Approach for Country-Level Risk Benchmarking to Support the CGF FPC Beef Roadmap Implementation

Context and Objectives

In 2023, Trase and Proforest, with input from AFi Secretariat, developed a general approach to risk benchmarking to support the Consumer Goods Forum (CGF) Forest Positive Coalition (FPC) in assessing country-level cattle-related deforestation and ecosystem conversion risks, classifying origins based on their contribution to total deforestation and conversion. This resulted in a distinction between two categories: i) "negligible risk" origins (adjusted for "deforestation and conversion-free" origins[1]), where there was no or negligible risk of deforestation and conversion related to cattle, and ii) at-risk origins. This analysis builds on the AFi guidance which indicates that if a company can demonstrate that products originate from sourcing areas in which there is no or negligible risk of non-compliance with DCF commitments or obligations, then the products may be considered to be DCF.

The methodology used in this analysis was updated in 2024 and the aim of this document is to assist companies within the CGF FPC Beef Working Group (WG) by providing recommended guidance for individually and voluntarily implementing the recommended Beef Roadmap, especially to use the updated classification of countries to report on the implementation option to deliver DCF called "area-level DCF"[2], as well as to provide information that members may independently consider when determining their individual company actions (e.g. in respect of their approach to the priority countries identified in line with the recommended methodology). The methodology identifies Brazil, Argentina and Paraguay as priority origins, where potential

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[1] This change was made to align with the terminology now used across the sector.
[2] Formerly referred to as "negligible risk origins" as one of the ways for DCF claims of cattle-derived products in the CGF FPC Beef WG documents. Additional recommended guidance is being developed by AFi on area-level DCF option to deliver DCF and, once available, the information stated in this document and in the CGF FPC Beef WG documents might be updated.

collaborative action may be considered, including investment in development efforts, subject to each member's individual decision-making.

The approach for creating a risk benchmarking framework for global cattle deforestation and conversion was grounded in the following principles to serve each member company to independently determine its own business strategies and sourcing practices based on its individual assessment of relevant factors:

- The risk categorisation must encompass all beef-producing countries;

- It should account for the conversion of all types of natural ecosystems;

- Thresholds for risk categorisation are based on the relative contribution of countries to total global cattle pasture-driven deforestation and conversion[3];

- Countries considered DCF should have zero or near to zero conversion[4] related to cattle production.

Gaps in data on cattle pasture expansion and ecosystem conversion required the first version to utilise and integrate different datasets into a multiple-step decision tree. Improvements in data availability and specifically the availability of a newer version of the Pendrill et al. (2022) dataset, now referred to as DeDuCE (Deforestation Driver and Carbon Emission [Singh & Persson, 2024]), which has global coverage of agriculture commodities deforestation, has enabled the methodology to be updated and to have a simpler proposed decision tree (Figure 1), presented below.

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[3] Due to limitations in data availability the final method is only able to assess and rank countries for their relative contribution to cattle pasture deforestation rather than conversion, but safeguards on conversion were added to consolidate a list of negligible risk countries to both deforestation and conversion related to cattle production.

[4] Within the decision tree presented in Figure 1, the 'near-zero conversion' principle functions as a third-level safeguard, applied after confirming negligible cattle-related deforestation and low deforestation intensity (DeDuCE). This safeguard reflects current limitations in global datasets, which do not reliably distinguish natural grasslands and other non-forest ecosystems from productive pasture. A conservative threshold of up to 25% conversion of non-forest natural ecosystems was therefore applied to identify countries with negligible ecosystem conversion, subject to future refinement in coordination with the AFI. Within this safeguard, risk prioritisation focuses on countries concentrating the majority of global beef production and ecosystem conversion, using cumulative thresholds of up to 75% of global beef production (FAO) and 75% of global non-forest ecosystem conversion. Countries falling within both thresholds are categorised as high risk within this framework.
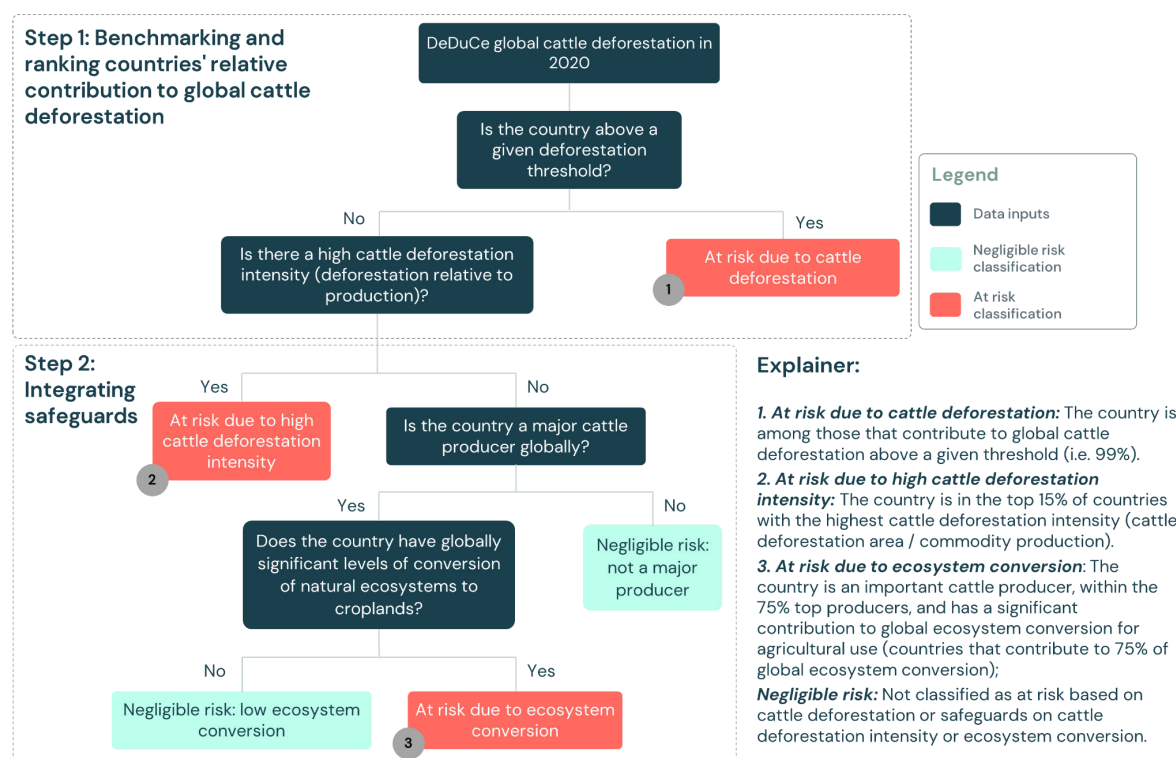
Figure 1: Proposed decision tree with risk categorisation based on DeDuCE cattle deforestation and inclusion of safeguards.

Regarding the datasets used in the updated recommended methodology, in addition to DeDuCE (Singh & Persson, 2024) for 2020[5] global cattle deforestation, OECD (2019) was also used for 2004-2019 ecosystem conversion to agriculture, and FAO (2022) for 2016-2020 cattle production (tonnes; average volume of meat and leather production over the 2016-2020 period) and the global trade of beef. However, data on conversion of non-forest natural ecosystems to planted pasture is not covered by the datasets and remains a gap in this type of analysis, which requires the continued use of safeguards in the decision tree.

In addition, a quality index (Singh & Persson, 2024) on the available data for the estimation of cattle deforestation was used. Deforestation was estimated directly with spatial data (forest to pasture) for values with high quality index (above 0.5), as in the case of Brazil, Paraguay, Argentina, among others; however, cattle deforestation was imputed from official country scale statistics of land use (i.e. FAO) for quality index values below 0.5, as in the case of Mexico, United States, Australia, among others. This reflects the variable quality of deforestation data across regions, with high-quality

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[5] Although DeDuCE data spans from 2001 to 2022, it was decided to use the year 2020 due to a higher quality. This includes the use of spatially explicit MapBiomas data that covers key countries like Brazil, Argentina, Paraguay, and Indonesia which is only available up to 2020.

spatial data currently available primarily for Latin American countries, while other regions rely on broader official land use statistics that may offer less granularity.

Nonetheless, this document presents pertinent information about the current methodology for area-level DCF, which was updated by Trase and Proforest in 2024 based on the recommended decision tree and datasets presented above, **that is available as an informational resource for CGF FPC Beef WG members to independently consider and reference in their individual DCF KPI reporting, with each member making its own independent sourcing and business decisions.**

Methods

Based on the datasets and following the steps in the method, it was possible to rank countries according to their relative contribution to global cattle-related deforestation in 2020. The DeDuCE model identifies deforestation due to expanding croplands, pastures and forest plantations. It then links the deforestation to specific commodities produced on deforested land by overlaying satellite data of deforestation with crop maps. The DeDuCE model prioritises spatially and temporally specific data like MapBiomas (data quality > 0.5), but where such data is not available it uses agricultural and forestry statistics to attribute deforestation to specific commodities based on their relative expansion (data quality < 0.5). The commodity deforestation values are amortised over a 5-year period and reflect the average amount of deforestation for that specific commodity in the five years prior. The analysis using MapBiomas was based on cropland spatially explicit data, which can include data on various crops, with a spatial extent for Brazil, Colombia, Venezuela, Suriname, Guyana, French Guiana, Ecuador, Peru, Bolivia, Paraguay, Uruguay, Argentina, and Indonesia. However outside of these countries the model relies on lower quality data and national statistics, necessitating more cautious interpretation of the results.

Following this ranking, countries were categorised into two groups: *at-risk* countries with the highest relative contributions up to a cumulative contribution to global cattle deforestation threshold and *DCF* countries with the remaining lowest relative contributions. Different ratios between these thresholds were assessed, such as 95%/5%, 90%/10% and 85%/15%. To mitigate risks related to uncertainties in the methodology and to the thresholds, safeguards were added, which were:

- **Cattle deforestation intensity:** The country's cattle deforestation intensity (cattle deforestation divided by cattle production). A country that is classified as *DCF* but that has a high cattle deforestation intensity (e.g. in the top quartile of countries globally) should be reclassified as *at risk.* This safeguard protects against countries with low cattle production and pasture with high relative rates of cattle pasture deforestation being classified as *DCF*.
- **Conversion risk:** The country's ecosystem conversion for agricultural use relative to global ecosystem conversion for agricultural use (OECD) and cattle production relative to global cattle production (FAO). The risk was determined based on benchmarking and ranking countries from highest to lowest regarding its contribution to global ecosystem conversion for agricultural use and applying a threshold.   The classification of a *DCF* country that is ranked both within the top countries that cumulatively account for (a) 75% for ecosystem conversion to agricultural use and (b) cattle production should be adjusted to *at risk*. This safeguard reflects limitations in the current datasets to assess cattle conversion.

Based on the data presented by the recommended methodology, the CGF FPC Beef WG selected the 95%/5% ratio, that is, 95% to classify the countries with the highest relative contributions (at-risk) and the remaining 5% classifies the countries with the lowest relative contributions (DCF), and then, after the application of the safeguards on deforestation intensity and conversion, make the DCF claims. The rationale for that selection considered the representativeness of the *at-risk* countries in terms of CGF FPC Beef WG members sourcing origins and the most relevant producing countries.

Results

After applying the recommended decision tree shown in Figure 1 and considering the 95%/5% relation determined by the CGF FPC Beef WG, the country classification map is characterised as follows (Figure 2). This classification is provided for informational
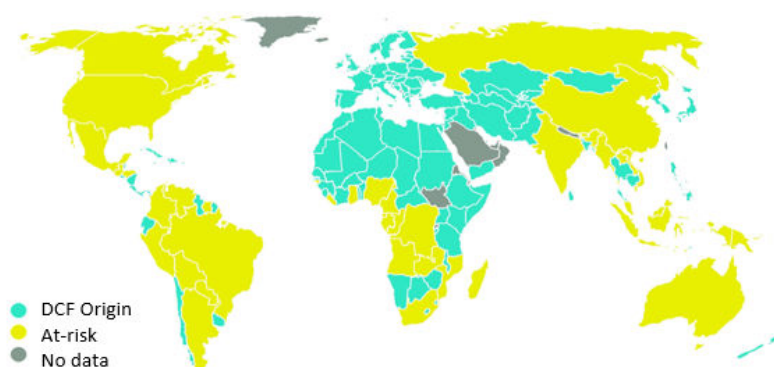

- DCF Origin
- At-risk
- No data

purposes only and does not constitute an agreement or instruction regarding sourcing decisions.

A detailed list of countries classified as DCF due to no or negligible risk of deforestation and conversion can be found below:

Afghanistan	Dominican Republic (the)	Lebanon	Sao Tome and Principe
Albania	Ecuador	Lesotho	Senegal
Algeria	Egypt	Libya	Serbia
Antigua and Barbuda	El Salvador	Lithuania	Seychelles
Armenia	Estonia	Luxembourg	Sierra Leone
Austria	Eswatini	Malawi	Singapore
Azerbaijan	Ethiopia	Mali	Slovakia
Bangladesh	Fiji	Malta	Slovenia
Barbados	Finland	Mauritania	Solomon Islands
Belarus	France	Mauritius	Somalia
Belgium	Gambia (the)	Micronesia (Federated States of)	Spain
Belize	Georgia	Moldova (the Republic of)	Sri Lanka
Benin	Germany	Mongolia	Sudan (the)
Bosnia and Herzegovina	Greece	Morocco	Sweden
Botswana	Grenada	Namibia	Switzerland
Brunei Darussalam	Guinea	Netherlands (the)	Syrian Arab Republic
Bulgaria	Guyana	New Caledonia	Tajikistan
Burkina Faso	Haiti	New Zealand	Tanzania, United Republic of
Burundi	Hungary	Nicaragua	Thailand
Cabo Verde	Iran (Islamic Republic of)	Niger (the)	Timor-Leste
Cambodia	Iraq	Norway	Togo
Central African Republic (the)	Ireland	Pakistan	Trinidad and Tobago
Chad	Israel	Palestine, State of	Tunisia
Chile	Italy	Panama	Turkey
Comoros (the)	Jamaica	Philippines (the)	Turkmenistan
Costa Rica	Japan	Poland	Uganda

Cote d'Ivoire	Jordan	Portugal	Ukraine
Croatia	Kazakhstan	Puerto Rico	United Kingdom of Great Britain and Northern Ireland (the)
Cuba	Kenya	Republic of North Macedonia	Uruguay
Cyprus	Korea (the Democratic People's Republic of)	Romania	Uzbekistan
Czechia	Korea (the Republic of)	Saint Kitts and Nevis	Vanuatu
Denmark	Kyrgyzstan	Saint Lucia	Yemen
Dominica	Latvia	Saint Vincent and the Grenadines	Zimbabwe

Likewise, the list of countries classified as *at-risk* of exposure to deforestation or conversion related to cattle production can be found below:

Angola	Indonesia
Argentina	Lao People's Democratic Republic (the)
Australia	Liberia
Bahamas (the)	Madagascar
Bhutan	Malaysia
Bolivia (Plurinational State of)	Mexico
Brazil	Mozambique
Cameroon	Myanmar
Canada	Nigeria
China	Papua New Guinea
Colombia	Paraguay
Congo (the Democratic Republic of the)	Peru
Congo (the)	Russian Federation
Equatorial Guinea	South Africa
Gabon	Suriname
Ghana	United States of America (the)
Guatemala	Venezuela (Bolivarian Republic of)
Guinea-Bissau	Viet Nam
Honduras	Zambia
India	

The above lists can be used as references by individual CGF FPC Beef WG companies for their DCF KPI reporting on the implementation option to deliver DCF "area-level DCF". In

addition, this analysis also supports the identification of priority origins related to cattle deforestation for prioritisation of individual actions and potential collaborative actions, such as investment in development efforts. Based on the data on the relevant cattle-producing countries and on the cumulative contribution of each country to global deforestation associated with cattle provided by the presented methodology, a cross-check was performed with the aggregated list of CGF FPC Beef WG members sourcing origins and the countries in which they are currently investing in landscape initiatives. As a result, it was possible to identify Brazil, Argentina and Paraguay as the priority countries for actions by the CGF FPC Beef WG members, meanwhile members are encouraged to keep their individual efforts in any other countries in their supply sheds.

References

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