NEW CLIMATE INSTITUTE

CARBON MARKET WATCH

Corporate Climate Responsibility Monitor 2025

FOOD AND AGRICULTURE SECTOR DEEP DIVE

ASSESSING THE TRANSPARENCY, INTEGRITY AND PROGRESS OF CORPORATE CLIMATE STRATEGIES

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Food and agriculture sector deep-dive (Chapter 3) of the Corporate Climate Responsibility Monitor 2025.

The full report or other sector-specific deep dives can be downloaded *here*.

About the Corporate Climate Responsibility Monitor

The *Corporate Climate Responsibility Monitor* evaluates the transparency and integrity of companies' climate strategies, with the objectives of **identifying good practices** and **highlighting areas for improvement in the corporate climate accountability system**.

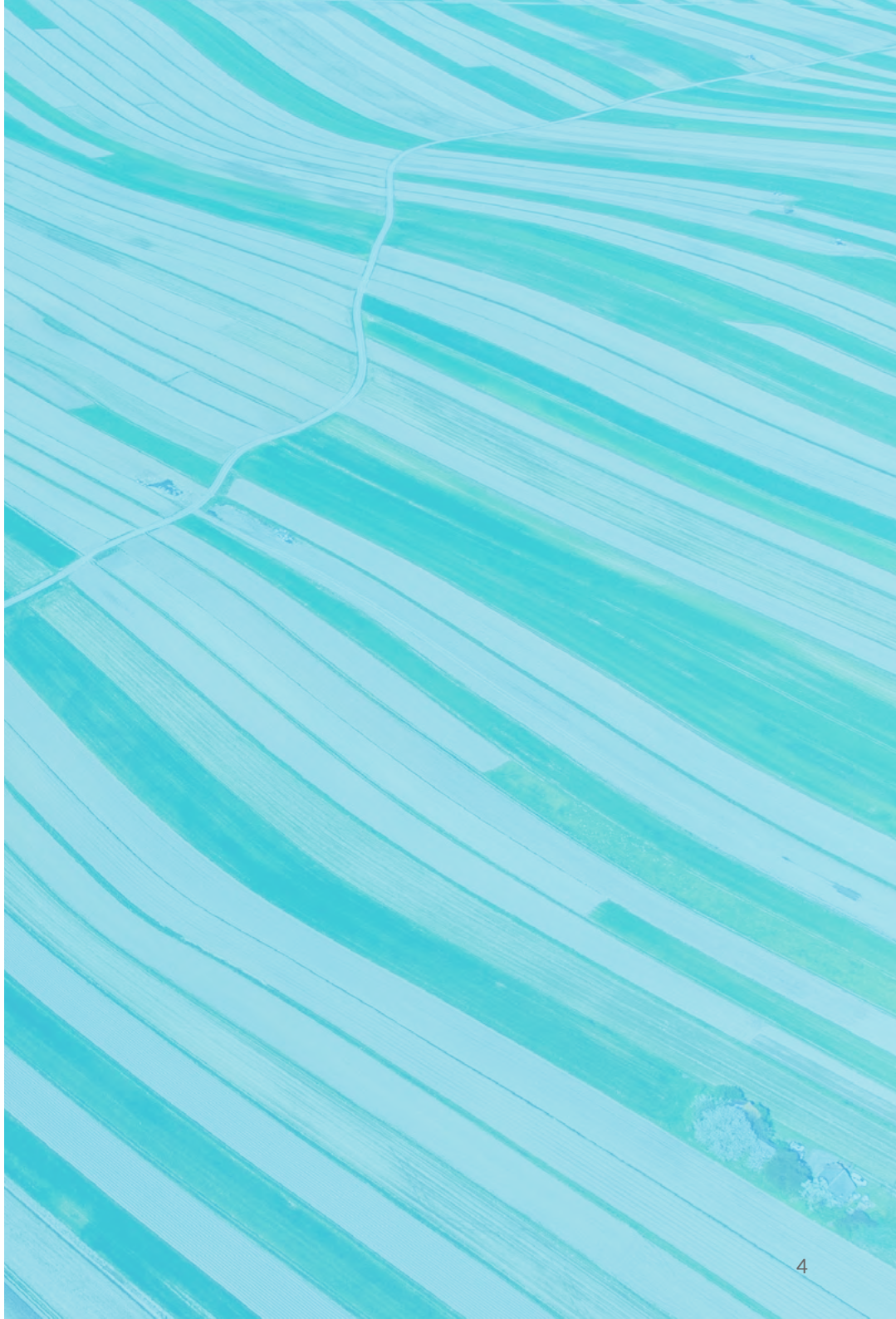
Our guidance and assessment criteria focus on four main areas of corporate climate action: (1) tracking and disclosure of emissions; (2) setting emission reduction targets; (3) strategies for key transitions; and (4) taking responsibility for unabated and residual emissions.

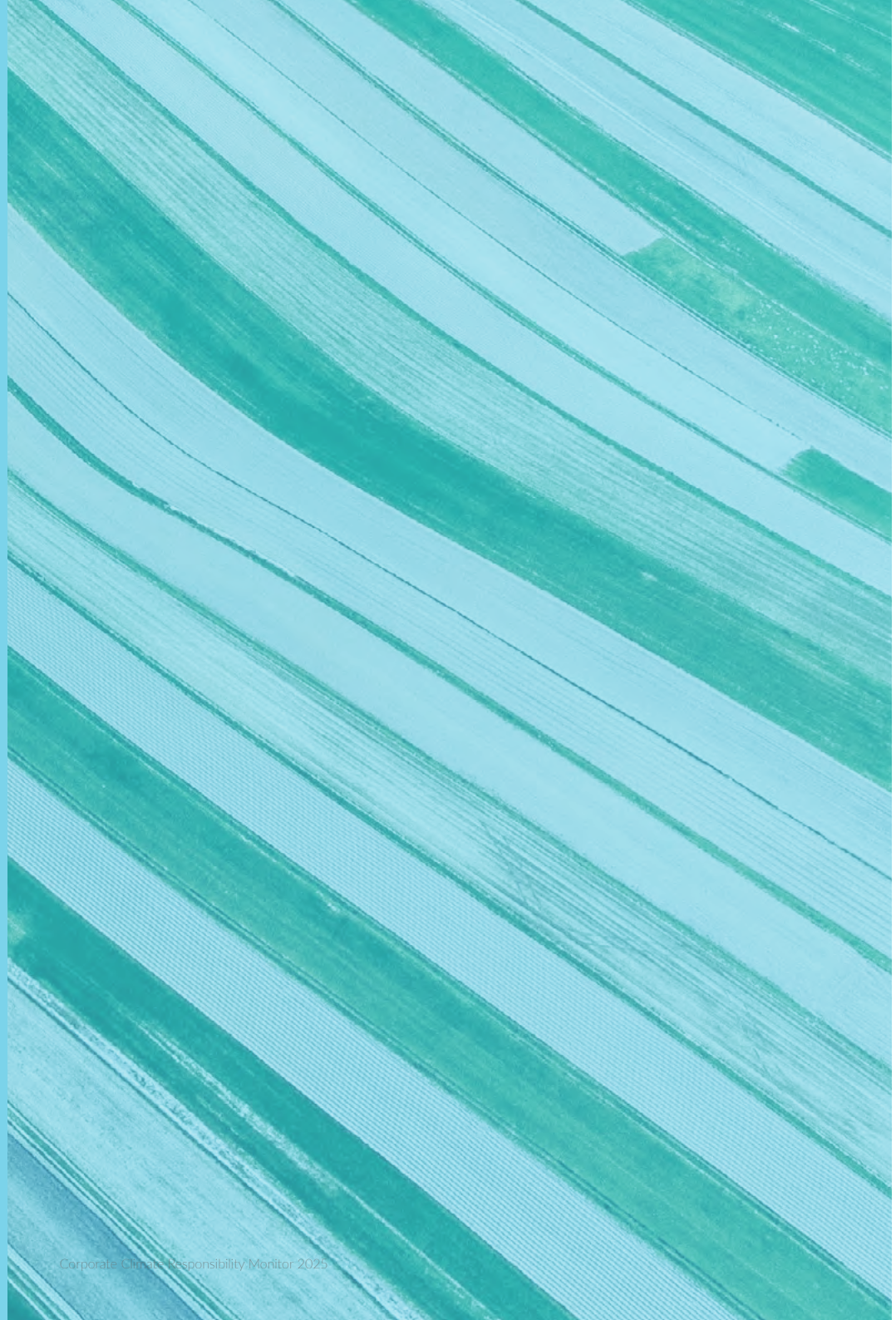
This chapter of the 2025 *Corporate Climate Responsibility Monitor* focuses on the food and agriculture sector. We focus on companies' GHG emission reduction targets and the key transitions that are necessary for decarbonising the food and agriculture sector, to understand the latest dynamics of climate strategy in the sector.

The full 2025 *Corporate Climate Responsibility Monitor* report analyses 20 companies from the automotive, tech, fashion and food and agriculture sectors, including a cross-sector analysis on the status quo of corporate climate responsibility.

This chapter on the agrifood sector features analysis based on detailed case studies of **Danone**, **JBS**, **Mars**, **Nestlé** and **PepsiCo** *(see Section 3.2 for detailed company case studies)*. These companies were selected as the largest five food and agriculture companies by revenue in 2023, excluding predominantly manufacturing companies.

→ *See the full 2025 Corporate Climate Responsibility Monitor (June 2025)*
→ *See also the assessment methodology for the Corporate Climate Responsibility Monitor. Guidance and assessment criteria for good practice corporate emission reduction and net-zero targets: Version 5.0 (NewClimate Institute, 2025).*





3.1 Sector highlights

This section presents a selection of key insights from the detailed analysis of the climate strategies of five major food and agriculture companies: Danone, JBS, Mars, Nestlé and PepsiCo *(see Section 3.2 for detailed company case studies)*.

In this report, we focus on companies' GHG emission reduction targets, and the key transitions that are necessary for deep emission reductions in the food and agriculture (hereafter, agrifood) sector.

We evaluate agrifood companies' transition targets based on the sector-specific transition framework set out in *Figure 3.1*. Since the majority of the agrifood sector's emissions footprint derives from a variety of upstream agricultural processes, we identify five key transitions aimed at reducing these emissions across different timeframes and scales. **We find that increasing the share of plant-based protein, halting deforestation, reducing fertiliser application and cutting food loss and waste are key transitions for the sector to achieve longer-term emission reductions**, though implementation needs to begin now. In the short term, accompanying measures targeting emissions from areas such as energy use and packaging materials are also important (NewClimate Institute, 2025).

We find that agrifood companies present measures that are unlikely to lead to structural, deep emission reductions in the sector.

- The assessed agrifood companies do not have strong commitments to shifting to plant-based protein thereby neglecting the most important measure to cut methane emissions.
- Most of the assessed agrifood companies are committed to halting deforestation. However, details on implementation are generally lacking, and deforestation targets do not cover all commodities.
- Only one company explicitely mentions the importance of reducing the use of synthetic fertiliser.
- Three of the five assessed agrifood companies present measures and targets to reduce food loss and waste, while the others do not address the issue at all in their climate strategies.
- Four of the five assessed agrifood companies present measures to reduce emissions in the short term, but these are unlikely to lead to structural, deep emission reductions in the sector in the long term.

We find that agrifood companies' emission reduction targets are currently undermined by the undefined role for land-based carbon removals.

- Three of the five assessed agrifood companies are explicit about relying on an unspecified amount of land-based carbon dioxide removal (CDR) to claim progress towards target achievement.
- The dependence on an undefined role for land-based CDR heavily undermines agrifood companies' emission reduction targets and distracts from their lack of commitments to deep, structural emission reductions, especially regarding methane emissions.
- The GHG Protocol's draft Land Sector and Removals Guidance requires companies to set separate reduction and removal targets, but we interpret that the Forest, Land and Agriculture (FLAG) guidance from the Science Based Targets initiative (SBTi) allows for an unspecified role for land-based CDR to count towards meeting emission reduction targets.

Standard setters need to anchor the need for deep and structural emission reductions in their voluntary standards and guidelines, guided by key transitions for the sector, and need to call for separate targets for emission reduction and removal.

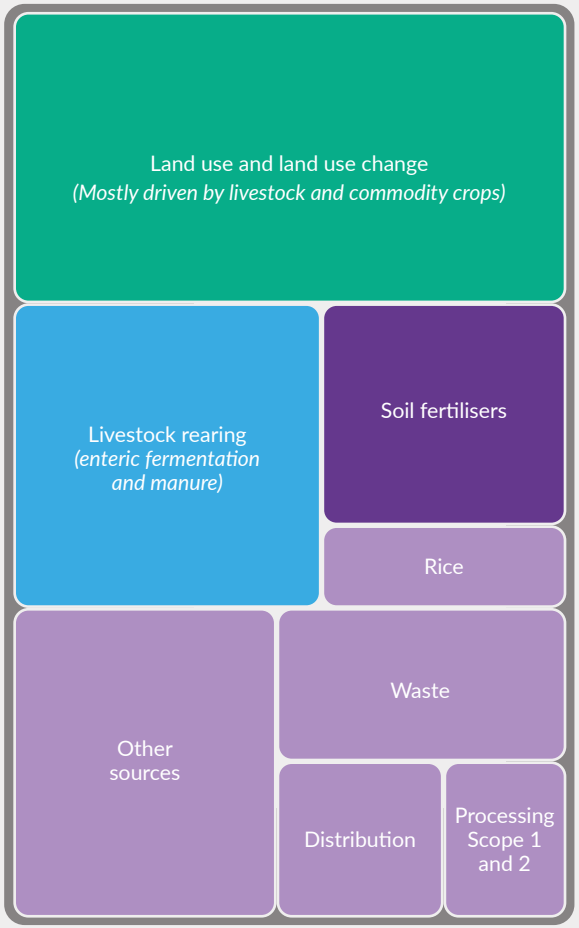
- The SBTi's FLAG Guidance should require separate targets for emission reduction and land-based CDR, as currently proposed in the GHG Protocol's draft Land Sector and Removals Guidance. This would drastically increase the transparency and robustness of targets in the agrifood sector.
- The SBTi's FLAG Guidance and other standard setters should define what share of short- and long-term targets can be met through land-based removals.
- Standard setters, guidelines and sectoral campaigners should call for stronger commitments to key sectoral transitions; companies should lead in delivering them.
- Standard-setters should call for specific emission reduction targets for methane and nitrous oxide; companies should lead in following this practice.

Agrifood companies use land-based removals to distract from their lack of commitments to key transitions.

Figure 3.1: Key transition framework for an agrifood company and summary of CCRM 2025 ratings

GHG EMISSIONS FOOTPRINT

Indicative distribution of emission sources across agricultural value chain



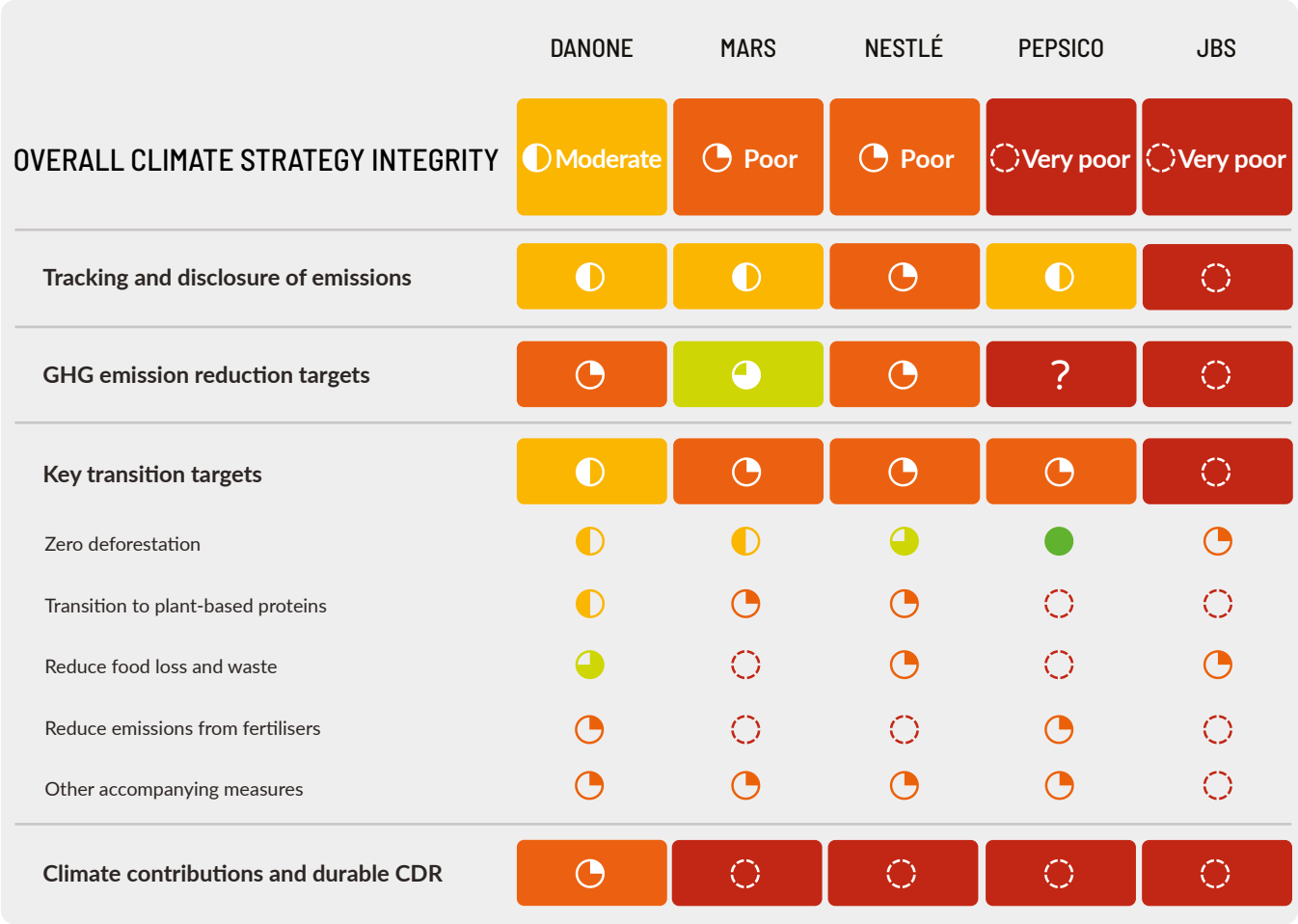
5 KEY TRANSITIONS

Most relevant transitions to address major emission sources

1	Zero deforestation	Land use and land-use change are the biggest sources of agricultural emissions. This is mostly driven by expansion of agricultural land for livestock, feed for livestock, and commodity crops. Addressing deforestation, as well as the conversion of other key ecosystems such as peats and mangroves is crucial to reaching the Paris Agreement 1.5°C temperature limit.
2	Transition from animal- to plant-based products	Livestock rearing is the largest single driver of emissions in global agricultural value chains. Shifting production away from animal protein, especially ruminants (beef, sheep and goat), can significantly reduce land requirements and GHG emissions (Searchinger *et al.*, 2019).
3	Reduce emissions from fertilisers	Fertiliser use is the third largest source of emissions in the agricultural sector, accounting for 25% of total agricultural GHG emissions in 2019 (UNEP, 2022). One-third of fertiliser emissions occurs during synthetic fertiliser production due to the synthesis of ammonia, and two-thirds of emissions from fertilisers are attributable to nitrogen emissions during fertiliser use (Gao and Serrenho 2023). To address fertiliser emissions, fertiliser use can be carried out according to the so-called 4-R strategy, where fertilisers are applied at the right rate, with the right type, at the right time and the right place (De Vries *et al.* 2022).
4	Reduce food loss and waste	About a quarter of food is lost or wasted between production and consumption each year, leading to higher levels of emissions linked to additional food production, as well as downstream landfill emissions (Boehm *et al.*, 2023; Searchinger *et al.*, 2019). Addressing food loss and waste could therefore curb emissions by reducing the projected growth in demand for food in coming years (Boehm *et al.* 2023).
5	Other accompanying measures	A combination of many additional measures along the supply chain are needed to decarbonise the food and agriculture sector. These measures include transitioning to renewable energy on farms and reducing emissions from packaging, transport, and distribution.

→ *See Evolution of corporate climate targets (NewClimate Institute, 2025) for further details on this sector transition framework and potential alignment target indicators.*

Figure 3.2: Summary of CCRM 2025 ratings for agrifood companies (NewClimate Institute, 2025)



Integrity : 5-point rating scale:
High | Reasonable | Moderate | Poor | Very poor
Integrity refers to the quality and credibility of the approach.
? *Integrity assessment is unclear.*

→ *See Annex 3B and 3C for further details on our integrity assessments for companies' targets and key transitions.*

Agrifood companies' emission reduction targets are undermined by an undefined role for land-based carbon dioxide removals

We interpret that the *Forest, Land and Agriculture Guidance* by the Science Based Targets initiative allows for land-based removals to count towards the achievement of emission reduction targets, in contrast to the draft *Land Sector and Removals Guidance* by the Greenhouse Gas Protocol.

Most companies assessed in this report – including Danone, Mars, Nestlé and PepsiCo – have set emission reduction targets that align with the Science Based Targets initiative (SBTi) guidance for the Forest, Land and Agriculture (FLAG) sector. This FLAG Guidance, first published in 2022 and updated in December 2023, outlines mitigation requirements for companies with significant emissions from agriculture and other land-intensive sectors. Specifically, companies with FLAG-related emissions that exceed 20% of their value chain emissions are required to set FLAG targets in addition to targets for reducing energy-related emissions to receive SBTi validation (SBTi, 2023a, p. 18). The FLAG Guidance identifies a range of land-based mitigation opportunities, drawing on the findings from Roe *et al.* (2021). These opportunities are divided into two key components for 2050: 62% of the global mitigation potential is expected to come from emission reductions, while 38% may come from removals. The emission reduction opportunities align with key transitions for the sector proposed by NewClimate Institute (2025), which form the basis of the company analysis in this report. These include halting land-use change (i.e. halting deforestation), shifting to plant-based protein and reducing food loss and waste.

The FLAG Guidance does not specify emission reduction requirements for FLAG targets; the GHG Protocol's draft Land Sector and Removals Guidance, however, calls for separate removal and reduction targets. In the nearer term, the FLAG Guidance describes an emission reduction requirement of net 30.3% by 2030 below 2020 levels (SBTi, 2023a, p. 53), but it does not specify an emission reduction requirement for 2050. However, the SBTi's Corporate Net Zero Standard states that the agricultural sector needs to reduce emissions by at least

net 72% by 2050 (SBTi, 2025, p. 59). While the 2030 and 2050 benchmarks provide minimum ambition levels, the FLAG Guidance remains ambiguous on the extent to which land-based carbon dioxide removals (CDR) may be used to meet these emission reduction targets. The land-based mitigation opportunities adapted from Roe *et al.* (2021) suggest that a maximum of 38% could be achieved through land-based CDR by 2050, but the FLAG Guidance does not make this explicit. Rather, we – and, based on our assessments, several major agrifood companies – interpret that it permits the use of an undefined amount of land-based CDR to claim FLAG target achievement for both 2030 and 2050.[1] It does not prescribe what portion of any given target should be met through reductions versus removals. In contrast, the latest draft of the GHG Protocol Land Sector and Removals Guidance explicitly calls for separate targets for emission reductions and removals and requires companies to report on reductions and removals separately *(see Box 3.1)*.

1 *Land-based CDR cannot be accounted towards energy-related emissions and targets for energy and industry-related emissions, as FLAG targets are separate from those.*

Aggregating land-based removals with emission reductions in the food sector is problematic for two key reasons.

Aggregating land-based removals with emission reductions can obscure the lack of action on key emission sources and non-CO_2 greenhouse gases. While our analysis does not identify any signs that land-based CDR is currently being used to directly offset methane, land-based removals are in some cases included in total CO_2-equivalent figures. This creates a misleading sense of progress towards emission reductions and key transitions, even though methane – a highly potent greenhouse gas – must decline rapidly to limit global warming (Reisinger *et al.*, 2021). In other words, it shifts attention away from crucial changes like the shift to plant-based proteins, as it obscures the lack of progress at a higher level. In addition, the potential impact of land-based CDR is uncertain and, more importantly, carries high risks of limited permanence. For example, carbon stored in grasslands can be quickly re-released if land is mismanaged. This risk is also acknowledged by the SBTi itself (SBTi, 2022, p. 16). In addition, enhanced soil carbon sequestration has recently been associated with lower yields (Mcclelland *et al.*, 2025). While land-based removals are important at the global level, they should not be treated the same as actual emission reductions and should be reported separately. Aggregating land-based removals and actual emission reductions can exaggerate progress and delay much-needed changes in the food sector.

Companies often do not specify the role for land-based removals in meeting their targets. Despite the associated uncertainty, companies' reliance on land-based CDR appears substantial. Nestlé, for example, has indicated that up to 80% of its target could be met using land-based removals (Nestlé, 2023b, p. 20). This raises concerns about the transparency and robustness of already claimed emission reductions. Although companies nominally commit to the required 30.3% reduction by 2030, compared to 2020 levels, many plan to include land-based CDR to claim target achievement. These companies mention the development of the GHG Protocol Land Sector and Removals Guidance, whose new version is expected in late 2025. Although the current draft Guidance requires separate removal and reduction targets, Danone, Mars and PepsiCo mention their intentions to include removals in emission accounting as soon as the new Guidance allows for it with a high degree of confidence. Danone, Mars, Nestlé and PepsiCo state that they want to include land-based removals in their target achievement. Nestlé already presents land-based CDR as part of its emissions footprint. In sum, the real meaning of agrifood companies' emission reduction targets is uncertain. The uncertainty would further increase if the practice were normalised by the GHG Protocol Land Sector and Removals Guidance, though the current draft suggests the opposite.

Table 3.1: GHG emission reduction targets of food and agriculture companies

	Danone	JBS	Mars	Nestlé	PepsiCo
Overall integrity of GHG targets	Poor	Very poor	Reasonable	Poor	Unclear
Near-term targets	By 2030, compared to 2020 levels: • Reduce scope 1 and 2 energy and industry-related emissions by 46.3% • Reduce scope 3 energy and industry-related emissions by 42% • Reduce scope 1 and 3 FLAG emissions by 34.8% • Reduce CH_4 emissions from fresh milk by 30%	By 2030, compared to 2019 levels: • Reduce scope 1 and 2 emissions intensity by 30%	By 2025, compared to 2015 levels: • Reduce scope 1, 2 and 3 emissions by 27% By 2030, compared to 2015 levels: • Reduce scope 1, 2 and 3 emissions by 50%	By 2025, compared to 2018 levels: • Reduce emissions by 20% compared to 2018 levels By 2030, compared to 2018 levels: • Reduce scope 3 FLAG emissions by 50% • Reduce energy and industry-related scope 1, 2 and 3 emissions by 50%	By 2030, compared to 2022 levels: • Reduce scope 1 and 2 emissions by 50% • Reduce scope 3 FLAG emissions by 30% • Reduce scope 3 energy and industry emissions by 42%
Medium- and long-term targets	By 2050, compared to 2020 levels: • Net-zero emissions • Reduce scope 1, 2 and 3 energy and industry-related emissions by 90% • Reduce scope 1 and 3 FLAG emissions by 72%	By 2040: • Net-zero emissions No specific deep emission reduction target alongside the net-zero pledge.	By 2050, compared to 2019 levels: • Net-zero emissions • Reduce scope 1, 2 and 3 energy and industry-related emissions by 90% • Reduce scope 3 FLAG emissions by 75%	By 2050, compared to 2018 levels: • Net-zero emissions • Reduce scope 1, 2 and 3 energy and industry-related emissions by 90% • Reduce scope 3 FLAG emissions by 75%	By 2050: • Net-zero emissions • Reduce scope 1 & 2 emissions by 90% • Reduce scope 3 energy and industry-related emissions by 90% • Reduce scope 3 FLAG emissions by 72%
SBTi FLAG-aligned, validated target	✓	✗	✓	✓	Claims to have SBTi-validated FLAG targets, but not presented on SBTi's website yet.
Role for land-based CDR in targets	**Undefined volume, but states that it will play a future role** Danone currently does not account for land-based CDR yet but plans to include it as soon as possible. Danone's emission reduction targets will rely on an unspecified volume of land-based CDR. Danone gives an estimate of residual emissions, in which land-based CDR has likely already been accounted for.	**Unclear** JBS does not specify whether land-based CDR will be included or excluded from its 2030 emissions intensity target.	**No use of land-based CDR** Mars explicitly states that its targets currently do not depend on land-based CDR but plans to include land-based CDR as soon as possible.	**Defined volume for 2030 targets but unclear for 2050 target** Nestlé presents a variety of land-based CDR measures alongside emission reductions, incl. the expected volume of removals for its 2030 targets. Land-based CDR will continue to play a role for its 2050 target, but Nestlé does not specify this role. Nestlé already claims a lower emissions footprint through land-based CDR.	**Undefined volume, but states that it will play a future role** PepsiCo's 2030 and 2050 targets will partially be met through an unspecified volume of land-based CDR.
Changes from previous assessments in 2023 and 2024	Danone is now explicit about its intention to count land-based CDR towards target achievement. The rating for short-term targets was changed from Reasonable to Moderate integrity. The rating for long-term targets was changed from Moderate to Unclear integrity.	Net-zero target assessed as 'very poor' instead of 'unclear' but overall integrity rating remains the same.	There have been no changes to integrity ratings compared to the 2024 analysis.	There have been no changes to integrity ratings compared to the 2024 analysis.	PepsiCo is now explicit about its intention to count land-based CDR towards target achievement. This did not affect the rating for short-term targets. The rating for long-term targets was changed from Very Poor to Unclear. The overall integrity rating for targets was changed from Very Poor to Unclear.

Integrity : 5-point rating scale:

High | Reasonable | Moderate | Poor | Very poor

Integrity refers to the quality and credibility of the approach.

? *Integrity assessment is unclear.*

BOX 3.1: Critical inconsistencies between the GHG Protocol's draft Land Sector and the Removals Guidance and SBTi's FLAG guidance

The Greenhouse Gas Protocol is in the process of finalising the Land Sector and Removals Standard and accompanying Guidance. The first draft of the Guidance was released for consultation in 2022, and the final Guidance is planned for publication in the final quarter of 2025 (GHG Protocol, 2025). After going through a consultation and pilot testing phase, the Guidance is being finalised in consultation with an Advisory Committee and newly created Forest Carbon Accounting Technical Working Group. The Guidance will explain how companies can account for and report on activities linked to land management and land-use change, CDR and carbon storage, and products derived from technological CDR, such as biogas. This will help harmonise the process for calculating and accounting for emissions in the agrifood sector. The Guidance will also have wider implications for emission reduction targets, as it will explain how companies should set targets that cover removals and clarify the role of removals in achieving net-zero targets.

The 2022 draft Guidance requires companies to report emissions and removals separately. The draft Guidance requires companies to measure scope 1 and 3 emissions linked to land management and makes reporting scope 1 and 3 removals optional. However, if companies choose to report on removals, this would need to be reported separately from emissions (GHG Protocol, 2022a, p. 22). This is positive, as it would increase the transparency of emission inventories and facilitate the assessment of companies' progress towards emission reduction targets.

In contrast to the SBTi's FLAG Guidance, the draft Land Sector and Removals Guidance explicitly requires companies to set emission reduction targets and states that such targets should be independent of any removals (GHG Protocol, 2022a, p. 209). If companies choose to set net targets, when emissions and removals are aggregated, or removal targets, these should be separate and additional to emission reduction targets (GHG Protocol, 2022a, p. 209). This goes against the current version of the SBTi's FLAG guidance, which allows companies to aggregate emission reductions and removals within FLAG targets and meet their FLAG targets using an undefined amount of land-based CDR. If this requirement remains in the final draft of the Guidance, it could potentially increase the transparency and integrity of agrifood companies' emission reductions targets. However, most companies refer to the GHG Protocol Guidance and appear confident that, in addition to merely reporting on land-based CDR, they will be able to count land-based CDR towards emission reduction targets when the final version is published *(see Danone, Nestlé and PepsiCo)*. This would be in contrast to the current draft Guidance. Moreover, it remains unclear if, and how, the SBTi's FLAG Guidance would change if the requirement to set separate targets remains in the GHG Protocol Guidance's final version. The GHG Protocol states that it has been working closely with the SBTi on the relationship between both guidance documents (GHG Protocol, 2023), but to date, we have not been able to determine what this collaboration means in practice.

The draft Guidance sets out the requirements for counting land-based CDR in emission inventories. Companies will need to guarantee ongoing storage monitoring and traceability, use only primary data, account for uncertainty and account for reversals (GHG Protocol, 2022a, p. 93). The draft Guidance uses a 'storage monitoring framework' to implement the 'permanence principle' (GHG Protocol, 2022a, p. 89). This means that land-based CDR could be considered permanent if a monitoring framework is in place to show that carbon remains stored in carbon pools (GHG Protocol, 2022a, p. 89). The draft Guidance proposes varied data sources for monitoring carbon stock changes, which would depend on the type of removal.

Under the 'permanence principle', if carbon losses were to occur or if companies could no longer monitor carbon stocks, companies would need to report reversals in future inventory years. This could be problematic if companies are allowed to set targets that combine reductions and removals, as is current practice under the SBTi's FLAG Guidance. This is because a company could make significant claims towards target achievement using land-based removals in one year, while the removals could be reversed the next year. Not only would this make holding companies accountable for target achievement nearly impossible, but it could also allow for substantial fluctuations in emissions footprints year –on year. This is why it is crucial that the final version of the Guidance, which is to be released later this year, continues to require companies to report emissions and removals separately and to set emission reduction targets independent of any removals.

Agrifood companies do not commit to transitioning to plant-based protein, despite some early promising measures, neglecting the urgent need to reduce methane emissions

Most of the assessed companies stop short of transitioning to plant-based protein. Livestock production is a major contributor to global greenhouse gas emissions, accounting for close to 15% of global anthropogenic GHG emissions and around 80% of global agricultural methane emissions (Reisinger *et al.*, 2021; Ward, Atkins and Atkins, 2024). Methane is a highly potent greenhouse gas, and reducing its emissions delivers immediate benefits for limiting global warming (Reisinger *et al.*, 2021). As such, a shift away from diets reliant on livestock – particularly meat and dairy – towards plant-based protein sources represents a key transition for the agrifood sector (NewClimate Institute, 2025). Despite this, most companies stop short of explicitly promoting plant-based diets as a core mitigation strategy. While many refer to the use of 'low-carbon' ingredients, these are rarely specified as plant-based.

Danone is the only one of the five assessed companies with a quantitative methane reduction target. The company has a target to reduce its methane emissions associated with fresh milk production by 30% by 2030, compared to 2020 levels. In line with this ambition, Danone also plans to expand its plant-based portfolio (Danone, 2023a, pp. 35–36, 2025, pp. 203, 214). However, Danone has not yet explicitly committed to the plant-based protein transition in the form of a clear target *(see Figure 3.3)*. Other companies refer to growing their plant-based offerings but do not present plans to *reduce* dairy or meat production. Nestlé, for example, emphasises the importance of dairy for global health and nutrition (Nestlé, 2025a, p. 35). This might imply that plant-based products are merely add-ons, rather than substitutes for dairy and meat products – which would actually reduce methane emissions. Although this is a step in the right direction, a credible emission reduction strategy for the agrifood sector needs to include a clear commitment and related measures to replace high-emission products, not just diversify portfolios.

Figure 3.3: Plans to transition from animal-based to plant-based protein

	DANONE	JBS	MARS	NESTLÉ	PEPSICO
APPROACH TO TRANSITIONING TOWARDS PLANT-BASED PROTEIN PRODUCTS	Plant-based protein and low-carbon ingredients are quite prominent in Danone's climate strategy, but no target in place.	JBS is purchasing plant-based protein brands but shows no sign of transitioning away from animal farming. Plant-based brands are an add-on to its business model.	Mars acknowledges the need to transition to protein ingredients that require less land to be produced but does not present a strategy to transition at scale towards such ingredients.	Nestlé presents an emission reduction potential related to plant-based protein and numerous measures, but the potential is limited (an equivalent of <1% of its reported emissions) and has decreased compared to its previous climate strategy.	PepsiCo has a target to increase the share of 'diverse ingredients', which includes plant-based ingredients among several other types of ingredients. However, the target formulation does not translate to a clear commitment.
TARGET INTEGRITY	Moderate	Very poor	Poor	Poor	Very poor

ONE OF THE WORLD'S LARGEST DAIRY PRODUCERS HAS PLANS IN PLACE TO INCREASE THE SHARE OF PLANT-BASED PROTEIN

Alongside its target to reduce methane emissions related to fresh milk production, Danone plans to increase its share of plant-based protein. Danone is one of the market leaders for dairy alternatives, with brands such as Alpro and Silk increasingly being mainstreamed. Danone does not present its plans for plant-based protein as a mere add-on to its core business. Rather, we understand that the company aims to diversify its product portfolio and increase the share of plant-based sales. However, Danone has not committed to a target or clearly pledged to this key transition.

Integrity : 5-point rating scale:
High | Reasonable | Moderate | Poor | Very poor
Integrity refers to the quality and credibility of the approach.

All companies commit to halting deforestation, but clear plans on implementation are lacking

Most agrifood companies, apart from JBS, have commitments in place to only source deforestation-free commodities by 2025, with some also committed to sourcing conversion-free commodities by either 2025 or 2030. These targets are in line with the SBTi's FLAG Guidance requirements (SBTi, 2023a, p. 39), which are based on the Accountability Framework initiative's guidance[2] (AFi, 2023). Halting deforestation has been a key focus in policymaking, campaigning and climate negotiations over the past decades. Combined with clear end dates and a political consensus on needed commitments, this could explain why companies are setting targets and making progress on this indicator. Indeed, Danone, Mars, Nestlé and PepsiCo have set no-deforestation commitments on some or all high-risk commodities where deforestation is most prevalent: palm oil, cocoa, soy, beef and timber. Most of the companies report their progress for each commodity separately.

Despite encouraging performance on this transition, zero-deforestation commitments include some caveats: limited coverage of commodities, only covering direct suppliers and the use of commodity certificates without physical traceability. Zero-deforestation commitments therefore still need to be strengthened and cover all commodities as well as indirect suppliers and small-holder farms. Targets on sourcing deforestation-free cocoa appear to be the weakest: Nestlé is not on track to reach its 2025 commitment, PepsiCo does not provide information on its progress, and Mars does not present a target year for sourcing 100% deforestation-free cocoa (Mars, 2024, pp. 16–17; PepsiCo, 2024d; Nestlé, 2025b, p. 54). There is likely to be a mismatch between companies' reported progress on ending deforestation and actual rates of deforestation in their supply chains, due to a lack of data transparency and use of commodity certificates *(see Box 3.2)*. For example, recent investigations have shown that illegal deforestation was still taking place in JBS's supply chain in 2024, calling into question the company's progress towards halting it (Mighty Earth and AidEnvironment, 2024).

It is unclear how companies are pushing for halting deforestation beyond sourcing certified products and monitoring their supply chains – an issue that is particularly salient as we reach the deadline for zero-deforestation commitments. Current commitments do not address leakage, which occurs when deforestation is excluded from one company's supply chain but continues elsewhere due to continued demand for deforestation-linked commodities like soy and palm oil. In this context, reductions in deforestation rates may be less significant at a global level, while companies claim to be deforestation-free. Only one company, Mars, ties its ingredient sourcing strategy to its impact on deforestation and land use (Mars, 2019), while other companies do not mention how demand-side measures, such as changes in diets, impact deforestation at a global level, both in their supply chains and beyond. Mars also has a target to hold its land-use footprint stable even as its business grows, which would force it to switch to ingredients that use less land, such as plant-based proteins (Mars, 2019). As key players in the agrifood sector, these companies have a responsibility to push for more ambitious measures targeting deforestation and land-use change, for example by addressing one of the key drivers of deforestation: livestock and animal feed farming.

2 *The Accountability Framework initiative is a 'collective effort of diverse organisations dedicated to protecting forests, natural ecosystems, and human rights by making ethical production and trade the new normal' (AFi, 2025). Its secretariat is run by the Rainforest Alliance.*

BOX 3.2 – Emission reduction claims based on commodity EACs are premature and potentially misleading

Companies are purchasing commodity certificates without physical traceability to claim that the ingredients they are sourcing are 'deforestation-free' or 'responsibly sourced'. There are two broad categories of commodity certificates: those where the 'identity' of the commodity is preserved (i.e. certified and non-certified commodities are kept separate), and those where these are mixed during processing. The certificates most purchased by agrifood companies fall under the latter and include mass balance and book-and-claim certificates. Book-and-claim certificates can be used to purchase commodities beyond the company's supply shed. According to the GHG Protocol's draft Land Sector & Removals Guidance, a supply shed, also known as a sourcing region or supply base, is a 'predefined, spatially explicit land area that supplies harvested biogenic materials to the first collection point or processing facility in a value chain' (GHG Protocol, 2022a, p. 143). Book-and-claim certificates therefore do not guarantee a link or traceability between the commodity and the company's supply chain. On the other hand, mass balance certificates are derived from within the supply shed. This means that these certificates are generated within the sourcing region of a company's supply chain, although the certificate cannot be traced to an exact farm.

For example, companies can purchase certificates for 'deforestation-free' soy. As soy is a major driver of deforestation emissions worldwide (Ziegert and Sotirov, 2024), claiming to use 'deforestation-free soy' can substantially decrease the reported emissions footprint of an agrifood company. To be able to generate such certificates, soy needs to be grown in an area that has not been recently deforested. By comparing old and recent satellite images, certification bodies check whether the farmland has been deforested since the decided cut-off date, after which no deforestation can occur. The soy farmer receives a certificate and can claim 'deforestation-free' soybean production, and intermediary parties sell these certificates to buyer companies (Oudman, 2025). However, the 'deforestation-free' soy is pooled together with soy that may be associated with deforestation. Buyers can purchase a book-and-claim or mass balance certificate that does not guarantee traceability at the farm level and therefore may purchase soy from mixed origins. In other words, any purchased soy is not guaranteed deforestation-free (Oudman, 2025). Moreover, commodities purchased through book-and-claim certification may not necessarily be associated with the company's actual supply chain (GHG Protocol, 2022b, p. 22) and therefore may not prevent deforestation in the regions that the company sources from.

We interpret from Nestlé's sustainability reporting that the company purchases certificates through book-and-claim and mass balance constructs to claim emission reductions, although these certificates are not fully traceable and may not necessarily reduce deforestation in Nestlé's supply chains. Mars, PepsiCo and Danone use mass balance certificates to reach their deforestation-free and responsible sourcing commitments, while Nestlé purchases certificates through both mass balance and book-and-claim constructs. However, book-and-claim certificates are not necessarily specific to the reporting company's supply chain, and there is a lack of traceability provided by such certificates. Using these certificates for claiming emission reductions is particularly problematic, as the lack of segregation between certified and non-certified commodities could lead to double-counting, where emission reductions are claimed by multiple actors along the supply chain. Especially when 'deforestation-free' soy originates from a region where deforestation is predominantly non-existent, there may be a surplus of the associated certificates. For these reasons, the GHG Protocol's draft Land Sector and Removals Guidance *(see Box 3.1)* does not allow for certificates without physical traceability to count towards reductions in emissions from deforestation (GHG Protocol, 2022b, p. 22).

It is unclear how the use of commodity certificates, especially those without physical traceability, will lead to a reduction in deforestation or an increase in sustainable farming practices. Unlike for hard-to-abate emission sources, where EACs could support innovation and development of new technologies for *future* application (NewClimate Institute, 2024d), certificates instead reward farming on land that has been deforestation-free since the decided cut-off date. Whether certification will lead to less deforestation *today* or *in the future* remains uncertain. As such, there is no guarantee that purchasing certificates for 'deforestation-free' and 'responsibly farmed' commodities will prevent deforestation in supply chains where deforestation remains a significant problem, or whether it only rewards farmers and regions that are already aligned with certification requirements.

Due to the remaining uncertainty surrounding commodity certificates and their impact, we recommend that companies refrain from counting emission reductions associated with their purchases of mass balance and book-and-claim commodity certificates towards target achievement. In some circumstances, commodity EACs derived from interventions within a specific supply shed can be a reasonable means to claim emission reductions in a company's value chain. However, the approach would also introduce risks that must be carefully considered. The case-specific development of high-integrity, commodity-specific crediting mechanisms will be highly challenging and susceptible to influence from actors with significant interests. Decades of experience with Renewable Energy Certificates has also shown that the procurement of EACs alone, without consideration of the specific procurement constructs, may be unlikely to lead to significant emission reductions (NewClimate Institute, 2024d). As guidelines for the definition and the use of commodity EACs are still under development, emission reduction claims associated with purchases of book-and-claim and mass balance certificates, presented with minimal explanation, may be premature.

Measures and targets to reduce emissions from fertilisers are lacking from company climate strategies

None of the five assessed agrifood companies acknowledges the need to reduce fertiliser use on farms. Fertilisers, both synthetic and organic, lead to significant GHG emissions and are the biggest source of nitrous oxide (NO_2) emissions. Two-thirds of emissions from fertilisers occur during application, in the form of nitrogen emissions, while one third of GHG emissions occur due to the burning of fossil fuels during the production of synthetic fertilisers (Gao and Serrenho, 2023). Companies that mention fertilisers focus on changing the type of fertiliser sourced, which at best reduces emissions from fertiliser production. For instance, Danone and Nestlé report that they are replacing some synthetic fertilisers with organic fertilisers, using cow manure to fertilise crops and pastures (Danone, 2023a, p. 24; Nestlé, 2025b, p. 30). While replacing synthetic fertilisers with manure addresses emissions from synthetic fertiliser production (Paul *et al.*, 2023), it does not address on-farm nitrous oxide emissions. There is also some evidence that using manure to fertilise soils could increase nitrous oxide emissions (Zhou *et al.*, 2017). Companies should therefore reduce overall fertiliser use, whether they switch to organic fertilisers or not. PepsiCo is the only company that mentions it is piloting the use of low-carbon fertilisers made from renewable or low-carbon ammonia (PepsiCo, 2025d, p. 17). Reducing on-farm nitrous oxide emissions will require companies to increase fertiliser use efficiency through the implementation of fertiliser management plans and by using precision fertilisers, among several key measures.

Regenerative agriculture is presented as the most important measure to reduce emissions from fertiliser use, though it remains unclear how it can contribute to a reduction in nitrous oxide emissions. Both Danone and Nestlé highlight that regenerative agriculture will lead to fewer GHG emissions due to decreased synthetic fertiliser use (Danone, 2023a, p. 24; Nestlé, 2025b, p. 45). It is unclear whether regenerative agriculture will lead to fewer nitrous oxide emissions, as different regenerative agriculture practices geared towards sequestering more carbon in soils may, in fact, require an increase in fertiliser application (Giller *et al.*, 2021; NewClimate Institute, 2024b). PepsiCo also mentions nutrient management as a key component of regenerative agriculture (PepsiCo, 2025d, p. 16) but only Danone has clear requirements for farmers to implement fertiliser management plans under its regenerative agriculture framework. Other companies have yet to present significant measures towards reducing emissions from fertilisers.

Companies are making some progress on other key transitions, but targets and progress data are still missing

Most agrifood companies disclose how they are addressing other key measures needed to decarbonise the industry. Agricultural production and agrifood supply chains are complex, and decarbonising food systems requires the implementation of many measures at both the farm and distribution stages. We group these measures under 'accompanying measures' as a key transition. Accompanying measures include transitioning to renewable energy on farms, decarbonising farming equipment, using electric or low-emission vehicles for logistics and distribution, and implementing circularity measures for packaging. All companies under assessment, except for JBS, mention they are implementing some or all of the necessary accompanying measures. However, quantitative targets are uncommon.

We identified several targets in relation to packaging, but progress on reducing absolute tonnage of plastic is mixed. Packaging is a major source of emissions for the industry. For example, a quarter of PepsiCo's emissions stem from packaging (PepsiCo, 2024c), while packaging accounts for just over 10% of Danone's emissions (Danone, 2025, p. 211). Danone, Mars, Nestlé and PepsiCo have set targets on packaging. These targets include designing packaging to be reusable and recyclable and reducing intensity and absolute plastic use. Danone and Nestlé report that overall virgin plastic use has reduced against their baseline years. In contrast, PepsiCo reports an increase in virgin plastic use, and Mars reports that it will likely not reach its 2025 targets. PepsiCo also reduced the ambition of its packaging targets in 2025 (Giles, 2025; PepsiCo, 2025c). While it is encouraging that companies address this source of emissions, measures should be ramped up for companies to reach their packaging targets, and it remains unclear how effective the implemented measures will be in reducing emissions from packaging. We could not identify scientific benchmarks in the literature for reducing emissions from packaging and plastics despite these being a significant contributor to overall emissions. Packaging tends to be addressed from a waste and circularity perspective, and less often from a climate and emissions standpoint, so that the pathway towards decarbonising this emissions source remains uncharted territory.

Commitments and progress on reducing food loss and waste are noticeably absent from companies' decarbonisation strategies. Only Danone has a credible and ambitious food loss and waste target, aligned with the global Sustainable Development Goal (SDG) to halve food loss and waste by 2030 (Danone, 2025, p. 169). Nestlé reports that it is working towards the SDG target and outlines some measures to address food loss and waste, although it does not report progress (Nestlé, 2025b, p. 62). JBS has a target to reduce food loss and waste, but the target only covers the US operations of its subsidiary Pilgrim's (JBS, 2025). Other companies mention some measures but do not commit to waste reduction targets. Food producers may be less able to address food waste than food retailers. However, companies can implement measures such as engaging with their suppliers and distributors to reduce waste, as well as implementing food loss and waste programmes (Boehm *et al.*, 2023).

Figure 3.4: Food and agriculture companies' strategies for key transitions *(see Section 3.2 for further details in company case studies)*

KEY TRANSITION	DANONE	JBS	MARS	NESTLÉ	PEPSICO
OVERALL RATING FOR KEY TRANSITIONS	Moderate	Very poor	Poor	Poor	Poor
ZERO DEFORESTATION	Moderate Danone has a target to have deforestation and conversion-free key commodities by 2025. No target identified for non-key commodities	Poor JBS commits to reducing illegal deforestation in the Amazon for some suppliers by 2025 but does not have further commitments and only implements minor measures to reduce legal deforestation	Moderate Mars commits to limiting land use and deforestation for several key ingredients but this only covers direct operations and some ingredients do not include clear phase-out dates.	Reasonable Nestlé aims to achieve and maintain 100% assessed deforestation-free primary supply chains of major product groups by 2025. Annual disclosure of progress. Small farms and smallholder farms are exempted from management system requirements.	High PepsiCo aims for deforestation-free sourcing by 2025 and conversion-free by 2030. It details measures for each high-deforestation risk commodity.
TRANSITION FROM ANIMAL- TO PLANT-BASED PROTEINS (SEE FIGURE 3.3 FOR FURTHER DETAILS)	Moderate No target identified, but Danone has a target to reduce methane emissions from fresh milk production and implements significant measures to increase the share of plant-based protein in its portfolio.	Very poor JBS owns plant-based protein companies but shows no sign of transitioning its business model.	Poor Mars does not have a target to increase plant-based protein but says that it is researching alternative ingredients that will require less land to grow, in particular for its petfood ranges.	Poor No target identified, but Nestlé presents some measures and expected emission reductions of plant-based products.	Very poor PepsiCo has a target to increase the use of more diverse ingredients, but target formulation and metrics are unclear. PepsiCo does not present any measures to reach this target.
REDUCE EMISSIONS FROM FERTILISERS	Poor Danone presents some measures to reduce fertiliser use in its regenerative agriculture framework, but we did not identify a target.	Very poor We identified only limited measures and no targets to reduce the use of fertilisers among these companies.			Poor PepsiCo presents some measures to reduce emissions from fertilisers in its climate transition plan, but we did not identify a target.
REDUCE FOOD LOSS AND WASTE	Reasonable Danone has a target to halve food waste by 2030, which covers most of food loss and waste and represents a timely implementation of measures.	Poor JBS and Pilgrim's have committed to reduce food loss and waste by 50% by 2030, but only in their US operations.	Very poor Mars does not have a target or implement measures to reduce food loss and waste.	Poor Nestlé states it works towards the global aspirational goal of reducing food waste by 50% by 2030, but does not present it as an own commitment. The company presents significant measures for reducing food loss, and some measures for reducing food waste.	Very poor PepsiCo does not implement measures or set a target on food loss and waste.
OTHER ACCOMPANYING MEASURES	Poor Danone presents some measures and targets for several emission sources: packaging, logistics, and others, but does not explicitly recognise the transition.	Very poor JBS does not have targets on accompanying measures and focuses on pilot projects.	Poor Mars outlines expected emission reductions from implementation of accompanying measures such as increasing renewable energy on farms and in retail operations but does not set clear targets.	Poor Nestlé aims to reduce virgin plastic by a third, and its Net Zero Roadmap presents various accompanying measures that could reduce emissions related to manufacturing significantly.	Poor PepsiCo implements some measures such as increasing renewable energy in manufacturing but does not set targets on accompanying measures.

→ *See Annex 3C for further details on our integrity assessments for companies' key transitions*

Recommendations for companies

- **Set separate targets for emission reduction and removal.** Agrifood companies should aim for deep, structural emission reductions, as well as enhanced land-based removals. They should, however, not aggregate removals with reductions to claim progress towards target achievement. Counting removals towards meeting emission reduction targets obscures the lack of action on key transitions. Separate targets for reduction and removal would improve the accountability, transparency and robustness of agrifood targets and climate strategies, while driving action on key transitions.
- **Commit to key transitions and break emission reduction targets into specific greenhouse gases.** Companies should specify their emission reduction commitments by greenhouse gas type to be able to link emission reduction targets with key transitions and to track progress more accurately. Methane can be most effectively addressed by reducing livestock farming; therefore, companies should commit to shifting to plant-based protein. Nitrous oxide emissions need to be addressed by reducing fertiliser use on farmland.
- **Expand the coverage of deforestation targets to include all key commodities, especially cocoa, as well as indirect suppliers.** Companies should expand on the measures they take to reduce deforestation in their supply chains, beyond purchasing deforestation-free certificates and increasing supply chain traceability. Companies should aim to use commodity certificates that guarantee physical traceability to increase the integrity of their deforestation-free commitments and to reduce the risk of double-claiming.
- **Refrain from counting emission reductions associated with EACs towards target achievement until further guidance is developed.** As guidelines for the definition and use of commodity EACs are still under development, emission reduction claims associated with purchases of book-and-claim and mass balance certificates, presented with minimal explanation, may be premature. Companies can, however, report on any progress made with the help of EACs in their sustainability disclosures in the form of climate contributions.

Urgent priorities for SBTi, GHG Protocol and ISO standard development processes:

- **Ensure clarity around emission reduction requirements for the agrifood sector.** The existing guidelines, most notably from the SBTi's FLAG Guidance, allow for an unspecified role for land-based removals to count towards target achievement. It remains unclear what the *actual* emission reduction requirements are for companies that want to comply with the SBTi's FLAG Guidance. A breakdown of emission reduction requirements into separate greenhouse gases would guide the sector to more accurately and more effectively support key transitions.
- **Require separate targets for emission reduction and removal.** Standard setters should require that companies commit to sufficient emission reductions for the sector and should not allow land-based removals and emission reductions to be aggregated. Separate targets would increase transparency and robustness of climate strategies and ensure accountability. The latest draft version of the GHG Protocol Land Sector and Removals Guidance of 2022 includes this criterion – we strongly recommend that the standard setters retain this criterion in the final version.

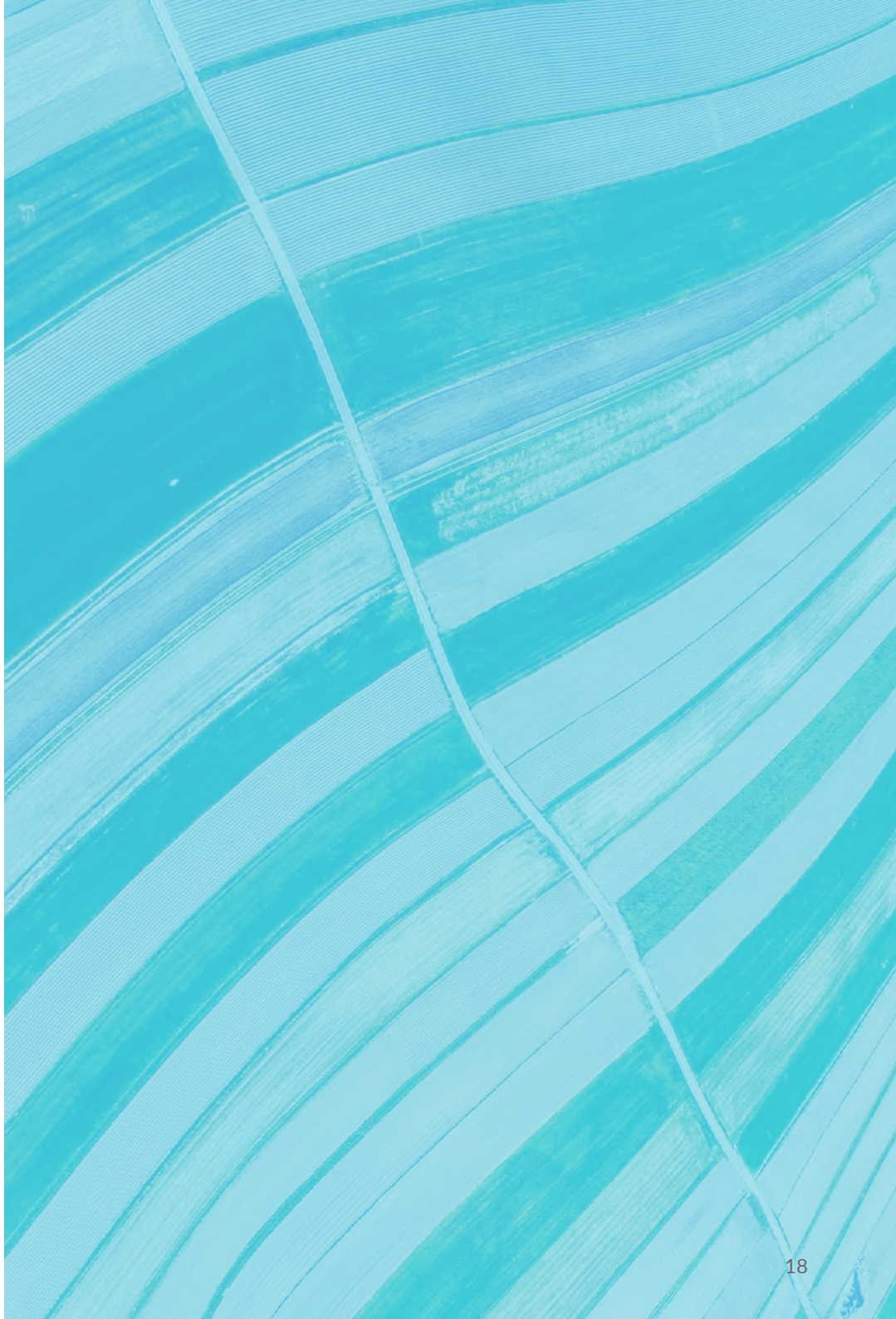
Agrifood companies' targets should be set separately for emission reductions and removals and clearly linked to key transitions to drive meaningful action.

3.2 Company analyses

The following pages set out our detailed analyses of **Danone**, **JBS**, **Mars**, **Nestlé** and **PepsiCo**.

→ *See the assessment methodology for the Corporate Climate Responsibility Monitor. Guidance and assessment criteria for good practice corporate emission reduction and net-zero targets: Version 5.0 (NewClimate Institute, 2025).*

Disclaimer: *Our evaluation of the transparency and integrity of companies' climate strategies represents the authors' views and interpretations of publicly available information that is self-reported by the companies assessed. Due to the fragmentation, inconsistency and ambiguity of some of the information provided by the assessed companies, as well as the fact that the authors did not seek to validate the public self-reported information provided by those companies, the authors cannot guarantee the factual accuracy of all information presented in this report. Therefore, neither the authors nor NewClimate Institute makes representations or warranties as to the accuracy or reliability of any information in this report. The authors and NewClimate Institute expressly assume no liability for information used or published by third parties with reference to this report.*



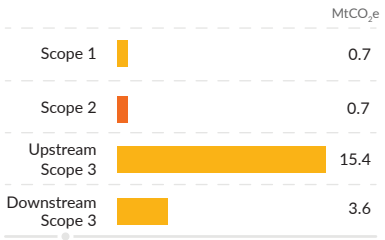
Danone

Danone's milk and dairy production accounted for 75% of its value chain emissions in 2022. The company has SBTi FLAG-aligned targets for 2030 and 2050 targets, but both depend on an undefined role of land-based CDR. Danone also has a target to reduce its methane emissions related to fresh milk production by 30% by 2030, which is substantiated with plans to increase its share of plant-based protein products. Danone presents targets to end deforestation and limit food loss and waste and presents significant measures to reduce for other key emissions.

TRANSPARENCY	INTEGRITY
Moderate	Moderate

1 TRACKING AND DISCLOSURE OF EMISSIONS

Danone provides an emissions breakdown into conventional categories and relevant emission sources. Only historical data of base year and one year prior to reporting year are provided.



MAJOR EMISSION SOURCES

- Livestock rearing
- Land use and land-use change
- Soil fertilisers
- Other

2 GHG EMISSION REDUCTION TARGETS

Headline pledge: *Net zero by 2050*

		TRANSPARENCY	INTEGRITY
Short term	?	*By 2030, compared to 2020 levels: reduce scope 1 & 2 energy & industry-related emissions by 46.3%, scope 3 energy & industry-realted by 42%, FLAG emissions by 34.8%, CH_4 from fresh milk by 30%. Target achievement depends on an undefined role for land-based CDR. Methane target is, based on available information, independent from removals.*	
Medium term	N/A	*No target identified.*	
Longer term	?	*Net-zero target is accompanied by emission reduction targets, but these depend on an undefined role of land-based CDR. Danone gives an estimate of residual emissions, in which land-based CDR has likely already been accounted for.*	

3 TRANSITION TARGETS

		TRANSPARENCY	INTEGRITY
Shift to plant-based protein	*No target identified, but Danone has a target to reduce methane emissions from fresh milk production and implements significant measures to increase the share of plant-based protein in its portfolio.*		
Reduction in food loss and waste in operations and supply chain	*Danone has a target to halve food waste by 2030, which covers most of food loss and waste and represents a timely implementation of measures.*		
Reduction in fertiliser use	*Danone mentions over-application of fertiliser in its sustainability reporting, but does not signal the need for the transition. We identified some measures to reduce fertiliser use in its regenerative agriculture framework.*		
Commit to no-deforestation, no land conversion and no peat-burning	*Danone has a target to have deforestation and conversion-free key commodities by 2025. No target identified for non-key commodities.*		
Accompanying measures	*Danone presents some measures and targets for several emission sources: packaging, logistics, and others, but does not explicitly recognise the transition.*		

4 RESPONSIBILITY FOR ONGOING EMISSIONS AND SCALING UP DURABLE REMOVALS

		TRANSPARENCY	INTEGRITY
Climate contributions & offsetting practices	*Danone contributes through two funds to climate action beyond and within its value chain. The associated reductions generate carbon credits that Danone can claim, potentially used for carbon neutrality claim of factories. Offset credits explicitly do not count toward achievement of net-zero target.*		
Support for durable carbon dioxide removals	*Danone says it will invest in durable CDR to claim neutralisation of residual emissions, by buying carbon removal credits. No specific actions identified.*		

EMISSION TRENDS

✔ *Emissions have decreased significantly since the target base year of 2020. Reduction rate appears to be in line with SBTi benchmarks for the sector (annual reduction of 3.03% from 2020). Currently, land-based CDR is not included in the emissions reporting.*

TRANSITION PROGRESS

?

? *Danone presents data on its progress towards its zero deforestation target. Based on its own reporting, Danone is on track to meet this target. For other transitions, no progress data identified but Danone presents significant measures and progress in qualitative terms on transitions regarding plant-based protein, food loss and waste, and accompanying measures.*

?

✔

?

Transparency & integrity : 5-point rating scale:

High | Reasonable | Moderate | Poor | Very poor

Transparency refers to the disclosure of information.
Integrity refers to the quality and credibility of the approach.

? Integrity assessment not possible due to lack of available benchmarks for the transition.

Progress:
- ✔ Right direction, on track
- ✚ Right direction, off track
- ✖ Well off track
- ⮌ Wrong direction, critically off track
- ? No progress identified or insufficient data
- ? No benchmarking possible.

The analysis represents the authors' interpretations of publicly available information. NewClimate cannot guarantee the factual accuracy of all information presented in this factsheet due to potential fragmentation, inconsistency and ambiguity across data sources.

Sources: *Danone (2023a, 2025).*

Danone

Danone S.A. is a French corporation that mainly produces dairy and dairy products. The largest share of its emissions is related to milk and dairy ingredients, accounting for 75% of its value chain emissions in 2022. Danone has committed to 2030 and 2050 targets, in line with the Science Based Targets initiative's guidance for forest, land and agriculture companies. Both its 2030 and 2050 targets depend on an undefined role of land-based carbon removals, as currently allowed in the SBTi FLAG guidance. Therefore, it remains unclear to what extent Danone is committed to permanent emission reductions. In addition to its FLAG targets, the company has a target to reduce its methane emissions related to fresh milk production by 30% by 2030 compared to 2020 levels. This target is substantiated with plans to increase its share of plant-based protein products. Danone also presents targets to end deforestation and reduce food loss and waste, along with significant measures for other key emission sources.

Key developments: We have identified several developments and updates to Danone's climate strategy since the previous analysis was published in April 2024 (NewClimate Institute, 2024a). Danone now presents emission reduction targets alongside its net-zero target and is more explicit about land-based carbon dioxide removals (CDR) playing a role in target realisation. The volume of anticipated land-based CDR remains unclear. We were unable to quantify Danone's targets based on full value chain emissions, because its CDP disclosure is no longer publicly available. We added analyses on Danone's commitments to key transitions and its climate contributions.

Danone's short-term targets towards 2030 reflect the need for rapid emission reductions in the sector, but the intended role of land-based removals for its target realisation remains unclear. The company aims to reduce scope 1 and 2 energy and industrial greenhouse gas (GHG) emissions by 46.3% by 2030, compared to 2020 levels, and aims to reduce scope 3 energy and industry-related emissions by 42% within the same timeframe. Danone also commits to reducing scope 1 and 3 FLAG emissions by 30.3% by 2030, compared to 2020 levels (Danone, 2025, p. 216). Though Danone was not explicit about the role of removals for target realisation previously, the company now states that the targets include 'FLAG emissions and removals' (Danone, 2025, p. 216). The company also plans to rely on soil carbon sequestration as a means to enhance removals and heavily leans on regenerative agriculture throughout its climate strategy (Danone, 2025, p. 209). However, it remains unclear how Danone's regenerative agriculture practices will lead to deep emission reductions (NewClimate Institute, 2024b). To date, Danone has not yet reported on achieved volume of removals and states that it is awaiting guidance to be developed under the forthcoming GHG Protocol's Land Sector and Removals guidance (Danone, 2025, pp. 209, 221), of which the current draft actually requires companies to set separate reduction and removal targets *(see Section 3.1)*. The company also estimates that remaining emissions in 2030 amount to 14.3 $MtCO_2e$ (Danone, 2025, p. 205), which translates to a reduction of roughly 40% compared to 2020 baseline emissions. It remains unclear if removals are already accounted for in this estimate of remaining emissions. In addition to Danone's SBTi-validated FLAG targets, the company has a target to reduce methane emissions related to fresh milk production by 30% *(see below)*. Though not made explicit, we understand that this target is independent of land-based removals.

Danone's net-zero target for 2050 is accompanied by emission reduction targets, but these will be reached through an undefined amount of land-based carbon removals. In line with SBTi's FLAG guidance, Danone has set targets to reduce energy and industry-related emissions by 90% and FLAG emissions by 72% by 2050. However, the company does not specify the role of land-based carbon removals for its FLAG targets. This could mean that the share of permanent emission reductions is limited. The company estimates that its residual emissions will be 4.7 $MtCO_2e$ in 2050 (Danone, 2025, p. 219). The estimated volume of residual emissions implies emission reductions of roughly 80% compared to its 2020 baseline emissions, but it remains unclear if land-based removals are already accounted for in this estimate. Since public disclosure does not include all scope 3 emissions categories as per the GHG Protocol (Danone, 2025, p. 218), we were unable to quantify what Danone's long-term and short-term targets mean compared to full value chain emissions *(see NewClimate Institute (2024a) for our previous quantification)*. Danone describes that it will purchase carbon credits associated with permanent removals to reach net zero, and that it will involve own removal projects, without specifying further (Danone, 2025, p. 219).

Danone presents comprehensive emission reduction measures, including plans to increase the share of plant-based protein. In its earlier *Climate Transition Plan* and latest sustainability report, Danone acknowledges the need to transition to more plant-based protein, and presents significant measures to contribute to the transition (Danone, 2023a, pp. 18; 35, 2025, pp. 203, 214, 350). Although Danone describes the importance of dairy for 'healthy, sustainable and accessible diets' (Danone, 2023b, p. 4) and remains one of the world's largest dairy producers, it also highlights its plans to further increase the share of plant-based and low-carbon products (Danone, 2023a, pp. 35–36, 2025, pp. 203, 214). Furthermore, Danone describes that the carbon footprint of products plays a critical role in decision-making processes regarding product innovation. This set of measures significantly strengthens the integrity of Danone's longer-term climate strategy. Since the implementation of Danone's planned measures for the short term would mean reaching the technical and physical limitations of methane reductions in the livestock sector without reducing dairy production, increasing the share of plant-based protein is a crucial measure to achieve deeper emission reductions (Reisinger *et al.*, 2021). By increasing the share of plant-based protein production, the company creates an opportunity to transition away from an emissions-intensive business model, and to achieve deeper emission reductions in the long term.

Danone's climate strategy also addresses deforestation, food loss and waste, accompanying measures, and – to some extent – fertiliser use. The company has significant measures in place for those first three key emission sources and presents targets for transitions regarding deforestation and food loss and waste. Danone has a target to make its key commodities deforestation- and conversion-free by 2025 and presents various policies and tracking tools supporting this (Danone, 2025, pp. 169, 233). The company aims to halve food loss and waste by 2030 and describes some measures contributing to this target (Danone, 2025, pp. 169, 238, 244–246). For emission sources such as packaging, logistics and energy, Danone furthermore describes a multitude of measures and some underlying targets (Danone, 2025, pp. 241–242, 349). In the context of regenerative agriculture, Danone requires farmers to implement fertiliser management plans (Danone, 2021). The company says that measures will reduce fertiliser use and related emissions (Danone, 2023a, p. 24), but further elaboration in public-facing documentation would be needed to independently assess the robustness of that claim.

Danone's climate strategy includes a target to reduce methane emissions related to fresh milk production by 30%, compared to 2020 levels. Danone is a signatory to the Global Methane Pledge and is one of the first major agrifood companies to set a target for reducing methane emissions (Danone, 2023b, p. 3, 2025, p. 219). Methane emissions from livestock are one of the most challenging and critical emission sources of the sector (Reisinger *et al.*, 2021). Danone's target does not cover all of its methane emissions. Only 37% of Danone's emissions are related to milk production – a share of that is methane (Danone, 2025, p. 347), and the target does not cover secondary methane products. During COP28, Danone pledged to start reporting on its methane emissions in 2024 (Douglas, 2023) and now includes methane emissions in its latest reporting (Danone, 2025, p. 207).

Danone describes that it is contributing to climate action beyond its own value chain, but potentially uses generated carbon credits to claim carbon neutrality for factories. Danone invests in its Livelihoods Carbon Fund and its Livelihoods Fund for Family Farming (Danone, 2025, pp. 175, 219), which could be considered climate contributions if kept independent of any neutralisation claims. It describes that the projects generate carbon credits that are then returned to investors, of which Danone is one. It remains unclear what claim Danone is using these carbon credits for. Some of Danone's factories use carbon credits to make carbon neutrality claims, but it is unclear whether these are separate credits or those generated through the livelihoods funds (Danone, 2025, pp. 175, 219). It is commendable that Danone is making such investments, but these should remain independent from any neutrality claim. In addition, more information on the recipients and the scale of the climate contributions is needed to understand the potential impact of the contributions.

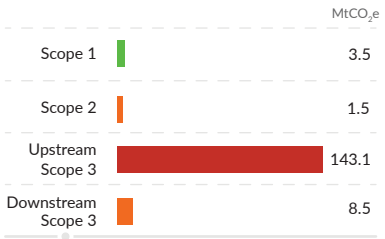
JBS

JBS's commitment to reach net-zero emissions by 2040 is not accompanied by an emission reduction target. JBS plans to continue growth in a GHG emission-intensive industry; we did not find evidence that JBS is embarking on key transitions in the sector that would enable deep emission reductions. Its interim targets for 2030 would lead to a 1% emission reduction compared to its reported 2019 emissions, if interpreted generously. The company's 2030 and net-zero commitments were removed from the Science Based Targets initiative's (SBTi) website in 2024.

	TRANSPARENCY	INTEGRITY
	Very poor	Very poor

1 TRACKING AND DISCLOSURE OF EMISSIONS

JBS discloses scope 1, 2 and 3 emissions since 2021 but does not disclose emissions from land use change.



MAJOR EMISSION SOURCES

- Livestock rearing
- Land use and land-use change
- Soil fertilisers
- Other

2 GHG EMISSION REDUCTION TARGETS

Headline pledge: *Net zero GHG emissions by 2040*

			TRANSPARENCY	INTEGRITY
Short term	Unclear	*JBS's target to reduce scope 1 & 2 emissions intensity by 30% by 2030 vs 2019, even if interpreted as an absolute emission reduction target, would only lead to a 1.1% emission reduction by 2030 below 2019 levels.*	◌	◌
Medium term	Unclear	*Target to reach net-zero GHG emissions by 2040 is not accompanied by an emission reduction target.*	◌	◌
Longer term	N/A	*No target identified.*	◌	◌

3 TRANSITION TARGETS

		TRANSPARENCY	INTEGRITY
Shift to plant-based protein	*JBS owns plant-based protein companies but shows no sign of transitioning its business model.*	◌	◌
Reduction in food loss and waste in operations and supply chain	*JBS and Pilgrim's have committed to reduce food loss and waste by 50% by 2030, but only in their US operations.*	◐	◔
Reduction in fertiliser use	*JBS does not have a target or implement measures to reduce fertiliser use.*	◌	◌
Commit to no-deforestation, no land conversion and no peat-burning	*JBS commits to reducing illegal deforestation in the Amazon for some suppliers by 2025 but does not have further commitments and only implements minor measures for legal deforestation.*	◔	◔
Accompanying measures	*JBS does not have targets on accompanying measures and focuses on pilot projects.*	◌	◌

4 RESPONSIBILITY FOR ONGOING EMISSIONS AND SCALING UP DURABLE REMOVALS

		TRANSPARENCY	INTEGRITY
Climate contributions & offsetting practices	*JBS appears to be using JBS Fund for the Amazon to generate carbon credits. It is unclear if credits will be used for offsetting to reach its targets.*	◌	◌
Support for durable carbon dioxide removals	*No support for durable CDR identified.*	◌	◌

EMISSION TRENDS

✖ *Slight decrease in emissions in recent years, but no signs of a rapid reduction. Insufficient data for years until 2021 to investigate trends in detail.*

TRANSITION PROGRESS

↩ ? ? ↩ ?

JBS shows no sign of progress on transitioning away from emissions intensive practices. JBS addresses illegal deforestation, but does not report progress on emissions from land-use change, nor does it have a commitment to phase out legal deforestation.

Transparency & integrity : 5-point rating scale:

High | Reasonable | Moderate | Poor | Very poor

Transparency refers to the disclosure of information.
Integrity refers to the quality and credibility of the approach.

? Integrity assessment not possible due to lack of available benchmarks for the transition.

Progress:
- ✔ Right direction, on track
- ✚ Right direction, off track
- ✖ Well off track
- ↩ Wrong direction, critically off track
- ? No progress identified or insufficient data
- ? No benchmarking possible.

The analysis represents the authors' interpretations of publicly available information. NewClimate cannot guarantee the factual accuracy of all information presented in this factsheet due to potential fragmentation, inconsistency and ambiguity across data sources.

Sources: *JBS (2020, 2024, 2025), SBTi (2024).*

JBS

JBS S.A. (JBS) is a meat processor headquartered in Brazil. Scope 3 emissions accounted for 97% of its reported emissions in 2023. The company plans to continue growth in a GHG emission-intensive industry; we did not find evidence that JBS is embarking on key transitions in the sector that would enable deep emission reductions. JBS does not have an emission reduction target alongside its net-zero emission target for 2040. Its interim targets for 2030 would lead to a 1% emission reduction compared to its reported 2021 emissions, if interpreted generously.

Key developments over the past year: We have identified only limited developments and minor updates to JBS's climate strategy since the previous analysis was published in 2023 (NewClimate Institute, 2023, pp. 98–99). JBS now includes some methane emissions in its emissions calculations but still excludes emissions from land-use change. Other estimates of JBS's methane emissions place the company as the fifth largest corporate methane emitter (Greenpeace Nordic, 2024). The company's 2030 and net-zero commitments were removed from the Science Based Targets initiative's (SBTi) website in 2024 (SBTi, 2024).

JBS does not specify what share of its 2040 net-zero target will be based on emission reductions and what share will rely on offsetting. In its communication related to its net-zero target, JBS says that it wants to reduce direct and indirect GHG emissions, while offsetting residual emissions (JBS, 2024, p. 33). We could not identify an emission reduction target accompanying its net-zero headline pledge. It is therefore unclear what share of JBS's emissions footprint will be offset by 2040. Given the limited detail on emission reduction measures and the expected continuous growth of the company, this share could be significant. JBS does not specify any details regarding what kind of offsetting projects it will procure credits from, the potential volume of credits it envisages needing, nor general criteria for ensuring robust environmental integrity in any offsetting claims it may make. In addition to the uncertainties around the true meaning of the net-zero commitment, JBS has also recently announced that it is an aspiration, rather than a target (Eschenbacher, Novaes Magalhaes and Jessop, 2025).

JBS's emissions intensity target for scope 1 and 2 is highly insufficient, omitting the company's main emission sources. JBS says it wants to reduce scope 1 and 2 emissions intensity by at least 30% by 2030 compared to 2019 (JBS, 2024, p. 29) while still presenting it as an absolute target on its website (JBS, 2025). This inconsistency undermines the transparency of the target. Moreover, since its reported scope 3 emissions accounted for 97% of its total emissions footprint in 2023 (JBS, 2024, p. 32), the target is also highly insufficient, amounting to around 1% reduction by 2030 below 2021, if interpreted generously, according to our own calculations. The company's 2030 and net-zero commitments were removed from the Science Based Targets initiative's (SBTi) website in 2024 (SBTi, 2024), because by the end of 2023, JBS was not able to submit or revise its plans to be aligned with limiting global warming to maximum 1.5°C, in accordance with the SBTi's standards (Bryan and Pooler, 2024; Jones and Mitchell, 2024). JBS claims its commitment was removed in response to changes in SBTi's FLAG guidance published in 2023 (SBTi, 2023a). JBS does not intend to set new targets in accordance with the FLAG guidance (JBS, 2024, p. 33).

JBS still excludes emissions from land-use change related to meat production in its emissions disclosure (JBS, 2024, p. 32). JBS says that key emission sources including enteric fermentation, feed and manure management are included in its reported scope 3 emissions, but the company does not provide a breakdown of the emissions to these sources (JBS, 2024, p. 32). Moreover, land-use change emissions related to rearing cattle are not covered for its emissions reporting as these calculations 'are currently being improved' (JBS, 2024, p. 32). With the current level of detail, JBS's emissions disclosure does not allow for a thorough understanding of the emission sources and effectiveness of potential mitigation measures. Moreover, third-party estimates exceed JBS's estimates substantially, putting JBS's emissions at close to 300 $MtCO_2e$ in 2021 (Changing Markets Foundation and IATP, 2022, p. 16), an estimate that is over 100 $MtCO_2e$ higher than its self-reported 2021 emissions (JBS, 2024, p. 32).

JBS is not transitioning away from its highly emissions intensive cattle farming industry; rather it is expanding its industrial animal farming operations. These emissions are primarily related to cattle rearing, including emissions from enteric fermentation, feed, manure and deforestation, and pig and poultry farming. We did not identify a comprehensive emission reduction strategy: the company provides minimal detail on how it wants to realise its targets, focusing on case-studies and anecdotal evidence that it is testing certain decarbonisation measures. JBS has set a target on cutting food loss and waste in its US JBS and Pilgrim's operations by 50% by 2030 (JBS, 2025). Except for this, JBS does not set targets on key transitions needed to decarbonise the food and agriculture sector, and instead presents accompanying measures such as limiting overgrazing, using feed additives, and increasing feed efficiency (JBS, 2024, pp. 35–38). Even so, these measures all appear to be in piloting or trial stages without any clear timelines for how these measures will be scaled up. We did not identify substantial transition targets for JBS's most important emission sources in scope 3: investments into scope 3 emission reduction measures have been found to remain very minimal (Greenpeace Nordic, 2024). JBS also emphasises regenerative grazing as a key measure to reduce emissions from livestock (JBS, 2024, pp. 35–38), though evidence on the efficacy of regenerative grazing is currently lacking (NewClimate Institute, 2024b). These measures, although important, should be used in addition to diversifying away from livestock rearing. JBS mentions that it is expanding into plant-based proteins through its acquisition of several plant-based protein brands, but this is only in addition to its current activities (JBS, 2024, p. 81). Rather, JBS is investing in the expansion of its US beef production, indicating that it is not transitioning away from this industry (Casey, 2025). JBS supports policy on sustainable agricultural intensification but does not appear to support climate policy related to transitioning diets away from GHG intensive protein products (InfluenceMap, 2024). Without major innovations to drastically reduce the emissions footprint of meat production or diversifying away from this highly GHG emissions intensive industry, it is not credible for livestock agribusinesses to claim that they are on a path to deep decarbonisation.

JBS does not present ambitious targets or measures to end deforestation in its supply chain. JBS has set a target to deliver zero illegal deforestation in all Brazilian biomes by the end of 2025 for direct and tier 1 indirect cattle suppliers (JBS, 2024, p. 47). However, it does not present any targets to end legal deforestation. Even then, recent investigations have shown that illegal deforestation was still taking place in JBS's supply chain in 2024, so it is unlikely that JBS is making real progress on its illegal deforestation target (Mighty Earth and AidEnvironment, 2024). JBS presents only few measures to address illegal deforestation beyond 2025, in particular investing in supplier and cattle traceability (JBS, 2024, p. 51). JBS does not mention legal deforestation in the Amazon or ecosystem conservation as an issue it needs to address. JBS also mentions that it intends to address the underlying drivers of deforestation (growing demand for animal protein products, especially beef), but only intends to do this through sustainable intensification, integrated farming systems and restorative land practices rather than reducing production and livestock numbers (JBS, 2024, p. 46).

JBS aims for 60% renewable electricity in its facilities by 2030 but provides little information about current and planned renewable energy supply constructs. We could no longer find a reference to its previous target to procure 100% renewable electricity by 2040 (JBS, 2023, p. 39). The company claims that renewable electricity accounted for only 8% of its consumption in 2023, down from 45.1% in 2022 (JBS, 2023, p. 39), but does not explain why this share has dropped so significantly. JBS has some renewable energy generation on-site, using solar systems and residue biogas, and mentions it is also procuring 'virtual renewable energy' (JBS, 2024, p. 61). The company aims for 60% renewable electricity by 2030 (JBS, 2024, p. 29), which is misaligned with global renewable electricity benchmarks (IEA, 2023). To achieve this, on-site generation and high-quality energy procurement structures are necessary. However, the company does not specify what procurement constructs it currently uses and what it plans to use. It remains unclear whether these targets are credible.

With its JBS Fund for the Amazon and JUNTOS programmes, JBS claims it will contribute to several projects in the Amazon biome without claiming neutralisation, but it appears that JBS will be using the funds to generate carbon credits (JBS, 2024, pp. 49, 54). With projects such as 'RestaurAmazônia' and 'Release Credit for Forest Bioeconomy', JBS wants to support projects related to 'low-carbon livestock farming', bioproducts and agroforestry in the Amazon biome (JBS, 2024, p. 54). It is unclear exactly what kind of practices are covered under 'low-carbon livestock farming', but JBS implies that it partially entails increasing soil carbon sequestration in pastures (JBS, 2024, p. 54). Although we did not find evidence that JBS intends to claim neutralisation of emissions based on the projects' outcome, a figure in the company's sustainability report suggests it will generate carbon credits through these projects (JBS, 2024, p. 49). We could not determine if JBS will use these carbon credits to reach its emission reduction and net-zero targets. JBS will contribute a maximum USD 100 million to the fund up to 2030 (JBS, 2020), equal to roughly 0.01% of its revenue annually (annual revenue was USD 73 billion in 2023 (JBS, 2024, p. 8)). The volume of this financial contribution is equivalent to a carbon price on the company's emissions footprint of approximately just 0.06 USD per tonne CO_2e. This is substantially lower than the range of emerging carbon price recommendations for meaningful climate contributions, that equate to at least 100 USD per tonne of CO_2e *(see Section 4 in forthcoming Methodology).*

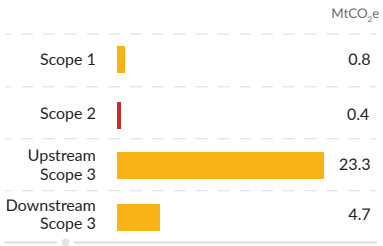
Mars

Mars has a net-zero target for 2050 which includes an emission reduction commitment of 80%, and a 2030 emission reduction target of 50%. Mars's short-term targets and planned measures appear in line with 1.5°C-aligned benchmarks, but we did not identify measures that would lead to deep emission reductions after 2030. Its short-term targets will be reached independently from land-based CDR.

	TRANSPARENCY	INTEGRITY
	Moderate	Poor

1 TRACKING AND DISCLOSURE OF EMISSIONS

Mars reports its emissions in its 2023 public-facing reporting, but does not provide historical emissions. Disclosure of scope 1 and 2 emissions remains superficial.



MAJOR EMISSION SOURCES

- Livestock rearing
- Land use and land-use change
- Soil fertilisers
- Other

2 GHG EMISSION REDUCTION TARGETS

Headline pledge: *Net-zero GHG emissions by 2050 in full value chain.*

			TRANSPARENCY	INTEGRITY
Short term	46%	*Targets to reduce scopes 1, 2 and 3 by 27% by 2025 and 50% by 2030 below 2015 are compatible with 1.5°C-aligned sectoral and cross-sector benchmarks.*		
Medium term	N/A	*No target identified.*		
Longer term	79%	*Target to reduce scope 1, 2 & 3 emissions by 80% below 2015 alongside net-zero target is compatible with benchmarks for the food sector.*		

EMISSION TRENDS

✚ *Mars's absolute emissions have reduced 9% since 2019. Intensity emissions have also reduced. It seems unlikely it will reach its 2025 target, but its 2030 target may still be within reach if reductions are accelerated.*

3 TRANSITION TARGETS

		TRANSPARENCY	INTEGRITY
Shift to plant-based protein	*Mars does not have a target on plant-based protein, but is researching alternative ingredients, mostly for its petfood.*		
Reduction in food loss and waste in operations and supply chain	*Mars does not have a target or implement measures to reduce food loss and waste.*		
Reduction in fertiliser use	*Mars does not set a target or implement measures to reduce fertiliser use.*		
Commit to no-deforestation, no land conversion and no peat-burning	*Mars commits to limiting land use and deforestation for several key ingredients but this only covers direct operations and some ingredients do not include clear phase-out dates.*		
Accompanying measures	*Mars outlines expected emission reductions from implementation of accompanying measures but does not set clear targets.*		

TRANSITION PROGRESS

? ? ? ✔ ?

Mars is progressing on reducing its emissions related to packaging and against its deforestation targets. Mars does not provide enough details to evaluate progress on other transitions.

4 RESPONSIBILITY FOR ONGOING EMISSIONS AND SCALING UP DURABLE REMOVALS

		TRANSPARENCY	INTEGRITY
Climate contributions & offsetting practices	*No climate contributions or offsetting claims identified. Carbon neutrality claims for specific brands but information is insufficient to determine the integrity of claims.*		
Support for durable carbon dioxide removals	*No support for durable CDR identified.*		

Transparency & integrity : 5-point rating scale:

High | Reasonable | Moderate | Poor | Very poor

Transparency refers to the disclosure of information.
Integrity refers to the quality and credibility of the approach.

? Integrity assessment not possible due to lack of available benchmarks for the transition.

Progress:
- ✔ Right direction, on track
- ✚ Right direction, off track
- ✖ Well off track
- ⮌ Wrong direction, critically off track
- ? No progress identified or insufficient data
- ? No benchmarking possible.

The analysis represents the authors' interpretations of publicly available information. NewClimate cannot guarantee the factual accuracy of all information presented in this factsheet due to potential fragmentation, inconsistency and ambiguity across data sources.

Sources: *Mars (2019, 2023a, 2023b, 2023c, 2023d, 2024).*

Mars

Mars Incorporated, headquartered in the US, is a private company that produces confectionery and pet food, and provides animal care services. Over 95% of Mars's emissions occur in its supply chain, specifically during agricultural production and land use change, which account for 38% and 27% of the company's emissions respectively. Mars has a net-zero target for 2050, which includes an emission reduction commitment of 80%, and a 2030 emission reduction target of 50%. The company presents its 2030 target with a range of accompanying measures which appear aligned with the targeted level, despite leaving out key sector transition indicators. These reductions are independent of measures for land sequestration carbon dioxide removals. Mars's ambition in the short term is in line with 1.5°C-aligned benchmarks, but the company does not present an emission reduction strategy for after 2030. Mars's 2024 disclosure of its 2023 emissions is more transparent compared to past years but information on progress against key transition indicators is still missing.

Key developments over the past year: We have identified only limited developments and minor updates to Mars' climate strategy since the previous analysis was published in April 2024 (NewClimate Institute, 2024a, pp. 84–86). In 2024, the company started disclosing its annual GHG emissions in its sustainability report. We also included analysis of progress made and transition targets.

Mars's targets up to 2030 are in line with sectoral and global 1.5°C-aligned benchmarks and currently do not count on contentious removal claims. Mars has emission reduction targets for 2025 and 2030 of 27% and 50% respectively, compared to 2015 levels (Mars, 2023d, p. 12, 2023c, p. 8). These targets result in the same level of emission reductions when compared to 2019 value chain emissions. Therefore, the targets are in line with benchmarks for the food sector *(see Annex 3B)*. Alongside its targets, Mars presents a diverse set of measures that, in total, would reduce emissions to the targeted levels by 2030 (Mars, 2023c, pp. 25–32). They signal the need for a rapid decrease in Mars's value chain emissions and represent commitments to real emission reductions in the short term: the company explicitly states that the targets do not depend on offsets or carbon sequestration on farms (Mars, 2023c, p. 26). However, the company also states in its 2023 sustainability disclosure that land-based carbon sinks are important and plans to include CDR in its emissions footprint 'in the near future' (Mars, 2024, p. 15). If Mars starts counting CDR towards its emission reduction targets, this would significantly reduce the transparency and integrity of its climate commitments. It is crucial that Mars continues to prioritise deep emission reductions over contentious removal claims as it has done in the past (Mars, 2023a).

It remains unclear how Mars plans to further reduce emissions beyond 2030 as the company only commits to only a few key transitions for the sector. Although Mars's strategy until 2030 appears to be aligned with 1.5°C decarbonisation benchmarks, significant gaps remain for after 2030, both in terms of emission reduction measures as well as targets. Deeper emission reductions would depend on the implementation of transformational measures, which may be very difficult to achieve in the next decade if not already planned for today. Mars has committed to sourcing deforestation-free soy and beef by 2025 and reports to have sourced 100% deforestation-free palm oil since 2020 (Mars, 2024, pp. 16–17), in line with sectoral guidance on deforestation (AFi, 2023). We could not identify a target year for having a deforestation-free cocoa supply chain, despite cocoa representing its biggest share of land-use (Mars, 2019). Aside from halting deforestation, Mars does not present targets or emission reduction plans on other key transition measures. With regards to dairy production, the company mentions that it is considering replacing the raw materials it sources with materials that require 'less land to grow' and that provide 'equivalent nutritional value', potentially pointing to the need for plant-based or less land-intensive protein ingredients (Mars, 2019). Mars is researching alternative ingredients for its petfood recipes (Mars, 2024, p. 15) but does not substantiate these intentions further with commitments and measures for its dairy ingredients. Ingredient formulation only accounts for 4% of expected emission reductions until 2030, indicating only marginal changes (Mars, 2024, p. 14).

Mars's 2050 net-zero target is substantiated with an 80% emission reduction target, but potential reliance on land-based carbon dioxide removal leaves doubts on the target's integrity. By specifying that the net-zero target means a reduction of at least 80% of its value chain emissions, Mars indicates a long-term ambition that could be in line with sectoral benchmarks (Mars, 2023c, p. 9). However, it is unclear whether Mars will continue to rule out the use of land-based carbon dioxide removal (CDR) towards its 2030 and 2050 targets. The company previously said it is ruled out, but now implies that land-based CDR will indeed count towards achieving its short- and long-term emission reduction targets (Mars, 2024, p. 15).

Mars's progress over the last year to reduce emissions from key emission sources and implement sectoral transitions remains unclear due to limited disclosed information. Mars started improving its emissions disclosure only recently, publishing a breakdown of its 2023 and base year scope 1, 2 and 3 emissions, alongside other sustainability indicators for the first time this year (Mars, 2024, p. 40). Mars could further improve the transparency of its sustainability disclosure by disclosing historical emissions for all three scopes. In its 2023 sustainability report, Mars highlights progress on its deforestation reduction and packaging targets, and mentions it is implementing 'climate-smart' and regenerative agriculture practices (Mars, 2024, p. 14), but does not present progress on the measures in its net-zero roadmap. As of 2023, Mars has reduced its absolute emissions by 16% since 2015 (Mars, 2024, p. 10), so based on recent emissions data, it seems unlikely that its 2025 target is still within reach.

Mars's claim that it procures 59% renewable electricity to power its operations is mainly based on high-quality procurement constructs but is undermined by the matching method. Renewable electricity is key to Mars's emission reduction strategy, mainly to reduce scope 3 emissions. To date, the company provides only little information on planned procurement constructs. For its own operations, Mars describes its ambition to procure 100% renewable energy by 2040 (Mars, 2023d, p. 12), and affirms 59% of its electricity came from renewable sources in 2023 (Mars, 2024, p. 41). Around 72% of renewable electricity was procured via PPAs in 2022, with the rest mostly procured using unbundled RECs (Mars, 2023b). Given that PPAs are generally more likely to contribute to additional renewable capacity, the share of higher-quality procurement indicates Mars's commitment to a more ambitious decarbonisation strategy for its operations. However, the company also reported to have reached its limit for onsite wind and solar capacity (Mars, 2023c, p. 33) and is still finding solutions for replacing thermal energy with renewable sources (Mars, 2024, p. 14). The company states that it plans to use more PPAs but does not provide any more details on this, nor on the measures it will take to support the use of renewable electricity in the supply chain (Mars, 2023c, p. 33). More information is needed to assess whether this will lead to real and meaningful emission reductions.

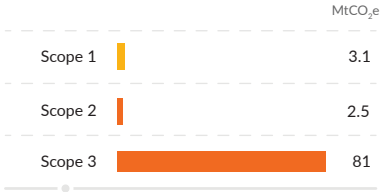
Nestlé

Nestlé commits to reaching net-zero GHG emissions in 2050, and has set SBTi FLAG-aligned targets in 2023. Nestlé's targets remain potentially misleading and ambiguous due to an unspecified amount of land-based carbon dioxide removals within the value chain in both the short and the long term. Therefore, we continue to interpret that Nestlé's target of cutting emissions by 50% by 2030 translates to reductions of just 13–26%. We could not identify clear plans for deep and structural decarbonisation of agricultural emissions, and were not able to independently verify Nestlé's claim to have reduced emissions by 20%.

TRANSPARENCY	INTEGRITY
Poor	Poor

1 TRACKING AND DISCLOSURE OF EMISSIONS

Emissions disclosure contains very limited detail and no breakdown of scope 3 emissions. Breakdown of emissions in Net Zero Roadmap not updated. Market-based emissions scope 2 are used for aggregates.



MAJOR EMISSION SOURCES

- Livestock rearing
- Land use and land-use change
- Soil fertilisers
- Other

2 GHG EMISSION REDUCTION TARGETS

Headline pledge: *Net zero by 2050.*

			TRANSPARENCY	INTEGRITY
Short term	14-24%	*Reduce scope 1, 2 & 3 emissions by 20% by 2025. By 2030, reduce non-FLAG scope 1, 2 & 3 emissions by 50% and scope 3 FLAG emissions by 50% (2018 baseline). Limited emission reduction commitment based on targets and measures presented in Net Zero Roadmap, which includes a mix of land sequestration CDR and emission reductions.*		
Medium term	N/A	*No targets identified.*		
Longer term	?	*Net-zero emissions by 2050, and reduce non-FLAG scope 1, 2 & 3 emissions by 90% by 2050; reduce absolute scope 3 FLAG GHG emissions by 75% by 2050 (2018 baseline). Undefined role for land-based CDR in net-zero target and FLAG target.*		?

EMISSION TRENDS

? *Emissions disclosure does not provide sufficient details to assess whether Nestlé is making progress on reducing its emissions and to verify claimed emission reductions. Claimed emission reductions depend on commodity EACs; insufficient information available to assess that claim.*

3 TRANSITION TARGETS

		TRANSPARENCY	INTEGRITY
Shift to plant-based protein	*No target identified, but some measures and expected emission reductions of plant-based products presented.*		
Reduction in food loss and waste in operations and supply chain	*Nestlé states it works towards the global aspirational goal of reducing food waste by 50% by 2030, but does not present it as an own commitment. Significant measures for reducing food loss presented, and a few measures for reducing food waste.*		
Reduction in fertiliser use	*No target identified, but some limited measures and plans to transition to organic fertiliser presented.*		
Commit to no-deforestation, no land conversion and no peat-burning	*Nestlé aims to achieve and maintain 100% assessed deforestation-free primary supply chains of major product groups by 2025. Annual disclosure of progress. Small farms and smallholder farms are exempted from management system requirements.*		
Accompanying measures	*Nestlé aims to reduce virgin plastic by a third, and its Net Zero Roadmap presents various accompanying measures that could reduce emissions related to manufacturing significantly.*		

TRANSITION PROGRESS

? ? ? + ?

No targets identified for transitions, except for deforestation. Based on presented data, Nestlé is progressing well towards this target for most commodities, but smallholder farms are likely exempted from this reporting and limited progress regarding cocoa.

4 RESPONSIBILITY FOR ONGOING EMISSIONS AND SCALING UP DURABLE REMOVALS

		TRANSPARENCY	INTEGRITY
Climate contributions & offsetting practices	*No climate contributions identified. Nestlé brands purchase offset credits to make carbon neutrality claims.*		
Support for durable carbon dioxide removals	*No support for durable CDR identified, but Nestlé pursues soil carbon sequestration and other types of land-based CDR to claim (partial) target achievement.*		

Transparency & integrity: 5-point rating scale:

High | Reasonable | Moderate | Poor | Very poor

Transparency refers to the disclosure of information.
Integrity refers to the quality and credibility of the approach.

? Integrity assessment not possible due to lack of available benchmarks for the transition.

Progress:
- ✔ Right direction, on track
- \+ Right direction, off track
- ✖ Well off track
- ⮌ Wrong direction, critically off track
- ? No progress identified or insufficient data
- ? No benchmarking possible.

The analysis represents the authors' interpretations of publicly available information. NewClimate cannot guarantee the factual accuracy of all information presented in this factsheet due to potential fragmentation, inconsistency and ambiguity across data sources.

Sources: *Nestlé (2021, 2022, 2023a, 2023b, 2024, 2025a, 2025b), SBTi (2023b).*

Nestlé

Switzerland-based Nestlé S.A. (Nestlé) is the world's largest food and beverage company by revenue, with brands such as KitKat, Nesquik, and Nespresso. The biggest share of Nestlé's emissions is related to agricultural activities. Nestlé commits to reaching net-zero GHG emissions in 2050, and published targets aligned with the Science Based Targets initiative (SBTi) Forest, Land and Agriculture (FLAG) guidance in 2023. Nestlé's targets remain potentially misleading and ambiguous due to an unspecified amount of land-based carbon dioxide removals within the value chain in the long term, referred to as 'carbon scope 3 removals', as well as a significant role of removals presented as emission reductions for different emission sources. We continue to interpret that Nestlé's pledge to reduce emissions by 50% by 2030 translates to emission reductions of just 13–26% based on measures presented in Nestlé's Net Zero Roadmap. We could not identify clear plans for deep and structural decarbonisation of agricultural emissions. Although Nestlé says it is progressing quickly towards achieving its 2030 targets, the provided information is not sufficiently detailed to verify this claim.

Key developments over the past year: We have identified several developments and updates to Nestlé's climate strategy since the previous analysis was published in April 2024 (NewClimate Institute, 2024a). We updated our quantification of targeted emission levels and updated our findings about key measures and transitions using Nestlé's latest reporting but also continued to base our analysis on Nestlé's Net Zero Roadmap, dated March 2023. We also identified new information about the use of carbon credits and commodity EACs.

Nestlé's emission reduction pledges may be misleading. We interpret that the pledge to reduce emissions by 50.4% by 2030 translates to only 13–26% emission reductions compared to the company's emissions in 2019. Nestlé's SBTi-validated targets include emission reduction targets of 20% by 2025 and 50.4% by 2030, with 2018 as a base year. The company presents a separate 50% reduction target in FLAG emissions by 2030 (SBTi, 2023b). In its Net Zero Roadmap, Nestlé shows its interim emission reduction targets for each emission source compared to a business-as-usual scenario, showing the targeted emission levels for each emission source for 2030 (Nestlé, 2021, p. 4). We estimate from the figures presented in the company's Net Zero Roadmap that the company's commitments translate to just a 13% reduction of the company's full value chain emissions in 2019, or a maximum of 26% under the most optimistic interpretation *(see Annex 3B)*.

Nestlé's 2050 net-zero pledge remains ambiguous due to limited scope coverage and an unspecified role of carbon dioxide removals (CDR). Based on the company's Net Zero Roadmap, we understand that Nestlé's 2050 net-zero pledge covers 83% of Nestlé's 2018 emissions footprint (Nestlé, 2022). This falls short of SBTi requirements for net-zero targets to cover at least 90% of a company's emissions. In 2025, Nestlé published updated base year emissions in its latest sustainability reporting, which decreased by 11.4 $MtCO_2e$, or 11% of 2024 value chain emissions, compared to base year emissions reported in its Net Zero Roadmap (dated 2023) (Nestlé, 2025b, p. 38). We could not identify an explanation for this decrease. The company's net-zero pledge includes a 90% emission reduction commitment for energy and industry-related emissions and a 75% emission reduction target for FLAG emissions by 2050 (Nestlé, 2025b, p. 28). The latter, however, includes an undefined role for land-based CDR that hinders an independent understanding of what share of emissions Nestlé actually wants to reduce. The current version of SBTi's FLAG guidance allows for this practice, although this can constitute a highly contentious shortcoming that could potentially undermine the integrity of companies' emission reduction targets *(see Section 3.1)*. Further clarification on the role of land-based CDR in the long term is needed to understand whether the 2050 pledge represents a commitment that will lead to deep reductions of agricultural emissions.

Nestlé plans to achieve a large share of its 2030 targets with land-based CDR. The company continues to describe land-based CDR taking place within its value chain in its public-facing documents, claiming to have removed 1.64 $MtCO_2e$ in 2024, which is a notable drop from the reported removals of 4.3 $MtCO_2e$ in 2022 (Nestlé, 2023a, p. 12, 2025b, p. 39). The company no longer describes this land-based CDR as 'insetting', but uses the terminology of 'carbon scope 3 removals' (Nestlé, 2023b, pp. 19; 44). The company plans to 'neutralise' 13 $MtCO_2e$ of its 2030 emissions using land-based CDR and its Net Zero Roadmap also presents land-based CDR alongside emission reduction measures. Nestlé states that up to 80% of its 2030 targets can be achieved with land-based removals (Nestlé, 2023b, p. 20). The actual planned volume of the latter category remains unclear as these removals are presented against a business-as-usual scenario (Nestlé, 2023b, pp. 13; 18; 38). However, the *current* volume removals as reported is significantly lower than the *planned* volume of removals. Land-based CDR may not be appropriate for claiming neutralisation of emissions due lack of durability and other limitations *(see Section 3.1)*. We identified only few planned measures that could lead to deep reductions of agricultural emissions, so it remains unclear how Nestlé plans to realise its 2030 targets.

For its emissions in 2024, Nestlé reports a 20% reduction, or 18.12 $MtCO_2e$, compared to its 2018 base year emissions, but this potentially depends mainly on a premature use of commodity Environmental Attribute Certificates (EACs). Nestlé presents a breakdown of its emission reductions, claiming that close to 12 $MtCO_2e$ of emission reductions are achieved in 2024 through 'responsible sourcing', 'dairy and livestock' and 'soil and forest' (Nestlé, 2025b, p. 40). The company does not present its emissions footprint in conventional categories as per the Greenhouse Gas (GHG) Protocol on an annual basis, impeding an independent verification of this claim. In a footnote attached to the breakdown of emission reductions, Nestlé describes that it (co-)finances emission reduction projects on farms in its supply sheds (Nestlé, 2025b, p. 40), further explaining how it defines ownership of those reductions in its data annex (Nestlé, 2025b, p. 153). Claiming emission reductions through commodity-based EACs on a commodity basis is a recently emerging practice in the corporate climate accountability space (NewClimate Institute, 2024d). Although the use of commodity EACs could be a credible practice to claim emission reductions in a company's supply chain, it depends heavily on how 'supply shed' is defined. Currently, there is a real risk that the supply *shed* is too disconnected from a company's actual supply *chain* (NewClimate Institute, 2024d). The Greenhouse Gas Protocol has yet to define supply shed, which is expected in its forthcoming Land Sector and Removals Guidance expected 2025 (The AIM Platform, 2024). As guidelines for the definition and use of commodity EACs are still under development, Nestlé's associated emission reduction claims, presented with only little explanation, may be premature. We did not identify other measures in Nestlé's reporting that could have led to such substantial and structural reductions in emissions.

Nestlé's publicly available plans do not lay out sufficiently transformational measures to achieve deep decarbonisation of agricultural emissions in the long term. The majority of Nestlé's GHG emissions derive from upstream agricultural activities, with dairy and livestock accounting for ~27% of reported value chain emissions in 2024. The agricultural sector faces major challenges for decarbonisation; currently-available technologies and measures to mitigate the emissions intensity of many agricultural products have limited potential, especially for the livestock sector. Nestlé's range of emission reduction measures are expected to lead to a respectable 48% reduction of manufacturing emissions by 2030. However, they will reduce emissions from dairy, livestock, soil, and forests, which represent far more significant and challenging emission sources, by just 6% between 2018 and 2030 (Nestlé, 2021b, p. 9,12,14,17). These emission reduction estimates exclude measures to claim that emissions are offset through non-durable carbon capture. Nestlé has a commitment to halt deforestation related to key ingredients by 2025, which it seems to achieve based on presented progress data (Nestlé, 2025b, p. 54). However, we did not identify quantifiable targets for other key transitions.

Nestlé continues to highlight a substantial role for regenerative agriculture in its climate strategy (Nestlé, 2025b, pp. 56, 115), despite the lack of a commonly agreed, science-based definition of the practice, and its framework not requiring farmers to actually reduce emissions (NewClimate Institute, 2024b). It may not be credible for agri-businesses to claim that they are on a path to deep decarbonisation without major innovations to drastically reduce the emissions footprint of livestock agriculture or diversifying away from this highly GHG emissions intensive industry. Contrary to the need for a shift away from animal protein, Nestlé underlines the importance of dairy and the dairy industry repeatedly (Nestlé, 2025a, p. 35). The estimated emission reductions from plant-based ingredients have also decreased from 1.4 $MtCO_2e$ in its Net Zero Roadmap (Nestlé, 2023b, p. 22) to 0.7 $MtCO_2e$ in its latest sustainability reporting (Nestlé, 2025b, p. 33).

Nestlé states that it will not 'rely on offsetting' (Nestlé, 2023a, p. 12), but continues to claim carbon neutrality for certain brands. In 2023, Nestlé made global headlines announcing its brands will no longer make carbon neutrality claims, but the company continues to claim carbon neutrality for Nescafé and other brands based on carbon credits (Nestlé, 2024, 2025b, p. 41). Although the company says it will not rely on offsetting for target realisation, it also describes that Nestlé's brands purchase carbon credits to 'support' carbon-neutral certifications and claims (Nestlé, 2025b, p. 41). The company states that these credits are bought as additional contributions to climate action. It is potentially misleading to claim contributions to climate action while also claiming to offset emissions. Nestlé reports on the volume of carbon credits purchased in 2024 (0.052 $MtCO_2e$), but does not provide details on the type of carbon credits (Nestlé, 2025b, p. 153).

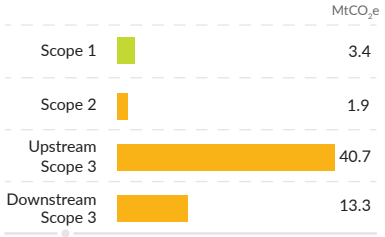
PepsiCo

PepsiCo commits to reaching net-zero emissions by 2050 and now presents accompanying emission reduction targets. These translate to an 86% reduction across its value chain by 2050 below 2022 levels, but we understand that target achievement depends on an unspecified amount of land-based carbon dioxide removals. The company states it will purchase carbon credits to claim neutralisation of residual emissions in 2050. For the short term, PepsiCo's updated targets translate to an emission reduction of 31% by 2030 below 2022 levels. We found limited evidence for commitments to transitions that are necessary for a 1.5°C-aligned food and agriculture sector.

	TRANSPARENCY	INTEGRITY
	Poor	Very poor

1 TRACKING AND DISCLOSURE OF EMISSIONS

Public disclosure of current and historical emissions, but information is scattered and no breakdown for scope 3 emissions by scope. Updated Climate Transition Plan provides different 2022 emissions from previously reported data.



2 GHG EMISSION REDUCTION TARGETS

Headline pledge: *Net-zero emissions by 2040*

			TRANSPARENCY	INTEGRITY
Short term	33%	*Targets to reduce scopes 1&2 by 50%, scope 3 FLAG by 30% and a subset of energy and industry-related emissions by 42% by 2030 below 2022. Targets are aligned with the lower end of benchmarks for the food and agriculture sector, but targets may depend on an unspecified amount of land-based carbon dioxide removals.*		?
Medium term	N/A	*No target identified.*		
Longer term	86%	*Targets alongside PepsiCo's net-zero target translate to an emissions reduction of 86% by 2050 below 2022 levels. These targets are compatible with benchmarks for the food sector, but may depend on an unspecified amount of land-based carbon dioxide removals.*		?

EMISSION TRENDS

✖ *Emissions peaked in 2021 but have increased since 2019. Emissions intensity has declined. Emissions have risen on average 2% each year 2019-2023.*

MAJOR EMISSION SOURCES

3 TRANSITION TARGETS

		TRANSPARENCY	INTEGRITY
Livestock rearing, Land use and land-use change	Shift to plant-based protein	*PepsiCo has a target to use more diverse ingredients, including plant-based ingredients, but target formulation and metrics are unclear. We did not identify clear measures.*		
Livestock rearing, Land use and land-use change	Reduction in food loss and waste in operations and supply chain	*PepsiCo mentions food loss and waste is an issue but we did not identify measures or a target.*		
Soil fertilisers	Reduction in fertiliser use	*PepsiCo describes some measures to reduce emissions from fertiliser production and use and plans to source low-GHG fertilisers, but further details are missing.*		
Land use and land-use change	Commit to no-deforestation, no land conversion and no peat-burning	*PepsiCo aims for deforestation-free sourcing by 2025 and conversion-free by 2030, in line with AFi guidance. The target covers most of PepsiCo's supply chain, but leave out information on cocoa.*		
Other	Accompanying measures	*PepsiCo implements accompanying measures such as increased RE in manufacturing and electrification of third-party vehicle fleet, but does not set targets on these indicators.*		
Packaging	Reduce use of plastics, increase share of recycled products	*PepsiCo has several targets to reduce waste from packaging and tracks progress, but no there are no clear decarbonisation benchmarks for packaging.*		?

TRANSITION PROGRESS

? ? ? ? ? ↩

PepsiCo is progressing on its packaging targets but absolute tonnage of virgin plastic increased in 2023. PepsiCo tracks progress against its target to increase diverse ingredients but information is too unclear to assess progress. PepsiCo does not track progress on other key transitions.

Transparency & integrity : 5-point rating scale:

High | Reasonable | Moderate | Poor | Very poor

Transparency refers to the disclosure of information.
Integrity refers to the quality and credibility of the approach.

? Integrity assessment not possible due to lack of available benchmarks for the transition.

Progress:
- ✔ Right direction, on track
- ✚ Right direction, off track
- ✖ Well off track
- ↩ Wrong direction, critically off track
- ? No progress identified or insufficient data
- ? No benchmarking possible.

4 RESPONSIBILITY FOR ONGOING EMISSIONS AND SCALING UP DURABLE REMOVALS

		TRANSPARENCY	INTEGRITY
Climate contributions & offsetting practices	*No climate contributions identified.*		
Support for durable carbon dioxide removals	*No support for durable CDR identified.*		

The analysis represents the authors' interpretations of publicly available information. NewClimate cannot guarantee the factual accuracy of all information presented in this factsheet due to potential fragmentation, inconsistency and ambiguity across data sources.

Sources: *PepsiCo (2023, 2024, 2025a, 2025b, 2025c, 2025d, 2025e).*

PepsiCo

PepsiCo, Ltd. (PepsiCo) is a US-based food and beverages company, known for brands such as Pepsi, Lay's, Quaker and Gatorade. Its major emissions are from agriculture, packaging, and distribution. PepsiCo pushed its target to reach net-zero emissions back by 10 years, from 2040 to 2050, but now presents accompanying emission reduction targets. These translate to an 86% reduction across its value chain by 2050 below 2022 levels, but we understand that target achievement depends on an unspecified amount of land-based carbon dioxide removals. The company states it will purchase carbon credits to claim neutralisation of residual emissions in 2050. For the short term, PepsiCo's updated targets translate to an emission reduction of 31% by 2030 below 2022 levels. The company describes that it wants to increase the use of regenerative agriculture in its value chain, but it is not clear how this will contribute to deep and structural emission reductions. We found limited evidence for commitments to transitions necessary for a 1.5°C-aligned food and agriculture sector.

Key developments since 2023: PepsiCo has published a new Climate Transition Plan (PepsiCo, 2025d) and new emission reduction targets aligned with the SBTi FLAG guidance since the previous analysis was published in 2023 (NewClimate Institute, 2023). PepsiCo has pushed back its net-zero target from 2040 to 2050, but its net-zero target is now accompanied by emission reduction targets. For both its long-term and short-term targets, we understand that PepsiCo is now explicit about its intention to count land-based CDR towards target achievement. The company's emissions have continued to decline, although they remain above 2019 emissions. We also included analysis of progress made and of transition targets.

PepsiCo's has updated its short-term reduction targets, but its non-FLAG emission reduction targets have not increased in ambition. In the short term, PepsiCo aims to reduce its scope 1 and 2 emissions by 50%, part of its scope 3 energy and industry emissions by 42% and its Forest, Land and Agriculture (FLAG) emissions by 30% by 2030, compared to 2022 emission levels (PepsiCo, 2025d, p. 5). These targets translate to a reduction of 31% compared to its 2022 value chain emissions. It is unclear how these targets compare to its previous commitments as PepsiCo's new 2022 baseline is approximately 7 MtCO2e lower than it had previously reported (PepsiCo, 2023). PepsiCo does not explain the drop in its new 2022 emissions calculations. In its new Climate Transition Plan, the company also presents a 'gap' regarding the total emission reduction potential of presented measures that could be hard for PepsiCo to bridge within the years that remain until 2030 (PepsiCo, 2025d, p. 11). Moreover, the company's energy and industry-related emission reduction target only translates to a 30% reduction by 2030 below 2022 due to significant scope exclusions. This target falls far behind cross-sector benchmarks to nearly halve emissions by 2030 (IPCC, 2022). While FLAG emissions might face specific barriers towards decarbonisation, PepsiCo could set more ambitious targets to reduce its energy and industry-related emissions in the short term.

PepsiCo has pushed its net-zero target year from 2040 to 2050 but now presents emission reductions targets alongside its 2050 net-zero pledge. The company commits to reducing its scope 1, 2 and scope 3 energy and industry-related emissions by 90% and its scope 3 FLAG emissions by 72% by 2050 below 2022 levels (PepsiCo, 2025d, p. 5). These targets translate to an 86% reduction by 2050 compared to its 2022 value chain emissions, but the company describes in a footnote that the scope includes 'net CO2 emissions' related to land management (PepsiCo, 2025d, p. 5). We interpret that this means PepsiCo will depend on an unspecified volume of land-based carbon dioxide removals (CDR) for target achievement. Furthermore, the company specifies that it will purchase carbon credits to balance residual emissions in 2050 (PepsiCo, 2025d, p. 5). PepsiCo's net-zero pledge is more transparent with the inclusion of emission reduction targets, but these could be undermined by overreliance on land-based CDR associated with limited permanence and limited commitments to key transitions for the sector. In addition, its updated net-zero pledge marks a significant delay in the company's decarbonisation trajectory.

PepsiCo describes its reliance on land-based CDR in a footnote without any further specification. In its 2025 Climate Transition Plan, PepsiCo no longer presents 'insetting' as a key measure to reach its emission reduction targets, but specifies in a footnote that FLAG emissions include 'land management net CO2 emissions' (PepsiCo, 2025d, p. 5 footnote 3). PepsiCo neither transparently communicates the role of removals in reaching its targets nor describes the expected extent of the reliance. On its website, PepsiCo mentions that it does not count land-based CDR from regenerative agriculture towards its scope 3 emissions, but plans to do so once the GHG Protocol releases its Land Sector and Removals Guidance (PepsiCo, 2025a).

PepsiCo presents its emission reduction strategy in thematic areas and presents the expected emission reductions from some of these measures. Its reduction strategy covers major emission sources such as deforestation, agriculture, transport, energy consumption, and packaging. However, the company shows the current climate impact of only a few of these issues and does not publish a breakdown of its scope 3 emissions outside of its CDP disclosure. Packaging as one of the major sources of emissions for PepsiCo accounts for over a quarter of its emissions in 2023 (PepsiCo, 2025a). PepsiCo has set transparent targets to reduce virgin plastic use in line with the Ellen MacArthur Foundation's Global Plastic Commitment targets (Ellen MacArthur Foundation, 2024), but it reduced the ambition of its targets in 2025 (PepsiCo, 2025c). PepsiCo shows that the reduction in packaging use will lead to some emission reductions by 2030, although it is unclear exactly by how much (PepsiCo, 2025d, p. 15). PepsiCo says it is striving to reach deforestation-free sourcing in its value chain by 2025 and conversion-free sourcing by 2030 (PepsiCo, 2025b). It remains unclear if its deforestation strategy covers cocoa and dairy (PepsiCo, 2025b). For other major emission sources such as food loss and waste, methane emissions from livestock, and fertiliser use, PepsiCo does not provide estimates of the emission reduction potentials.

Although PepsiCo presents several decarbonisation approaches, targets on key sectoral transition measures for the sector are missing. PepsiCo's agriculture-related emissions accounted for more than a third of its 2023 emissions footprint (PepsiCo, 2025a). The company's main strategy to reduce agricultural emissions relies on implementing regenerative agriculture, leading to expected removals and reductions of 3 MtCO2e (PepsiCo, 2025d, p. 16). It remains unclear to what extent its regenerative agriculture program would lead to deep emission reductions measures (NewClimate Institute, 2024b, p. 34). Even then, regenerative agriculture would lead to a net emission reduction of only 6% by 2030 compared to 2022 levels. PepsiCo does not expand on how it will reduce emissions from other major emission sources including food loss and waste, methane emissions from livestock, and fertiliser use. The company has set a target to use 'more diverse ingredients', including, for example, plant-based proteins, fruits, vegetables and nuts, to deliver 145 billion portions of diverse ingredients annually by 2030. However, we could not identify sufficient information and benchmarks to assess the adequacy of this target with regards to the transition to plant-based proteins (PepsiCo, 2024, p. 67). The company also plans to reduce emissions through 'product reformulation' but it is unclear what this entails (PepsiCo, 2025d, p. 15). PepsiCo's emissions peaked in 2021, and its emissions intensity per unit of revenue has also reduced each year since 2020. This falls far short of the fundamental transformation of the global agriculture sector that would be necessary to align with 1.5°C-compatible decarbonisation trajectories (Boehm *et al.*, 2023, p. 132).

PepsiCo predominantly uses lower-quality renewable electricity procurement constructs for its claims to decarbonise electricity consumption in its operations. PepsiCo claims that 80% of its 2023 electricity consumption was from renewable sources (PepsiCo, 2025d, p. 7). PepsiCo further claims that its operations in 40 of 200 countries were 100% based on renewable electricity (PepsiCo, 2025e). However, less than 20% of its electricity consumption is from higher-quality procurement constructs, such as PPAs, or self-generation (PepsiCo, 2023, pp. 88; 120–167, 2025e). The lion's share of its renewable electricity is procured with unbundled EACs and GOs, both also known as RECs. RECs do not guarantee that the consumed electricity truly stems from additional renewable energy sources (NewClimate Institute, 2024c). Claiming that its electricity consumption is 80% renewable is therefore highly contentious. Although the company says it wants to finance the development of new wind and solar installations with PPAs, but it does not specify the volume of finance or the size of these installations (PepsiCo, 2025e). Stronger commitments to increase the share of renewable power procured with high-quality PPAs or generated on site would make PepsiCo's claims for energy emissions more credible and would have a more meaningful impact in reducing the company's scope 2 emissions.

References

- AFi (2023) *Core Principles.* Accountability Framework initiative. Available at: https://accountability-framework.org/the-accountability-framework/download-the-full-framework/ (Accessed: 8 May 2025).
- AFi (2025) *Who we are,* Accountability Framework initiative. Available at: https://accountability-framework.org/about/about-the-afi/who-we-are/ (Accessed: 12 May 2025).
- Boehm, S. *et al.* (2023) *State of Climate Action 2023*. Berlin and Cologne, Germany; San Francisco, CA; Washington, DC, Germany; San Francisco, CA; Washington, DC: Bezos Earth Fund, Climate Action Tracker, Climate Analytics, ClimateWorks Foundation, NewClimate Institute, the United Nations Climate Change High-Level Champions, and World Resources Institute. Available at: https://climateactiontracker.org/documents/1179/State_of_Climate_Action_2023_-_November_2023.pdf (Accessed: 15 November 2023).
- Bryan, K. and Pooler, M. (2024) 'Companies take step back from making climate target promises', *Financial Times,* 15 March. Available at: https://www.ft.com/content/3ebc5b56-a8f0-4fcd-99dd-9023d7a20013.
- Casey, C. (2025) 'JBS Spends $200M to expand US beef production', *Food Dive*, 10 February. Available at: https://www.fooddive.com/news/jbs-200m-texas-colorado-beef-meat-facility-production-investment/739595/.
- Changing Markets Foundation and IATP (2022) *Emissions Impossible: How emissions from big meat and dairy are heating up the planet.* Changing Markets Foundation; Institute for Agriculture & Trade Policy. Available at: https://www.iatp.org/emissions-impossible-methane-edition (Accessed: 10 February 2025).
- Danone (2021) *Regenerative Agriculture Scorecard: Full Pillar 1 Scorecard.* Danone S.A. Available at: https://www.danone.com/content/dam/corp/global/danonecom/about-us-impact/policies-and-commitments/en/2021/Danone-regenerative-agriculture-2021-scorecard.pdf (Accessed: 15 April 2024).
- Danone (2023a) *Climate Transition Plan.* Paris, France: Danone S.A. Available at: https://www.danone.com/content/dam/corp/global/danonecom/about-us-impact/policies-and-commitments/en/danone-climate-transition-plan-2023.pdf (Accessed: 22 December 2023).
- Danone (2023b) *Danone's Methane Ambition*. Paris, France: Danone S.A. Available at: https://www.danone.com/content/dam/corp/global/danonecom/about-us-impact/policies-and-commitments/en/2023/methane-matters.pdf (Accessed: 9 December 2023).
- Danone (2025) *Universal Registration Document | Annual financial report 2024*. Available at: https://www.danone.com/content/dam/corp/global/danonecom/investors/en-all-publications/2025/registrationdocuments/urd2024accessibleversion.pdf (Accessed: 15 March 2025).
- Dietz, S. and Jahn, V. (2024) *Carbon Performance assessment of food producers: note on methodology.* London, United Kingdom: Transition Pathway Initiative (TPI). Available at: https://transitionpathwayinitiative.org/publications/uploads/2024-carbon-performance-assessment-of-food-producers-note-on-methodology (Accessed: 6 February 2024).
- Douglas, L. (2023) 'COP28 summit: Global dairy companies join alliance to cut methane', *Reuters*, 5 December. Available at: https://www.reuters.com/sustainability/climate-energy/global-dairy-companies-announce-alliance-cut-methane-cop28-2023-12-05/.
- Ellen MacArthur Foundation (2024) *The Global Commitment 2024 Progress Report*. Ellen MacArthur Foundation; UNEP. Available at: https://emf.thirdlight.com/link/pqm3hmtgpwtn-dwj3yc/@/preview/1?o (Accessed: 13 February 2025).
- Eschenbacher, S., Novaes Magalhaes, L. and Jessop, S. (2025) 'Brazilian meatpacker JBS says net-zero emissions pledge was "never a promise"', *Reuters*, 15 January. Available at: https://www.reuters.com/sustainability/brazilian-meatpacker-jbs-says-net-zero-emissions-pledge-was-never-promise-2025-01-15/ (Accessed: 15 May 2025).
- Gao, Y. and Serrenho, A.C. (2023) 'Greenhouse gas emissions from nitrogen fertilizers could be reduced by up to one-fifth of current levels by 2050 with combined interventions', *Nature Food*, 4, pp. 170–178. Available at: https://doi.org/https://doi.org/10.1038/s43016-023-00698-w.
- GHG Protocol (2022a) *Land Sector and Removals Guidance Part 1: Accounting and Reporting Requirements and Guidance.* WRI; WBCSD. Available at: https://ghgprotocol.org/sites/default/files/2022-12/Land-Sector-and-Removals-Guidance-Pilot-Testing-and-Review-Draft-Part-1.pdf (Accessed: 8 May 2025).
- GHG Protocol (2022b) *Land Sector and Removals Guidance Part 2: Calculation Guidance.* WRI; WBCSD. Available at: https://ghgprotocol.org/sites/default/files/standards_supporting/Land-Sector-and-Removals-Guidance-Pilot-Testing-and-Review-Draft-Part-2.pdf (Accessed: 14 May 2025).
- GHG Protocol (2023) *Land Sector and Removals Guidance: Where We Are Now, Greenhouse Gas Protocol.* Available at: https://ghgprotocol.org/blog/land-sector-and-removals-guidance-where-we-are-now (Accessed: 16 May 2025).
- GHG Protocol (2025) *Land Sector and Removals Guidance, Greenhouse Gas Protocol.* Available at: https://ghgprotocol.org/land-sector-and-removals-guidance (Accessed: 8 May 2025).
- Giles, J. (2025) 'PepsiCo downgrades its sustainability ambitions', *Trellis*, 22 May. Available at: https://trellis.net/article/pepsico-downgrades-sustainability-ambitions/.
- Giller, K.E. *et al.* (2021) 'Regenerative Agriculture: An agronomic perspective', *Outlook on Agriculture*, 50(1), pp. 13–25. Available at: https://doi.org/https://doi.org/10.1177/0030727021998063.
- Greenpeace Nordic (2024) *Turning Down the Heat: Pulling the climate emergency break on big meat and dairy.* Greenpeace Nordic. Available at: https://www.greenpeace.org/static/planet4-sweden-stateless/2024/10/2996f732-2024.10.07_turning-down-the-heat-report-with-design_english.pdf (Accessed: 15 May 2025).
- IEA (2023) *Net Zero Roadmap: A Global Pathway to Keep the 1.5 °C Goal in Reach (2023 Update).* Paris, France: International Energy Agency. Available at: https://iea.blob.core.windows.net/assets/9a698da4-4002-4e53-8ef3-631d8971bf84/NetZeroRoadmap_AGlobalPathwaytoKeepthe1.5CGoalinReach-2023Update.pdf (Accessed: 18 October 2023).
- InfluenceMap (2024) *JBS InfluenceMap Score for Climate Policy Engagement*. Available at: https://lobbymap.org/company/JBS-2594dc94bcf60fec8c3a506a42cc041f/projectlink/JBS-in-Climate-Change-61e9edad4ea478dcea0ff196a2477f73 (Accessed: 11 February 2025).
- IPCC (2022) *Mitigation of Climate Change – Summary for Policymakers (SPM), Sixth Assessment Report of the Intergovernmental Panel on Climate Change*. Edited by H.-O. Pörtner et al. Geneva, Switzerland, Switzerland: Intergovernmental Panel on Climate Change (IPCC). Available at: https://doi.org/10.1017/9781009157926.002.
- JBS (2020) *JBS Fund for the Amazon*, JBS Global. Available at: https://www.jbsglobal.co.uk/2020/10/jbs-fund-for-the-amazon/ (Accessed: 6 February 2025).
- JBS (2023) 2022 *JBS Sustainability Report*. JBS S.A. Available at: https://jbsesg.com/wp-content/uploads/2023/08/2022-JBS-SUSTAINABILITY-REPORT.pdf (Accessed: 22 April 2024).
- JBS (2024) *Sustainability Report 2023*. JBS S.A. Available at: https://jbsesg.com/docs/JBS_Sustainability_Report_2023.pdf (Accessed: 27 January 2025).
- JBS (2025) *Our Approach to Net Zero*, JBS. Available at: https://jbsfoodsgroup.com/our-purpose/net-zero (Accessed: 27 January 2025).
- Jones, S. and Mitchell, C. (2024) 'JBS Barred from Gold Standard for Corproate Climate Action over its "bogus" Net Zero Plans', *Mighty Earth*, 7 March. Available at: https://mightyearth.org/article/jbs-barred-from-gold-standard-for-corporate-climate-action-over-its-bogus-net-zero-plans/.
- Mars (2019) *Land Use Position Statement*. Available at: https://www.mars.com/about/policies-and-practices/land-use (Accessed: 9 January 2025).
- Mars (2023a) *Climate Action Position Statement*. Available at: https://www.mars.com/about/policies-and-practices/climate-action (Accessed: 26 February 2024).
- Mars (2023b) *Mars CDP Climate Change Questionnaire 2023.* CDP; Mars. Available at: https://www.mars.com/sites/g/files/dfsbuz106/files/2024-07/Mars CDP Climate Change 2023.pdf (Accessed: 10 January 2025).
- Mars (2023c) *Net Zero Roadmap.* McLean, United States of America: Mars, Incorporated. Available at: https://www.mars.com/sites/g/files/dfsbuz106/files/2023-09/Mars Net Zero Roadmap 2050_2.pdf (Accessed: 15 December 2023).
- Mars (2023d) *Sustainable in a Generation Plan.* McLean, United States of America: Mars, Incorporated. Available at: https://www.mars.com/sites/g/files/dfsbuz106/files/2023-10/Sustainability_Plan_2022_Final.pdf (Accessed: 15 December 2023).
- Mars (2024) *2023 Sustainable in a Generation Report*. Mars, Incorporated. Available at: https://www.mars.com/sites/g/files/dfsbuz106/files/2024-07/2023 Sustainable in a Generation Report_5.pdf (Accessed: 9 January 2025).
- Mcclelland, S.C. *et al.* (2025) 'Managing for climate and production goals on crop-lands', *Nature Climate Change* [Preprint]. Available at: https://doi.org/10.1038/s41558-025-02337-7.
- Mighty Earth and AidEnvironment (2024) Failure to Act: Preventable Destruction in the Amazon and Cerrado surges by over 18,000 hectares as JBS ignores deforestation alerts. *Mighty Earth*. Available at: https://mightyearth.org/wp-content/uploads/2024/04/ME_BR_JBS_FactSheet_A4_ENG_Apr04_Final.pdf (Accessed: 6 February 2025).
- MSCI ESG Research LLC (2024) *Implied Temperature Rise Methodology.* Available at: https://www.msci.com/documents/10199/7118a4c1-e446-ffa8-87f2-f4d6d2d07d36 (Accessed: 7 November 2024).
- Nestlé (2021) *Nestlé's Net Zero Roadmap.* Vevey, Switzerland: Nestlé S.A. Available at: https://www.nestle.com/sites/default/files/2020-12/nestle-net-zero-roadmap-en.pdf (Accessed: 15 January 2024).
- Nestlé (2022) *Nestlé S.A. CDP Climate Change Questionnaire 2022.* Nestlé S.A.and CDP. Available at: https://www.cdp.net/en/responses/12942/Nestle?back_to=https%3A%2F%2Fwww.cdp.net%2Fen%2Fresponses%3Fqueries%255Bname%255D%3Dnestl&queries%5Bname%5D=nestl (Accessed: 31 January 2024).
- Nestlé (2023a) *Creating Shared Value and Sustainability Report 2022.* Switzerland: Nestlé S.A. Available at: https://www.nestle.com/sites/default/files/2023-03/creating-shared-value-sustainability-report-2022-en.pdf (Accessed: 31 January 2024).

- Nestlé (2023b) *Nestlé's Net Zero Roadmap | March 2023.* Vevey, Switzerland: Nestlé S.A. Available at: https://www.nestle.com/sites/default/files/2023-12/nestle-net-zero-roadmap-en.pdf (Accessed: 5 February 2024).
- Nestlé (2024) *Climate action by our brands.* Available at: https://www.nestle.com/sustainability/climate-change/brands-initiatives (Accessed: 30 January 2024).
- Nestlé (2025a) *Creating Shared Value at Nestlé.* Available at: https://www.nestle.com/sites/default/files/2025-02/creating-shared-value-nestle-2024.pdf (Accessed: 2 April 2025).
- Nestlé (2025b) *Non-Financial Satement 2024.* Available at: https://www.nestle.com/sites/default/files/2025-02/non-financial-statement-2024.pdf (Accessed: 2 April 2025).
- NewClimate Institute (2023) *Corporate Climate Responsibility Monitor 2023: Assessing the Transparency and Integrity of Companies' Emission Reduction and Net-Zero Targets.* Berlin and Cologne, Germany: NewClimate Institute, Carbon Market Watch. Available at: https://newclimate.org/sites/default/files/2023-02/NewClimate_CorporateClimateResponsibilityMonitor2023_Feb23.pdf (Accessed: 20 February 2023).
- NewClimate Institute (2024a) *Corporate Climate Responsibility Monitor 2024: Assessing the Transparency and Integrity of Companies' Emission Reduction and Net-Zero Targets.* Berlin and Cologne, Germany: NewClimate Institute, Carbon Market Watch. Available at: https://newclimate.org/resources/publications/corporate-climate-responsibility-monitor-2024 (Accessed: 9 April 2024).
- NewClimate Institute (2024b) *Navigating regenerative agriculture in corporate climate strategies.* NewClimate Institute. Available at: https://newclimate.org/sites/default/files/2024-09/Navigating regenerative agriculture in corporate climate strategies_sep2024.pdf (Accessed: 6 January 2025).
- NewClimate Institute (2024c) *Navigating the nuances of corporate renewable electricity procurement: Spotlight on Fashion and Tech.* Berlin and Cologne, Germany: NewClimate Institute. Available at: https://newclimate.org/resources/publications/navigating-the-nuances-of-corporate-renewable-electricity-procurement (Accessed: 24 October 2024).
- NewClimate Institute (2024d) *The role of environmental attribute certificates in corporate climate strategies.* Berlin and Cologne. Available at: https://newclimate.org/resources/publications/the-role-of-environmental-attribute-certificates-for-corporate-climate (Accessed: 4 November 2024).
- NewClimate Institute (2025) *Evolution of corporate climate targets.* Berlin and Cologne, Germany: NewClimate Institute. Available at: https://newclimate.org/resources/publications/evolution-of-corporate-climate-targets (Accessed: 30 January 2025).
- Oudman, T. (2025) 'Sjoemelsoja: de schimmige wereld achter FrieslandCampina's gezellige imago', *de Correspondent*, 12 May. Available at: https://decorrespondent.nl/16090/sjoemelsoja-de-schimmige-wereld-achter-frieslandcampina-s-gezellige-imago/d01e0181-c2ba-0969-0396-ac289c112c78.
- Paul, C. *et al.* (2023) 'Carbon farming: Are soil carbon certificates a suitable tool for climate change mitigation?', *Journal of Environmental Management*, 330(October 2022). Available at: https://doi.org/10.1016/j.jenvman.2022.117142.
- PepsiCo (2023) *PepsiCo, Inc. CDP Climate Change Questionnaire 2023.* CDP. Available at: https://www.pepsico.com/docs/default-source/sustainability-and-esg-topics/2023-cdp-climate-submission.pdf?sfvrsn=e4d1d3_6 (Accessed: 6 January 2025).
- PepsiCo (2024) *2023 ESG Summary.* Available at: https://www.pepsico.com/docs/default-source/sustainability-and-esg-topics/2023-esg-summary/pepsico-2023-esg-summary.pdf?sfvrsn=2fba921a_1 (Accessed: 6 January 2025).
- PepsiCo (2025a) *Climate Change.* Available at: https://www.pepsico.com/our-impact/esg-topics-a-z/climate-change (Accessed: 26 May 2025).
- PepsiCo (2025b) *Deforestation*. Available at: https://www.pepsico.com/our-impact/esg-topics-a-z/deforestation (Accessed: 26 May 2025).
- PepsiCo (2025c) *Packaging*. Available at: https://www.pepsico.com/our-impact/esg-topics-a-z/packaging (Accessed: 26 May 2025).
- PepsiCo (2025d) *PepsiCo Climate Transition Plan (May 2025)*. PepsiCo. Available at: https://www.pepsico.com/docs/default-source/sustainability-and-esg-topics/pepsico-climate-transition-plan.pdf (Accessed: 26 May 2025).
- PepsiCo (2025e) *Renewable Energy.* Available at: https://www.pepsico.com/our-impact/esg-topics-a-z/renewable-energy (Accessed: 26 May 2025).
- Reisinger, A. *et al.* (2021) 'How necessary and feasible are reductions of methane emissions from livestock to support stringent temperature goals?', *Phil. Trans. R. Soc. A*, 379(20200452), pp. 1–18. Available at: https://doi.org/https://doi.org/10.1098/rsta.2020.0452.
- Roe, S. *et al.* (2021) 'Land-based measures to mitigate climate change: Potential and feasibility by country', *Global Change Biology*, 27(23), pp. 6025–6058. Available at: https://doi.org/10.1111/gcb.15873.
- SBTi (2022) *Forest, land and agriculture science-based target-setting methods addendum.* Available at: https://files.sciencebasedtargets.org/production/files/SBTiFLAGMethodsAddendum.pdf?dm=1734357653 (Accessed: 20 May 2025).
- SBTi (2023a) *Forest, Land and Agriculture Science Based Target-Setting Guidance | Version 1.1 | December 2023.* Science Based Targets initiative (SBTi). Available at: https://sciencebasedtargets.org/resources/files/SBTiFLAGGuidance.pdf (Accessed: 17 February 2024).
- SBTi (2023b) *Target Dashboard: Nestlé*, Science Based Targets Initiative (SBTi). Available at: https://sciencebasedtargets.org/target-dashboard (Accessed: 31 January 2024).
- SBTi (2024) *JBS*, Science Based Targets Initiative (SBTi). Available at: https://sciencebasedtargets.org/target-dashboard (Accessed: 4 February 2025).
- SBTi (2025) *SBTi Corporate Net Zero Standard v2.0 Draft for Consultation.* Science Based Targets initiative (SBTi). Available at: https://sciencebasedtargets.org/resources/files/Net-Zero-Standard-v2-Consultation-Draft.pdf (Accessed: 2 April 2025).
- Searchinger, T., Waite, R., Hanson, C., *et al.* (2019) *Creating a Sustainable Food Future: A Menu of Solutions to Feed Nearly 10 Billion People by 2050. Final report*. Washington D.C: World Resource Institute
- The AIM Platform (2024) *Advanced and Indirect Mitigation Platform Association Test.* Available at: https://aimplatform.org/wp-content/uploads/2025/02/AIM-Platform-Association-Test-Stakeholder-Comment-Draft.pdf (Accessed: 17 April 2025).
- UNEP (2022) *Emissions Gap Report 2022: The Closing Window – Climate Crisis Calls for Rapid Transformation of Societies*. Nairobi, Kenya: United Nations Environment Programme (The Emissions Gap Report). doi:10.18356/9789210023993
- de Vries, W., Römkens, P.F.A.M., Kros, J., *et al.* (2022) *Impacts of nutrients and heavy metals in European agriculture.* Available at: https://www.eionet.europa.eu/etcs/etc-di/products/etc-di-products/impacts-of-nutrients-and-heavy-metals-in-european-agriculture-current-and-critical-inputs-in-relation-to-air-soil-and-water-quality
- Ward, N., Atkins, A. and Atkins, P. (2024) 'Estimating methane emissions from manure: a suitable case for treatment?', *Environmental Research: Food Systems*, 1(2), p. 025003. Available at: https://doi.org/10.1088/2976-601x/ad64d7.
- Zhou, M. *et al.* (2017) 'Stimulation of N2 O emission by manure application to agricultural soils may largely offset carbon benefits: a global meta-analysis', *Glob Chang Biol*, 23(10). Available at: https://doi.org/https://doi.org/10.1111/gcb.13648.
- Ziegert, R.F. and Sotirov, M. (2024) 'Regulatory politics and hybrid governance: the case of Brazil's Amazon Soy Moratorium', *Global Environmental Change*, 88. Available at: https://doi.org/https://doi.org/10.1016/j.gloenvcha.2024.102916.

Annex 3A – Comparison to other assessors and validators

The comparison of the *Corporate Climate Responsibility Monitor*'s (CCRM) integrity assessments for short-, medium-, and long-term emission reduction targets with the validations and target assessments by other voluntary initiatives and research organisations reveal several key differences.

Table 3.2: Comparison between assessment for emission reduction targets by (1) the *Corporate Climate Responsibility Monitor* (CCRM) 2025, (2) the Science Based Targets initiative (SBTi), (3) the Transition Pathways Initiative (TPI), (4) the MSCI Net Zero Tracker as of March 2025 and (5) the Planet Tracker; all as of May 2025. Companies listed in alphabetical order for each sector.

COMPANY	CCRM 2025				SBTi	SBTi	TPI	TPI	TPI	MSCI*	Planet Tracker
	Section 2	*Short-term (by 2030)*	*Medium-term (2031-2040)*	*Long-term (beyond 2041)*	*Near-term*	*Net zero*	*Carbon Performance Alignment 2027*	*Carbon Performance Alignment 2035*	*Carbon Performance Alignment 2050*		*Climate alignment*
Danone	*Poor*	*Moderate*	*Very poor*	*Unclear*	*1.5°C*	*1.5°C*	*No or unsuitable disclosure*	*No or unsuitable disclosure*	*No or unsuitable disclosure*	*2.4°C*	*> 2°C*
JBS	*Very poor*	*Very poor*	*Very poor*	*Very poor*	*Commitment removed*	*Commitment removed*	*No or unsuitable disclosure*	*No or unsuitable disclosure*	*No or unsuitable disclosure*	*>3.2°C*	
Mars	*Reasonable*	*High*	*Very poor*	*Reasonable*	*1.5°C*	*1.5°C*				*N/A*	
Nestlé	*Poor*	*Poor*	*Very poor*	*Unclear*	*1.5°C*	*1.5°C*	*Below 2 Degrees*	*1.5 Degrees*	*1.5 Degrees*	*1.9°C*	*> 2°C*
PepsiCo	*Very poor*	*Unclear*	*Very poor*	*Unclear*	*1.5°C*	*Commited*				*1.7°C*	*> 2°C*

** The MSCI Net Zero Track discontinued the public disclosure on its website for single company evaluations in the first half of 2025. Evaluations presented date back to March 2025 before this change in policy.*

Key issues for difference with the Science Based Target initiative (SBTi) validations

The SBTi is currently in the process to revise its Corporate Net Zero Standard with a first draft published in March 2023 (SBTi, 2025). Some of the differences identified below might be addressed in the next version of the standards, which is intended for publication withing the next months.

- **Accounting for land-based removals:** The SBTi Food, Land and Agriculture (FLAG) guidance and the SBTi Corporate Net Zero Standard allow companies operating in the FLAG sector to use carbon dioxide removals within the value chain to meet their 2030 and net-zero targets (SBTi, 2023b, pp. 27–28, 2024d, pp. 26–27). We do not consider the reliance on land-based removals to achieve emission reduction targets as a meaningful target setting strategy in the FLAG sector. While land-based removals are important at the global level, they should not be treated the same as actual emission reductions. This is particularly relevant for the difference of our target integrity assessments with SBTi's near-term and net-zero target validations for **Nestlé** and **PepsiCo**.

Key issues for difference with the Transition Pathways Initiative (TPI) assessments

- **Accounting for land-based removals:** The Transition Pathways Initiative (TPI) assessments carbon performance assessment methodology for food producers allows for the use offsets from outside and inside the value chain to meet their emission reduction targets (Dietz and Jahn, 2024, p. 17). We do not consider the reliance on offsets and land-based removals to achieve emission reduction targets as a meaningful target setting strategy in the FLAG sector. This is particularly relevant for the difference of our target integrity assessments with TPI's carbon performance assessments for **Nestlé**.

Key issues for difference with the MSCI Net Zero Tracker assessments

- **Lack of disclosure on method and underlying data:** The MSCI Net Zero Tracker does not disclose specific data and methodological approaches on emission reduction targets going into its temperature alignment assessments (MSCI ESG Research LLC, 2024). For this reason, we cannot understand whether and to which degree the MSCI allows for offsetting and/or land-based removals in agrifood companies short-, medium-, and long-term targets. This is particularly relevant for the difference of our target integrity assessments with MSCI's assessments for **Nestlé** and **PepsiCo**.

Annex 3B – Target Integrity assessments

	Short term *(now-2030)*	**Medium term** *(2031-2040)*	**Long term** *(2041 and beyond)*
1 – What are the targets and what do they mean in terms of emission reductions?			
Nestlé	By 2025, compared to 2018 levels: - Reduce emissions by 20%. By 2030, compared to 2018 levels: - Reduce FLAG scope 3 emissions by 50%. - Reduce energy & industry scope 1, 2 & 3 emissions by 50% .	No target identified.	By 2050: - Net-zero emissions. - Reduce scope 3 FLAG emissions by 75% compared to 2018 levels. - Reduce scope 1, 2 & 3 energy and industry emissions by 90% compared to 2018 levels.
JBS	By 2030, compared to 2019 levels: Reduce scope 1 and 2 emissions intensity by 30%.	By 2040: Reach net-zero emissions, but without a specific deep emission reduction target.	No target identified.
PepsiCo	By 2030, compared to 2022 levels: - Reduce scope 1 & 2 emissions by 50% - Reduce scope 3 FLAG emissions by 30% - Reduce scope 3 energy and industry emissions by 42%	No target identified.	By 2050, compared to 2022 levels: - Reach net-zero GHG emissions - Reduce scope 1 & 2 emissions by 90% - Reduce scope 3 energy and industry emissions by 90% - Reduce scope 3 FLAG emissions by 72%
Mars	By 2025, compared to 2015 levels: Reduce scope 1, 2 & 3 emissions by 27%. By 2030, compared to 2015 levels: Reduce scope 1, 2 & 3 emissions by 50%.	No target identified.	By 2050: Net-zero pledge with a target to reduce scope 1, 2 & 3 emissions by 80% compared to 2019 levels
Danone	By 2030, compared to 2020 levels: - Reduce scope 1 & 2 energy & industry-related emissions by 46.3% - Reduce scope 3 energy & industry-related emissions by 42% - Reduce scope 1 & 3 FLAG emissions by 34.8% - Reduce CH_4 emissions from fresh milk by 30%	No target identified.	By 2050, compared to 2020 levels: - Net-zero emissions - Reduce scope 1, 2 & 3 energy & industry-related emissions by 90% - Reduce scope 1 & 3 FLAG emissions by 72%

	Short term *(now-2030)*	**Medium term** *(2031-2040)*	**Long term** *(2041 and beyond)*
2 – What do the targets mean in terms of emission reductions?			
Nestlé	14-24%	N/A	?
	We compared the targeted emission levels to the value chain emissions reported in the Net Zero Roadmaps, as well as the updated latest sustainability reporting. We did not include land-based removals as reductions.	No target identified.	Undefined role of land-based CDR in net-zero target.
JBS	Unclear	Unclear	N/A
	We cannot independently quantify JBS's intensity targets in terms of absolute emission reductions. JBS does not provide base year intensity emissions.	JBS does not commit to a deep emission reduction target alongside its net-zero pledge.	No target identified.
PepsiCo	37% by 2030	Very poor	Unclear
	PepsiCo's targets translate to a 31% reduction by 2030 below 2022 levels. PepsiCo's targets translate to a 33% reduction by 2030 below 2019 levels, but this value may be inaccurate due to company's divestments and therefore altered base year emissions.	No target identified.	PepsiCo commits to deep emission reductions by 2050 alongside its net-zero target. The company's targets translate to an 86% reduction by 2050 below 2022 levels. PepsiCo's targets translate to an 86% reduction by 2050 below 2019 levels, but this value may be inaccurate due to company's divestments and therefore altered base year emissions.
Mars	46%	N/A	79%
	Mars' target translates to a 46% reduction by 2030 below 2019 if considering location-based emission approaches.	No target identified.	Mars' target translates to 77% by 2050 below 2019 if considering location-based emission approaches. We assume that the company does not plan to claim land sequestration carbon dioxide removals towards this 80% target, as the company has explicitly ruled this out for its 50% 2030 target.
Danone	?	N/A	?
	Danone gives an estimate of residual emissions by 2030. This however likely includes land-based CDR. Target to reduce emissions from fresh milk is most likely separate from removals.	No target identified.	Danone gives an estimate of residual emissions by 2050, which translated to an emission reduction of 80% compared to value chain emissions. This most likely already includes an estimate of land-based CDR within the value chain.

	Short term *(now-2030)*	**Medium term** *(2031-2040)*	**Long term** *(2041 and beyond)*
3 – Is this emission reduction commitment in line with 1.5°C-compatible trajectories or benchmarks for the sector?			
Nestlé	Poor	Very poor	?
	Land-based CDR will count towards achievement of emission reduction targets; presented measures and mitigation potential suggest significant role.	No target identified.	Undefined role for land-based CDR to count towards achievement of net-zero target.
JBS	Very poor	Very poor	Very poor
	JBS's short-term target to reduce scope 1 and 2 intensity emissions by 30% by 2030 below 2019 levels covers only 4% of emissions in its base year. If the intensity target is interpreted as leading to an equivalent amount of absolute emission reductions, this would lead to a 1.1% emission reduction by 2030 compared to 2019 levels. This reduction is misaligned with cross-sector and sectoral benchmarks. Teske (2022, p. 328) describes that between 2019 and 2030, the food and agriculture industry should reduce its scope 3 emissions by 34%. The SBTi FLAG guidance requires companies to set targets to reduce emissions by 30.3% by 2030 below 2020 levels (SBTi).	We are unable to compare JBS's 2040 net-zero emission reduction target to sectoral 1.5°C-aligned benchmarks as JBS does not commit to reducing emissions alongside its net-zero commitment.	JBS sets no emissions reduction target for the long-term (2041-2050).
PepsiCo	?	Very poor	?
	Undefined role for land-based CDR to count towards achievement of 2030 targets.	No target identified.	Undefined role for land-based CDR to count towards achievement of 2030 targets.
Mars	High	Very poor	Reasonable
	Mars's 2030 short-term target goes beyond the benchmarks for the food and agriculture sector and are aligned with 1.5°C Paris Agreement-aligned global milestones. Mars has further set a short-term target for 2025 that is in line with its 2030 target.	Mars's lack of targets for the period between 2031–2040 neglects the need for interim targets to chart a trajectory towards the company's long-term vision.	Mars's 2050 target meets 1.5°C Paris Agreement aligned milestones for food and agriculture sector. We evaluate Mars's implied emission reduction target reasonable rather than high because of the lack of interim targets on five-year intervals, as per the recommendations of the UN High Level Expert Group on Net Zero. • Teske (2022) identifies 1.5°C-aligned absolute emission reduction milestones for various emission sources of agricultural activities, which represent upstream scope 3 emissions for Mars. All energy-related emissions need to reduce 100% by 2050, whereas AFOLU emissions and non-CO_2 emissions need to reduce by 42% by 2050 below 2019 levels. In sum, these required reductions mean a reduction of 51% across all scopes, below 2019 levels. Mars's implied emission reduction commitment aligns with this. • The Transition Pathways Initiative (TPI) derives an emission intensity per tonne of agricultural input aligned with '1.5°C' trajectories by 2050: 0.414 tCO_2 /tonne agricultural input (Dietz *et al.*, 2022). This represents an 85% reduction in intensity compared to 2.751 tCO_2 /tonne agricultural input in the 2020 base year. Due to a lack of information on intensity and volumes of agricultural input, we cannot directly assess whether Mars's implied emission reduction commitment meets these intensity benchmarks. Moreover, TPI specifies that their benchmarks are developed for human food only, and Mars's products are only partially for human consumption. However, Mars's emission reduction target alongside its 2050 net-zero target contribute to the shift that is signalled by the required change in intensities. Boehm *et al.* (2023) describe emission reduction requirements of 29% for enteric fermentation and 39% for manure management, both below 2017 levels. Mars's emission reduction target goes beyond these levels.
Danone	Moderate	Very poor	?
	Targets are in line with benchmarks, but depend on an undefined role of CDR. Land-based CDR will most likely not contribute to achievement of methane target.	Danone sets no emissions reduction target for the medium term (2031-2040).	Targets appear in line with benchmarks, but the achievement will depend on an unspecified role of land-based CDR.

Annex 3C – Key transition integrity assessments

	Shift to plant-based protein	Reduction in food loss and waste in operations and supply chain	Reduction in fertiliser use	Commit to no-deforestation, no land conversion and no peat-burning	Accompanying measures	Packaging
1 – What transition targets does the company set?						
Nestlé	No targets or measures identified.	No targets or measures identified.	No targets or measures identified.	Nestlé aims to achieve and maintain 100% assessed deforestation-free primary supply chains: meat, palm oil, pulp and paper, soy, sugar, cocoa and coffee.	Nestlé aims to reduce virgin plastic use by a third.	
JBS	No targets or measures identified.	2030 target: JBS and Pilgrim's have committed to reduce food loss and waste in their US operations by 50%	No targets or measures identified.	Delivering zero illegal deforestation in all Brazilian biomes by the end of 2025 for direct and tier 1 indirect cattle suppliers	No targets or measures identified.	
PepsiCo	Increase diverse ingredients: Use more diverse ingredients such as legumes, whole grains, plant-based proteins, fruits and vegetables and nuts and seeds to deliver 145 billion portions of diverse ingredients annually in global convenient foods portfolio by 2030	98% waste diverted from landfill by 2030	No targets or measures identified.	PepsiCo strives to realize deforestation-free sourcing in its company owned and -operated activities and global supply chains by 2025 and conversion-free sourcing by 2030.	No targets or measures identified.	Design 100% of packaging to be recyclable, compostable, biodegradable or reusable by 2025 Cut virgin plastic from non-renewable sources per serving across global beverages and convenient foods portfolio by 50%, including delivering 20% of all beverage servings through reusable models + reducing absolute tonnage of virgin plastic from non-renewable sources by 20% by 2030
Mars	No targets or measures identified.	No targets or measures identified.	No targets or measures identified.	Committed to a deforestation and conversion free cocoa. Committed to stop deforestation and conversion of natural ecosystems in Mars supply chains for direct soy ingredients in Latin America by 2025. Limit or stop deforestation and conversion of natural ecosystems in Mars supply chains, up to the direct cattle supplier for beef ingredients in Latin America. Has achieved a deforestation-free directly sourced palm and palm kernel oil. Also has a target to reduce its land footprint and land-use change emissions.	No commitments to specific measures, but commits to reducing emissions in every accompanying measure through many smaller changes/initiatives	
Danone	No targets or measures identified.	Halve all food waste not fit for human, animal consumption or biomaterial processing by 2030 vs 2020 (LFL)	No targets or measures identified.	Deforestation & conversion-free key commodities by 2025	Some targets and significant measures identified. Most notably targets on packaging: Aims to halve the use of virgin fossil-based packaging by 2040, with a 30% reduction by 2030, accelerating reuse and recycled materials. Aims to make packaging 100% reusable, recyclable or compostable by 2030.	

	Shift to plant-based protein	Reduction in food loss and waste in operations and supply chain	Reduction in fertiliser use	Commit to no-deforestation, no land conversion and no peat-burning	Accompanying measures	Packaging
2 – Are the transition targets in line with 1.5°C-compatible trajectories or benchmarks for the sector?						
Nestlé	Poor	Poor	Very poor	Reasonable	Poor	
	No targets or measures identified.	Presents significant measures, and shows some quantifiable targets for parts of the waste value chain.	No targets or measures identified.	Target covers the major share of deforestation-related activities and is aligned with sectoral requirements. Shareholder farms are excluded from management system requirements.	No targets or measures identified.	
JBS	Very poor	Poor	Very poor	Poor	Very poor	
	JBS sets no targets or significant measures for the transitioning away from livestock farming and towards plant-based products.	JBS sets a target for the transition that covers only very limited parts of the company's activities.	JBS sets no target or significant measures for reducing the use of fertilisers.	JBS does not address the issue of legal deforestation, and its target to address illegal deforestation covers only very limited parts of the company's activities.	JBS explores some short term, accompanying measures but these are not significant, nor does JBS set targets on accompanying measures.	
PepsiCo	Very poor	Very poor	Very poor	High	Poor	?
	PepsiCo does not have a target to transition towards plant-based proteins. PepsiCo has a target to use more diverse ingredients, including plant-based ingredients, but target formulation and metrics are unclear. Clear measures are also missing.	PepsiCo does not set targets or significant measures to reduce food loss and waste in operations and in the supply chain.	PepsiCo does not set targets or significant measures to reduce fertiliser use.	PepsiCo sets a target that is in line with the Afi's target to adopt a deforestation free and conversion free supply chain by 2025 and 2030 respectively. The target covers all of the company's activities, and reflects a timely implementation of the transition in line with sector-specific and long-term action.	PepsiCo implements some measures to address the transition such as improving energy efficiency, but it does not commit to a specific target on any of the key accompanying measures.	[...]
Mars	Poor	Very poor	Very poor	Moderate	Poor	
	Mars does not set a target on increasing the sale of plant-based products but acknowledges the need for a transition and implements some measures to address the transition.	Mars does not set targets or significant measures for reducing food loss and waste in operations and the supply chain.	Mars does not set targets or significant measures for reducing fertiliser use.	Mars sets commodity-specific targets to end deforestation in its operations and supply chain. The targets are partially in line with 1.5C compatible trajectories or benchmarks for the sector, according to available literature. They cover selected parts of the company's activities, leaving out deforestation linked to dairy. Measures reflect a timely implementation of the transition in line with sector-specific decarbonisation pathways, including short- and long-term action.	Mars implements some measures to address this transition, but it does not commit to specific targets and the estimated emission reductions from key measures do not facilitate a clear understanding of the sufficiency of such measures.	
Danone	Moderate	High	Very poor	Moderate	Very poor	
	No target identified, but Danone has a target to reduce methane emissions from fresh milk production and implements significant measures to increase the share of plant-based protein in its portfolio.	Main target & measures mostly cover consumer waste. Food loss is only partially covered.	No targets identified, but some measures presented.	Commitment covers key commodities only; no target identified for other commodities	No target identified, but several significant measures in place.	

	Shift to plant-based protein	Reduction in food loss and waste in operations and supply chain	Reduction in fertiliser use	Commit to no-deforestation, no land conversion and no peat-burning	Accompanying measures	Packaging
3 – What is the companies progress towards the sectoral transition?						
Nestlé	No progress identified or insufficient data	No progress identified or insufficient data	No progress identified or insufficient data	Right direction, off track	No benchmarking possible (lack of available benchmarks)	
	No progress indicators identified.	No progress indicators identified.	No progress indicators identified.	Some progress identified, but lack of progress on key commodity (cocoa).	No benchmarking possible (lack of available benchmarks)	
JBS	Wrong direction, critically off track	No progress identified or insufficient data	No progress identified or insufficient data	Wrong direction, critically off track	No progress identified or insufficient data	
	JBS has purchased several plant-based brands but continues to expand its different livestock and animal protein businesses. The company does not show any sign of transitioning away from emissions-intensive livestock farming.	No progress indicators identified.	No progress indicators identified.	JBS does not provide progress against its target to phase out illegal deforestation from a subset of its suppliers, however investigations from organisations point to continued deforestation in JBS's supply chain.	No progress indicators identified.	
PepsiCo	No progress identified or insufficient data	No progress identified or insufficient data	No progress identified or insufficient data	No progress identified or insufficient data	No progress identified or insufficient data	Wrong direction, critically off track
	PepsiCo reports progress on its commitment to use more diverse ingredients, however there is insufficient information to assess progress.	No progress identified or insufficient data.	No progress identified or insufficient data.	No progress identified or insufficient data.	No progress identified or insufficient data.	Although plastics intensity is reducing and PepsiCo is progressing on some of its other packaging targets, the company reported an increase in the absolute tonnage of plastic in 2023.
Mars	No progress identified or insufficient data	No progress identified or insufficient data	No progress identified or insufficient data	Right direction, on track	No progress identified or insufficient data	
	No progress indicators identified.	No progress indicators identified.	No progress indicators identified.	Mars reports that most of its sourcing as of 2024 is deforestation free for its key commodities and is on track to source 100% deforestation-free commodities by 2025.	Mars describes planned measures in its decarbonisation roadmap but does not report progress on these measures on its latest sustainability communication, except for progress on packaging targets.	
Danone	No benchmarking possible (lack of available benchmarks)	No progress identified or insufficient data	No progress identified or insufficient data	Right direction, on track	No benchmarking possible (lack of available benchmarks)	
	Danone makes significant progress with regards to plant-based protein offerings and shows that plant-based protein replaces dairy. However, due to lack of available benchmarks, it remains unclear whether this is sufficient.	Danone implements significant measures to reduce food loss and waste. However, due to a lack of data, it remains unclear whether Danone has made any progress.	No progress indicators identified.	Danone presents data on progress towards is zero deforestation target and, based on own reporting, is on track to meet this target.	Limited progress indicators identified, and substantive information on planned and implemented measures provided. No benchmarks available to assess sufficiency of benchmarks.	

The rapid acceleration in the volume of corporate climate pledges, combined with the fragmentation of approaches and the general lack of regulation or oversight, means that it is more difficult than ever to distinguish between real climate leadership and unsubstantiated greenwashing.

The Corporate Climate Responsibility Monitor 2025 evaluates the climate strategies of 20 major corporations. It critically analyses the transparency and integrity of corporate pledges and claims to identify replicable good practice and areas for improvement.

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