



Ministry of Energy, Water
and Environment



ONLINE TRAINING SERIES BEEF PRODUCTION & SUPPLY CHAINS

Part 1 – Setting the scene:
impacts of beef production
in Latin America

A just world that values and conserves nature.

TODAY'S SPEAKERS



Fabiana Arévalos & Araceli Duré
Guyra Paraguay



Simon Hall
National Wildlife
Federation / GRSB



Maria Lettini
FAIRR



Negative impacts of deforestation and land conversion for cattle in the American Chaco



Miembro de:





MISSION

Conserve and promote the sustainable use of biological diversity, with emphasis on birds, with active and responsible participation of society

VIEW

Be a reference in biological diversity and its sustainable use, focused on birds in particular and their environments.

Location

Great American Chaco

Total area: **1,066,000 ha** in the heart of South America

Population: 8,9 millions of inhabitants

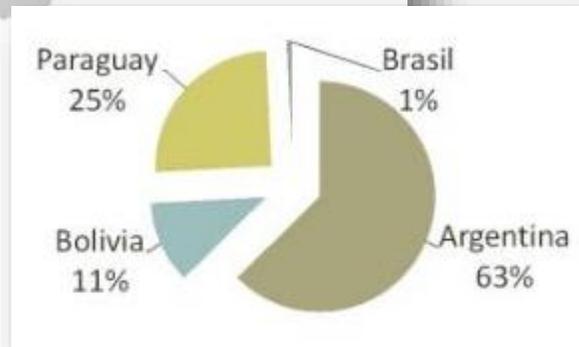
High productive potential

High deforestation rate

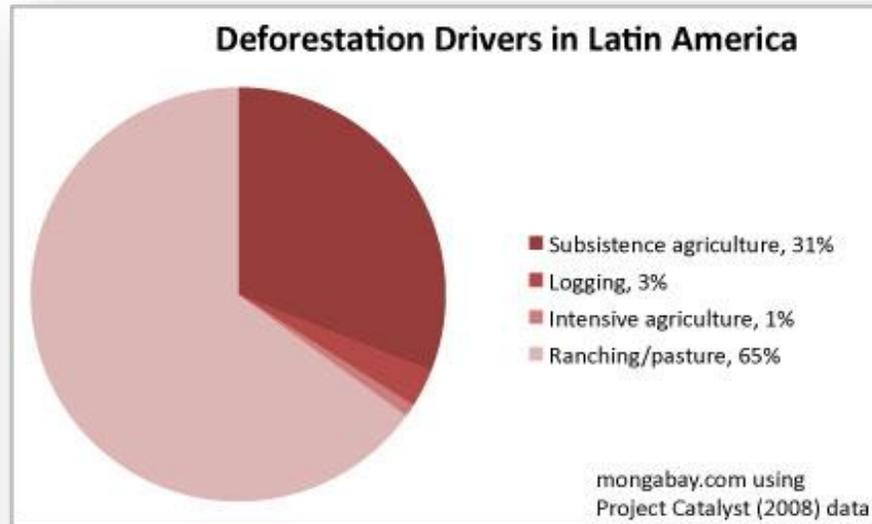
Three subzones according to its climate:

- Subhumid Chaco with precipitation from 1200 to 700 mm in proximities of the Pilcomayo river;
- Semiarid Chaco with precipitations between 750 and 500 mm
- Arid Chaco with precipitations between 500 y 300 mm per year

The Chaco forest is home to many endangered species. Due to the heterogeneity of the habitat in the Chaco, the fauna is considerably diversified.



BEEF IN LATIN-AMERICA



Soy and beef expansion interact: first clearance for beef, soy follows. But now in Argentina, weak soy harvest means return of beef. Large companies involved in both.

- 65 -70% of deforestation in LA caused by pasture expansion
- 70% of grazed areas are in process of degradation
- The world has 1.468 billion head of cattle. Brazil has the largest cattle inventory in the world followed by India and China
 - Brazil 212 million head
 - Argentina 51 million heads
 - Paraguay 13 million heads
 - Bolivia 9 million heads
 - (Colombia 23 million heads, Mexico 32 million heads)

BEEF IN THE PARAGUAYAN CHACO

On average 250,000 ha of deforestation per year, in the Paraguayan Chaco, which constitutes approximately half of the territory.

1,2 ha / head of cattle

Large scale farming between 1000 - 100.000 ha per property, almost all for export (Chile, Russia, Brazil)

Conflicts with indigenous territories, weak policies and enforcement, weak protection and status of protected areas



Monitoring of Land Use Changes in the Great American Chaco

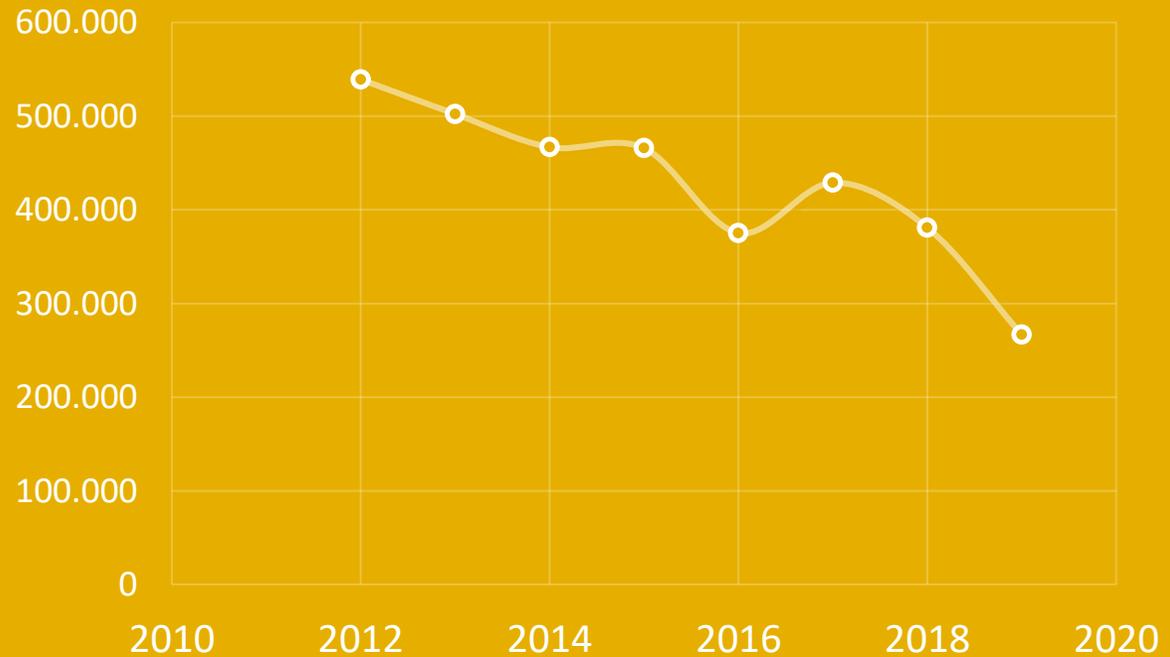
Guyra Paraguay



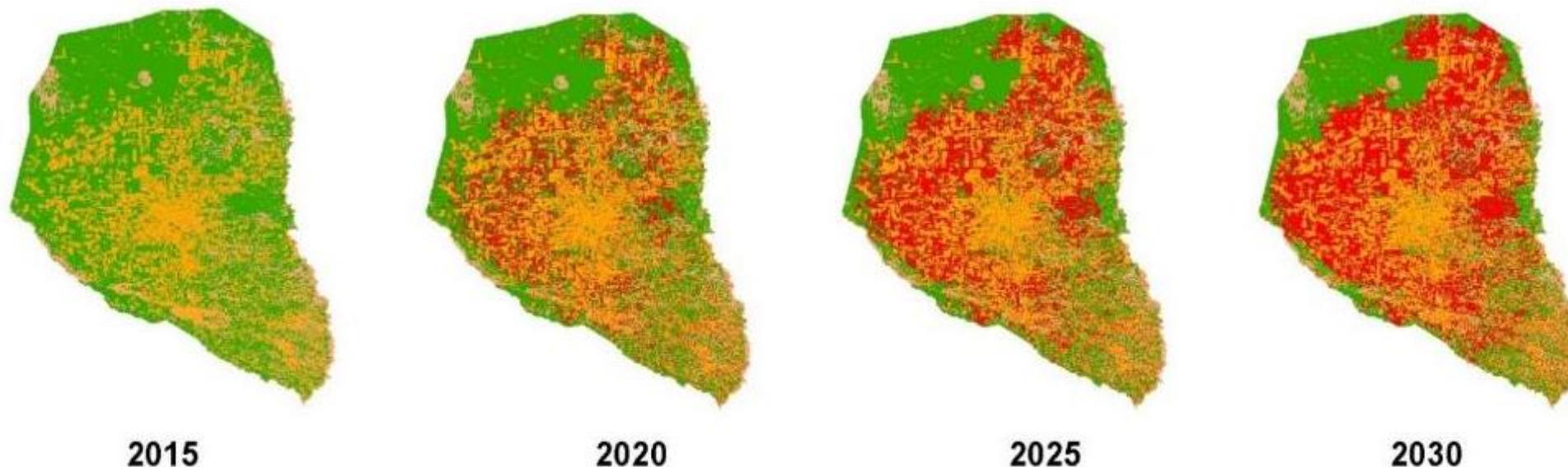
	Years							
	2012	2013	2014	2015	2016	2017	2018	2019
TOTAL	539.233	502.308	466.892	465.857	375.290	429.004	381.107	266.971



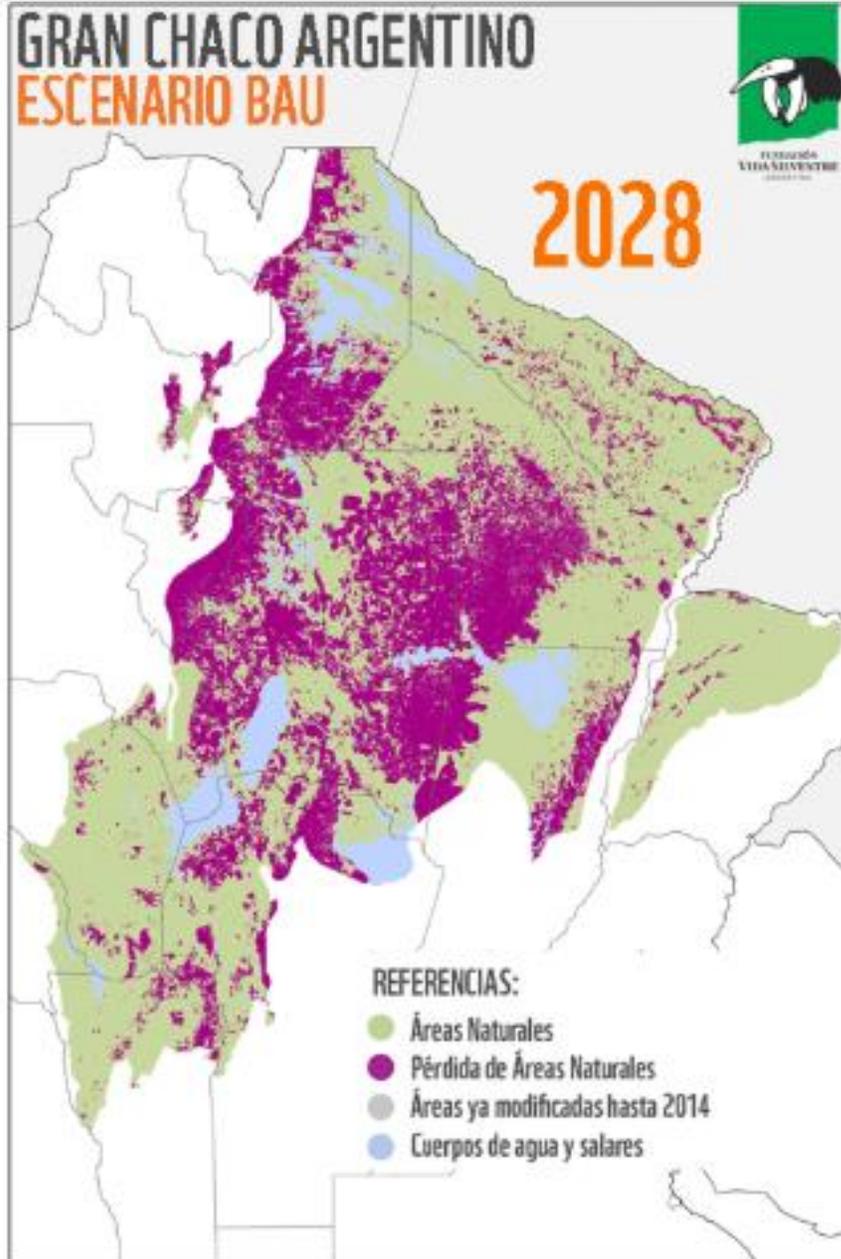
LAND USE CHANGES IN THE GREAT AMERICAN CHACO



CURRENT TREND SCENARIO FOR PARAGUAY



Land use	2015	2020	2025	2030	Change	Transition percentage
Forest	14.154.000	11.365.400	9.071.900	7.249.500	-6.904.500	↓ -49
Cattle raising	7.132.300	9.897.000	12.176.900	13.988.200	6.855.900	↑ 96
farming	19.100	23.300	26.700	29.500	10.400	↑ 54
Other landscape coverings	5.800	5.800	5.800	5.800	0	→ 0
Non-wooded natural cover	2.765.200	2.784.800	2.795.000	2.803.400	38.200	→ 1



CURRENT TREND SCENARIO FOR ARGENTINA

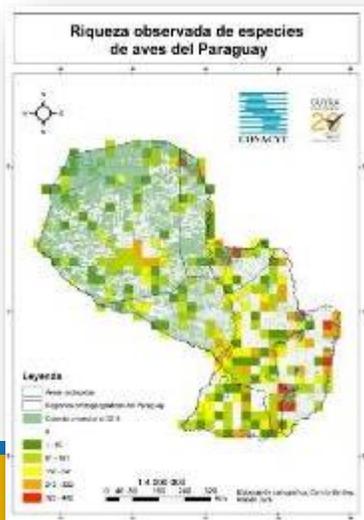
According to the scenarios established for the Argentinian chaco, if the land use continues as it is today, by 2028 there will be an additional loss of almost 4 million hectares of forest in the Chaco region, equivalent to 200 times the area of the City of Buenos Aires.

What is undertaken to tackle the deforestation issues?



RESEARCH ACTIONS IN THE CHACO CONACYT

1. Installation of more than 300 sampling stations with trap cameras in the Paraguayan Chaco
2. More than 3 million images of Chaco wildlife
3. More than 20 postgraduate students trained in occupation models
4. Description of the importance of the Chaco NPs for birds: 154 species registered in the 3 NPs
5. Placement of radio collars in cougars and yaguareté
6. Interviews with owners of livestock establishments on cattle-carnivorous conflict.



What is undertaken to tackle the deforestation issues?

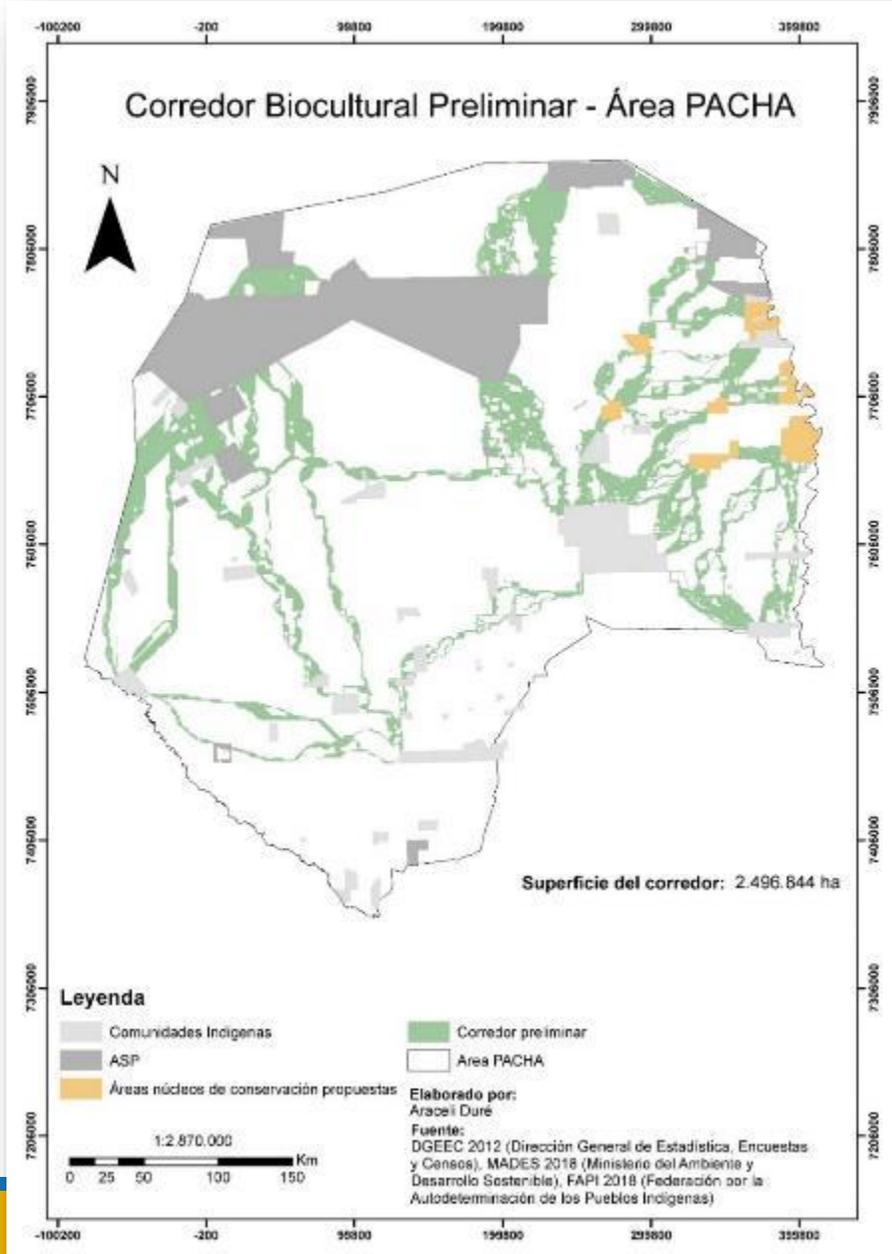
PARAGUAYAN ROUNDTABLE FOR SUSTAINABLE BEEF (MPCS)

Founded: October 2017

Members of sectors: producer, processors (industries - slaughterhouses), NGO's, retailers and restaurants, suppliers and services (21 members)



What is undertaken to tackle the deforestation issues?



CONSTRUCTION OF A PRELIMINARY BIOCULTURAL CORRIDOR

1. At Guyra we work at maintaining and/or restoring connectivity of native forests .
2. We define the width and location of a good-functioning corridor based on the needs of individual species (reference species) and the state of land use.
3. Based on this knowledge we cooperate with private land owners and cattle ranchers to realize the corridor.

MAIN TAKEAWAYS

1. The existing monitoring does not allow the identification of illegal deforestation
2. A bottleneck is that breeding and finishing of cattle do not happen at the same establishment. Lack of transparency in the supply chain.
3. Legality does not ensure the sustainability of natural resources and implies that there is still room for deforestation.





Questions?



Miembro de:



Setting the Scene:

An Introduction to the Global Roundtable for Sustainable Beef (GRSB) and the Joint Working Group on Land-Use Change (JWG)



Simon Hall

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Topics Covered

What is the GRSB?

How is the GRSB unique from other commodity roundtables?

What are the GRSB's Principles and Criteria for sustainable beef and how are forest and land-use issues reflected?

What is the Joint Working Group on Land-Use Change (JWG)?

What are some of our key insights from this work over time?

How can the financial sector help advance solutions that protect forests and drive more sustainable outcomes in beef value chains?

Global Roundtable for Sustainable Beef (GRSB)

The Global Roundtable for Sustainable Beef (GRSB) is a global, multi-stakeholder initiative developed to advance continuous improvement in sustainability of the global beef value chain through leadership, science and multi-stakeholder engagement and collaboration.

The GRSB envisions a world in which all aspects of the beef value chain are environmentally sound, socially responsible and economically viable.

<https://grsbeef.org/>

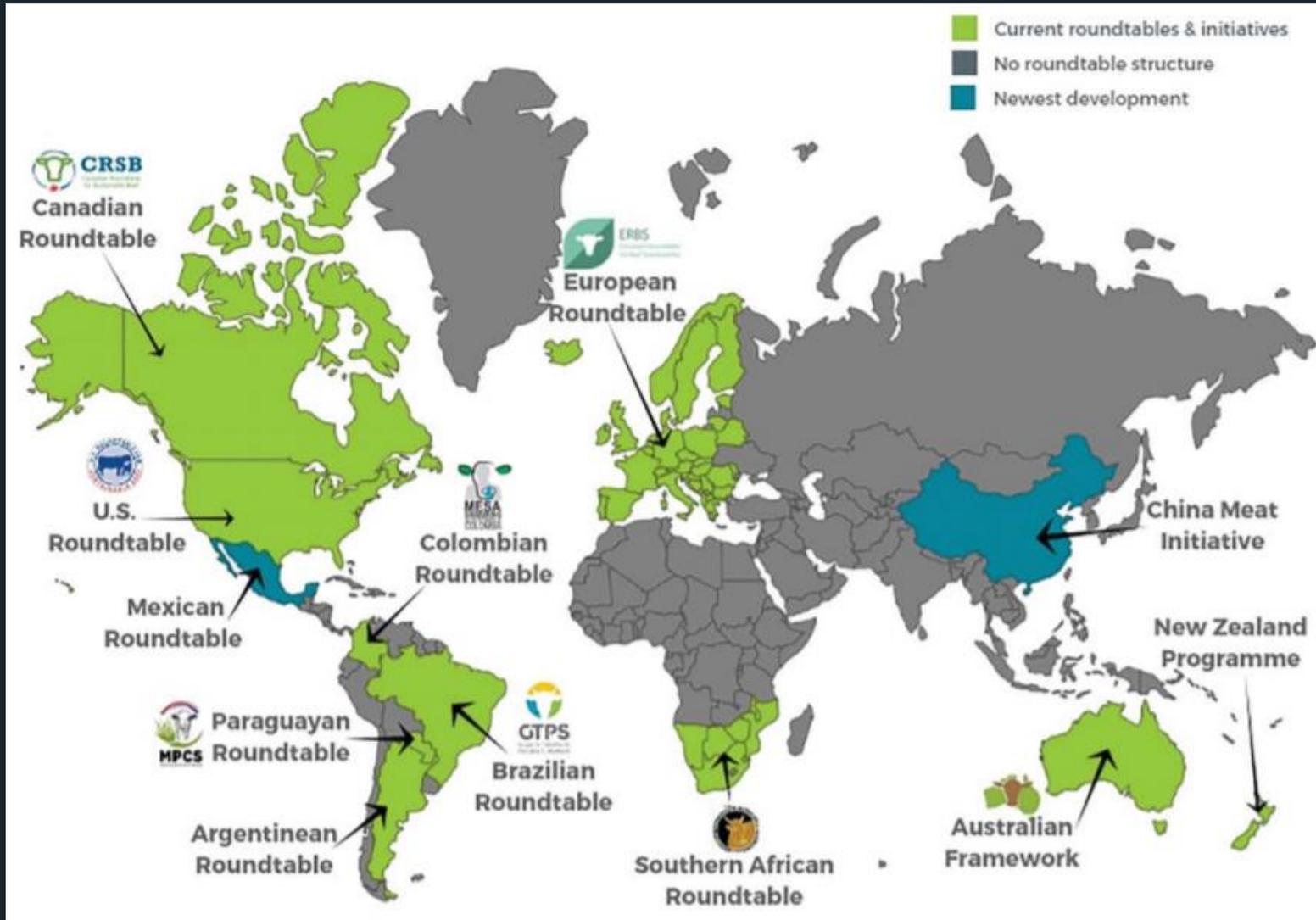
Member Constituency Groups

- Producer and Producer Group
- National Roundtables
- Commerce and Processing
- Retail
- Civil Society
- Allied Industry Sustainability Initiatives



GLOBAL ROUNDTABLE FOR[®]
SUSTAINABLE BEEF

GRSB Regional RT Network



Beef Focused Sustainability Roundtables and Initiatives

- Argentina
- Australia
- Brazil
- Canada
- China
- Colombia
- Europe
- Mexico
- New Zealand
- Paraguay
- Southern Africa
- United States

GRSB Principles and Criteria



Natural Resources

The global beef value chain manages natural resources responsibly and enhances ecosystem health.



People and the Community

Global sustainable beef stakeholders protect and respect human rights, and recognize the critical roles that all participants within the beef value chain play in their community regarding culture, heritage, employment, land rights and health.



Animal Health and Welfare

Global sustainable beef producers and processors respect and manage animals to ensure their health and welfare.



Food

Global sustainable beef stakeholders ensure the safety and quality of beef products and utilize information-sharing systems that promote beef sustainability.



Efficiency and Innovation

Global Sustainable Beef Stakeholders encourage innovation, optimize production, reduce waste and add to economic viability.

GRSB Principles and Criteria



Natural Resources

The global beef value chain manages natural resources responsibly and enhances ecosystem health.

*****Compliance with all local, national and international laws applicable to natural resource usage is mandatory.*****

- Environmental stewardship objectives are attained through adaptive management, with activities monitored to achieve continuous improvement of measurable natural resource management outcomes.
- Practices are implemented to improve air quality.
- Net greenhouse gas emissions from the beef value chain are minimized on a per unit of product basis
- Native forests are protected from deforestation. Grasslands, other native ecosystems, and high conservation value areas are protected from land conversion and degradation.
- Land management practices conserve and enhance the health of ecosystems and high conservation value areas throughout all sectors of the beef value chain.
- Water resources (including quality and quantity attributes), are responsibly and efficiently managed to support ecological function and availability.
- Soil health is maintained or improved through implementation of appropriate management practices.
- The beef value chain contributes to the maintenance or enhancement of native plant and animal biological diversity.
- Where available, feed sources are sustainably-produced.

GRSB Joint Working Group on Land-Use Change

The Joint Working Group on Land-Use Change (JWG) is a technical working group of the GRSB and the network of national and regional beef and cattle roundtables around the world - focused on helping advance solutions that protect forests and native vegetation and promote more sustainable cattle value chains.

- JWG formed in 2012 (one of the oldest WGs in GRSB)
- Provides a forum for global and local stakeholders to discuss the issues
- Supports GRSB's global sustainability goal on forests and land-use
- Helps advance viable approaches that improve productivity, enhance biodiversity, and build resilience on existing pasture lands while reducing pressures for additional deforestation and land-use change
- Helps advance more responsible sourcing practices
- Encourages improvements in traceability, monitoring and transparency
- Serves as a hub to share relevant science, research, and tools

Please note these are DRAFT objectives – they are still in the process of being refined by the JWG

Key Insights



Agriculture production can continue to grow while protecting forests



Win-win solutions are available using low-cost options



Consumers and businesses are increasingly demanding action and expecting results



Harmonization needed between legal compliance and deforestation-free efforts



Cattle production can be sustainable and generate net positive outcomes for people and the planet



Better traceability will unlock many challenges with supply chain management



Collaboration and partnerships are critical to solve big complex challenges



Transparent reporting and disclosure is needed to help track progress and verify results

How could the finance sector help?

A few guiding questions to start the conversation...

- Do you fully understand the potential risk exposure in your portfolios associated with deforestation in cattle value chains (beef and leather sectors)?
- Do you play an active role in multi-stakeholder forms?
- Do you have any internal incentive structures that rewards the growth and development of more sustainably-oriented investments/portfolios?
- Have you expressed to your clients that deforestation is a priority issue?
- Have you set clear expectations with your clients on actions you want them to take?
- Do your clients have robust policies in place that align with current norms and guidance on these issues?
- Do you know if your clients are effectively implementing their policies, and their current implementation status?
- Do your meatpacker clients have monitoring, traceability and supplier screening systems in place? Do these systems cover all major forest-risk regions (or just the Amazon)? Do these systems cover indirect suppliers (or just their direct sourcing)?
- Are your meatpacker clients able to provide third-party compliance audits/verifications?



Questions and Comments



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DEFORESTATION RISKS IN LATIN AMERICA

Maria Lettini, Executive Director
VBDO Webinar, 21 May 2020



FAIRR is a network of institutional investors

\$21
tr

in combined investor
support

107

companies covered by
the Index &
engagements





Intensive farming presents investment risks



14.5%

GLOBAL GREENHOUSE GAS EMISSIONS



NO.1

USER OF FRESHWATER RESOURCES ON THE PLANET



NO.1

CAUSE OF DEFORESTATION DUE TO CATTLE RANCHING AND SOY PRODUCTION



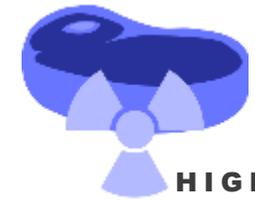
MANURE

& FERTILIZER RUNOFFS ARE CAUSING WIDESPREAD LAND & WATER POLLUTION



NO.1

GLOBAL USER OF ANTIBIOTICS, INCLUDING SHARED-CLASS ANTIBIOTICS



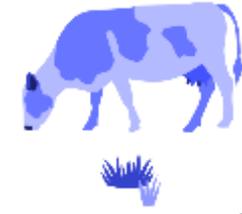
HEALTH

HIGH RISK OF NON-COMMUNICABLE DISEASES & FOOD-BORNE ILLNESS



LABOUR

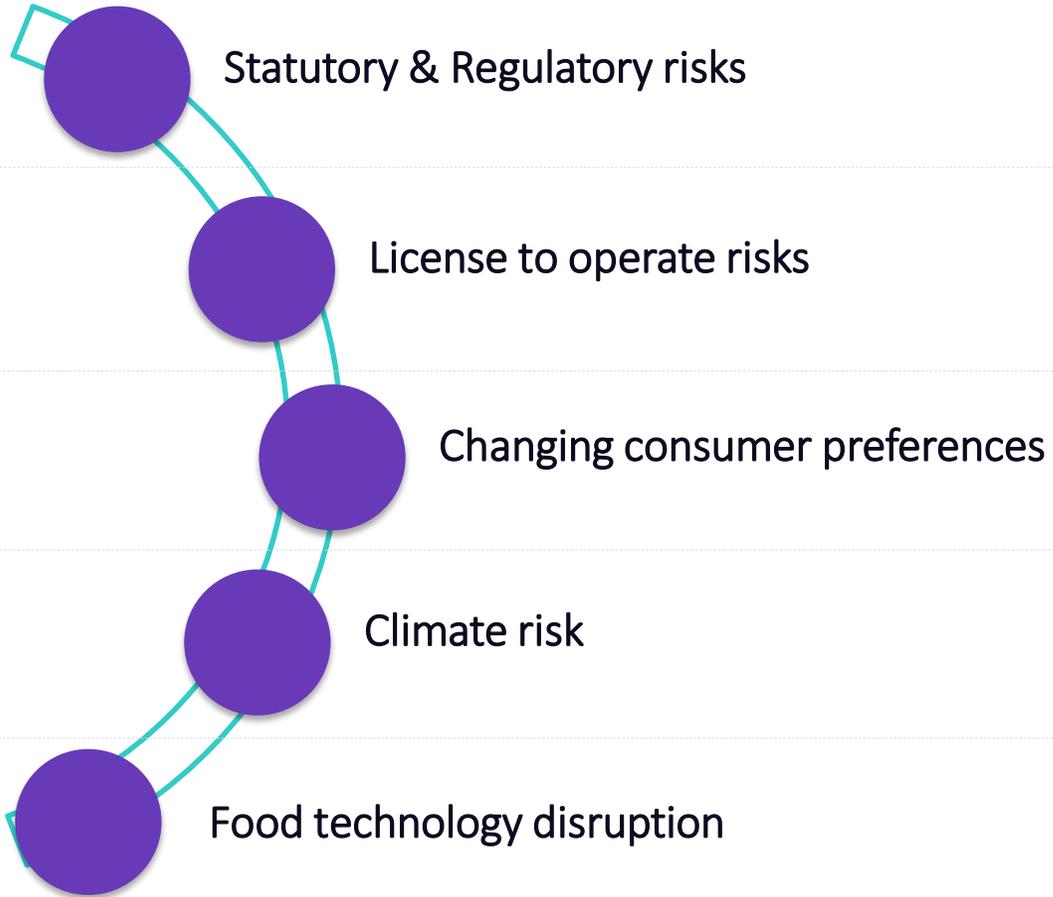
POOR VISIBILITY OF SUPPLY CHAINS



WELFARE

CLOSE CONFINEMENT AND MUTILATIONS

The livestock sector is facing threats with financial implications



New Zealand's government has introduced legislation to tackle climate change including a target for cutting methane emissions from livestock by at least 10 percent by 2030.

Largest US pig producer Smithfield has 26 lawsuits, with over \$500 million in punitive damages due to poor manure management.

23% year-on-year growth in plant-based meat in the US.¹

Corn and soy – main animal feed ingredients – experienced record planting delays in the US Midwest.

Accelerating pace of investments in plant-based and cellular meat technologies; first cell-based product could be on the market by 2021.

COLLER FAIRR PROTEIN PRODUCER INDEX

Index 3.0 Launch: October 2020



60 largest companies evaluated: >50% in emerging markets – 9 in Latam

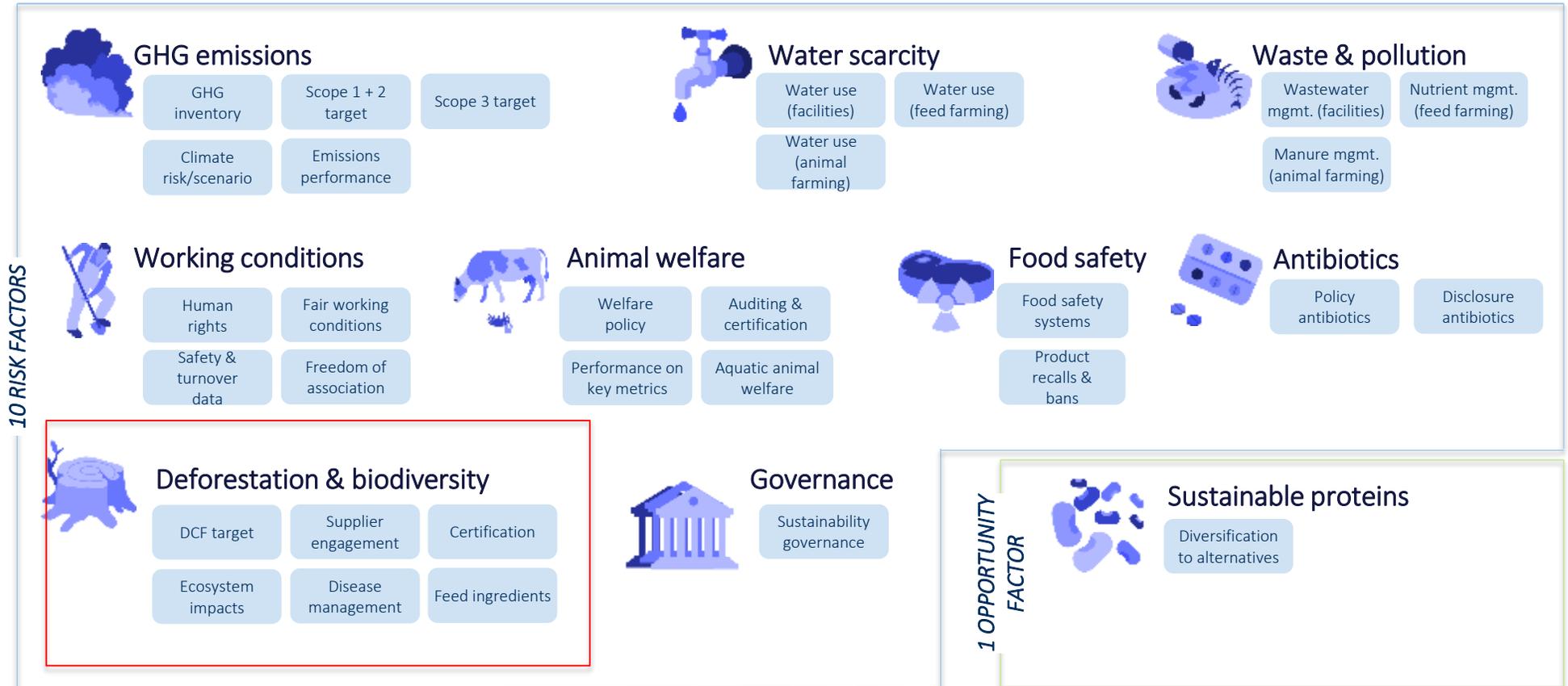
\$318 BN IN REVENUES

\$324 BN MARKET CAP





10 risk factors & 31 KPIs





Companies assessed in four categories across KPIs & risk factors



No or limited disclosure and commitments



Basic management of the risk with limited detail

Some disclosure of performance metrics

Basic performance targets

Limited geographical application



Moderate management of the risk with more detail

Moderate levels of disclosure of performance metrics

Moderate performance targets

Near global application



Strong management of risk with more detail

High levels of disclosure of performance metrics

Strong performance targets

Global application

Improving performance

Indicators for meat & dairy companies



73,16
3
7
1
5
4
249,78
2
718,56
6
918,35
9
615,32
6
425,85
3
526,85
5
87,56
8
112,48
1
158,35
1
375,16
3
862,42
7
92,73
1
519,47
5
249,78
2
718,56
6
918,35
9
615,32
6
425,85
3
5

Target

Supplier engagement



Soy

- Risk assessment incl. identification of high-risk locations, data/methodology used
- Time-bound zero deforestation/ conversion target or commitment for high-risk areas
- Data on sourcing/progress against target audited by 3rd party

- Compliance monitoring
- Traceability system with description of technology/tools/data used
- Disclosure of the % of soy procured that is traceable back to country/sub-national region
- Innovations to move towards more sustainable feed sources



Cattle

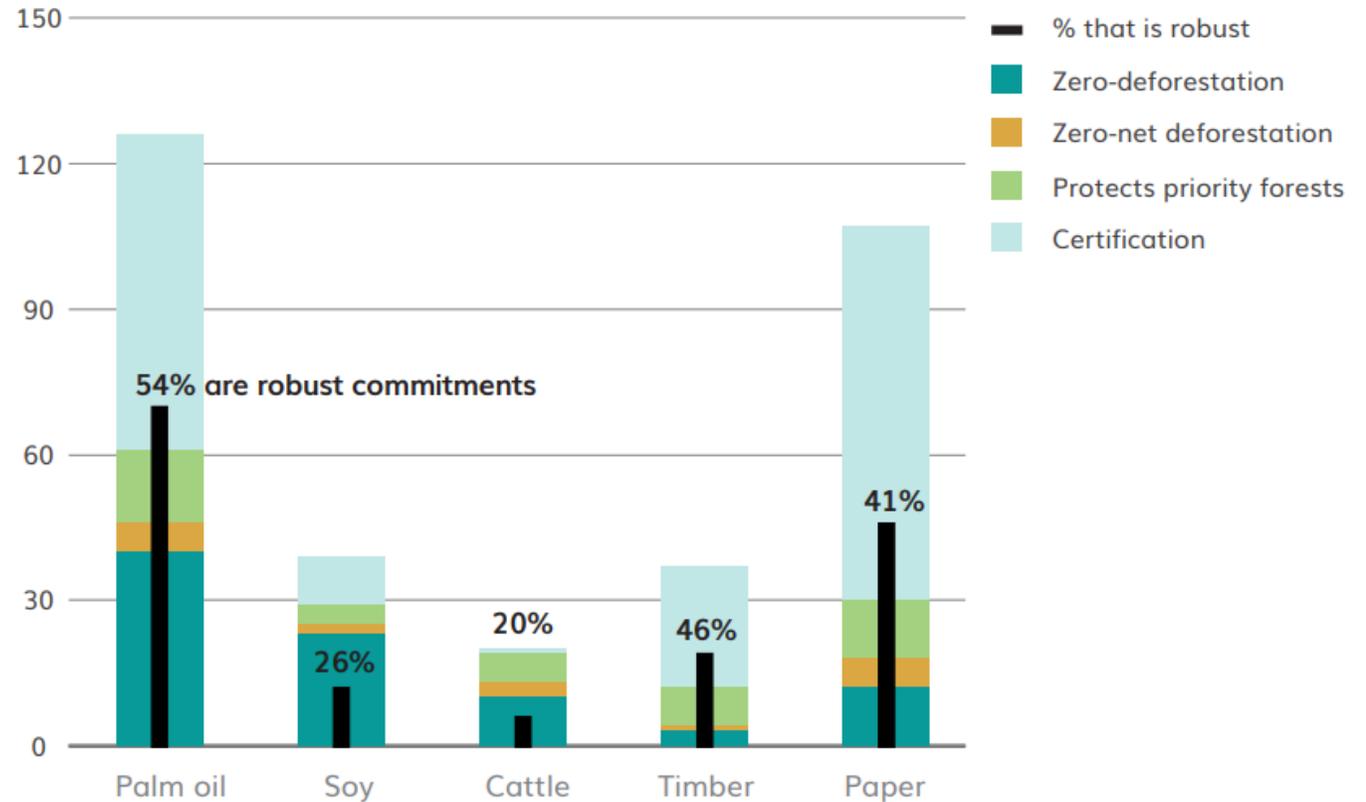
- Risk assessment incl. identification of high-risk locations, data/methodology used
- Time-bound zero deforestation/ conversion target or commitment for high-risk areas
- Data on sourcing/progress against target audited by 3rd party

- Compliance monitoring
- Traceability system with description of technology/tools/data used
- Disclosure of the % of cattle procured that is traceable back to farm level
- Specific actions/projects to restore land or forests



Beef Lagging Behind Other Forest-Risk Commodities

Figure 13. Company commitments by commodity and content, and share of company commitments that are robust, in percent

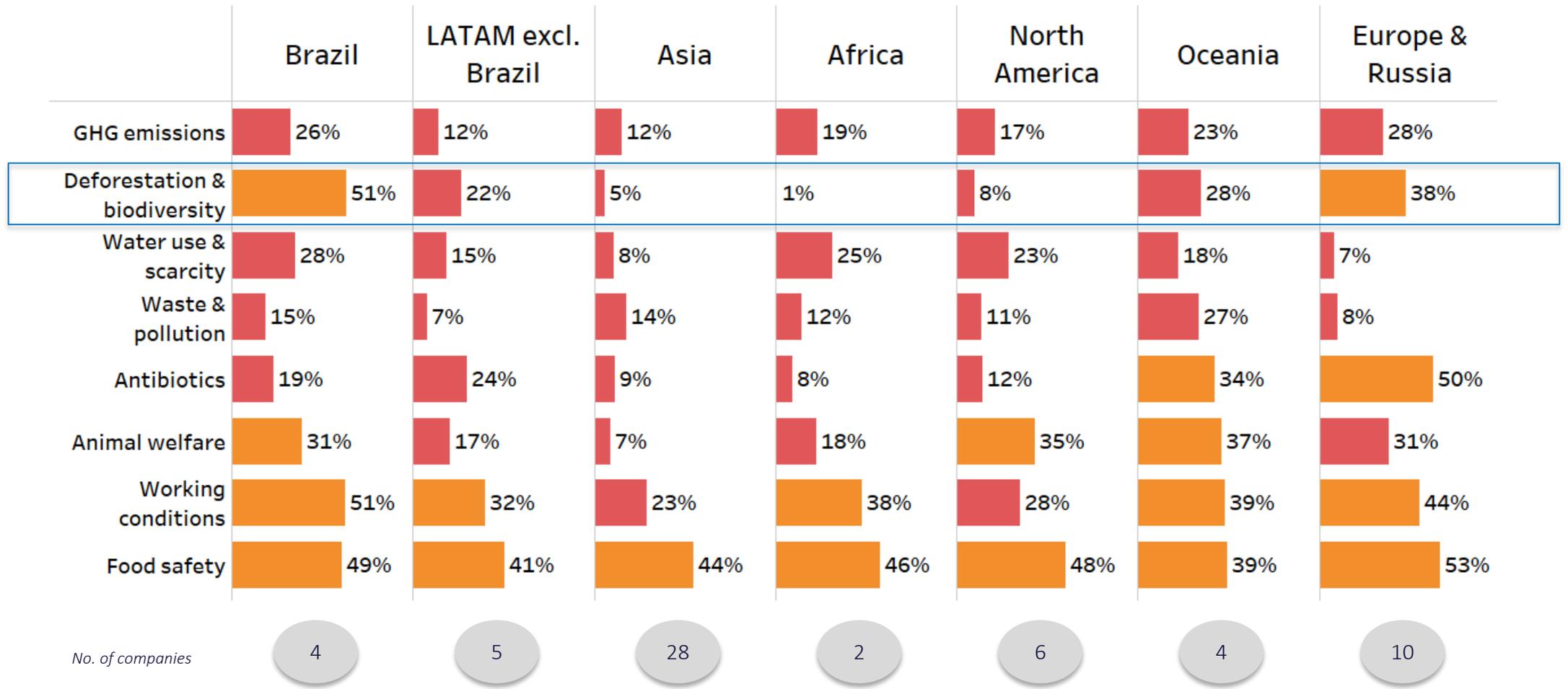


Note: Total number of companies with a commitment for each commodity: Palm oil (126), Soy (39), Cattle (20), Timber (36), and Paper (107). Commitments are defined as "robust" if they apply to all regions, all operations, all suppliers, have a current deadline or at least 2025 or earlier, and specify milestones.

Source: Compiled by Climate Focus based on 2019 data provided by Global Canopy's Forest 500 Project.

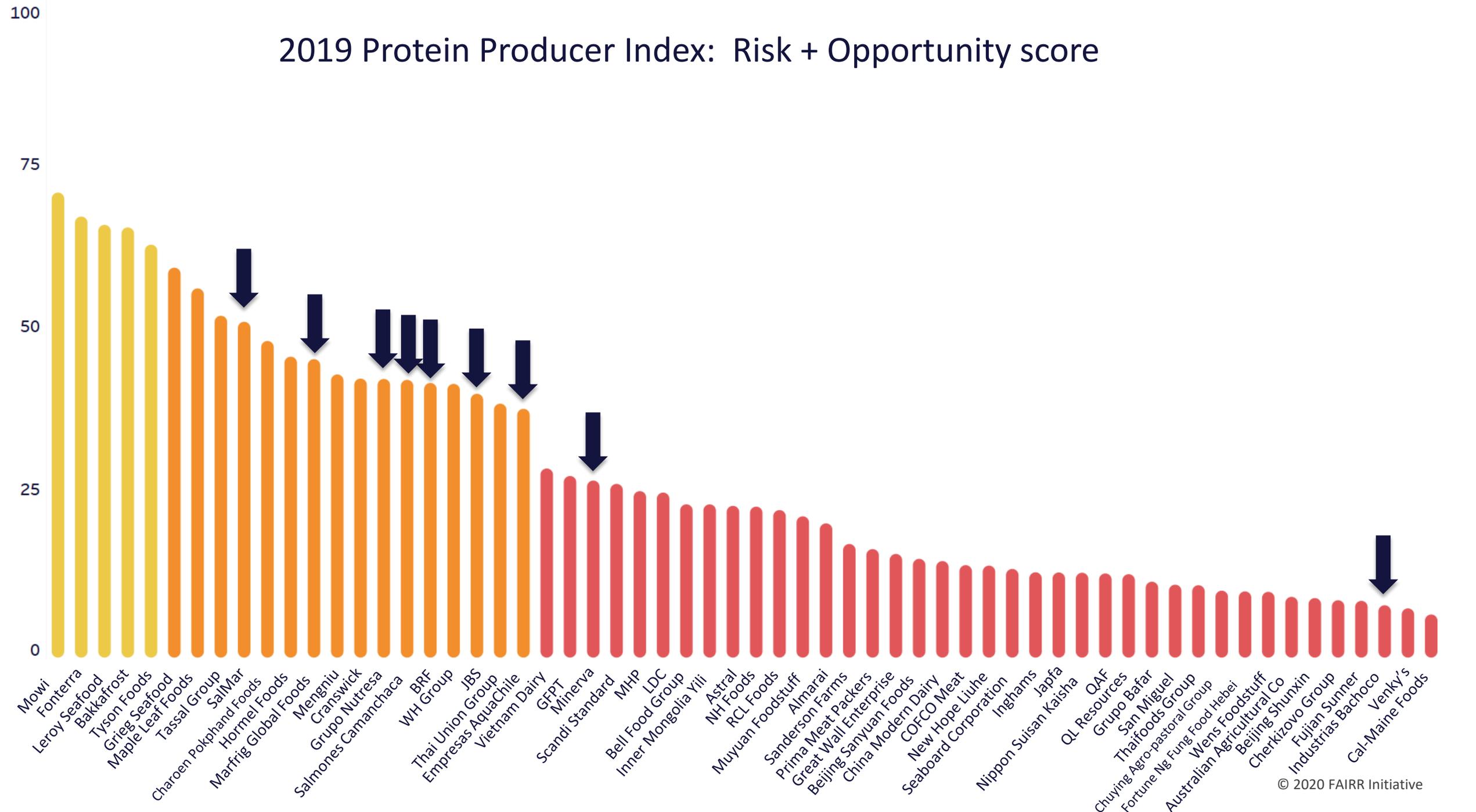


Average score (out of 100%) by risk factor across regions



■ High risk (0 - 30%)
 ■ Medium risk (31 - 60%)
 ■ Low risk (61 - 90%)
 ■ Best practice (> 90%)

2019 Protein Producer Index: Risk + Opportunity score



Brazilian Beef Production



Modern **beef production** is unlike the vertically integrated systems for pork and poultry.

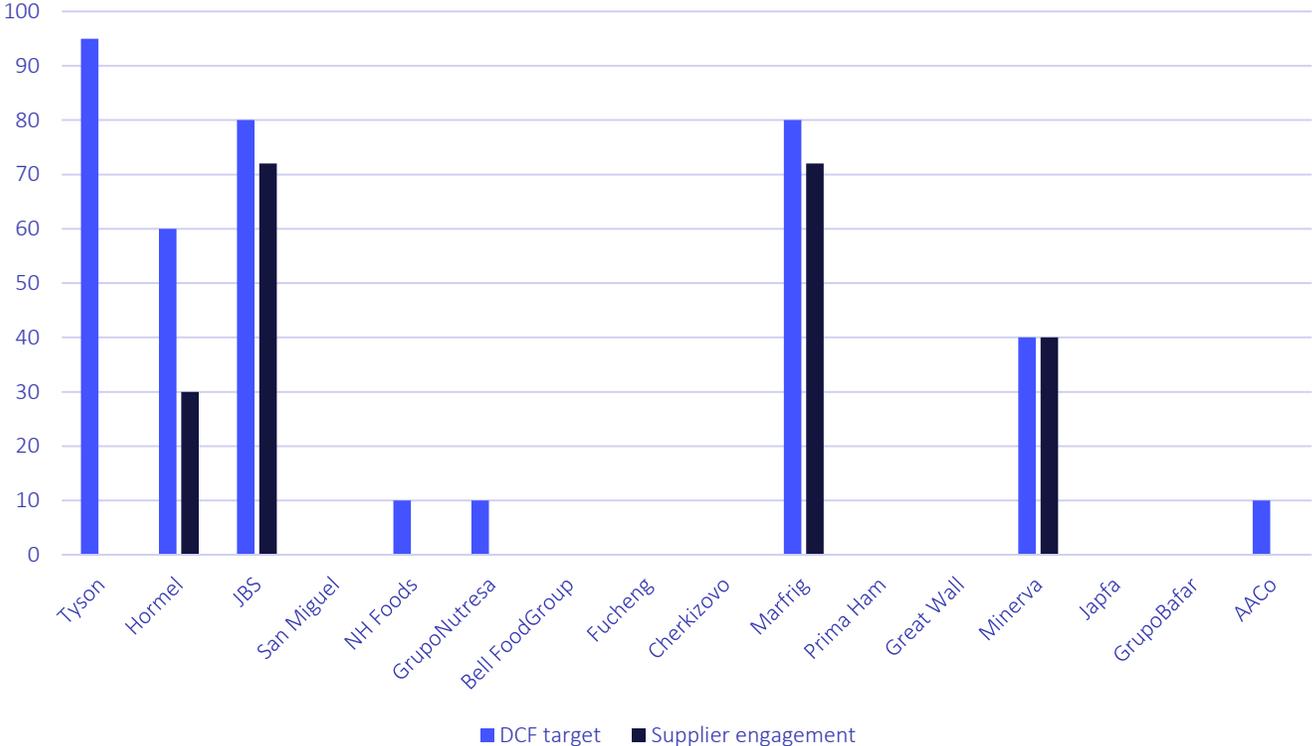
In Brazil, where the cattle are predominantly pasture-raised, cattle can move between indirect suppliers (**ranch-to-ranch transfers**) throughout all production phases, including breeding, rearing and fattening.

Fragmentation of the industry makes it hard for companies to **track and trace** cattle as they move through the supply chain, and consequently act adequately on **deforestation risk** in supply chains.

How Beef Companies Are Performing On Deforestation Risk

- 10/16 beef producing companies have no or very limited discussion of deforestation risks in their cattle supply chains
- 12/16 beef producing companies have no discussion at all of how they are engaging suppliers on deforestation risks
- Only 3 companies (JBS, Marfrig, Minerva) had set a time-bound zero deforestation target for cattle in some sourcing regions.
- 0 companies have set a target that applies to all cattle products
- How can retailers meet zero deforestation commitments if beef producers are not disclosing this information?

2019 Index Performance of Beef Companies
(Highest to lowest Market Cap)



Regulatory Context: Why Private Sector Must Lead

Poor local law enforcement

- In Brazil, monitoring deforestation under the current government is challenging with weak enforcement of forest laws encouraging further illegal land conversion.
- The situation is worsening under COVID-19. Satellite imagery has shown a 64% increase in deforestation in April 2020 compared with April 2019. NGOs suggest that loggers and miners are becoming bolder due to reduced protection presence, following introduction of distancing rules.

Local policymaking is crucial to protect forests

- The recent Provisional Measure, MP 910, allows deforesters who illegally occupied protected federal lands before December 2018 to purchase the property at reduced prices, subject to certain conditions. This is seen as enabling and rewarding illegal land grabbers who seized protected lands from indigenous tribes. MP 910 could result in more deforestation – up to 16,000 km² by 2027.
- An open letter signed by 41 corporations, industry bodies and investors asked Brazilian legislators to reconsider voting in favour of MP 910, now PL 2633/2020, in order to:
 - protect the Amazon,
 - meet the targets of the Paris Agreement and uphold indigenous communities' rights.
- The removal of the bill from the original voting programme on 20 May suggests that international pressure has had an impact.

INVESTOR ACTION





SASB Metrics: progress and gaps - *none on deforestation*



Metrics disclosed



- Injury and fatality data



- Corrective action rates associated with non-conformances in food safety



- Percentage of operations that has third-party farm monitoring and auditing of welfare



- Percentage of operations that has third-party farm monitoring and auditing of welfare
- Number of incidences of non-compliance with water quality permits, standards, and regulations

Metrics to disclose



- Percentage of animals that received antibiotic treatment



- Information on product recalls
- Percentage of supplier facilities certified by GFSI



- Percentage of operations not in close confinement



- Water risk assessment
- Disclosure of water consumption



- Manure disposal by destination
- A wastewater discharge limit



- Actions to reduce emissions from feed production, manure management and/or enteric fermentation
- CO2-equivalent emissions from agriculture in Scope 1 or Scope 3



Marfrig Transition Bond

MARFRIG'S TRANSITION BOND
A low-carbon transition or more of the same?

In July 2019 the Brazilian beef company, Marfrig, announced a \$500 million transition bond sale to finance their purchase of cattle from the Amazon biome. The FAIRR Initiative reviewed the framework for the Marfrig Transition Bond and have outlined our initial thoughts below, including suggested engagement questions for investors.

SUMMARY

From our perspective, it seems that Marfrig will use the bond proceeds to finance what it is already doing, relatively well from a sustainability standpoint. For Marfrig to encourage a shift (or transition) to greener operations, the company could instead have focused on:

- incentivising their indirect suppliers to develop better farming practices and improvements to traceability monitoring
- designing a plan for sustainable operations in regions other than the Amazon Biome
- improving the water footprint across the supply chain
- providing data on manure management in their own facilities and across the full cycle of cattle production

COMPANY BACKGROUND

Marfrig is the world's second largest beef company in terms of capacity¹. The Brazilian company is an integrated meat producer with 16 global production units and distribution centres. Until recently, Marfrig was involved in poultry production through its Keystone subsidiary, but it sold the business to Tyson in 2018. The company expanded its exposure to beef when it purchased a controlling stake in US National Beef in 2018. North American revenues now constitute 69% of Marfrig's total revenues².

CURRENT CREDIT RATINGS:

Moody's: B1
Fitch: BB-
S&P: BB-

1 - See Overview of the sector at <http://www.marfrig.com.br/eng/About-Marfrig-Subsidiaries-Transition-Bond-Framework>
2 - Collier Rate Provider Index

1 | August 2019 Marfrig's Transition Bond

Marfrig instead could have focused on:

- incentivising their indirect suppliers to develop better farming practices and improvements to traceability monitoring
- designing a plan for sustainable operations in regions other than the Amazon Biome
- providing data on manure management in their own facilities and across the full cycle of cattle production

Additional Engagement Questions for Companies

- How does your company assess deforestation risks in its own cattle production and/or its cattle supply chain? What methodologies are you using to do so?
- What are your cattle supplier requirements on deforestation? Are requirements the same for all suppliers, in all regions (not just Amazon Biome)? How is compliance monitored, and what action is taken when non-compliance is detected?
- How is your company working to increase traceability of its cattle supply? What percentage of cattle in the company's supply chain are traceable back to the farm level?

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