Running Latte:

Slow Progress on Methane in the Dairy and Coffee Industry

This report was researched and written by
the Changing Markets Foundation.

www.changingmarkets.org

Design: Pietro Bruni - www. toshi.ltd

Contents

Flooded industrial farm, Shutterstock

Executive summary

Climate change is accelerating, and the world is rapidly approaching critical tipping points. Methane - a greenhouse gas around 80 times more potent than carbon dioxide (CO_2) over a 20-year period[1] - is responsible for nearly half of the total global surface temperature rise since 1750.[2] Unlike CO_2, methane is short-lived in the atmosphere, which makes cutting methane one of the fastest and most effective ways to slow global warming in the near term. Methane also contributes to the formation of harmful ground-level ozone, so reducing its emissions not only helps stabilise the climate but also improves air quality and protects ecosystems.[3]

Animal agriculture accounts for 32% of global methane emissions,[4] with dairy and beef production as key drivers. In the European Union (EU) alone, methane from cattle - primarily through enteric fermentation and manure management - made up nearly 98% of agricultural methane emissions in 2022.[5] This highlights both the climate threat and the unique opportunity the dairy sector holds: with ambitious action, it could deliver deep and rapid cuts to global methane emissions.

However, as this report shows, the dairy and coffee house industries - who are significant consumers of dairy - are far from delivering on that potential. Despite the growing visibility of initiatives like the Global Methane Pledge and the Dairy Methane Action Alliance (DMAA) - the only industry initiative specifically targeting methane in the dairy sector - most companies lack methane-specific targets, credible action plans, or even basic transparency around their emissions.

This assessment reviews 20 major dairy and coffee house companies - with combined revenues exceeding $420 billion,[A] more than the Gross Domestic Product (GDP) of Denmark - based on their methane reduction goals, action plans, accounting and reporting. It highlights both progress and gaps in tackling this critical climate issue.

BOX: **The impacts of dairy methane emissions**

According to industry figures dairy production is responsible for around 8% of total methane emissions caused by humans. However, more granular information about the industry's methane footprint is hard to find. The Institute of Agriculture and Trade Policy (IATP),[6] Changing Markets Foundation and Greenpeace have attempted to estimate emissions for big meat and dairy companies, based on publicly accessible information. We also attempted to calculate their methane emissions in the absence of any publicly available information.

A 2022 report by Changing Markets and IATP showed that ten dairy and five meat companies produce more methane emissions than the entire EU.[7] To put this in perspective, methane emissions from Nestlé's dairy production alone were twice as high as the total livestock methane emissions of its home country, Switzerland, while Dairy Farmers of America generated methane emissions equivalent to the entire livestock sector of the UK.

On average, methane emissions accounted for around 50% of the total greenhouse gas (GHG) emissions of the 10 largest dairy companies analysed. For some companies, like Saputo and Dairy Farmers of America, methane made up an even higher share, contributing 59% of their total GHG emissions. A recent report by Changing Markets and Greenpeace Nordic showed that methane accounts for 56% of dairy company Arla's overall GHG emissions, surpassing the agricultural methane emissions of the Netherlands.[8]

The selection of companies includes:

- The largest dairy companies in Europe and North America by annual revenue.
- All eight members of the DMAA - with several DMAA members already ranking among the largest global dairy producers, making their inclusion key to assessing the alliance's impact.
- The five largest coffee chains in Europe and North America, based on store count. These companies are major consumers of dairy, making them critical players in the methane conversation and relevant for comparison with dairy producers.

A Revenues from companies vary across different years, specifically between 2022 and 2024. Revenues for three companies (Clover Sonoma, Costa and McCafe) are not available, so the total sum is higher.

Where do dairy and coffee house companies stand on methane action?

★ DMAA members (only Lactalis USA is a member, not Lactalis group)

Nationality	Companies		Methane Awareness & Strategy Shift (out of 24)	Methane emission accounting (out of 24)	Methane emission reporting (out of 24)	Methane emission reduction targets and action plans (out of 28)	Total (out of 100)
	DANONE	★	8	20	12	19	59
	General Mills	★	8	20	16	9.5	53.5
	Nestlé	★	16	12	12	9	49
	Arla		8	24	8	9	49
	bel for all the good	★	8	20	16	0	44
	dmk Group		8	20	0	9.5	37.5
	FrieslandCampina		8	12	8	9.5	37.5
	Saputo		8	20	8	0	36
	Unilever		12	8	8	0	28
	KraftHeinz	★	8	8	8	0	24
	LACTALIS	★	8	8	8	0	24
	Tim Hortons		8	8	8	0	24
	McDonald's McCafé		4	8	8	0	20
	STARBUCKS	★	0	8	8	0	16
	COSTA		8	4	0	0	12
	DFA Dairy Farmers of America		8	4	0	0	12
	Clover Sonoma	★	8	0	0	0	8
	FRONERI		0	8	0	0	8
	Müller		8	0	0	0	8
	DUNKIN'		0	0	0	0	0

Dairy and Coffee House Companies Analysed

Revenue and ranking

STARBUCKS

Starbucks
Seattle, Washington, USA

16% $36.2B.

Tim Hortons

Tim Hortons
Toronto, Ontario, Canada

24% $4 Billion

Saputo

Saputo
Montreal, Quebec, Canada

36% $12.5 Billion

DUNKIN'

Dunkin
Canton, Massachusetts, USA

0%

CLOVER SONOMA

Clover Sonoma
Petaluma, California, USA

8%

KraftHeinz

KraftHeinz
Chicago, Illinois, USA

24% $25.8 Billion

McDonald's / McCafé

McDonald's/McCafe
Kansas City, Kansas, USA

20%

General Mills

General Mills
Minneapolis, Minnesota, USA

53.5% $19.9 Billion

DFA Dairy Farmers of America

Dairy Farmers of America
Chicago, Illinois, USA

12% $24.5 Billion

COSTA

Costa
Dunstable, UK

12%

FRONERI

Froneri
Northallerton, UK

$6 Billion 8%

Unilever

Uniliver
London, UK

28% $69.1 Billion

GROUPE LACTALIS

Lactalis
Laval, France

24% $33.6 Billion

bel

Le Groupe Bel
Paris, France

44% $4.1 Billion

FrieslandCampina

FrieslandCampina
Amersfoort, Netherlands

37.5% $14.7 Billion

Arla

Arla Foods
Aarhus, Denmark

49% $15.7 Billion

DANONE

Danone
Paris, France

59% $31.2 Billion

Müller

Müller
Fischach, Germany

8% $10.6 Billion

dmk Group

DMK
Bremen, Germany

37.5% $2 Billion

Nestlé

Nestle
Vevey, Switzerland

49% $111.8 Billion

UNITED STATES
CANADA
UNITED KINGDOM
NETHERLANDS
DENMARK
GERMANY
FRANCE
SWITZERLAND

- Revenue Not Found
- Revenue in Billion Dollars
- Score

The assessment covers the following four main indicator categories, each made up of several sub-indicators (See Chapter 2 for full details):

1. Awareness of methane's climate impact and shifts in product strategy
2. Methane emissions accounting
3. Methane emissions reporting
4. Methane reduction targets and action plans

Companies were assessed based on publicly available information, and responses to a detailed questionnaire. Of the 20 companies analysed, six (30%) responded to the questionnaire either fully or to a meaningful extent: Arla, Bel Group, Danone, DMK, FrieslandCampina and Saputo. Nestlé shared some information via email but did not complete the questionnaire. While there were a few isolated examples of leadership, the general performance across the sector was weak, with the majority of companies failing to demonstrate credible action or transparency on methane.

Key findings

Despite methane's outsized climate impact in dairy supply chains, most companies are still treating it as a side issue. Danone scored highest overall (59 out of 100 points), followed by General Mills (53.5 points), with Nestlé and Arla tied for third place in the ranking (49 points). The Bel Group followed in fifth position (44 points). The overall level of performance on methane action is low, with the vast majority of companies - 18 out of 20 - scoring less than half of the available points in the total ranking. All coffee house companies assessed ranked among the bottom nine, with Dunkin' at the very bottom, scoring zero points due to the complete absence of methane targets, action plans and relevant emissions disclosures.

Only six out of 20 companies were found to account for methane emissions separately, rather than expressing them solely in CO_2- equivalent figures. Of those, only one company — Bel Group — reported methane in a fully disaggregated way (i.e., in CH_4 rather than carbon dioxide equivalent (CO_2e)) - a basic step toward genuine accountability and transparency. Where ambition fell shortest was in setting methane reduction targets and action plans. Only one company - Danone - had both a methane-specific target and an aligned, detailed plan. Only two companies, Nestlé and Danone reported methane reductions (13.3% for Danone and 20.56% for Nestlé), but without providing sufficient detail on where these reductions come from. The near-total absence of methane-specific targets and credible action plans sends a clear signal: companies are not yet fully committed to tackling one of the most potent and solvable drivers of global warming.

The results of our analysis reveal that DMAA members outperformed non-members across all four indicators, with the top three performers all being DMAA members. However, at the time of writing only three out of eight DMAA companies have set any form of methane reduction target or published a related action plan. On average, DMAA members scored 34.7 points, compared to 22.7 for non-members - reflecting a 12-point difference in performance. However, this still means that DMAA members, on average, only achieved just over a third of the total score available, indicating significant room for further improvement.

How did companies perform in specific areas?
Significant recognition of methane's impact, but reluctance on dairy cuts

Companies were assessed on their recognition of methane's climate impact and their willingness to take action - specifically through supporting or implementing dairy reduction as part of their climate strategy. While methane's climate impact

is widely recognised, most companies continue to avoid the tougher conversation around shifting to alternatives.

- 18 out of 20 companies scored no more than one-third of the available points on this indicator category. While the majority of companies acknowledged methane's role in climate change, there remains a clear reluctance to recognise that meaningful mitigation must go hand in hand with reducing dairy consumption.

- Nestlé (16/24 points) and Unilever (12/24) were the top performers on this indicator, recognising methane's climate impact but also acknowledging the need to reduce dairy consumption. Notably, Nestlé was the only company to explicitly support a reduction in dairy consumption as part of its climate strategy. However, none of the assessed companies made a specific commitment to reduce dairy product sales.

- Three companies - US coffee chains Dunkin' and Starbucks, and UK-based dairy company Froneri - failed to acknowledge the climate impact of livestock methane emissions entirely, suggesting they still do not view methane as a priority.

Incomplete accounting practices that mask methane's role

Our analysis examined how companies account for their emissions (their emissions inventory). Most companies follow standard emissions accounting, but few go further to account for methane emissions separately.

- 15 companies account for absolute emissions across all scopes using the Greenhouse Gas Protocol, a globally recognised standard that companies and governments can use to account for and report their emissions.

- However, only six companies - Arla, Danone, DMK, General Mills, Bel and Saputo - account for methane separately in disaggregated form, despite its outsized climate impact.

- Arla Foods claims in its questionnaire response that its emission accounting includes more granular information about the major sources of its methane emissions, such as enteric fermentation (digestion), manure management, feed production, food loss and waste. However, our research found no publicly available evidence to support this level of detail, which is reflected in a lower score on reporting.

- Clover Sonoma, Dunkin' and Müller showed no evidence of methane-specific accounting, highlighting a major gap in climate responsibility.

Weak reporting undermines trust

We assessed companies on how they disclose their emissions inventory. Most dairy companies publish their overall emissions, but still fail to report livestock methane in a clear, disaggregated way or identify major methane emission sources. Without transparent data, it is impossible to verify progress..

- Only four companies - Danone, General Mills, Bel, Nestlé - scored above half of available points for methane reporting.

- 16 out of 20 companies did not report methane in a disaggregated way (i.e., in CH_4 rather than only in CO_2e).

- The highest score in this category was 16 out of 24 points, achieved by Bel Group and General Mills. Bel Group stood out for fully disclosing its livestock methane emissions in CH_4, not just in CO_2e. General Mills disclosed it in CO_2e, but identified some of the major sources.

- Some companies made partial efforts. For example, Lactalis does report methane in disaggregated form - but only for its US subsidiary, not at the group level. Nestlé also discloses methane emissions (in CO_2e), but only for its“ingredients” category, without providing transparent information on whatshare of its total emissions this represents.

- Seven companies - Clover Sonoma, Costa, Dairy Farmers of America, DMK, Dunkin’, Froneri and Müller - scored zero, with no public methane reporting in any form.

Missing targets, missing action

In the final set of indicators, companies were assessed on their efforts to establish targets and action plans for methane reduction. For dairy and coffee house companies, setting such targets is essential to demonstrate meaningful progress in addressing their climate impact. Most companies are failing to set meaningful targets or outline how they plan to reduce methane emissions.

- Danone was the only company to receive full marks for setting a methane-specific reduction target and publishing an aligned action plan. Its plan includes ‘a 30% reduction in methane emissions from fresh milk by 2030’, aligned with the Global Methane Pledge.

- Four companies - DMK, FrieslandCampina, General Mills and Nestlé - received half points for having either a methane-specific target to reduce livestock-related emissions across the entire value chain by 2030, or a broader livestock or dairy emissions reduction target of at least 30% below 2020 levels.

- 14 out of 20 (70%) scored zero on this indicator, having set neither a methane, livestock or dairy reduction target nor an associated action plan. This includes all coffee companies assessed.

- 18 out of the 20 companies did not provide a public action plan outlining specific methane reduction activities or expected emissions reductions. Only Arla and Nestlé received partial credit for this indicator, as they listed associated expected dairy - not livestock - emission reductions.

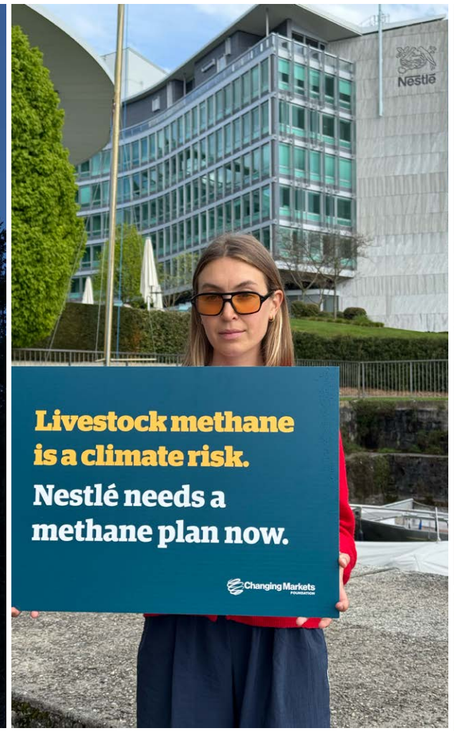
Time for action

These findings underscore a troubling disconnect between the scale of methane's climate impact and the limited action taken by some of the most powerful players in the global food system. Under the Global Methane Pledge, over 150 countries have committed to reducing global methane emissions by 30% by 2030, compared to 2020 levels. At the UN Climate Conference in Dubai (COP28), a food declaration set the tone for countries to include methane reduction into their National Determined Contributions (NDCs) that are to be presented at COP30 in Brazil, Belem. In the EU, discussions on an emissions trading system for agriculture are ongoing and the National Emission reduction Commitments (NECD) could include methane in an upcoming revision. Corporate accountability legislation is also in the mix and will come into force in the coming years, notably with a crackdown on greenwashing. In this shifting regulatory landscape, companies that act now - by setting methane targets and reduction plans as well as improving transparency - will be better positioned to comply, adapt and lead. Early movers will not only gain credibility but also reduce future compliance costs and risk.

Detailed recommendations for companies, policymakers and consumers can be found at the end of this report.

Methane campaign

Climate organisations, including Changing Markets Foundation and Greenpeace, have been calling on dairy companies Nestlé, Arla and Fonterra to put in place robust methane targets.



Industrial dairy, Shutterstock

1. Introduction: the urgency of tackling methane from livestock

1.1 The climate impact of methane and the role of dairy

Methane is one of the most potent greenhouse gases (GHGs) contributing to global warming. Despite its relatively short lifespan in the atmosphere - around a decade - methane packs a powerful punch, being nearly 80 times more powerful at trapping heat over a 20-year period than carbon dioxide. [9] This means cutting methane emissions is one of the fastest and most effective ways to slow the pace of global warming in the near term.

The urgency of action is widely recognised by climate scientists. According to the UN Environment Programme's Global Methane Assessment, global methane emissions must fall by 40-45% by 2030 to keep the 1.5°C temperature goal within reach.[10] Achieving this would also help avoid dangerous climate tipping points and buy time for longer-term carbon reduction strategies.

A key priority for methane reduction efforts lies in addressing emissions from animal agriculture, which is the largest human-driven source of methane, accounting for approximately 32% of global methane emissions.[11] In 2020, over half of total methane emissions in the EU came from the agriculture sector.[12] Within agriculture, farming ruminants - particularly beef and dairy production - is a key driver. This is primarily due to enteric fermentation, a digestive process in ruminant animals like cows, and manure management - which together accounted for 98% of the sector's methane emissions in 2022.[13] [14] In the EU, the European Environment Agency (EEA) reports that enteric fermentation from cattle was responsible for 67% of methane emissions in the agriculture sector in 2020. According to Danone, dairy production from cattle makes up an estimated 8% of total human-caused methane emissions.[15]

While animal agriculture is the largest source of methane emissions globally, it also presents one of the biggest opportunities to reduce warming. New research shows that methane alone is responsible for about 49% of the total net increase in global surface air temperature since 1750. In other words, after factoring in both warming and cooling effects, methane is responsible for nearly half of the actual temperature rise we've experienced - making it a top priority for climate mitigation.[16]

It is clear that any serious strategy to reduce methane must involve urgent action from the dairy sector. As an industry with a considerable footprint and the ability to drive rapid reductions, the dairy sector is under growing pressure to acknowledge its impact and commit to meaningful methane mitigation.[17] The sector has a powerful opportunity to play a leading role in reducing near-term warming while contributing to global climate goals.

Since 2021, Changing Markets has been at the forefront of calling out the meat and dairy industry's failure to address methane emissions, highlighting methane as the sector's major 'blind spot'. Through sustained engagement, investigations and public pressure, we have begun to see shifts. From exposing misleading climate claims by Nestlé and Arla to scrutinising how major companies mask their true emissions, we and our civil society partners have helped drive greater accountability and progress on methane accounting and reporting. Notably, one year after we published Blindspot,[18] our first report analysing meat and dairy companies' methane emissions, Danone became the first major player to publicly set a separate methane reduction target.

Yet, as this report will demonstrate, progress remains sluggish. Global initiatives to reduce methane have gained momentum in recent years, notably with the Global Methane Pledge aiming for a 30% reduction by 2030. Danone is the only company that has set targets to reduce methane in its operations, while progress across the rest of the dairy industry remains limited. Many companies still lack clear methane reduction plans or transparency about their emissions, despite dairy-focused initiatives like the Dairy Methane Action Alliance (DMAA; see Chapter 2) or overall corporate-focused climate efforts like the Science-Based Targets initiative (SBTi).

1.2 Not small farms, but big business

A common misconception is that dairy farming is dominated by small-scale farmers, with an idealised image of cows grazing in open fields. In reality, the global dairy industry is shaped by industrial farming and a highly concentrated market, where large multinational corporations or giant cooperatives dominate the market. In 2022, the US had 1,453 mega farms with 5,000 or more cattle,[19] but these intensive farms are found in Europe too.

For example, there are more than 1,000 US-style mega-farms in England, Wales and Northern Ireland with at least 700 dairy cows or 1,000 beef cattle. The largest mega-dairy farms in the UK hold 2,000 animals; cows are not allowed out into fields

and are permanently housed inside sheds.[20] So-called battery cows are typically milked three times a day, often on large electronic rotating milk parlours, producing up to 32 litres of milk each day.[21]

Many of the companies in our research are dominant players in the global food and beverage industry. For example, in 2024 Nestlé reported revenues of over $111.8 billion,[22] operating in 189 countries with more than 330 factories worldwide.[23] Danone, while smaller in comparison, remains a formidable force with products sold in over 120 markets,[24] generating $31.2 billion in sales in 2024.[25]

Within the sector, dairy cooperatives play a significant role, particularly in Europe and North America, where they represent the majority of the dairy market. For instance, Dairy Farmers of America, a US-based cooperative, is the largest milk processor in the country, now controlling about 25% of the US milk market, leading to concerns about reduced competition and lower prices for farmers.[26] Similarly, Arla Foods is a leading cooperative in Europe owned by approximately 7,600 farmers across Denmark, Sweden, the UK, Germany, Belgium, Luxembourg and the Netherlands. In 2023, it processed about 13.7 billion kilograms of milk.[2728] Arla recently announced a merger with DMK Group, forming what it describes as 'the strongest dairy cooperative in Europe'. The planned merger would unite more than 12,000 dairy farmers and generate a combined annual turnover of €19 billion.[29]

Lastly, we included major coffee house companies in this research as they are significant users of dairy products, particularly milk. Rough estimates suggest that Starbucks US uses approximately 750 million litres (nearly 200 million gallons) of dairy milk annually. This substantial usage generates over 2.3 million tonnes of CO_2 equivalent emissions each year.[30] Dairy products represent the largest single source of carbon emissions across Starbucks' operations and supply chain.[31] In 2024, the company reported revenues of $36.2 billion.[32] Despite this scale, most global coffee chains remain opaque about their dairy consumption. The lack of transparent reporting makes it difficult to fully assess the extent of their influence and environmental impact within the dairy sector.

In 2022, the global dairy market was valued at approximately $893 billion (€824 billion).[33] For comparison, 17 out of 20 European and North American dairy and coffee house companies in this research alone had a combined revenue of over $420 billion,[B] exceeding the GDP of Denmark.[34] While not all of this revenue comes from dairy, it highlights the immense market power and influence these companies hold within the global dairy sector.

This concentration also extends to emissions. A 2022 report by the Changing Markets Foundation and Institute for Agriculture and Trade Policy (IATP) found that the combined GHG emissions of 15 of the biggest meat and dairy companies were higher than the emissions of Germany.[35] While the analysis covered both sectors, it underscores the vast climate footprint of corporate livestock production. Similarly, a 2024 report by Greenpeace estimated that the combined methane emissions of three leading dairy corporations - Dairy Farmers of America, Lactalis and Fonterra - exceed the combined reported methane emissions of a fossil fuel giant like ExxonMobil.[36]

Given their significant size in both revenue and climate impact, these corporations are uniquely positioned to lead the transition toward a more sustainable dairy sector.

B Revenue figures for the companies were taken from different reporting years – 2022, 2023 and 2024. Revenues for three companies (Clover Sonoma, Costa and McCafe) are not available, so the total sum is actually higher.

Plant-based milk, Shutterstock

1.3 Embracing alternatives

The dairy sector stands at a pivotal moment, with a clear opportunity to reduce its climate impact by embracing innovative, low-emission products and diversifying beyond traditional dairy. The rise of plant-based alternatives demonstrates a growing consumer demand, with the market for dairy-free products expanding rapidly. In recent years, plant-based milk has become a household staple for millions, signalling a shift in consumer preferences. In the US, plant-based milk accounted for approximately 15% of total milk dollar sales in 2023.[37] The 2023 National Consumer Panel reported that 44% of US households now purchase plant-based milk.[38] Plant-based options are also growing in coffee shops for health and sustainability reasons.[39] A 2019 survey in the UK found that only 5% of respondents identified as vegan, yet 72% had tried plant-based milk. Notably, 60% said they had tried it in a coffee shop.[40] In the UK, one in four coffees sold by the major chains is made with plant-based milk.[41]

The plant-based milk market is expected to grow 15% each year until 2030, reaching over $120 billion. In contrast, dairy milk is projected to grow by about 6% annually during the same time period.[42]

Some major companies are embracing this shift. Danone, for example, has made significant investments in plant-based alternatives, with brands like Alpro, Silk and SoDelicious leading its expansion in this sector.[43] Nestlé offers plant-based products like Milo and Vegan Carnation.[44]

Precision fermentation is accelerating the shift from conventional dairy to sustainable alternative proteins. This technology, already used for decades to produce ingredients like rennet for cheesemaking, programmes microorganisms - such as yeast - to produce ingredients like dairy proteins. Precision fermentation can efficiently create proteins which are used in plant-based recipes to mimic the taste, texture and functionality of traditional dairy products. Early studies suggest that dairy and egg proteins made through precision fermentation could generate 70% less greenhouse gas emissions, use 95% less land and require 80% less water than conventional animal-based dairy, while also avoiding the nutrient pollution linked to industrial agriculture. [45]

1.4 Purpose of this report

Given the lack of transparency and action in the dairy sector at a crucial time, coupled with significant opportunities for improvement, this research aims to better understand industry efforts and encourage broader action in addressing the pressing issue of methane emissions. We assess where some of the biggest dairy and coffee companies currently stand in terms of methane reduction goals, action plans, and transparency in reporting, highlighting both progress and gaps in tackling this critical climate issue.

Global Methane Pledge launch at COP26, Alamy

2. The state of industry commitments and policy developments

In recent years, there has been growing global momentum to address methane emissions, with initiatives emerging at both government and corporate levels.

2.1 Government initiatives: The Global Methane Pledge

A turning point came in 2021 with the launch of the Global Methane Pledge, an initiative led by the US and the EU, which aims to cut global methane emissions by 30% by 2030. To date, 159 countries and the European Commission have signed on, signalling broad recognition of the urgent need for action.[46]

However, the Pledge falls short - by 10-15% - of the emissions reductions required to stay on track for the 1.5°C climate target. It also notably fails to mandate reductions from agriculture, despite it being the world's largest source of human-made methane emissions.

The wording of the Pledge has been widely criticised, with the agriculture sector benefiting from softer language than the energy and waste sectors. While countries are urged to pursue 'all feasible reductions' in energy, for agriculture the Pledge only calls for reductions 'through technology innovation as well as incentives and partnerships with farmers'.[47]

The Pledge is also non-binding. Signatories face no legal obligation to meet its targets or take specific action, raising serious concerns that it could function as little more than a symbolic gesture - or worse, a platform for greenwashing. Several governments, including the UK, have failed to publish clear plans to deliver on the Pledge.[48] The EU has admitted that it is on track for only a 23% reduction by 2030 (from 2020 levels), and has acknowledged that reductions in energy and waste alone will not be enough to reach the 30% target. Still, most EU member states have yet to implement any meaningful agricultural methane reduction measures.[49]

2.2 Corporate commitments

Scope 3 emissions — which cover indirect emissions across a company's value chain — account for up to 87% of the food and beverage sector's total climate footprint. [50] While it's difficult to determine the exact share of methane within Scope 3, a large share is coming from methane released during production. This makes tackling methane a critical priority for food companies.

Many companies have committed to voluntary climate targets, but only a handful of companies analysed in this report have some type of methane-specific target. In January 2023, Danone became the first major dairy company to set a methane reduction target - 30% by 2030 - making it the first food company to align its target with the Global Methane Pledge. The company announced its intention to cut 1.2 million tonnes of carbon dioxide equivalent in methane emissions by the end of the decade.[51]

This commitment stands out in an industry where methane-specific targets remain rare. Most companies either fail to report methane emissions from their supply chains or do not set reduction targets, highlighting a significant gap in corporate climate strategies. For example, none of the 20 top-grossing retailers in the US and Europe - including household names like Ahold Delhaize, Carrefour, Lidl, Tesco and Walmart - report on their methane emissions or have set methane emissions reduction targets. While many retailers make bold statements about their climate plans, the focus is often on scope 1 and 2 (direct) emissions reductions; however, these only represent a small share of their total emissions.[52]

2.3 Dairy Methane Action Alliance

Further momentum for corporate commitments came with the launch of the Dairy Methane Action Alliance, established in December 2023, during the UN Climate Change Conference (COP28) in Dubai. This initiative was spearheaded by the Environmental Defense Fund (EDF) in collaboration with some of the biggest global food companies,[53] including Bel Group, Danone, General Mills, Kraft Heinz, Lactalis USA and Nestlé - with Starbucks and Clover Sonoma joining in April 2024. Collectively, these companies represent over $200 billion in revenue. Through this initiative, participating companies have pledged to annually account for and publicly disclose methane emissions within their dairy supply chains. While encouraged, they are not required to set a methane reduction target or develop action plans to stay members of the alliance - a major gap that weakens the initiative's potential to drive real change in the sector.

As part of the initiative's progress, in November 2024, the DMAA launched two guides for the dairy industry: Dairy Methane Accounting[54] and Dairy Methane Disclosure.[55] These resources are to provide a step-by-step framework for companies to account for and disclose dairy methane emissions. Along with the launch of these guides, two DMAA members, Bel Group and Lactalis USA, have publicly disclosed their methane emissions for the first time, with the other members committing to disclose in 2025. However, these initial disclosures still contain gaps (see Chapter 3.3), despite clear guidance.

The EDF also states that the members 'each pledge to create a public methane action plan to drive down methane emissions in their dairy supply chains'.[56] But without mandatory targets or enforcement mechanisms, the effectiveness of the initiative remains uncertain. Despite a handful of government- and industry-led efforts to address methane, overall progress remains slow. Most of the dairy industry has yet to set specific methane reduction targets, let alone implement meaningful plans to cut emissions. Moreover, many companies continue to operate with little transparency on their methane footprint.

Box 1. **Policy frameworks to reduce methane emissions**

Even though the vast majority of countries have signed up to the Global Methane Pledge, methane regulation is lagging behind. There is no requirement for companies to set reduction targets and report their emissions on a yearly basis in the jurisdictions where they are headquartered and operate. However, a declaration about food presented at COP28, set the tone by asking that countries signed up to it should include methane reduction into their NDCs and present them at the upcoming COP30 in Belem, Brazil.[57]

Most of the companies assessed in this scorecard are headquartered and operate within the US and Europe, though many have a global presence. Although these jurisdictions have made a global demand to take urgent action on methane, neither has a coherent policy framework to regulate livestock emissions.

In 2022, under the Biden administration, the US introduced the Inflation Reduction Act to accelerate the transition to a clean energy economy.[58] The Act addresses methane emissions, but more for the oil and gas sector.[59] The Department of Agriculture got $20 billion to incentivise practices to reduce emissions from agriculture, but without any requirement to measure actual emissions reductions.[60] Livestock emissions were only indirectly addressed through tax credits for biogas production[61] (which can provide a perverse incentive to increase livestock numbers) or other techno-fixes, such as feed additives.[62] Under the new Trump administration, there is uncertainty as to whether the IRA's funding will continue.[63] The administration's position on climate is clear and the US withdrew from the Paris Agreement on Trump's first day in office.[64]

In the EU, farming interests have successfully lobbied to prevent regulation of agricultural methane emissions (e.g. Methane Strategy, Industrial Emissions Directive) and wider transformation of the food system that could see EU member states prioritising the shift to healthier diets (Farm to Fork Strategy, Framework for Sustainable Food Systems).[65] There is uncertainty about how emissions from livestock will be covered in the future. The European Commission's Vision for Agriculture and Food, a roadmap to shape the future of farming and the agri-food sector, does not mention methane. Although it notes a need to rethink protein production and consumption, this is not accompanied by any commitments to change the current food system model beyond technical measures.[66] Other key laws – Corporate Sustainability Due Diligence Directive (CSDDD), Corporate Sustainability Reporting Directive (CSRD) and the Taxonomy Regulation – aim

to promote responsible business conduct, corporate accountability for human rights and the environment, and greater transparency in sustainability reporting and investment.[67] Unfortunately, these policies are currently being watered down,[68] with both CSRD and CSDDD implementation potentially delayed for two years.[C] [69] However, the EU has also set a 2040 Climate Target of 90% emissions reductions and although the lobbying to weaken it continues,[70] it will become increasingly untenable to leave the farming sector off the hook.

The National Emissions Reduction Commitments Directive[71] that looks into setting national reduction commitments for five main air pollutants is now being reviewed by the EU Commission. Although methane reductions were part of the previous Commission's proposal, successful lobbying from the agricultural groups led to the target being dropped. The upcoming revision of the Directive is a new opportunity to ensure methane is covered by this important legislation. The European Commission is also considering an emissions trading system for agriculture, which could be a way to implement the 'polluter pays' principle in agriculture and lead to methane reductions.[72]

Livestock is the largest source of methane emissions in the US and EU – 34% for the US[73] and 54% for the EU.[74] With 2030 around the corner, and with the current situation in the US, there is a clear opportunity for the EU to lead by accelerating its ambition and action on agricultural methane. As a co-leader of the Global Methane Pledge, the EU is well positioned to demonstrate what is possible and to drive meaningful change across the sector.

C At the time of writing, there was talk of delaying the implementation of these two policies for two more years.

Changing Markets Foundation Methane Campaign stunt at New York Climate Week

3. Where do dairy and coffee house companies stand on methane action?

Methodology

The 20 companies analysed in this research include the largest dairy companies in Europe and North America by yearly revenue; the eight members of the DMAA; and the five largest coffee chains in Europe and North America , based on the number of stores. The inclusion of DMAA members is important as the alliance is the only significant initiative for methane action in the dairy sector, with several of its members also ranking among the largest dairy companies by revenue. Additionally, large coffee chains are substantial consumers of dairy, making them relevant for analysis and comparison against leading dairy companies in terms of their strategies and actions related to methane emissions.

The companies analysed are Arla Foods, Bel Group, Clover Sonoma, Costa, Dairy Farmers of America, Danone, DMK, Dunkin', Froneri, FrieslandCampina, General

Mills, Kraft Heinz, Lactalis,[D] McCafé, Müller, Nestlé, Saputo, Starbucks and Unilever. At the time of this report's analysis, Arla Foods and DMK Group were still operating as two separate companies and have therefore been assessed individually. In April 2025, the two announced their intention to merge, forming what they described as 'the strongest dairy cooperative in Europe'. The planned merger would unite more than 12,000 dairy farmers and generate a combined annual turnover of €19 billion.[75]

Some coffee shops have direct supply relationships with the dairy brands featured in this research. Arla, for example, is a key supplier for several coffee chains, including McDonald's UK[76] and Starbucks in Europe, the Middle East and Africa.[77]

The companies were evaluated on 12 key indicators across four categories:

1. Awareness of methane's climate impact and shifts in product strategy
2. Methane emissions accounting
3. Methane emissions reporting
4. Methane emissions reduction targets and action plans.

D Although only Lactalis USA is a member of DMAA, this research evaluates the broader Lactalis Group to assess its overall strategies and action plans.

Shutterstock

The assessment was based on the companies' responses to a questionnaire sent via email and post in February 2025, as well as publicly available data. The research was conducted from February to April 2025, with secondary information gathered through a review of company reports, press releases, websites and publicly available CDP reports (only if published on the company's website, as CDP reports are typically behind a paywall).

Of the 20 companies analysed, six (30%) responded to the questionnaire, either completing it fully or to a meaningful extent. These companies were Arla, Bel Group, Danone, DMK, FrieslandCampina and Saputo. While Nestlé shared some information via email, it did not complete the questionnaire. Given that this is the first time we have approached these companies with a questionnaire covering this level of detail on methane, the low engagement level is not surprising.

The total score each company could reach was 100 points, distributed across the 12 indicators. Each indicator was assigned a set number of points, which could be awarded as full points, half points or zero points, depending on the level of engagement or data provided. The allocation of points for each indicator was based on its relative importance in terms of its potential impact on the company's methane emissions and overall climate accountability. A detailed breakdown of the indicators is available in Annex I.

3.1 Awareness of methane's climate impact and shifts in product strategy

For dairy and coffee house companies, the vast majority of their climate impact lies in their supply chains - particularly from methane emissions linked to dairy cattle. However, despite this substantial contribution to climate change, many companies have yet to fully acknowledge or address the sector's climate impact.

Given the scale of the problem, tackling methane must be front and centre of any serious climate plan. We evaluated companies on their recognition of the role of livestock methane emissions in climate change, their efforts to reduce reliance on traditional dairy products, and their strategies for boosting plant-based dairy sales. These steps should be seen as core components of a credible climate strategy.

The results are concerning. Nearly all the companies - 18 out of 20 - scored no more than one-third of the available points in this indicator group. While the majority acknowledged methane's role in climate change, there remains a clear reluctance to recognise that meaningful mitigation must go hand in hand with reducing dairy consumption. Notably, three companies - Dunkin', Froneri and Starbucks - failed to acknowledge the climate impact of livestock methane emissions entirely.

It's important to acknowledge that private companies and cooperatives operate under different business models, with varying levels of control over their supply chains—making it generally easier for companies like coffee houses to reduce dairy use than for farmer-owned cooperatives to shift practices.

Company	Awareness of methane's climate impact and shifts in product strategy (max. score 24 points)
Nestlé	16
Unilever	12
Arla	8
bel	8
Clover Sonoma	8
Costa	8
DFA Dairy Farmers of America	8
Danone	8
dmk Group	8
FrieslandCampina	8
General Mills	8
Kraft Heinz	8
Groupe Lactalis	8
Müller	8
Saputo	8
Tim Hortons	8
McDonald's McCafé	4
Dunkin'	0
Froneri	0
Starbucks	0

Figure 1: Ranking of companies based on their awvareness of their methane's climate impact and their shifts in product strategy

A. Acknowledging the role of livestock methane emissions in climate change

Three-quarters of companies analysed - 15 out of 20 - have clearly and publicly acknowledged the climate impact of livestock methane emissions, earning full points. These are Arla, Bel Group, Clover Sonoma, Danone, Dairy Farmers of America, DMK, FrieslandCampina, General Mills, Kraft Heinz, Lactalis, Müller, Nestlé, Saputo, Tim Hortons and Unilever.

Among them, Nestlé recognises enteric fermentation as one of the most challenging sources of emissions to reduce and states that it is exploring various approaches to cut dairy-related greenhouse gas emissions.[78, 79] Danone has also acknowledged the importance of methane action, stating that reducing methane can bring faster climate benefits than carbon dioxide reductions alone and that dairy has a meaningful role to play in this effort.[80] Arla notes that dairy cows and other livestock contribute directly to climate change through methane emissions from enteric fermentation, as well as indirectly through factors such as feed production and manure management.[81] Similarly, Clover Sonoma acknowledges the methane emissions associated with manure and highlights that innovative farming strategies can reduce these emissions.[82] Tim Hortons stands out as the only coffee company in the assessment that explicitly recognises its methane impact. Its parent company, Restaurant Brands International, notes on its website that methane is considered a high contributor to global warming, making it a key area for the company to tackle in pursuit of the 2016 Paris Agreement target.[83]

At the other end of the spectrum, three companies received no points for this indicator, having failed to mention any link to agriculture or methane and climate change on their websites: US coffee chains Dunkin' and Starbucks, and UK-based dairy company Froneri.

B. Meat and/or dairy consumption reduction

Our questionnaire and analysis also explored companies' support for reducing dairy product consumption as a strategy to address climate change. Nestlé was the only company to explicitly support a reduction in dairy consumption as part of its climate strategy. In its 2023 Net Zero Roadmap, the company stated that dietary shifts - particularly towards more plant-based diets - are the most important change the global community can make to keep the food system within planetary boundaries. Nestlé emphasises that by engaging with consumers to increase demand for plant-based products, it can support this shift while advancing its own net zero pledge.[84] Yet despite recognising the importance of this transition, the company has not outlined any concrete plans to help consumers make the shift - such as setting a pledge to achieve price parity between plant-based and animal-protein products, a key barrier for many shoppers. [85]

Two companies, Costa and Unilever, received half points in this category. While they do not directly advocate for reducing meat or dairy consumption, both have publicly acknowledged that reducing consumption of these products can have positive climate impacts. They also stress the importance of offering consumers plant-based alternatives.

The remaining 17 companies (85%) do not express any support for reducing meat or dairy consumption, although we see that some of the coffee houses (Starbucks, Dunkin) recently announced that they will stop charging extra fees for plant-based milks.[86] This indicates that the industry is still reluctant to openly acknowledge that reducing meat and dairy intake is a necessary part of climate action.

C. Alternative product protein sales increase targets

We also assessed whether companies have set targets to increase sales of alternative protein products, specifically plant-based dairy. However, all companies scored zero on this indicator. None have publicly committed to a target of reaching at least 30% plant-based dairy sales by 2030, relative to their total dairy portfolio.

3.2 Methane emissions accounting

Understanding both the nature and scale of the problem is a critical first step toward meaningful action on methane emissions. Due to lack of regulation, there is no standardised way for companies to develop an overall GHG emissions inventory, let alone one for methane. In the meantime, there are some widely accepted criteria and standards, such as the GHG Protocol, based on the latest science that governments and companies can use to develop their emissions inventories. DMAA has given the dairy sector a hand by sharing a guide on how to develop a methane inventory,[87] which enables companies to follow similar standards and criteria.

Our analysis examined how the 20 dairy and coffee house companies account for their emissions. Positively, 17 out 20 do some kind of accounting, with Arla Foods leading with the highest score, with Danone, DMK, General Mills, Saputo and Bel following. At the bottom, Clover Sonoma, Dunkin' and Müller scored zero points.

Company	Methane emissions accounting
Arla	24
bel	20
DANONE	20
dmk Group	20
General Mills	20
Saputo	20
FrieslandCampina	12
Nestlé	12
FRONERI	8
KraftHeinz	8
GROUPE LACTALIS	8
McDonald's McCafé	8
STARBUCKS	8
Tim Hortons	8
Unilever	8
COSTA	4
DFA Dairy Farmers of America	4
CLOVER SONOMA	0
DUNKIN'	0
Müller	0

Figure 2: Ranking of companies based on their accounting of methane emissions

A. Methane emissions accounting across all scopes

An annual inventory of absolute emissions across all scopes, using credible standards for accounting and reporting, is essential for corporate climate accountability. The GHG Protocol[88] is a globally recognised standard that companies and governments can use to account for and report their emissions. The GHG Protocol does require companies to account for methane in their emissions inventory but does not mandate the reporting of these emissions in a disaggregated way.

According to our analysis, most companies (15 out of 20) use this accounting practice. Three companies (Clover Sonoma, Dunkin' and Müller) received zero points, as that we could not find any information on their accounting. Two companies (Costa and Dairy Farmers of America) received half points, as we could not find any mention of the GHG Protocol.[89] [90] It is worth noting that while Costa does do its own accounting and reporting of its livestock emissions, these emissions are not reflected under its parent company, Coca-Cola.[91] Moreover, Coca-Cola recently scrapped its previous climate target to cut emissions by 25% by 2030 (from a 2015 baseline), replacing it with a vague new goal to reduce emissions by 2035 based on a 2019 baseline - without setting a clear reduction target.[92]

B. Disaggregated livestock methane emissions accounting

The bulk of emissions from dairy companies comes under scope 3, and much of this comes from methane. For full transparency, a dairy company should account for these emissions separately and in CH_4 (methane) figures, not only as CO_2e (carbon dioxide equivalent). It is important for companies to account for livestock methane emissions in a disaggregated way because methane behaves very differently from CO_2. It has a much higher warming potential over the short term, and converting it into CO_2e can mask its true impact. Disaggregated CH_4 reporting enables more accurate tracking, helps identify its major sources—like enteric fermentation or manure management—and supports more targeted mitigation strategies.

By going into this level detail, we are able to see where the serious action on addressing emissions starts to dwindle. While 15 companies account for all scopes, only six companies (Arla, Bel, Danone, DMK, General Mills and Saputo) account for their scope 3 emissions in CH_4 figures. We also see a rise in company inaction in this category with 12 companies (Clover Sonoma, Dairy Farmers of America, Froneri, Kraft Heinz, Lactalis, Müller, Unilever and the five coffee houses, Costa, Dunkin', McCafé, Starbucks and Tim Hortons) scoring zero. Two companies received half points: FrieslandCampina responded in the questionnaire that it accounts for all emissions in CO_2e and in alignment with the GHG Protocol; Nestlé reports in a disaggregated way for each greenhouse gas, but does this for ingredients only and does not give an indication of the amount of emissions this category covers. The accounting is also done in CO_2e.[93]

C. Disaggregated livestock methane emissions accounting from major sources

Accounting for agricultural methane emissions is a crucial first step for companies involved in dairy supply chains. This must include all major sources of their methane emissions, such as enteric fermentation, manure management, feed production, and food loss and waste.[E]

Only Arla scored full points for disaggregated emissions accounting due to its response to our questionnaire, but unfortunately this information does not seem to be publicly available. The majority (14 out of 20) scored zero points as they do not transparently disclose methane in a disaggregated way. Five companies (Bel, Danone, DMK, General Mills and Saputo) scored half points as they are accounting

E This is also part of the guidance from DMAA.

for their methane emissions mainly from enteric fermentation and manure management. Out of these five, Danone and DMK also account for feed production. General Mills received only half a point even though it mentioned 'other' aside from enteric fermentation, manure management and feed production. Without further information as to what 'other' means, we could not give the company full points.

3.3 Methane emissions reporting

Disclosure of crucial information (i.e. reporting), such as companies' emissions, is an important piece of the emissions reduction puzzle. However, this has not always been the case for companies in the dairy industry. Previous reports by IATP[94] and Changing Markets[95] showed that Big Meat and Dairy companies rarely reported their overall GHG emissions, let alone their methane emissions. Transparency was insufficient despite many of these companies signing up to voluntary initiatives for corporate accountability like CDP[96] or SBTi.[97] While both have at their core the promotion of corporate accountability and action, the system is not designed to allow easy third-party verification, as often the reports are behind a paywall or not submitted in a timely manner.

Our analysis showed that even though a majority of companies account for their methane emissions to a degree, they do not necessarily report these in their annual reports. The highest score in the reporting category was 16 out of a possible 24 points available, achieved by only two companies, General Mills and Bel. Danone and Nestlé scored 12 points, and nine companies scored just 8 points..

Seven out of the 20 companies scored zero (Clover Sonoma, Costa, Dairy Farmers of America, DMK, Dunkin, Fronier and Müller).

Retailer	Methane emissions reporting
bel	16
General Mills	16
DANONE	12
Nestlé	12
Arla	8
FrieslandCampina	8
KraftHeinz	8
GROUPE LACTALIS	8
McDonald's McCafé	8
Saputo	8
STARBUCKS	8
Tim Hortons	8
Unilever	8
CLOVER SONOMA	0
COSTA	0
DFA Dairy Farmers of America	0
dmk Group	0

DUNKIN'	0
FRONERI	0
Müller	0

Figure 3: Ranking of companies based on their reporting of methane emissions

Supermarket offerings, Shutterstock

A. Methane emissions reporting across all scopes

Annual reporting of absolute emissions across all scopes is key to proper disclosure and transparency. The majority of the companies assessed aligned with this sentiment given that 13 out of 20 received a full score. Seven companies (Clover Sonoma, Costa, Dairy Farmers of America, DMK, Dunkin, Froneri and Müller) scored no points as our research could not find any clear reporting.

B. Disaggregated livestock methane emissions reporting

As mentioned previously, it is important for companies to account for and report their livestock methane emissions in a disaggregated way, especially for methane to be shown in CH_4 rather than just converted to CO_2e. This kind of reporting improves transparency and credibility with regulators, investors, and the public by showing companies are addressing methane directly, rather than burying it within broader emissions figures. Dairy companies, however, appear not to care about this sort of granularity: 16 out of 20 companies did not disclose information in this way.

For example, Arla's questionnaire response said it reports scope 3 emissions, but does not report methane emissions separately. In its annual report,[98] we found that the company does list scope 3 emissions in absolute numbers, but reports its on-farm emissions per tonne of milk produced and not in absolute numbers. Another example is Lactalis, which reports methane in a disaggregated way but only for its US subsidiary (Lactalis USA).[99] For the purposes of this report we are reviewing company action at group level, so no points could be awarded even when there are initial steps within the company.

Only one company (Bel) received full points for fully disclosing its livestock emissions in CH_4, and three companies (Danone, General Mills and Nestlé) received half points. Nestlé is disclosing in disaggregated form, but for its ingredients only, without providing transparent information on what share of its total emissions this

represents; Danone publicly discloses its total CO_2 and dairy emissions, whereas it does not publicly report its methane emissions by source, although the company said it does track these for internal purposes;[100] General Mills' reporting includes only scope 3, reported in CO_2e rather than in CH_4.[101]

C. Reporting disaggregated livestock methane emissions from major sources

Transparency is crucial in a company's journey to reducing its emissions. Understanding the major sources of emissions and publicly disclosing these are key elements to this transparency.

Unfortunately, full disclosure does not seem to be a priority for dairy brands. While the companies are active in sharing their overall emissions, they are not quite ready to be open to disclose the major sources. All but one of the companies scored zero in this category as we could not find any disaggregated reporting. Canadian company Saputo mentioned in the questionnaire that it reports enteric fermentation and manure management in a disaggregated way, but we could not find any public documents to back this up (not even within the CDP report that the company publishes in its website). Only one company, General Mills, scored half a point as its reporting mentions that enteric fermentation, manure management and feed production/other were taken into account. As previously mentioned, the omission of further detail as to what 'other' could cover did not allow the company to score full points.

3.4 Methane emission reduction targets and action plans

Companies across different sectors are increasingly setting targets to reduce their carbon emissions, yet these commitments often lack clarity, do not cover all of their supply chain, or are not supported by detailed action plans.

For dairy and coffee house companies, establishing clear, measurable and absolute targets on methane is essential, as these emissions represent a significant share of their total climate footprint. Targets must be aligned with the pace and scale of emissions reductions needed to limit global warming to 1.5°C above pre-industrial levels. Crucially, such commitments should be backed by transparent, publicly accessible action plans that outline specific activities, timelines and investments into different solutions. This level of detail enables third parties - including civil society, consumers, investors and regulators - to track progress and to point out the areas where improvements need to be made.

Despite this, the majority of companies - 14 out of 20 (70%) - scored zero on this indicator, having set neither a methane, livestock or dairy reduction target nor an associated action plan. This includes all coffee companies assessed. Only two companies, Nestlé and Danone reported methane reductions: in 2024 Danone reported 13.3% from 2020 baseline,[102] while in 2025 Nestlé reported 20.56% since 2018 baseline.[103] However, they did not provide sufficient detail on where these reductions come from.

Company	Methane emission reduction targets and action plans (max. score 28 points)
Danone	19
dmk Group	9.5
FrieslandCampina	9.5
General Mills	9.5
Arla	9
Nestlé	9
bel	0
Clover Sonoma	0
Costa	0
DFA Dairy Farmers of America	0
Dunkin'	0
Froneri	0
Kraft Heinz	0
Groupe Lactalis	0
McDonald's McCafé	0
Müller	0
Saputo	0
Starbucks	0
Tim Hortons	0
Unilever	0

Figure 4: Ranking of companies based on their methane emission reduction targets and action plans

A. Methane-specific targets

Danone was the only company to receive full points for setting a methane-specific target to reduce livestock-related emissions across its value chain by at least 30% below 2020 levels by 2030. The company has committed to cutting methane emissions from fresh milk by 30% by 2030, using 2020 as the baseline - aligning its ambition with the Global Methane Pledge. Danone also states that it aims to eliminate 1.2 million tonnes of CO_2 equivalent in methane emissions globally by 2030.[104]

Danone products, Shutterstock

Three companies - DMK, FrieslandCampina and General Mills - received half points for having either a methane-specific target to reduce livestock-related emissions across the entire value chain by 2030, or a broader livestock or dairy emissions reduction target of at least 30% below 2020 levels. For instance, FrieslandCampina does not have a methane-specific target but has committed to a wider dairy emissions reduction strategy. The company states that aligning its greenhouse gas reduction pathway with a 1.5°C scenario requires a 37.5% reduction in scope 3 emissions, which includes a 33% reduction specifically from member milk.[105] DMK, while only setting an SBTi Forest, Land and Agriculture (FLAG) target - which would not normally meet the criteria for scoring - was transparent in its questionnaire response, noting that the majority of its FLAG emissions come from raw milk production and mainly from methane. Its FLAG target - recently approved by the SBTi - is a 30.3% reduction in emissions by 2030 compared to 2022 levels. While Nestlé follows a similar approach, and aims to reduce the emissions

from sourcing its dairy and livestock ingredients by 21 million tonnes by 2030, this represents only 23% of its in-scope 2018 carbon footprint, falling short of the 30% threshold required by this indicator.[106]

Fifteen companies (75%) have not established any robust methane-specific or dairy and livestock-related emissions reduction targets covering their entire value chains. This includes the majority of DMAA members.

B. Livestock methane emissions action plan

Danone once again stood out as the only company to have an action plan aligned with its livestock methane emissions reduction targets. Although the company aims to publish a dedicated methane action plan in spring 2025, its January 2023 methane ambition already outlines a set of activities designed to support its targets.[107] These include supporting regenerative agriculture, developing transformative projects with farmers and investing in innovative methane inhibitor technologies. To accelerate progress, Danone also outlined five focus areas: quantifying and transparently reporting impact; expanding on-farm methane reduction projects; strengthening strategic partnerships; engaging in policy advocacy; and mobilising consumers and the wider public.

Five companies - Arla, DMK, General Mills, FrieslandCampina and Nestlé - received half points for developing action plans aligned with either their livestock methane emissions reduction targets or broader dairy and livestock emissions goals. While Arla does not have a specific methane reduction target, it has incorporated a methane action plan within its wider climate strategy. This includes measures such as sustainable feed, selective breeding, the use of green fertilisers and feed additives, as well as effective manure management and the application of biochar.[108] [109] In response to the questionnaire, DMK answered that it does have a methane emissions reduction action plan, and shared a document mentioning measures such as optimising manure storage and application, using feed additives, optimising feed ratio, and improving cow health, lifespan and genetics.

Fourteen companies scored zero points for lacking any action plan linked to a livestock or methane-related emissions target. This group includes all the US-based companies in the assessment apart from General Mills and all coffee companies, as well as five of the eight members of DMAA. While the DMAA does encourage methane reduction strategies, its current framework does not require members to publish formal targets.

C. Livestock methane emissions action plan details

In the final step, we assessed whether any of the selected companies had published an action plan outlining specific activities along with the expected reductions in livestock methane emissions. Unfortunately, none of the companies met this standard.

Arla and Nestlé received half points for listing associated expected dairy (not livestock) emission reductions. Arla's annual report includes a graph outlining scope 3 emissions reduction per kilo of milk and whey to 2030.[110] However, Arla's reduction plans are based on intensity only, not absolute reductions, and its plans rely on technological solutions like biogas and feed additives.[111] Nestlé outlines expected reductions stemming from its dairy emissions-specific action plan, such as adjusting animal nutrition to reduce methane from digestion (-3.2%); using more sustainable feed (-2.7%); implementing other livestock-related measures (-2.3%); and optimising manure use through biogas digesters (-0.5%).[112] However, it appears

the company is currently only trialling techno-fixes[113] and claiming to be working with suppliers using regenerative agriculture practices, without committing to a more holistic or comprehensive approach to addressing the root causes of emissions in its dairy supply chain.[114],[115] Nestlé's latest report claims a 20.56% reduction in methane emissions from ingredients against its 2018 baseline, but there is a lack of transparency over how this has been achieved, given the outlined expected reductions do not add up to 20.56%.[116] This highlights the urgent need for a clear action plan to ensure transparency and accountability that reductions are genuine and lasting.

All the other companies - 18 out of 20 - failed to provide any details, including Danone. Although Danone has developed a target and an action plan, these do not provide much detail on expected reductions. Instead, Danone says it expects the initiatives in Morocco, Spain, Belgium and the US to deliver roughly 20% of its methane reduction roadmap.[117]

Mega-dairy, Shutterstock

Box 2. **DMAA vs non-DMAA members: Performance comparison on key indicators**

DMAA members outperformed non-DMAA members across all four indicators and the top three performers in the scorecard are DMAA members. On average, DMAA members achieved a total score of 34.7 out of 100, while non-DMAA members scored 22.7, reflecting a 12-point difference in performance. However, this still means that DMAA members, on average, only achieved just over a third of the total possible score, indicating ample room for further improvement.

The most notable discrepancy was observed in methane emissions reporting. DMAA members scored 10 out of 24 points (41.7%), whereas non-DMAA members scored only 4 out of 24 points (16.7%), marking a significant 25% difference. This suggests that DMAA members are more committed to methane emissions reporting. However, it is important to note that the bar for performance is quite low, with even DMAA members scoring, on average, fewer than half of the available points in this category. This indicates a substantial opportunity for improvement in methane emissions reporting across the sector.

Moreover, only three out of eight members have any form of methane targets or action plans in place. Danone was the only company to receive full points for setting a methane-specific target – aiming to reduce methane emissions from fresh milk by 30% below 2020 levels by 2030 – alongside an aligned action plan. Nestlé and General Mills have broader targets focused on livestock or dairy emissions, supported by related action plans, but fall short of setting methane-specific targets.

To maintain momentum in the sector, the DMAA should push for continuous improvements in methane mitigation and reporting. Making methane emissions reduction targets and action plans mandatory by a specific year could improve the initiative's overall performance significantly. Additionally, it should establish clear sanctions and exclusion criteria if members consistently fail to meet its requirements in a timely manner (see Recommendations for further details).

	Average climate change and livestock emissions acknowledgement	Average methane emissions accounting	Average methane emissions reporting	Average methane emissions reduction targets and action plans	Average total score
DMAA members	33.3	50.0	41.7	16.7	34.7
Non-DMAA	27.8	40.3	16.7	8.3	22.7

Figure 5: Performance of DMAA vs non-DMAA members

Nestlé Campaign, Changing Markets Foundation

4. Conclusion

Despite widespread scientific consensus that methane reduction is one of the most effective levers for slowing global warming in the near term, and that agriculture - particularly livestock - is the largest source of methane emissions, dairy and coffee house companies are still failing to act with the urgency the climate crisis demands. As highlighted in recent research, methane is responsible for nearly half of the net increase in global surface temperatures, making it a clear priority for mitigation.[118] Yet our findings reveal that the majority of the industry's leading players have not set science-based methane reduction targets, and few have developed credible action plans to reduce their emissions. In the absence of legislation, the industry lacks incentive to account for and disclose its methane emissions. Inaction from such dominant actors not only undermines global climate goals but also jeopardises their future business viability.

The climate crisis is already impacting the dairy sector's profitability and viability. Extreme heat and drought are stressing dairy cows, leading to decreased milk production and threatening to diminish the profits of global dairy

giants. These conditions not only reduce milk yields but also affect cow fertility and increase mortality rates during severe heatwaves.[119] Given that methane is a potent greenhouse gas with significant short-term warming potential, addressing methane emissions is not just an environmental imperative but also a matter of economic self-interest for dairy companies. Implementing methane reduction strategies can help mitigate the adverse effects of climate change on dairy operations, ensuring long-term sustainability and profitability.

So far, the only targeted initiative addressing dairy methane emissions is the DMAA. Our analysis indicates that while most DMAA members performed better than their non-DMAA counterparts across all four indicators, the results still fall short of what companies should achieve. On average, these companies achieved just 34.7% of the total available points: while these companies may be taking steps in the right direction, they must accelerate methane mitigation in line with the urgency of the climate crisis. For members of the initiative to improve performance, it is important to set reduction targets and action plans in the short term. DMAA coordinators should consider making a methane reduction target mandatory to make sure its members are seen as strong market competitors that are taking serious action on methane.

Danone leads with the highest overall score and is the only company to receive full points for setting a methane-specific target - a 30% reduction for its fresh milk intake by 2030. To maintain its leadership, Danone should ensure its action plan clearly lists specific activities and includes the expected methane reductions. The company should also enhance transparency by reporting livestock methane emissions in CH_4, with disaggregated data from all major sources. Finally, Danone should ensure that its target in the future also covers dairy ingredients it purchases and not just fresh milk intake.

Nestlé and Arla share second place in the ranking. Nestlé scored zero on the methane target indicator in this assessment. Its current target - to reduce emissions from sourcing dairy and livestock ingredients - falls short of the reduction required by the science. To improve its score, Nestlé should set a more ambitious, methane-specific target aligned with climate science and support it with a clear and detailed action plan. Additionally, the company should begin to account for and report livestock methane emissions in CH_4, at least for scope 3, and in a disaggregated format to enhance transparency. It should also provide greater transparency over how methane reductions already claimed (20.56% in its latest report) were achieved.

Arla claimed to have comprehensive emissions accounting but lost points due to limited transparency in its methane reporting and the lack of targets. With its level of accounting, Arla could consider becoming the first European cooperative to join the DMAA. To improve its ranking, Arla should publicly disclose livestock methane emissions in CH_4, clearly broken down by major sources. Arla also currently lacks a separate absolute methane reduction target supported by an action plan, both of which are essential for a higher score in future assessments.

The lack of corporate action also signifies a pressing need for legislation. While the EU has implemented regulations targeting methane emissions in the energy sector, agriculture - particularly livestock farming - remains largely unregulated, despite accounting for over half of the EU's methane emissions. Without comprehensive legislation, voluntary corporate commitments are unlikely to achieve the reductions needed to meet global climate targets, as confidence in voluntary initiatives like SBTi dwindles.[120]

4.1 Recommendations

For companies:

- **Set science-based emissions reduction targets and action plans**: Establish clear, science-aligned targets to reduce absolute emissions across all scopes, including scope 3, in line with the 1.5°C global goal. This should include a specific commitment to reduce methane emissions by at least 30% below 2020 levels by 2030. Targets must be supported by a detailed action plan listing specific activities, and the associated expected methane emissions reductions, including how much companies are investing into each solution. Plans should also include a targeted transition toward plant-based products, supported by investment in alternative proteins, including own-brand ranges, and price parity for consumers. Finally, companies should develop just transition plan in partnership with farmers and workers across global supply chains.

- **Disclose disaggregated methane emissions**: Account for and report on livestock methane emissions separately across all major sources, with a minimum requirement to include scope 3 methane emissions. Ensure this data is independently verified and disclosed annually to enable transparency and accountability.

- **Report milk intake and/or milk production volumes**: Publicly disclose total milk volumes to allow for independent verification of climate-related disclosures and performance metrics.

- **Support progressive policy and lobbying**: Actively support science-aligned climate, environmental and public health policies that support emissions reductions and/or promote a shift toward healthier and more sustainable diets. Actively disassociate with industry associations that lobby against meaningful climate and health legislation.

For governments:

- **Set binding emissions targets for agriculture:** Establish legally binding overall GHG and specific methane reduction targets for the agriculture sector, aligned with the global objective of limiting warming to 1.5°C.

- **Mandate comprehensive emissions reporting and verification**: Require companies to regularly report all GHG emissions, including scope 3, using standardised methodologies. Emissions of methane, nitrous oxide and carbon dioxide must be reported separately. Reporting should be independently verified by third parties, and reduction targets must be aligned with the best available climate science.

- **Implement action plans for plant-based foods uptake and national dietary guidelines:** States should incorporate elements of sustainability into their national dietary health guidelines (countries such as Denmark, the Netherlands and Sweden are already taking the lead) to be in line with human health and climate impacts. They should adopt strategies for their implementation, such as an action plan for plant-based foods, public procurement policies, as well as reform subsidies to support more plant-based production and better farming practices.

Dairy products in supermarket, Shutterstock

For consumers:

Reducing consumption of animal products is one of the most important individual climate actions. Increasing consumption of plant-based foods for two-thirds of meals cuts emissions by 60%, while absolute veganism cuts emissions by 85%.[F] Adopting plant-based diets at scale would send a strong signal to governments and companies to implement progressive food and farming policies.

- Reduce consumption of animal products by shifting to plant-based alternatives. For the remaining consumption of animal products choose those with higher environmental and animal welfare standards.

- Advocate for change by encouraging dairy companies, coffee house chains and retailers to expand plant-based offerings.

F The Economist (2019) How much would giving up meat help the environment?, 15 November 2019. [ONLINE] Available at: https://www.economist.com/graphic-detail/2019/11/15/how-much-would-giving-up-meat-help-the-environment

5. Annex 1: Methodology

For this report, we identified 20 of the largest dairy companies and coffee chains in Europe and North America using publicly available financial and market information. Eight of the companies are members of the Dairy Methane Action Alliance.

On 18 February 2025, we sent companies letters via email and post to companies, accompanied by aa questionnaire about the accounting and reporting of their methane emissions and the development and status of their methane emissions reduction action plans. Hard-copy versions of the questionnaire were sent the same week by post. The companies had until 7 March to respond to the questionnaire, with the option to request an extension.

In addition, we researched information published by the companies on their own websites to assess those that did not respond to the questionnaire and to verify answers provided in the questionnaire where possible. All research on company websites was carried out between 1 March and 9 April 2025. Information published after this date has not been included in the assessments.

Industrial dairy, Shutterstock

The answers to the questionnaire and information from the website were used to assess companies against 12 indicators covering four themes:

- Climate change and livestock emissions acknowledgement
- Methane emissions accounting
- Methane emissions reporting
- Methane emissions reduction targets and action plans

Each of the 12 indicators was assigned a maximum number of available points which varied by indicator depending on its importance. The total maximum available score was 100 points. Depending on the results of assessment, companies were scored either full points, half points or zero points for each of the indicators.

Themes, indicators and points available:

No.	Max points	Indicator	Full points	Half points	No points
		Climate change and livestock emissions acknowledgement			
1.1	8	Acknowledging the role of livestock methane emissions in climate change	Company publicly recognises the impact of methane from livestock/cattle in relation to climate change	Company publicly recognises the impact of agriculture in climate change and refers to livestock/cattle	Company does not mention link between agriculture or methane and climate change
1.2	8	Meat and/or dairy consumption reduction	Company explicitly supports a reduction of dairy products to address climate change	Company publicly acknowledges that a reduction of meat and/or dairy products can have positive impacts on climate	Company does not support or acknowledge a reduction in meat and/or dairy products to address climate change or only wants to increase plant-based sales
1.3	8	Alternative product protein sales increase targets	Company has set a public target to increase plant-based dairy sales to at least 60% of total dairy sales (with animal-based dairy products reduced to 40% or less) by 2030	Company has set a target of less than 60% but at least 30% plant-based dairy sales by 2030 (compared to total dairy sales)	Company has no public plans to increase plant-based and alternative protein product range
		Methane emissions accounting			
2.1	8	Methane emissions accounting across all scopes	Company annually accounts for absolute emissions in line with the GHG Protocol for scopes 1,2 and 3	Company annually accounts absolute emissions for scopes 1, 2 and 3 but does not mention the GHG Protocol	Company does not account for emissions across all three scopes annually or not all scopes are in absolute
2.2	8	Disaggregated livestock methane emissions accounting	Company accounts for methane emissions for at least scope 3 in CH4	Company accounts for methane emissions for at least scope 3 in CO2e	Company does not account for methane emissions in disaggregated form
2.3	8	Disaggregated livestock methane emissions accounting from major sources	Company accounts for methane emissions in disaggregated form for all major sources (enteric fermentation, manure management, feed production, and food loss and waste)	Company accounts for methane emissions in disaggregated form for at least enteric fermentation and manure management	Company does not account for methane emissions in disaggregated form or does not at least include enteric fermentation and manure management

		Methane emissions reporting			
3.1	8	Methane emissions reporting across all scopes	Company annually reports absolute emissions in line with the GHG Protocol for scopes 1,2 and 3	Company annually reports absolute emissions for scopes 1, 2 and 3 but is not consistent with the GHG Protocol	Company does not report emissions across all three scopes annually
3.2	8	Disaggregated livestock methane emissions reporting	Company reports livestock methane emissions at least for scope 3 in CH4	Company reports livestock methane emissions at least for scope 3 in CO2e	Company does not report livestock methane emissions in disaggregated form
3.3	8	Disaggregated livestock methane emissions reporting from major sources	Company reports methane emissions in disaggregated form for all major sources (enteric fermentation, manure management, feed production, and food loss and waste)	Company reports methane emissions in disaggregated form for at least enteric fermentation and manure management	Company does not report methane emissions in disaggregated form or does not at least include enteric fermentation and manure management
		Methane emission reduction targets and action plans			
4.1	10	Absolute livestock methane specific commitment	Company has a methane-specific target to reduce livestock-related emissions across its entire value chain by at least 30% below 2020 levels by 2030	Company has a methane-specific target to reduce livestock-related methane emissions across the entire value chain below 2020 levels by 2030 or has a broader livestock or dairy emissions reduction target (not methane-specific) of at least 30% below 2020 levels by 2030	Company has no targets to reduce emissions from livestock
4.2	9	Livestock methane emissions action plan	Company has developed an action plan consistent with its livestock methane emissions reduction targets	Company has developed an action plan consistent with its livestock methane emissions reduction targets or its broader dairy/livestock emissions target	Company has no action plan to reduce emissions from livestock
4.3	9	Livestock methane emissions action plan details	The company's action plan lists specific activities and the associated expected livestock methane emissions reductions	The company's action plan lists specific activities and the associated expected dairy or livestock emission reductions	Company has no action plan activities to reduce emissions from livestock
MAX	100				

References

1 Climate and Clean Air Coalition (n.d.) Methane. www.ccacoalition.org/en/slcps/methane

2 Wedderburn-Bisshop, G. (2025) Increased transparency in accounting conventions could benefit climate policy. *Environmental Research Letters*, 20(4), 044008. doi.org/10.1088/1748-9326/adb7f2

3 UNEP (2021) Methane emissions are driving climate change. Here's how to reduce them. www.unep.org/news-and-stories/story/methane-emissions-are-driving-climate-change-heres-how-reduce-them

4 Jackson, R.B., Saunois, M., Bousquet, P., Canadell, G., Poulter, B., Stavert, A.R., Bergamaschi, P., Niwa, Y., Segers, A. and Tsuruta, A. (2020) Increasing anthropogenic methane emissions arise equally from agricultural and fossil fuel sources. *Environmental Research Letters*, 15(7): 071002. iopscience.iop.org/article/10.1088/1748-9326/ab9ed2

5 European Environment Agency (2023) *Methane, climate change, and air quality in Europe: Exploring the connections*. www.eea.europa.eu/en/analysis/publications/methane-climate-change-and-air-quality-in-europe-exploring-the-connections

6 IATP *Emissions Impossible* series: www.iatp.org/emissions-impossible-series

7 Changing Markets (2022) *Emissions Impossible: How emissions from big meat and dairy are heating up the planet – Methane Edition.* changingmarkets.org/report/emissions-impossible-how-emissions-from-big-meat-and-dairy-are-heating-up-the-planet-methane-edition

8 Changing Markets and Greenpeace Nordic (2025) *Dairytales: Arla's smokescreen for its lack of climate action.* changingmarkets.org/report/dairytales-arlas-smokescreen-for-its-lack-of-climate-action

9 Climate and Clean Air Coalition (n.d.) *Methane.* www.ccacoalition.org/en/slcps/methane

10 Climate and Clean Air Coalition (2021) *Global methane assessment: Benefits and costs of mitigating methane emissions*. www.ccacoalition.org/sites/default/files/resources/2021_Global-Methane_Assessment_full_0.pdf

11 Jackson, R.B., Saunois, M., Bousquet, P., Canadell, G., Poulter, B., Stavert, A.R., Bergamaschi, P., Niwa, Y., Segers, A. and Tsuruta, A. (2020) Increasing anthropogenic methane emissions arise equally from agricultural and fossil fuel sources. *Environmental Research Letters*, 15(7): 071002. iopscience.iop.org/article/10.1088/1748-9326/ab9ed2

12 European Environment Agency (2022) *Methane emissions in the EU: The key to immediate action on climate change*. www.eea.europa.eu/publications/methane-emissions-in-the-eu

13 European Environment Agency (2023) *Methane, climate change, and air quality in Europe: Exploring the connections*. www.eea.europa.eu/en/analysis/publications/methane-climate-change-and-air-quality-in-europe-exploring-the-connections

14 Environmental Defense Fund (2024) *Dairy Methane Accounting: A Guide for Disaggregating Dairy Methane Emissions from Existing Corporate Greenhouse Gas Inventories*. blogs.edf.org/wp-content/blogs.dir/90/files//2024/11/Dairy-Methane-Accounting-A-guide-for-disaggregating-dairy-methane-emissions-from-existing-corporate-greenhouse-gas-inventories.pdf

15 Danone (2023) *Danone announces an ambitious plan to reduce its methane emissions.* www.danone.com/newsroom/press-releases/danone-announces-an-ambitious-plan-to-reduce-its-methane-emissions.html

16 Wedderburn-Bisshop, G. (2025). Increased transparency in accounting conventions could benefit climate policy. *Environmental Research Letters,* 20(4), 044008. doi.org/10.1088/1748-9326/adb7f2

17 Environmental Defense Fund. (2023). *Leadership in Action: Global Food Corporations and Environmental Defense Fund Unite to Tackle Dairy*. www.edf.org/media/leadership-action-global-food-corporations-and-environmental-defense-fund-unite-tackle-dairy

18 Changing Markets (2023) *Net-zero integrity: Nestlé's methane blindspot.* changingmarkets.org/report/net-zero-integrity-nestles-methane-blindspot

19 Environmental Working Group (2024) *New USDA data reveal that the largest factory farms keep growing in number.* www.ewg.org/news-insights/news/2024/02/new-usda-data-reveal-largest-factory-farms-keep-growing-number

20 Colley, C. and Wasley, A. (2022) UK has more than 1,000 livestock mega-farms, investigation reveals. *The Guardian*, 18 August 2022. www.theguardian.com/environment/2022/aug/18/uk-has-more-than-1000-livestock-mega-farms-investigation-reveals

21 Ungoed-Thomas, J. (2023) Bucolic scenes on UK milk adverts hide reality of life for 'battery cows'. *The Guardian*, 30 April 2023. www.theguardian.com/world/2023/apr/30/milk-adverts-battery-cows-dairy-cattle-fields-animal-rights

22 Nestlé (2025) *Annual Review 2024*. www.nestle.com/sites/default/files/2025-02/annual-review-2024-en.pdf

23 Nestlé (n.d.) *At a glance*. www.nestle.com/about/overview

24 Danone (n.d.) *About us.* www.danone.com/group/about-us

25 Danone (2025) *2024 Full-Year Results.* www.danone.com/content/dam/corp/global/danonecom/investors/en-all-publications/2025/pressreleases/prdanone260225.pdf

26 Fitch Ratings (2024) *Fitch Affirms IDR of Dairy Farmers of America at 'BBB'; Outlook Stable.* www.fitchratings.com/research/corporate-finance/fitch-affirms-idr-of-dairy-farmers-of-america-at-bbb-outlook-stable-08-04-2024

27 Arla (2024) *Annual Report 2024.* www.arla.com/493f52/globalassets/arla-global/company---overview/investor/annual-reports/2024/arla-annual-report-2024-uk2.pdf

28 Reeve, C. (2025) Arla Foods plans huge merger with German DMK group. *Farmers Weekly,* 8 April 2025. www.fwi.co.uk/business/markets-and-trends/dairy-markets/arla-foods-plans-huge-merger-with-german-dmk-group

29 Arla (2025) *Arla Foods and DMK Group announce intention to merge* [Arla Foods och DMK Group tillkännager avsikt att gå samman] via.tt.se/pressmeddelande/3864260/arla-foods-och-dmk-group-tillkannager-avsikt-att-ga-samman

30 Fearer, M. (2023) Could Starbucks save the world if they changed the milk they use? *Medium*, 12 July 2023. Available at: medium.com/@mfearer94/could-starbucks-save-the-world-if-they-changed-the-milk-they-use-2a981c7a453f

31 Pfanner, E. (2020) Starbucks to push customers to ditch dairy for alternative milk as it moves to cut carbon footprint. *Financial Post,* 21 January 2020. financialpost.com/news/retail-marketing/starbucks-to-push-customers-to-ditch-dairy-for-alternative-milk-as-it-moves-to-cut-carbon-footprint

32 Starbucks (2025) *Starbucks Fiscal 2024 Annual Report.* s203.q4cdn.com/326826266/files/doc_financials/2024/ar/Starbucks-Fiscal-2024-Annual-Report.pdf

33 Statista (2023) *Dairy industry*. www.statista.com/topics/4649/dairy-industry

34 World Bank (2025) *GDP (current US$) – Denmark.* data.worldbank.org/indicator/NY.GDP.MKTP.CD?locations=DK

35 Changing Markets (2024) *Big Emissions, Empty Promises.* changingmarkets.org/wp-content/uploads/2024/11/Big-Emissions-Empty-Promises.pdf

36 Greenpeace (2024) *Turning Down the Heat: Pulling the Climate Emergency Brake on Big Meat and Dairy*. www.greenpeace.org/static/planet4-malaysia-stateless/2024/10/bf4448ed-turning-down-the-heat-report.pdf

37 Watson, E. (2024) US retail sales of plant-based milk by numbers: Coconut is up, almond is down, soy and oat are flat. *AgFunderNews*, 14 August 2024. agfundernews.com/us-retail-sales-of-plant-based-milk-by-numbers-coconut-is-up-almond-is-down-soy-and-oat-are-flat

38 Good Food Institute (n.d.) *Market Research*. gfi.org/marketresearch

39 The Food Institute (2023) *Plant-Based Milk Brands Take Aim at Coffee Category*. foodinstitute.com/focus/plant-based-milk-brands-take-aim-at-coffee-category

40 World Coffee Portal (2019) *Consumer Survey: The Plant-Based Poll*. www.worldcoffeeportal.com/Latest/InsightAnalysis/2019/May/Consumer-survey-The-plant-based-poll

41 Wood, Z. (2025) Oat milk rises to top as Britain's preferred plant-based drink. *The Guardian,* 19 April 2025. www.theguardian.com/business/2025/apr/19/oat-milk-rises-to-top-as-britains-preferred-plant-based-drink

42 Montgomery, J. (2023) Plant milks take centre stage in the coffee sector – but what happened to dairy? *Coffee Intelligence,* 23 August 2023. intelligence.coffee/2023/08/plant-milks-vs-dairy

43 Askew, K. (2019) Innovation and geographical expansion to boost Danone's plant-based businesses. *FoodNavigator*, 18 April 2019. www.foodnavigator.com/Article/2019/04/18/Innovation-and-geographical-expansion-to-boost-Danone-s-plant-based-businesses

44 Nestlé (n.d.) *Plant-Based Portfolio*. www.nestle.com/brands/plant-based-portfolio

45 GFI Europe (n.d.) *What is precision fermentation?* gfieurope.org/precision-fermentation

46 Global Methane Pledge (2024) *Factsheet: 2024 Global Methane Pledge Ministerial.* www.globalmethanepledge.org/news/fact-sheet-2024-global-methane-pledge-ministerial

47 Changing Markets Foundation (2024) *The New Merchants of Doubt: How Big Meat and Dairy Avoid Climate Action*. changingmarkets.org/report/the-new-merchants-of-doubt-how-big-meat-and-dairy-avoid-climate-action

48 Changing Markets Foundation (2024) *The New Merchants of Doubt: How Big Meat and Dairy Avoid Climate Action*.

49 IATP (2023) *Agriculture Ministers Must Tackle Industrial Livestock's Methane Emissions to Meet Global Climate Goals*. www.iatp.org/agriculture-ministers-must-tackle-industrial-livestocks-methane-emissions-meet-global

50 Casey, C. (2024) Food companies tackling Scope 3 emissions despite weak SEC rule: expert. *Food Dive,* 18 March 2024. www.fooddive.com/news/sec-climate-rule-scope-3-emissions-carbon-footprint-pepsico-howgood-tracking

51 Danone (2023) *Danone Announces an Ambitious Plan to Reduce Its Methane Emissions*. www.danone.com/newsroom/press-releases/danone-announces-an-ambitious-plan-to-reduce-its-methane-emissions.html

52 Changing Markets (2025) *"Clean Up on Aisle 3": The methane mess supermarkets are hiding.* changingmarkets.org/report/clean-up-on-aisle-3

53 Environmental Defense Fund (2023) *Leadership in Action: Global Food Corporations and Environmental Defense Fund Unite to Tackle Dairy Methane Emissions.* www.edf.org/media/leadership-action-global-food-corporations-and-environmental-defense-fund-unite-tackle-dairy

54 Environmental Defense Fund (2024) *Dairy Methane Accounting.* business.edf.org/insights/dairy-methane-accounting

55 Environmental Defense Fund (2024) *Dairy Methane Disclosure.* business.edf.org/insights/dairy-methane-disclosure

56 Environmental Defense Fund (2023) *Global food companies join EDF for a groundbreaking step on dairy methane.* www.edf.org/article/global-food-companies-join-edf-for-groundbreaking-step-on-dairy-methane

57 Rannard, G. (2023) COP28: UN climate talks take aim at planet-warming food. *BBC*. 1 December 2023. https://www.bbc.co.uk/news/science-environment-67594303

58 United States Environmental Protection Agency (2025) *Summary of Inflation Reduction Act provisions related to renewable energy.* www.epa.gov/green-power-markets/summary-inflation-reduction-act-provisions-related-renewable-energy

59 United States Environmental Protection Agency (2025) *Methane Emissions Reduction Program.* www.epa.gov/inflation-reduction-act/methane-emissions-reduction-program

60 Changing Markets Foundation (2024) *The New Merchants of Doubt: How Big Meat and Dairy Avoid Climate Action*.

61 United States Environmental Protection Agency (2025) *Summary of Inflation Reduction Act provisions related to renewable energy.*

62 Happ, M. (2024) *Opening the door for more conservation.* IATP. www.iatp.org/opening-door-more-conservation

63 Shah, S. (2025) How Trump Is Trying to Undo the Inflation Reduction Act. *Time,* 27 February 2025. time.com/7262600/how-trump-is-trying-to-undo-the-inflation-reduction-act

64 McGrath, M. (2025) Trump vows to leave Paris climate agreement and 'drill, baby, drill'. *BBC News,* 20 January 2025. www.bbc.co.uk/news/articles/c20px1e05w0o

65 Changing Markets Foundation (2024) *The New Merchants of Doubt: How Big Meat and Dairy Avoid Climate Action*.

66 European Commission (2025) *EU Methane Strategy: Reducing methane emissions in the EU's energy, agricultural, and waste sectors*. eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52025DC0075

67 European Commission (2025) *Corporate sustainability due diligence.* commission.europa.eu/business-economy-euro/doing-business-eu/sustainability-due-diligence-responsible-business/corporate-sustainability-due-diligence_en

68 McNaly, F. (2025) EU Omnibus: Leaked proposal shows heavy watering down of sustainability reporting. *Responsible Investor*, 24 February 2025. www.responsible-investor.com/eu-omnibus-leaked-proposal-shows-heavy-watering-down-of-sustainability-reporting

69 George, S. (2025) EU Omnibus: MEPs support delays to CSRD and CSDDD. *Edie,* 1 April 2025. www.edie.net/eu-omnibus-meps-support-delays-to-csrd-and-csddd

70 Mathieson, K. (2025) EU exploring weaker 2040 climate goal. *Politico,* 31 March 2025. www.politico.eu/article/eu-exploring-weaker-2040-climate-goal-90-greenhouse-gas-cut-wopke-hoekstra

71 European Commission. (n.d.). *Reducing emissions of air pollutants*. environment.ec.europa.eu/topics/air/reducing-emissions-air-pollutants_en

72 Mal, M. (2024) *Reducing Emissions from Agriculture: Reflection on the potential design and scope of an EU Emissions Trading System for agriculture*. European Environmental Bureau and Methane Matters Coalition. eeb.org/wp-content/uploads/2024/10/Agri-ETS-Position-Paper.pdf

73 United States Environmental Protection Agency (2025) *Methane Emissions.* www.epa.gov/ghgemissions/methane-emissions

74 European Environment Agency (2025) *Agriculture and food system.* www.eea.europa.eu/en/topics/in-depth/agriculture-and-food

75 Arla (2025) Arla Foods and DMK Group announce intention to merge [Arla Foods och DMK Group tillkännager avsikt att gå samman] via.tt.se/pressmeddelande/3864260/arla-foods-och-dmk-group-tillkannager-avsikt-att-ga-samman

76 McDonald's. (n.d.). Milk: Our Commitment to Sustainable Farming. www.mcdonalds.com/gb/en-gb/good-to-know/about-farming/milk.html

77 Collins, G. (2023). Starbucks and Arla: A Sustainable Sourcing Partnership. Procurement Magazine. procurementmag.com/sustainable-sourcing/starbucks-sustainable-sourcing-partnership-arla

78 Nestlé (2023) Nestlé's Net Zero Roadmap. www.nestle.com/sites/default/files/2023-12/nestle-net-zero-roadmap-en.pdf

79 Nestlé (2025) Non-Financial Statement 2024. www.nestle.com/sites/default/files/2025-02/non-financial-statement-2024.pdf

80 Danone (2023) Danone's Methane Ambition. www.danone.com/content/dam/corp/global/danonecom/about-us-impact/policies-and-commitments/en/2023/methane-matters.pdf

81 Arla (2023) Our Climate Ambition. www.arla.com/49b894/globalassets/arla-global/sustainability/climate-ambition/arla-climate-ambitions-2030-and-2050-2023.pdf

82 Clover Sonoma (n.d.) The Not-So-Stinky Story of Cow Manure. cloversonoma.com/press/the-not-so-stinky-story-of-cow-manure

83 Restaurant Brands International (n.d.) Why are we doing this? Cow burps and farts. www.rbi.com/English/sustainability/cow-methane/default.aspx

84 Nestlé (2023) Nestlé's Net Zero Roadmap. www.nestle.com/sites/default/files/2023-12/nestle-net-zero-roadmap-en.pdf

85 Eastlake, D. (2025) Plant-based creeping closer to price parity. Food Navigator Europe, 12 March 2025. www.foodnavigator.com/Article/2025/03/12/will-the-plant-based-achieve-price-parity-with-animal-based

86 Tyko, K. (2025) Dunkin' joins Starbucks in dropping nondairy milk fee, 20 February. https://www.axios.com/2025/02/20/dunkin-non-dairy-milk-fee-surcharge

87 Environmental Defense Fund (2024) Dairy Methane Accounting: A guide for disaggregating dairy methane emissions from existing corporate greenhouse gas inventories blogs.edf.org/wp-content/blogs.dir/90/files//2024/11/Dairy-Methane-Accounting-A-guide-for-disaggregating-dairy-methane-emissions-from-existing-corporate-greenhouse-gas-inventories.pdf

88 World Resources Institute (n.d.) Greenhouse Gas Protocol. www.wri.org/initiatives/greenhouse-gas-protocol

89 Dairy Farmers of America (2024) Social Responsibility Report. issuu.com/dairyfarmersofamerica/docs/sust23007_ssr_fnl_issuu

90 Costa (n.d.) Climate roadmap. www.costa.co.uk/docs/climate-roadmap.pdf

91 Ernst & Young LLP (2024) Independent Accountants' Review Report. www.coca-colacompany.com/content/dam/company/us/en/reports/2023-environmental-update/2023-selected-greenhouse-gas-emissions-independent-accountants-review-report.pdf

92 Mayer, G. and Temple-West, P. (2024) Coca-Cola draws fire after watering down environmental targets. Financial Times, 3 December 2024. www.ft.com/content/75d5fb6d-2bc8-4621-a955-9c70897541cd

93 Nestlé (2025) Non-Financial Statement 2024. www.nestle.com/sites/default/files/2025-02/non-financial-statement-2024.pdf

94 IATP Emissions Impossible series. www.iatp.org/emissions-impossible-series

95 Changing Markets (2022) Emissions Impossible: How emissions from big meat and dairy are heating up the planet – Methane Edition. changingmarkets.org/report/emissions-impossible-how-emissions-from-big-meat-and-dairy-are-heating-up-the-planet-methane-edition

96 www.cdp.net/en

97 sciencebasedtargets.org

98 Arla (2025) Annual Report 2024. www.arla.com/493f52/globalassets/arla-global/company---overview/investor/annual-reports/2024/arla-annual-report-2024-uk2.pdf

99 Lactalis USA (2024) Lactalis USA Dairy Methane Action Alliance 2023 Disclosure. lactalisamericangroup.com/wp-content/uploads/2024/11/LUSA_DMAA-Disclosure_Oct-2024-formatted-Updated-figures-DMAA-edits.pdf

100 From Danone's questionnaire response.

101 General Mills. (2023). Dairy methane disclosure FY23. https://www.generalmills.com/-/media/project/gmi/corporate/corporate-master/files/how-we-make-it/planet/general-mills-f23-dairy-methane-disclosure.pdf

102 Danone (2024) Annual integrated report 2023. https://www.danone.com/content/dam/corp/global/danonecom/investors/en-all-publications/2023/integratedreports/integratedannualreport2023.pdf

103 Nestlé (2025) Non-financial statement 2024 https://www.nestle.com/sites/default/files/2025-02/non-financial-statement-2024.pdf

104 Danone (2023) Danone's Methane Ambition. www.danone.com/content/dam/corp/global/danonecom/about-us-impact/policies-and-commitments/en/2023/methane-matters.pdf

105 FrieslandCampina (2022) FrieslandCampina Climate Plan: On the way to climate-neutral dairy. www.frieslandcampina.com/uploads/2023/01/Climate-Plan-FrieslandCampina.pdf

106 Nestlé (2023) Nestlé's Net Zero Roadmap. www.nestle.com/sites/default/files/2023-12/nestle-net-zero-roadmap-en.pdf

107 Danone (2023) Danone's Methane Ambition.

108 Arla (2024) Arla Annual Report 2024. www.arla.com/493f52/globalassets/arla-global/company---overview/investor/annual-reports/2024/arla-annual-report-2024-uk2.pdf

109 Changing Markets and Greenpeace Nordic's recent report, Dairytales, scrutinises Arla's plans to reduce its methane emissions. See changingmarkets.org/report/dairytales-arlas-smokescreen-for-its-lack-of-climate-action.

110 Arla (2024) Arla Annual Report 2024.

111 Changing Markets and Greenpeace Nordic. 2025. Dairytales: Arla's smokescreen for its lack of climate action. changingmarkets.org/report/dairytales-arlas-smokescreen-for-its-lack-of-climate-action/

112 Nestlé (2023) Nestlé's Net Zero Roadmap.

113 Nestlé (2024) Creating Shared Value at Nestlé. www.nestle.com/sites/default/files/2025-02/creating-shared-value-nestle-2024.pdf

114 Changing Markets (2023) Net-zero integrity: Nestlé's methane blindspot.

115 Changing Markets (2024) The New Merchants of Doubt: How Big Meat and Dairy Avoid Climate Action.

116 Lyubomirova, T. (2025) Nestlé comes clean on methane emissions. Dairy Reporter, 21 April 2025. www.dairyreporter.com/Article/2025/04/21/nestle-discloses-methane-emissions-for-the-first-time

117 Danone (2023) Methane Matters. https://www.danone.com/content/dam/corp/global/danonecom/about-us-impact/policies-and-commitments/en/2023/methane-matters.pdf

118 Wedderburn-Bisshop, G. (2025). Increased transparency in accounting conventions could benefit climate policy.

119 Elkin, E. and Parija, P. (2022) Cows Are Too Stressed Out to Keep Up With Global Dairy Demand. Bloomberg, 1 November 2022. www.bloomberg.com/news/articles/2022-11-01/extreme-heat-is-stressing-cows-imperiling-global-dairy-supply

120 Greenfield, P., & Harvey, F. (2024). Climate target organisation faces staff revolt over carbon offsetting plan – SBTi. The Guardian, 11 April 2024. https://www.theguardian.com/environment/2024/apr/11/climate-target-organisation-faces-staff-revolt-over-carbon-offsetting-plan-sbti

Changing Markets FOUNDATION

IATP Institute for Agriculture & Trade Policy