply chain and sourcing geographies.
2. Assessing operations and supply chains for deforestation risk and reduce this risk to the lowest possible level, disclosing this information to the public.
3. Establishing a transparent monitoring and verification system for supplier compliance with the company's no deforestation policy.
4. Reporting annually on deforestation risk exposure and management, including progress towards the company's no deforestation policy.

Signed by:



a.s.r. asset management



Aberdeen Standard Investments



ACTIAM



Aegon Asset Management



Affirmative Investment Management



Aktia



Allegra Wealth



AMF



Amundi



AP Funds' Council on Ethics



AP2

AP3 Third Swedish National Pension Fund

AP3 Third Swedish National Pension Fund



AP4 - Fourth Swedish National Pension Fund



AP7, Seventh Swedish National Pension Fund



APG Asset Management



Apis Partners LLP

ARISAIG PARTNERS

Arisaig Partners



As You Sow

Ashmore

Ashmore Group

ATKINSON
FOUNDATION

Atkinson Foundation

AURUM

Aurum Fund Management Ltd.



Australian Ethical Investment

AustralianSuper

AustralianSuper



Aviva Investors



B & Capital

B&I CAPITAL

B&I Capital



Baillie Gifford

BALTCAP

BaltCap AS


BÂTIRENTE

Bâtirente

 **Bayern Invest**

BayernInvest Kapitalverwaltungsgesellschaft mbH

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ASSET MANAGEMENT

BCEE Asset Management S.A

 **BLUE OCEANS**
CAPITAL

Blue Oceans Capital

BMO  **Global Asset Management**

BMO Global Asset Management

 **BNP PARIBAS**
ASSET MANAGEMENT

BNP Paribas Asset Management

 **BOSTON COMMON**
ASSET MANAGEMENT

Boston Common Asset Management


BRUNEL
Pension Partnership

Brunel Pension Partnership


Caisse des Dépôts
GROUPE

Caisse des Depots

 **CaixaBank**
ASSET MANAGEMENT

CaixaBank Asset Management

 **CalPERS**

California Public Employees' Retirement System



CANDRIAM



CCLA Investment Management



CCOO, FP



Charles Stanley



China Alliance of Social Value Investment (Shenzhen)



China Asset Management Co., Ltd.



Christian Brothers Investment Services, Inc. (CBIS)



Christian Super



Church Commissioners for England



Church of England Pensions Board



Church of Sweden



Circularity Capital LLP



Cliens Kapitalförvaltning AB



COMGEST



Conser Invest



Coöperatie DELA



CREA Asset Management Trust Reg



CreditValue-Partners GmbH



CRF for Local Government



Daintree Capital



Deka Investment GmbH



Devon Funds Management



DNB Asset Management



Domini Impact Investments LLC



DPAM



ECOFI Investissements



Econopolis



EFG AM



EQ Investors Limited



ERAFP



Erste Asset Management GmbH



ESG Moneta Co., Ltd.



ESG Portfolio Management



Environment Agency Pension Fund



Ethos Fund³

³ Ethos also represents the members of the Ethos Engagement Pool International, which can be found here: <https://www.ethosfund.ch/en/members-ethos-engagement-pool-international>.



Evenlode Investments



Evli Bank



Fidra



FiNet Asset Management AG



First State Investments



*FONDO DE PENSIONES DE EMPLEADOS DE
TELEFONICA*



A fund family of Everence

Everence and the Praxis Mutual Funds



FAMA Investimentos



Figure 8 Investment Strategies



First Affirmative Financial Network



Folksam



Impacting the future of medicine

FORBION



Forsta AP-fonden



Friends Fiduciary Corporation



Friends Provident Foundation



Genesis Investment Management, LLP



GEROA PENTSIOAK EPSV DE EMPLEO



Gjensidigestiftelsen



Glennmont Partners



Green Century Capital Management



Guardian Media Group



GW&K Investment Management



A Manulife Investment Management Company

*Hancock Natural Resource Group, a Manulife
Investment Management Company*

Handelsbanken Asset Management

Handelsbanken Asset Management



Hermes Investment Management



HESTA



HEXAVEST

Hexavest



HSBC Global Asset Management



Impact Investors



Impact Shares



Impax Asset Management



Impax Asset Management LLC



Indép'AM



Insight Investment



长三角绿色价值投资研究院

Institute of Green Investment, Hangzhou



Integral Group



Interfaith Center on Corporate Responsibility



Invest in Visions GmbH



ISGAM AG



JLens Investor Network



Joseph Rowntree Charitable Trust



KBIGI



Khumo Capital (Pty) Ltd



KLP



LA FINANCIERE DE L'ECHIQUIER

La Financiere de L'Echiquier



La Française Group



Länsförsäkringar AB



Legal & General Investment Management



LGPS Central



Liontrust Investment Partners LLP



LocalTapiola Asset Management Ltd



Lothian Pension Fund



LUCRF Super



*Macquarie Investment Management Europe S.A.,
ValueInvest*



MAIF



Maitri Asset Management



Man Group



Manulife Investment Management



Mayar Capital



Mercy Investment Services, Inc.⁴



Merian Global Investors



Merseyside Pension Fund



MFS Investment Management



Midat Cyclops, FP



*Middletown Works Hourly and Salaried Union Retirees
Health Care Fund*



Mitsubishi UFJ Trust and Banking Corporation



Mirova



Montrusco Bolton Investments Inc.



MN

⁴ Includes: Adrian Dominican Sisters, Portfolio Advisory Board; Congregation of St. Joseph; Daughters of Charity, Province of St. Louise; Jesuits of the USA Central and Southern Province; USA Midwest Province of the Society of Jesus; USA West Province of the Society of Jesus.

Muzinich & Co

Muzinich & Co



MP Pension



Neumeier Poma Investment Counsel, LLC



NEI Investments

NZFUNDS

New Zealand Funds Management Limited



New Zealand Super Fund



Niederösterreichische Vorsorgekasse AG



New Forests



NewAlpha Asset Management



Northern Ireland Local Government Officers' Superannuation Committee (NILGOSC)



NN Investment Partners



OFI AM



North East Scotland Pension Fund



OPTrust



Oregon State Treasurer Tobias Read



ODIN Fund Management



Osmosis Investment Management



Ohman Fonder



OREIMA



Pension Protection Fund



OSTRUM Asset Management



Picard Angst AG



P+(DIP/JØP)



Pandhora Investimentos



Polden-Puckham Charitable Foundation



Pensions Caixa 30



Raiffeisen Capital Management



Pictet Asset Management



PKA



Rathbone Brothers Plc



**Global Asset
Management**

RBC Global Asset Management



Principled Investing LLC



Rivage Investment SAS



RAM Active Investments SA



Robeco



Remy Brown Investment Group



Resona Bank, Ltd.



Regroupement pour
la Responsabilité
Sociale des Entreprises

*RRSE (Regroupement pour la Responsabilite Sociale
des Entreprises)*



River and Mercantile Group Plc



SBI Funds Management Private Limited



RobecoSAM AG



Seventh Generation Interfaith
Coalition for Responsible Investment

Seventh Generation Interfaith Inc.



Sanso Investment Solutions

skandia:

Skandia



SKP Investimentos

SDG Invest

SDG Invest



SEB Investment Management



Societa Cattolica di Assicurazione - Societa cooperativa

Sindicatum
renewable energy

Sindicatum Renewable Energy



Sparda-Bank Muenchen eG



SMART PRIVATE MANAGERS (LUXEMBOURG) S.A.



Sophia Financial Group



Sophia University



Stephen Whipp Financial, Leede Jones Gable Inc.



Sparebank1 Forsikring



Storebrand Asset Management



Stance Capital, LLC



Strathclyde Pension Fund



Stewart Investors

Stewart Investors



SustFin



Storm Capital Management AS



Swisscanto Invest by Zürcher Kantonalbank



SYZ Asset Management



SulAmérica Investimentos



Sustainable Value Investors



TD Asset Management



Swedbank Robur Fonder AB



The Local Authority Pension Fund Forum



TARENO
INTERNATIONAL
ASSET MANAGERS

Tareno AG



The Swedish Foundation for Strategic Environmental Research (Mistra)



The Episcopal Church (DFMS) and The Episcopal Diocese of New York - Diocesan Investment Trust



Tradeka Corporation



The Sustainability Group of Loring, Wolcott & Coolidge



Tressis



Trilha Investimentos Ltda



TOBAM



Trinetra Investment Management

Transport for London
TfL Pension Fund



Transport for London Pension Fund



Triple Jump



Trillium Asset Management



UNION BANCAIRE PRIVÉE

UBP S.A.

Triodos  Investment Management

Triodos Investment Management

Unison Staff Pension Scheme



Trust Investments Management Limited



TRUSTEAM FINANCE



USS



Union Investment



Vantage Capital



University of Toronto Asset Management Corporation



VBV Pensionskasse



Vallis Capital Partners



VISIO FUND MANAGEMENT



VBV - Vorsorgekasse AG



Velliv



VidaCaixa



Wespath Benefits and Investments

Zevin Asset Management, LLC

Zevin Asset Managem ent



Zilliard Capital Partners

