

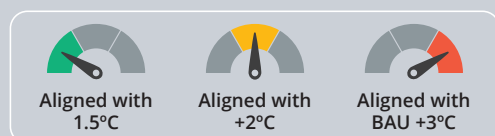


Overall Assessment

Planet Tracker's analysis shows Nestlé aligned with a scenario of +2°C by 2030.

The firm provides detailed geographic dependencies, main CO₂e sources and a broad Net-Zero Roadmap indicating its aim to align with 1.5°C. Yet, Nestlé's Policy and Governance does not provide enough granularity. Meanwhile in Risk Management, despite focusing on the mitigation of main CO₂e sources (upstream Scope 3 activities), mitigation practices are inadequately quantified making tracking difficult.

In our view, Nestlé's Strategic Plan contains good initiatives but the disclosed planned investment is insufficient to achieve net-zero by 2050. Based on Planet Tracker's calculation Nestlé would need to invest at least USD 3.2 billion in its upstream activities to align with 1.5°C by 2030. This amount is two and a half times higher than the upstream investment disclosed by the firm.



This report is the first of a series examining the climate transition plans of the Consumer Goods companies in the Climate Action 100+ list



Climate Alignment

- By 2030, 93% of Nestlé's emissions will come from Upstream Scope 3 activities and 4% from Downstream activities, with only 3% from Scope 1 and 2 activities.
- Based on historical trends, by 2030 Nestlé's emissions would be 99% higher than advised by the Science Based Targets Initiative¹ (124,577 KTCO₂e vs recommended 62,620 KTCO₂e), with Upstream emissions being 172% higher (116,080 KTCO₂e vs 42,667 KTCO₂e).



Policy and Governance

- Despite Nestlé's positive suppliers' engagement and steady advancement towards deforestation-free sourcing, we believe its engagement with its customers lacks sufficient granularity and its support of industry associations with a mixed position on climate risks is undermining the impact of its own climate intentions.
- Similarly, the structure of Nestlé's management compensation tied to ESG is too short-term and vague regarding ESG goals to determine the alignment with 1.5°C.



Risk Analysis

- The material vulnerabilities derived from climate-related risks are equivalent to 46% of the five-year average annual trading operating profit and 13% of the five-year average annual Capex.
- Despite Nestlé's good coverage of Physical Impacts, when it comes to External Policy Risks and mitigation practices, these have not been adequately quantified. There are not sufficient concrete metrics to assess the evolution towards expected results, although the main risks have been assessed.



Strategy Assessment

- According to Nestlé's disclosed mitigation investments and Planet Tracker's estimates, the company would align with +2.0°C by 2030.
- Based on our findings, Nestlé seems to lack an exhaustive plan. Instead, it presents a series of initiatives which cannot demonstrate whether net-zero will be reached.

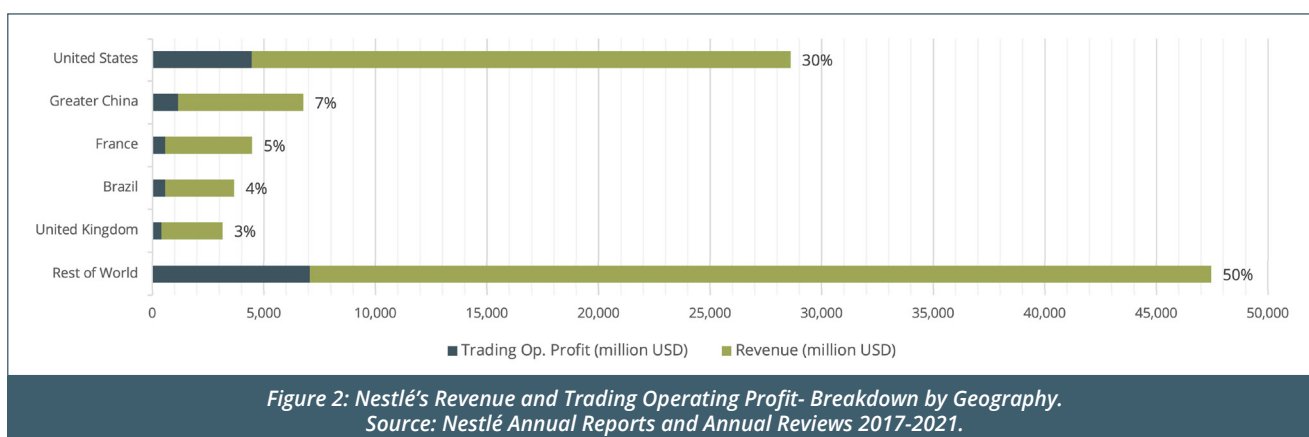
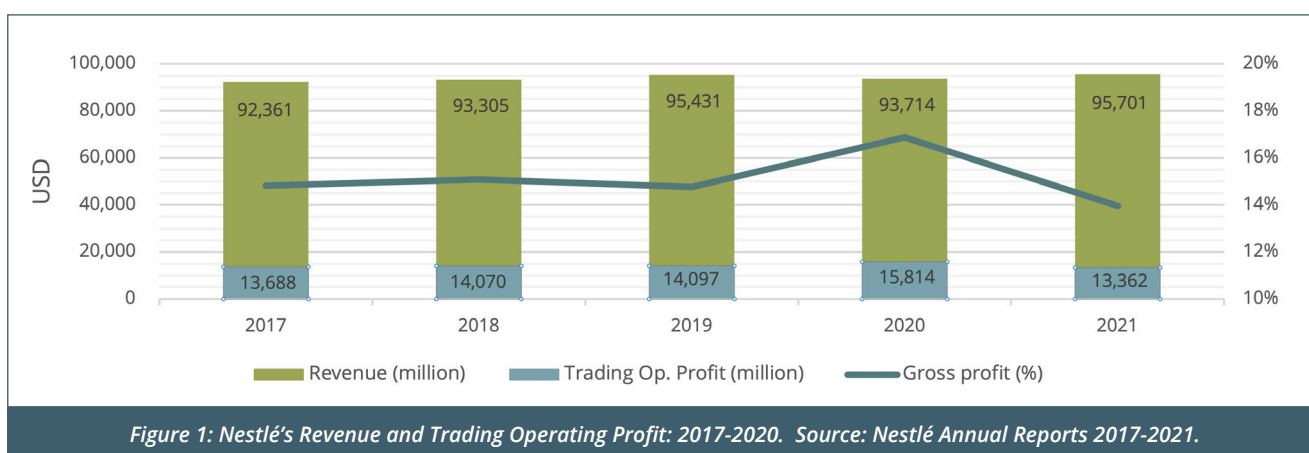
¹ The Science Based Targets initiative (SBTi) drives ambitious climate action in the private sector by enabling organizations to set science-based emissions reduction targets.

Company Overview

Nestlé S.A., a multinational headquartered in Switzerland, is the world's largest food and beverage company. Operating in an industry responsible for a third (34%) of global greenhouse gas emissions,ⁱ the firm had an **annual average revenue of USD 94.1 billion²** from 2017 to 2021. With a trading operating profit of USD 14.2 billion, the

company averaged an **annual gross margin of 15%** for the same period - see Figure 1.

Five countries account for 50% of its total revenue and trading operating profit, with the United States accounting for 30% and 31%, respectively - see Figure 2.



² For currency conversions we use the exchange rate at the year-end, for each year, in the period 2017-2021.

³ Invested capital (company definition): property, plant and equipment, trade receivables and other receivables, assets held for sale, inventories, prepayments, accrued income, and specific financial assets associated with operating segments, less trade payables and other payables, direct liabilities from the assets held for sale, non-current other payables, accruals and deferred income.

Similarly, Nestlé's **invested capital**³ and capital expenditure (capex) in the **top five countries amount to 41%** and 38% of its total, with the United States taking the lead again with 23% and 19%, respectively - see Figure 3.

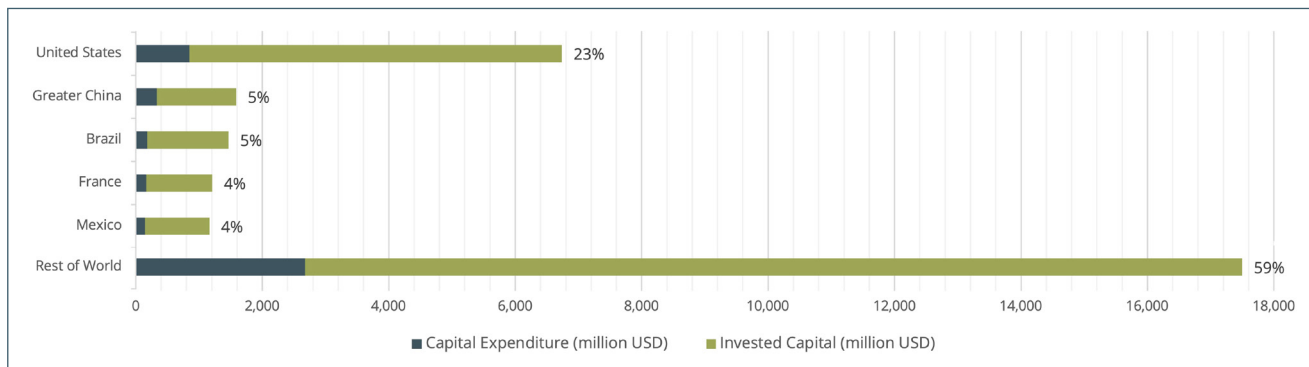


Figure 3: Invested Capital and Capex - Breakdown by Geography. Source: Nestlé Annual Reports and Annual Reviews 2017-2021, Planet Tracker Calculations⁴.

Thus, the **United States, Greater China⁵, France and Brazil represent the highest geographic exposure** for Nestlé's direct operations and downstream activities, when it comes **to regulations and climate change events**.

As for the **supply chains** to which the company is exposed, Nestlé obtains its income from seven business segments - see Figure 4.

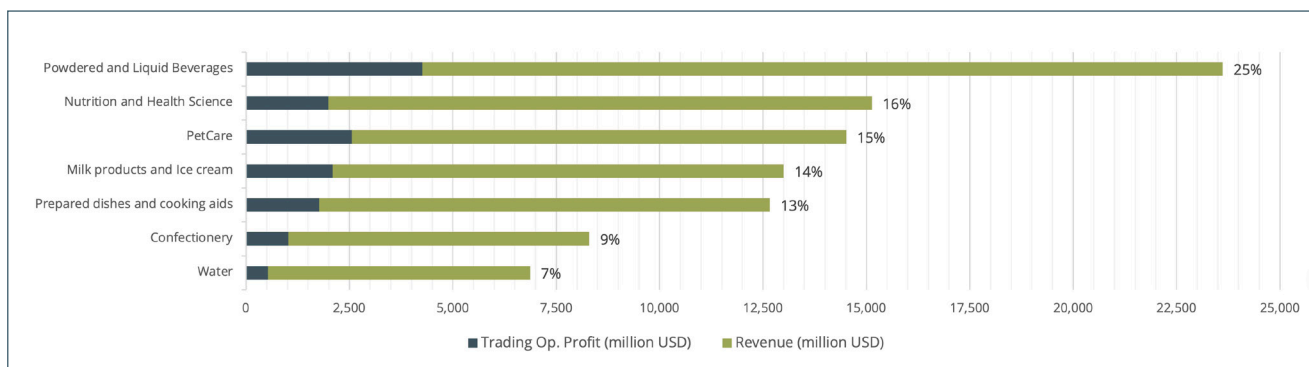
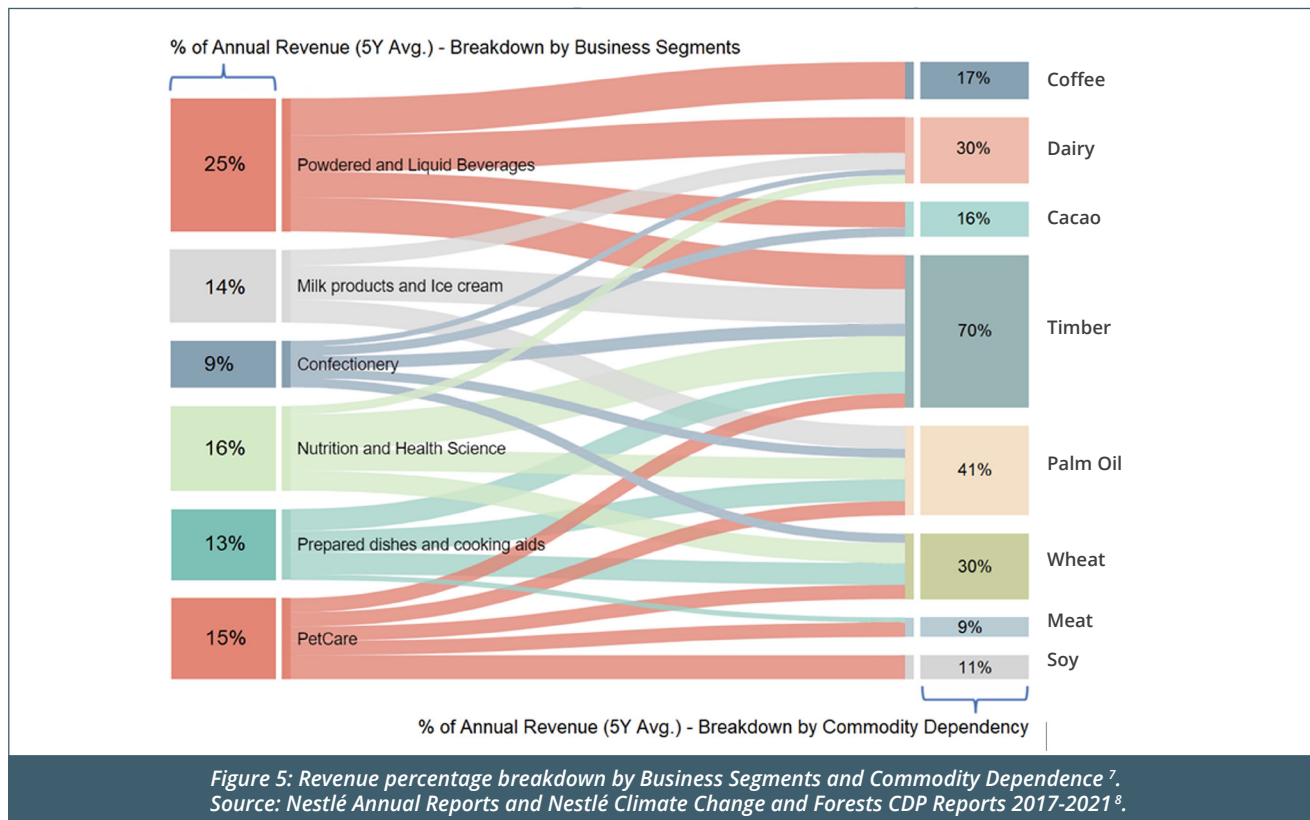


Figure 4: Revenue and Trading Operating Profit - Breakdown by Business Segments. Source: Nestlé Annual Reports 2017-2021.

⁴ Nestlé discloses Invested capital and Capex data for the Europe, Middle East and North Africa (EMENA) regions, the Americas (AMS), and the Asia, Oceania and Sub-Saharan Africa (AOA) regions. Since it also discloses the number of factories per country for each area, we derived the Invested capital and Capex per country by multiplying the value of each area by the country's percentage of factories compared to the total factories in its area.

⁵ Company definition: includes PRC, HK SAR, Macao SAR, and Taiwan

These business segments are, in turn, **dependent on six main commodities** (Dairy, Wheat, Coffee, Cacao, Soy and Meat) **and two supporting ones** (Palm Oil and Timber)⁶ – see Figure 5.



Nestlé does not disclose procurement volume data per country of origin for three of its main commodities (Dairy, Wheat and Meat) but averaging the procurement volume of the other commodities per country of origin for the 2019-2020 periods, **six main supplier countries are identified** - see Table 1.

Combining procurement volumes with the revenue analysis shows that 42% of Nestlé’s annual revenue is tied to commodities sourced from the United States, 20% to Indonesia, 14% to Malaysia, 13% to Brazil, 11% to Côte d’Ivoire and 6% to Viet Nam.

Overall, considering the geographic source of the revenue, the location of the invested capital and of the main suppliers, **Nestlé relies heavily on the United States and Brazil.**

Table 1: Commodity Procurement Volume - Country Matrix.
Source: Nestlé Forests CDP Reports 2017-2021.

	Cocoa	Coffee	Timber	Palm Oil	Soy
USA			51%		57%
Indonesia	3%	4%		46%	
Malaysia				34%	
Brazil	11%	25%	7%		11%
Côte d’Ivoire	64%	3%			
Viet Nam		38%			

⁶ Main commodities - without them production would stop; Supporting commodities - could be substituted by others..

⁷ ‘Dependency’ shows the proportion of revenue that depends on a particular commodity (so percentages will sum to more than 100% because products depend upon more than one commodity)

⁸ Nestlé Climate Change and Forest Reports present data with a 1-year lag (i.e., 2021 reports cover the 2020 period).

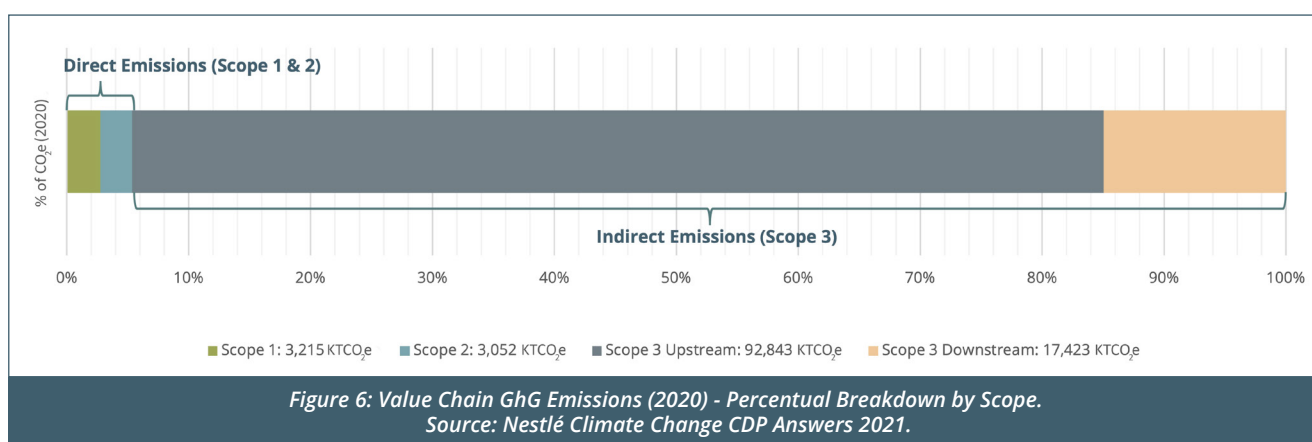


Climate Alignment

EMISSIONS INVENTORY

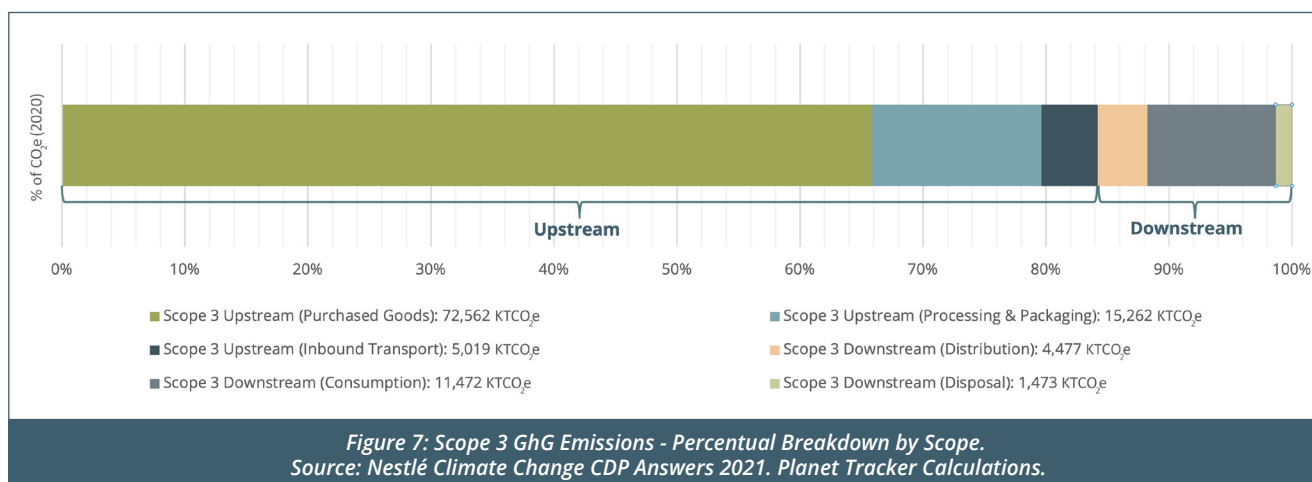
In the last five years, **Nestlé's greenhouse gas (GhG) emissions** averaged a total of 123,101 KTCO₂e. Overall, the company's emissions were reduced from 122,896 KTCO₂e in 2016 to **116,534 KTCO₂e in 2020**, a 5% reduction (this trend is discussed in the next section).

Of the 116,534 KTCO₂e disclosed in 2020, only **6%** came from **Scope 1 and 2**, with 3% each. The overwhelming majority, **94%**, came from **Scope 3**, with **79%** coming from **Upstream** activities and **15%** from **Downstream** activities. A similar breakdown has been true for the last five years on average - see Figure 6.



Taking a deeper look at the 2020's **Scope 3** emissions, the **top three sources** have been **"Purchased Goods"** accounting for **66%** of the emissions, **"Processing and Packaging"** at **14%** and **"Consumption"** at **10%**. Again,

these numbers are similar to the five-year average where **"Purchased Goods"** accounted for 61% of the Scope 3 emissions, **"Processing and Packaging"** for 12% and **"Consumption"** for 19% - see Figure 7.



Under “Purchased Goods”, in 2020, Dairy represents the biggest emissions source with 27,736 KTCO₂e or 25% of the Scope 3 emissions. Moreover, these results are historically consistent as, in 2017, Dairy emissions represented 21% of the Scope 3 emissions and in 2018 and 2019, 16%. The other top three commodities on which Nestlé is dependent, Coffee, Meat and Cocoa, were responsible for 5,006 KTCO₂e, 3,620 KTCO₂e, and 2,486 KTCO₂e, or 5%, 3% and 2% of Scope 3 emissions respectively.

Accordingly, a sensible approach going forward would be to focus on these main sources of GhG emissions and their mitigation.

EXTERNALITIES TRENDS AND TARGETS

For the **2016 to 2020 period**, Nestlé had an **absolute reduction of GhG emissions** of approximately **5%**. This could be broken down into an **11% absolute reduction in Scope 1 emissions**, **18% in Scope 2** and **5% in Scope 3**, where **Upstream emissions increased by 9%**, while **Downstream emissions decreased by 43%**. Yet, this abrupt reduction in Downstream CO₂e has not been identified by Planet Tracker as the result of a strategy. Hence, it might have been caused by a new assessment methodology of “Consumption” emissions. This assumption is based on the fact that the “Consumption” emissions included in Nestlé’s 2021 Climate Change report were calculated under financial control versus operational control, compared to previous disclosures. Furthermore, the emissions of this category were derived with the support of Nestlé’s new GhG accounting partner, South Pole - see Figure 8.

If we look at these historical trends from a **CO₂e intensity** (Emissions/Revenue) **perspective**, the ratio

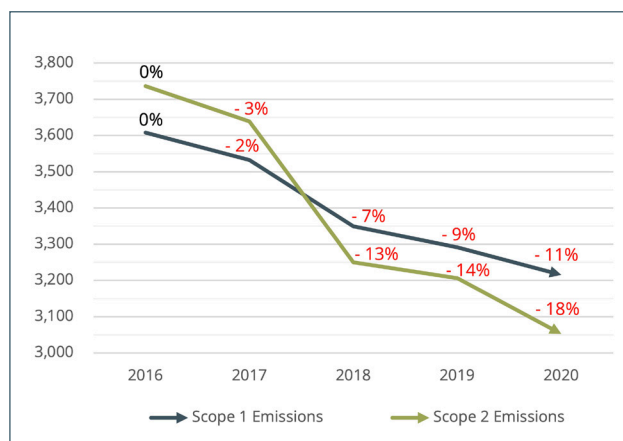
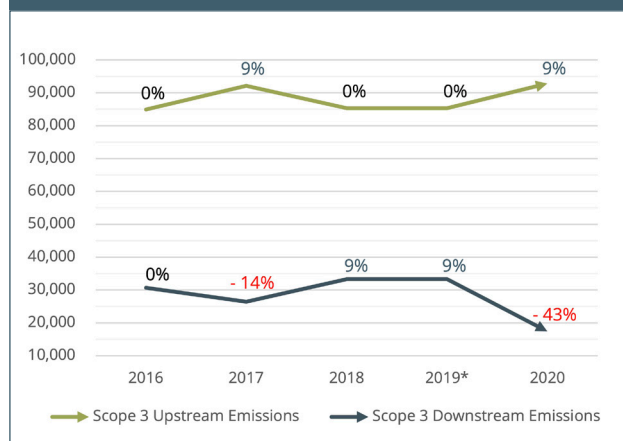


Figure 8: Nestlé’s CO₂e Evolution in the last 5 years - Breakdown by Scope. Source: Nestlé Climate Change CDP Answers 2017-2021⁹, Planet Tracker Calculations.



for Scope 1, 2 and 3 (Downstream) emissions went from 0.43 to 0.25, an overall reduction of 42%¹⁰.

The derived cutback in emissions is relatively close to the absolute Scope 3 (Downstream) reduction (43%). By contrast, the intensity ratio for Scope 3 (Upstream) emissions went from 0.92 to 0.97, an overall increase of 6%, slightly lower than the absolute rise of 9%¹¹ - see Figure 9.

⁹ In 2019* Nestlé reported the same Scope 3 Emissions as in 2018 due to unavailable 2019 data.

¹⁰ The ‘downstream’ ratio has been calculated by dividing the KTCO₂e produced in a year “t”, by the firm’s Revenue in the same year “t” for the 2016-2020 period.

¹¹ The ‘upstream’ ratio has been calculated by dividing the KTCO₂e produced in a year “t”, by the firm’s Revenue in the year “t+1”, thus covering the periods 2016-2020 and 2017-2021. The upstream approach differs from the downstream approach, since downstream emissions are assumed to arise in the same year as the revenue, whereas the Scope 3 (Upstream) emissions are assumed to arise in the previous year (matching inputs into the business).



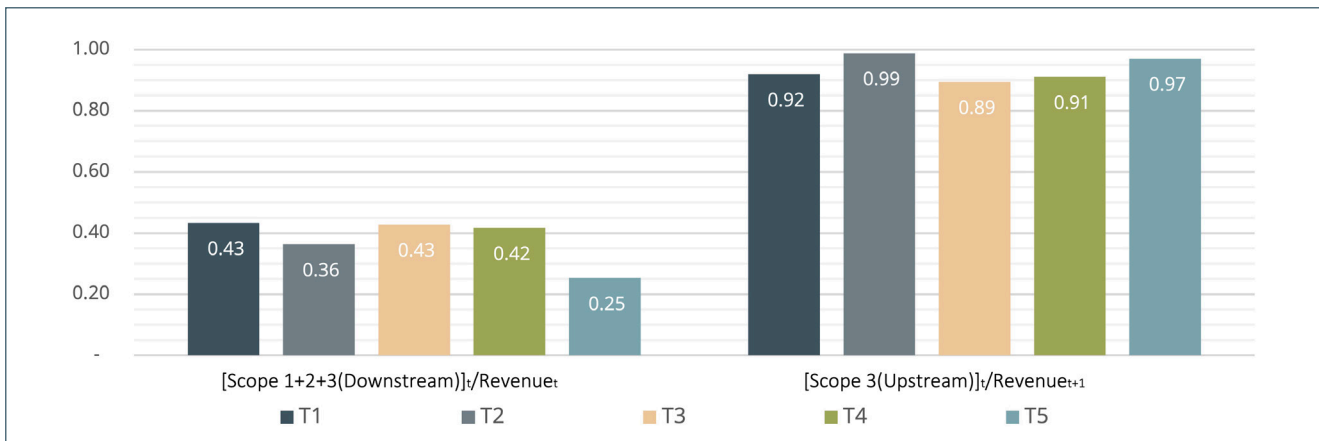


Figure 9: CO₂e Emissions Intensity Ratios - Breakdown by Scope and Year of occurrence. Source: Planet Tracker Calculations.

It is worth emphasising that the **intensity ratio of Scope 1, 2 and 3 (Downstream) emissions diminished by 42% while the revenue grew around 7% (2016-2020). At the same time, the intensity ratio of Scope 3 Upstream emissions grew by 6% compared to a revenue growth of around 4% (2017-2021).** Consequently, it becomes clear that past upstream emissions reductions have not outpaced the increase in business. Even on a per revenue basis, emissions embedded in ‘Purchased Goods’ and other upstream activities have been increasing - see Figure 10. **Hence, extrapolating the absolute historical trend of Nestlé’s emissions into the future would account for an implied revenue growth of between 4% and 7% every five years.**

In order to project Nestlé’s emissions up to 2030, a simple extrapolation model of compounding forward the

annual rate of change in emissions of the last five years is employed. Accordingly, on a compounding basis, over the last five years, Scope 1 emissions decreased at a rate of 3% per year and Scope 2 emissions at a rate of 5% per year. Meanwhile, Scope 3 Upstream emissions increased by 2% per year and Scope 3 Downstream emissions decreased by 13% per year.

Extrapolating these trends up to **2030, Scope 1 and 2 would demonstrate an absolute reduction of 25% and 40%, respectively.** At the same time, **Scope 3 would have an absolute increase of 9%**, as a result of a **25% increase in Scope 3 Upstream emissions** and a **76% reduction in Scope 3 Downstream emissions** - see Figure 11. It is worth remembering that this projected reduction of Scope 3 Downstream emissions takes into account the revised methodology of 2020, and therefore might be downward bias.

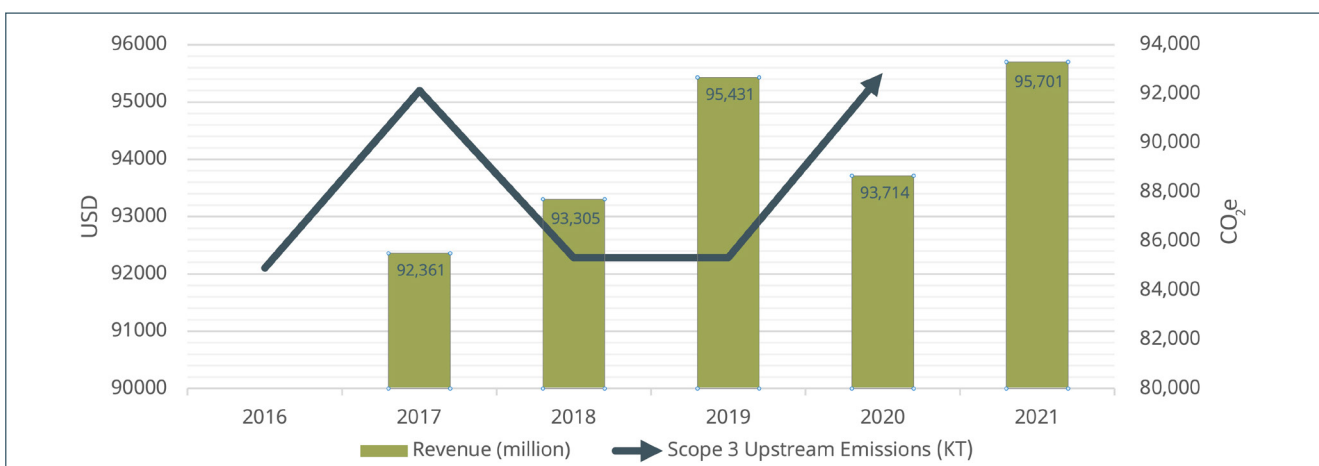


Figure 10: Revenue and Scope 3 Upstream Emissions - Evolution Comparison. Source: Nestlé’s Climate Change CDP Answers and Annual Reports 2017-2021; Planet Tracker Calculations.



Nestlé's **Science Based approved targets (SBT)** to achieve net zero by 2050 commit the firm to **reducing absolute Scope 1, 2, and 3 GhG emissions by 20% by 2025 and by 50% by 2030** from a 2018 base year. Meanwhile, Nestlé's extrapolated trend for Scope 1, 2 and 3 GhG emissions would yield an absolute reduction of 6% from 2018 to 2025, and of 0.5% from 2018 to 2030. The extrapolated increase in emissions between 2025 and 2030 is caused by the increasing

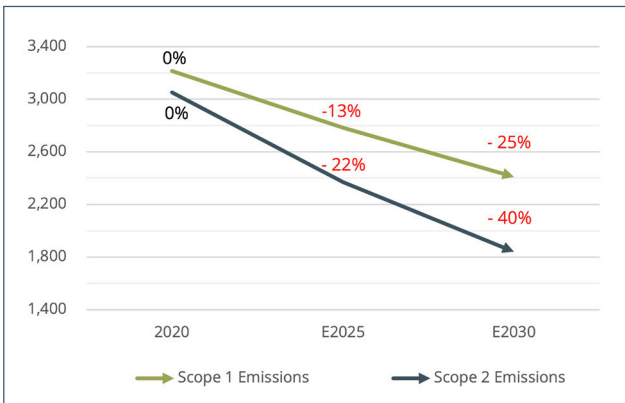


Figure 11: Nestlé's CO₂e Short and Mid-term Trends - Breakdown by Scope. Source: Nestlé Climate Change CDP Answers 2017-2021, Planet Tracker Calculations.

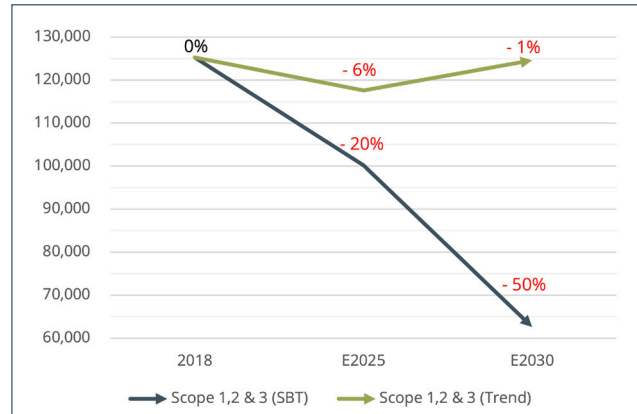
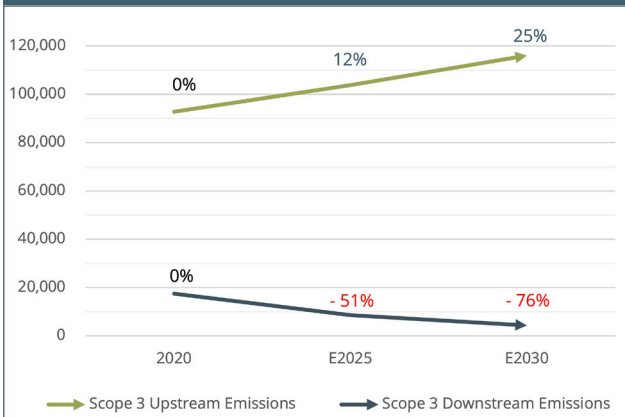


Figure 12: Nestlé's GhG Trends vs SBTs Emissions Evolution. Source: Nestlé Climate Change CDP Answers 2017-2021, Planet Tracker Calculations.

weight of Scope 3 Upstream emissions, compared to the decreasing size of Scope 3 Downstream emissions - see Figure 12. This trend is also supported by the STB progress dashboard where instead of progressing towards its approved targets, for the Scope 3 target up to 2025 and 2030, Nestlé went backwards an 18% and 7% respectively.¹²

The difference of 14% in the near term and 49.5% in the mid-term is the result of **Scope 3 Upstream emissions being 52% and 172% higher in 2025 and 2030, respectively, than recommended by SBT.** This leads to the conclusion that, of the projected 124,577 KTCO₂e GhG emissions reached by 2030, 2% would belong to Scope 1, 1% to Scope 2, and 97% to Scope 3, with 93% coming from its Upstream activities - see Figure 13.

Overall, this would imply that based on historical data (2016-2020) and following a linear relation between SBT omission and temperature increase, **Nestlé aligns with a scenario of +2°C.**

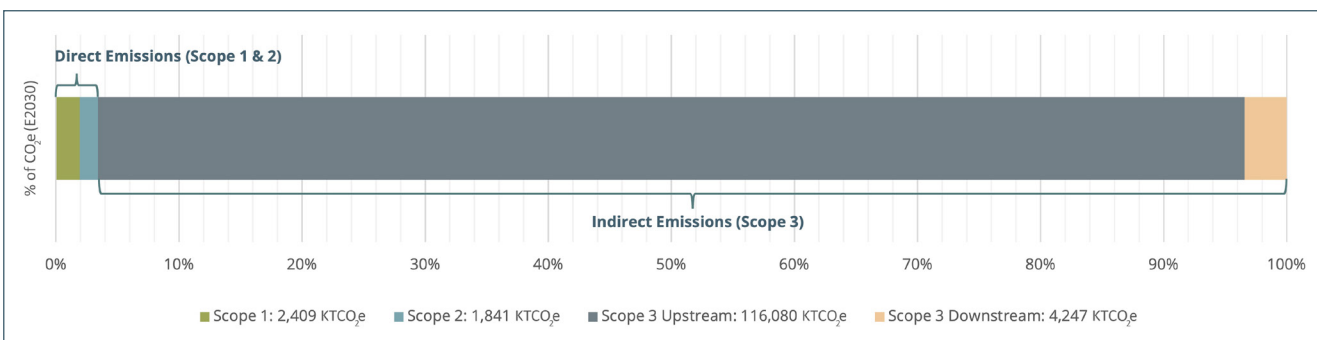


Figure 13: Value Chain GhG Emissions (E2030) - Percentual Breakdown by Scope. Source: Planet Tracker Calculations.

¹² For reference visit: <https://sciencebasedtargets.org/reports/sbti-progress-report-2021/progress-data-dashboard#about>



Policy and Governance

ENGAGEMENT AND INFLUENCE

Suppliers' Engagement

As noted previously, 79% of Nestlé's current emissions come from its suppliers (Scope 3 Upstream) so we would expect to see this as a focal point for the company's transition plans.

Presently, the company follows a **two-step strategy**. In the latest climate reported year, 2020, the **first step** has been to **collect information** on suppliers' behaviour, focusing on the categories with the largest GhG footprint, namely Dairy, Coffee, Cocoa and Vegetable Oils. According to the company, these four categories represent approximately 15% of Nestlé's total procurement expenditure and around 38% of its Scope 3 emissions.

Via a four-week long Request for Information (RFI) process, Nestlé collected 372 climate project proposals from its largest vendors, which provides information on where these suppliers are in their climate journey. Subsequently, aiming to engage its suppliers in changing their behaviour and fuelled by the RFI, Nestlé informed its main ingredient suppliers (i.e. dairy derivatives, vegetable oils, coffee, cocoa, sugar, cereals and grains, animal proteins, vegetables, fruits and spices) of its Net Zero Plan. Out of the 542 suppliers this communication has been sent to, only 289 responses came back supporting Nestlé's ambitions. Taking into account that these suppliers represent approximately 15% of Nestlé's total procurement expenditure and around 50% of its Scope 3 emissions, **only 25% of Nestlé Scope 3 originators seem inclined to reduce their GhG emissions and/or showed intentions of joining the climate pledge**.

The **second engagement step**, used by Nestlé in previous years too, aims to **incentivise all suppliers**,

via an education campaign, to be **responsible stewards of the forests and forested areas** from which they are sourcing materials. These suppliers represent approximately 95% of Nestlé's procurement expenditure. We estimate that this campaign has resulted in **83% of its key ingredients** suppliers being assessed as **deforestation-free** (compared to 71% in 2019 and 63% in 2018).

As companies progress, and acknowledge their limitations, success targets might change or become more centered. With this in mind, when it comes to deforestation free, in 2018 Nestlé referred to twelve most used commodities, but also to five **'key commodities' listed as 'palm oil, soya, cocoa, cattle and pulp and paper'**. Meanwhile, in subsequent years when speaking about deforestation free, the firm refers to **'key ingredients' and 'key agricultural commodities' listed as palm oil, sugar, soy, meat, and pulp and paper**.¹³

Moreover, the company's 2010 ambition to eliminate deforestation from all its products, globally, by 2020 was updated into eliminating deforestation from the previously mentioned five key commodities by 2022. **The deadline for achieving deforestation-free supply chains** for coffee and cocoa was also extended to the **end of 2025**.

Customers' Engagement

In 2020, Nestlé collaborated with 14 major retailers, such as Walmart in the US, and Carrefour in France, to encourage innovation via traceability and to reduce climate change impacts by avoiding food loss and waste. These retailers represent 10% of the company's customers by number (their value is not disclosed).

¹³ Nestlé defines "deforestation" as the clearing of forests for the expansion of agriculture or timber plantations, sometimes referred to as "forest conversion". The terms "deforestation-free" and "sustainability sourced" are often used interchangeably by the firm.



Influence on Policymakers

Nestlé openly **supports the “No Deforestation” legislation**, or the EU Green Deal, by taking part in the Tropical Forest Alliance call to action for a legislative solution to supply chain transparency and traceability for commodities linked to deforestation. It **also supports** setting progressive “Nationally Determined Contributions” by backing the Corporate Leaders Group in their European call for **a target of 55% GhG emissions reduction by 2030**.

Furthermore, Nestlé has an influence on trade associations that are likely to take a position on climate change legislation - see Table 2.

*Table 2: Nestlé’s influence on trade associations likely to affect climate change legislation.
Source: Nestlé Climate Change CDP Answers 2021.*

Organisation	Current Position	Influence
AIM (European Brands Association)	Support EU net zero goal by 2050 (2°)	The CEO of Nestlé Europe, Middle East and North Africa is a member of the AIM Board
WBCSD	Net-zero GHGs ambitions by 2050 and TCFD reporting	Nestlé’s Executive VP Global Head of Operations is a member of the WBCSDs Food and Nature Board
European Food Sustainable Consumption and production Round Table (ERT)	Implementation of the Paris Agreement and carbon neutrality	Nestlé and the European Commission co-chair the ERT steering committee on behalf of the food sector
UN Global Compact	Call on companies to follow a 1.5-degree pathway	Nestlé is a member of the Climate Action Platform
Consumer Good Forum (CGF)	Leverage collective action to remove deforestation, forest degradation and lead conversion of key commodity supply chains	Nestlé is a founding member of the CGF

Nevertheless, **Nestlé has not disclosed a formal review of its alignment with its industry associations**. Moreover, “Lobbymap.org” identified that Nestlé associates with other groups such as the European Round Table for Industry (ERT), which is engaging on EU policy with mixed but increasingly positive positions, and also identified that **the firm is a member of multiple industry groups with mixed positions on climate policy**, such as the Confederation of Employers and Industries of Spain or the Kansai Economic Federation in Japan.

In summary, Nestlé is advancing positively on its suppliers’ engagement and subsequent deforestation-free sourcing of its key commodities. Nevertheless, **the vague customer engagement and the association with groups with a mixed position on climate policy, makes it difficult to determine whether Nestlé’s engagement and policy activities align with 1.5°C or not**.

MANAGEMENT ALIGNMENT

Board Structure and Alignment

Nestlé’s Board of Directors is formed of fourteen members, annually elected, while its Executive Board has thirteen members. In addition, the company has **three ‘councils’ linked to sustainability**: the **Sustainability Committee**, the **Creating Shared Value Council** and the **ESG and Sustainability Council** - see Table 3 and Figure 14.



Table 3: Board of Directors Internal Organisational Structure - Allocation of task. Source: Nestlé 2021 Governance Report.

	Chair's and Corporate Governance Committee	Compensation Committee	Nomination Committee	Sustainability Committee	Audit Committee
Paul Buckle, Chairman	Chair		•		
Ulf Mark Schneider, CEO	•				
Henri de Castries, Vice Chairman Lead Independent Director	•		Chair		•
Renato Fassbind	•				Chair
Pable Isla	•	Chair			
Ann M. Veneman	•			Chair	
Eva Cheng			•		•
Patrick Aebischer		•			
Kasper B. Rorsted		•			
Kimberly A. Ross					•
Dick Boer		•		•	
Dinesh Paliwal			•		
Hanne Jimenez de Mora				•	
Lindiwe M. Sibanda				•	

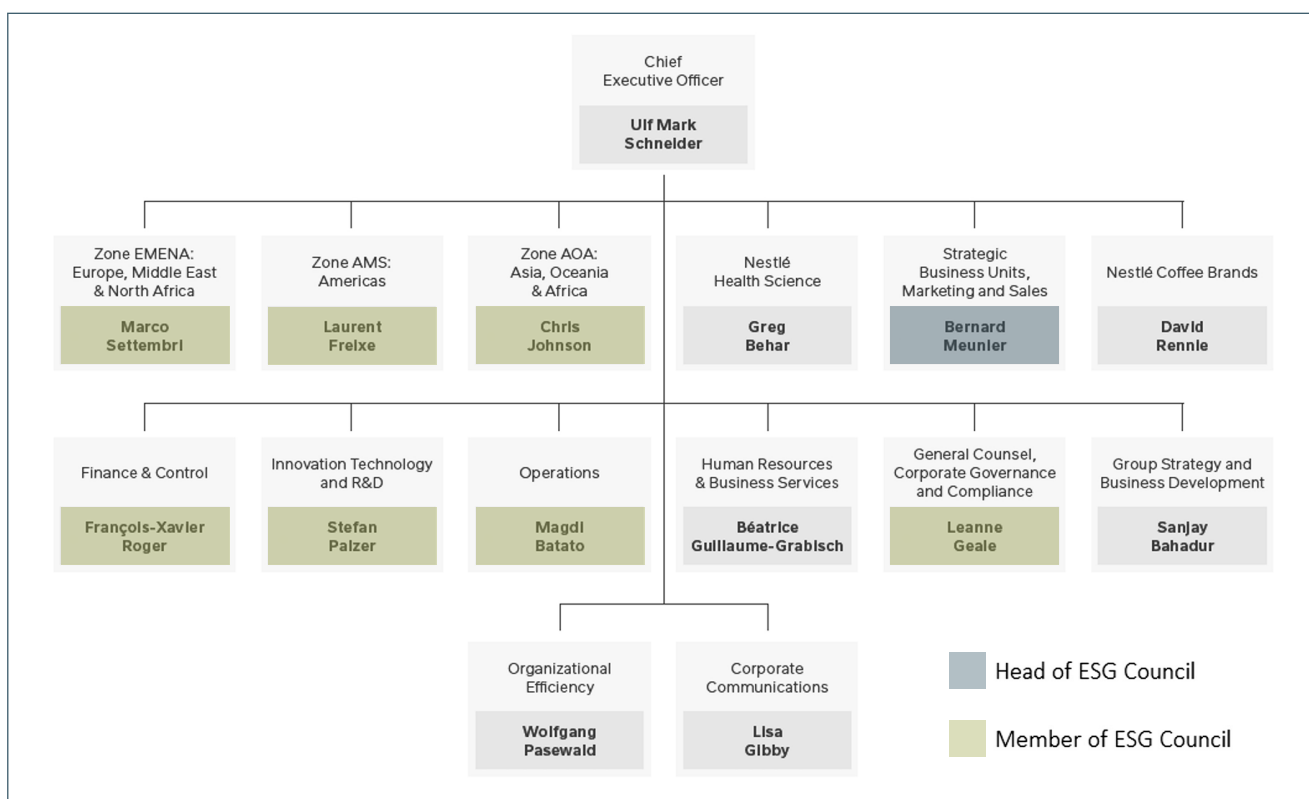


Figure 14: Executive Board. Source: Nestlé 2021 Governance Report.



The **Sustainability Committee** oversees the importance of sustainability within Nestlé's corporate governance and comprises four non-executive directors. The **Creating Shared Value Council** is formed of eight external experts and advises Nestlé's Creating Shared Value business strategy development. Lastly, the **ESG Sustainability Council** is made up of eight executive directors and has five focus streams: 2050 Net Zero, Water, Sustainable Sourcing, Sustainable Packaging and Communications and Advocacy.

Based on this distribution, it could be concluded that Nestlé has a sensible Board Structure that aligns with its sustainability ambitions.

Management Compensation

When it comes to compensation, **since 2021, ESG-related KPIs are included in the Short-Term Bonus plan of the Executive Board**. As a result, 85% of the CEO's and the CFO's remuneration is linked to the Group's financial performance, while **15% is tied to ESG objectives**. The ESG-linkage is the same for the other members of the Executive Board and for Zone or Business Heads.

Although this is a start, the short-term nature of the bonus does not align the management with the long term prospects of a climate transition. Furthermore, there is no disclosure on what exact KPIs link the Bonus with the firm's ESG goals. Hence, **the management alignment with 1.5°C cannot be determined**.



Risk Analysis

FINANCIAL IMPACT

Nestlé is exposed to an array of climate-related risks and opportunities. In the firm's assessments, these receive a probability denomination that ranges from "unlikely" to "virtually certain". We have assigned numeric values to Nestlé's probability denominations to aid comparisons and analysis - see Table 4.

Table 4: Nestlé's Probability Denominations - Numeric Equivalent.

Probability Denomination	Numeric Probability
Unlikely	25%
About as likely as not	50%
More likely than not	66%
Likely	75%
Very Likely	90%
Virtually Certain	99%

Furthermore, these **risks and opportunities are categorised into two main drivers of change**, namely, **External Policy and Physical Impact**.

External Policy Drivers

When it comes to policy and regulation, Nestlé's **main vulnerabilities and opportunities arise** from the implementation of **Carbon Pricing Mechanisms (CPMs)** leading to changes in direct and indirect operating costs and margins. All financial impacts linked to CPMs and disclosed by the firm are regarded as cumulative until 2030.

According to the company, the use of lower-emission sources of energy would lead to reduced direct operating costs. In 2020, this **opportunity** was

quantified by Nestlé at USD 0.35 billion¹³ or just above 2% of the annual five-year average trading operating profit. This would imply the firm reducing its 2018 Scope 1 and 2 emissions by 50% and assumes that all the company's plants will have to comply with a regulatory carbon price between USD 100 and USD 120 per tCO₂e by 2030. Nestlé considers that this opportunity could be realised in the next three to five years with a probability of 66%. Hence, the expected reduction in direct operating costs is USD 0.23 billion or just below 2% of the annual five-year average trading operating profit.

In 2020, Nestlé also appraised the risk of increased indirect operating costs from its supply chain exposure to the emerging CPMs by 2030.

This **vulnerability is quantified by Nestlé at USD 3.33 billion¹⁴** or 22% of the annual five-year average trading operating profit. To derive this number the company considered the Paris 1.5° climate scenario pathway (50% reduction in Scope 3) and assumed a carbon price of USD 80 per tCO₂e. Furthermore, the company assigned a 50% occurrence probability to this risk in the next three to five years. Accordingly, the expected increase in indirect operating costs would be USD 1.67 billion or just below 12% of the annual five-year average trading operating profit.

To contrast these findings, Planet Tracker employs the Inevitable Policy Response (IPR) GhG pricing for 2030. For Nestlé's Scope 1 and 2 emissions, linked to the countries where the firm has its invested capital (physical assets), a weighted average price of USD 53.04 per tCO₂e is derived. Meanwhile, for Scope 3 emissions, linked to the countries where Nestlé's revenues originate, a weighted average price of USD 58.45 per tCO₂e is calculated.¹⁵

¹⁴ Data extracted from Nestlé Climate Change CDP Answers 2021.

¹⁵ In theory Scope 3 - Upstream emissions pricing should be tied to supplier countries. Yet, due to the lack of data and the [new regulation taxing produce coming from countries with a lower carbon tax \(i.e. EU\)](#), tying Scope 3 - Upstream emissions pricing to revenues' country of origin is a sensible alternative.



Planet Tracker's assessment of the opportunity from the emerging CPMs tied to Scope 1 and 2 emissions amounts to **USD 0.23 billion**, or just below 2% of the annual five-year average trading operating profit. To arrive at this value, Nestlé's Scope 1 and 2 emissions in 2030 are assumed to follow their historical trend from the 2016-2020 period. This is the same as Nestlé's own estimate.

As already noted in the Climate Alignment section, since Scope 1 and 2 would only represent 3% of Nestlé's GhG emissions by 2030, their mitigation and resulting operating costs reduction is financially immaterial.

In contrast, according to **Planet Tracker's calculations regarding** Scope 3 - Upstream emissions in 2030,

Nestlé's exposure to CPMs would be quantified at USD 6.93 billion or 49% of the annual five-year average trading operating profit. Since in practice transferring increased costs from suppliers is not perfect, an 80% transference rate is assumed. Hence, the expected impact on operating costs would be USD 5.57 billion or 39% of the annual five-year average trading operating profit - see Table 5.

From the assessments made above, it would appear Nestlé's estimate of its Scope 1 and 2 exposure to CPMs is reasonable, but it underestimates its exposure to Scope 3 emissions, which may detract from its 1.5°C ambitions in the long run.

*Table 5: External Policy Drivers - Summary of Material Risks by 2030;
Source Nestlé Climate Change CDP Answers 2021; Planet Tracker Calculations.*

Assessment by	Value Chain	Price of tCO ₂ e	Expected of tCO ₂ e	Expected Impact
Nestlé	Scope 3 - Upstream	USD 80	41,666,667	USD 1.67 billion
Planet Tracker	Scope 3 - Upstream	USD 60	116,080,222	USD 5.57 billion

Physical Impact Drivers¹⁶

Nestlé regards two different types of physical risks as material. One affects the firm's assets or direct operations and the other affects its supply chain or upstream activities. The first one, coming from extreme weather events such as storms and flooding would lead to an increase in capital expenditure. The second, coming from variability in weather patterns, such as extreme temperature and water stress, would lead to an increase in operating costs.

Nestlé undertook a climate scenario analysis to quantify the expected (i.e. probability weighted) physical impacts to its key facilities until 2025. The model quantified the aggregate risk of multiple extreme weather threat types. Between 2016 and 2020, the company assigned the following maximum expected financial impacts to the physical risk affecting its facilities and, therefore, direct operations - see Table 6.

*Table 6: Acute Physical Risk affecting Direct Operation - Maximum Expected Financial Impact.
Source: Nestlé Climate Change CDP Answers 2017-2021, Planet Tracker Calculations.*

Year	Time horizon	Likelihood	Financial impact (max.)	Expected Impact (max.)
2020	3 to 5 years	50%	USD 1.11 billion	USD 0.55 billion
2019	3 to 5 years	66%	USD 0.57 billion	USD 0.37 billion
2018	0 to 3 years	66%	USD 0.56 billion	USD 0.37 billion
2017	0 to 3 years	66%	USD 1.14 billion	USD 0.75 billion
2016	0 to 3 years	66%	USD 1.12 billion	USD 0.73 billion

¹⁶ These physical impacts are assessed under the current climate change conditions of 1.1C, being this the best estimate of global warming since 1850-1900, as stated in IPCC (2020): Summary for Policymakers / Climate Change 2021: The Physical Science Basis.



Consequently, based on the last five years' average the **firm would have a maximum expected capex impact of USD 0.56 billion by 2025.**¹⁷ This would be the equivalent of 13% of the five-year average annual Capex.

Planet Tracker believes that Nestlé may be underestimating the risk of the future effects of climate change on its facilities. Out of the 392 factories/sites the firm owned over the last five years, it classified 51 at high risk of flood and 64 at high risk of storms. Assuming that they overlap, at least 16% of them would be at high risk. Yet, according to Nestlé, the physical risk affecting its facilities is calculated by considering the cumulative replacement values of the two to three highest exposed sites. This represents somewhere **between 3% and 6% of the average number of sites classified at High Flood Risk and High Wind Exposure.**

Nestlé also assesses the physical risk coming from changes in the climate and weather patterns. These changes might lead to increased input prices and price volatility and, in some cases, even disrupt the business operations along Nestlé's entire value chain.

For this assessment Nestlé focuses on one of its key commodity inputs: coffee. According to the firm, this commodity, which accounts directly for around 20% of its annual revenue, is highly vulnerable to climate change.

Furthermore, climate-related changes are already impacting the coffee-growing regions. According to Nestlé, temperatures in Brazil's arabica regions have increased by 1-2°C since the 1990's. As a result, droughts during the 2014 - 2016 period reduced coffee production by 10 to 15% in Arabica regions and 25% in Robusta regions. This impacted prices by a 50% increase in Arabica and 40% increase in Robusta.

Nestlé sources around 63% of its coffee from climate-sensitive regions, 38% from Viet Nam and 25% from

Brazil. Consequently, an **increase in frequency and severity of droughts is quantified** by the company to have a potential cost impact of **around USD 1.03 billion** or 7% of the annual five-year average trading operating profit. Moreover, Nestlé's assigns a 90% probability to this risk being realised in the next five to ten years, leading to an expected cost impact of USD 0.93 billion.

In summary, **the material vulnerabilities derived from the External Policy and Physical Impact drivers would add up to an expected operating cost impact of around USD 6.5 billion** and an expected capex impact of USD 0.56 billion. These risks would represent a total of **46% of the annual five-year average trading operating profit and 13% of the annual five-year average Capex**, respectively, to be realised sometime in the next three to ten years.

RISK MANAGEMENT

As mentioned, when it comes to Climate Change and Climate Transition, Nestlé has **three main areas of material risk**. The first one is **the exposure to the potential CPMs** tied to Scope 3 Upstream emissions. The second one is **the exposure to extreme weather events** such as storms and flooding. And the third is **the exposure to changes in climate and weather patterns**, and consequently its effects on essential commodities sourcing.

When it comes to **Upstream emissions** and their **mitigation** to avoid the potential increase in operating costs, Nestlé focuses on two segments, **Dairy and Livestock, and Soil and Forests**. In 2018¹⁸ **Dairy and Livestock represented** around 34,200 KTCO₂e or **40% of Nestlé's Upstream emissions**. Meanwhile, about 25,000 KTCO₂e or **29% of Nestlé's Upstream emissions** were **generated through** the sourcing of the other main agricultural ingredients linked to **natural ecosystems such as Soil and Forests**¹⁹.

¹⁷ To arrive to this value, over the last five years Nestlé classified an average of 51 sites or factories as High Flood Risk and 64 as High Wind Exposure. For the financial impact of the risk, the Probable Maximum Loss (PML) for the sites in a radius of 10 km for both exposures Wind and Flood is considered. In the last five years, Nestlé estimated the highest PML to be around USD 0.36bn for Flood and around USD 0.21bn for Wind/Storm per site.

¹⁸ The baseline year for approved science-based net-zero targets.

¹⁹ Data from "Nestlé's Net Zero Roadmap - 2021" compared with Planet Tracker's calculations of Nestlé's 2018 emissions.



According to Nestlé’s Net Zero Roadmap, under a **business-as-usual** scenario **Dairy and Livestock emissions would increase up to 50,600 KTCO₂e by 2030 from a 2018 baseline.**

Yet, following a set of actions **the company expects to lower those emissions to 29,300 KTCO₂e by 2030.**

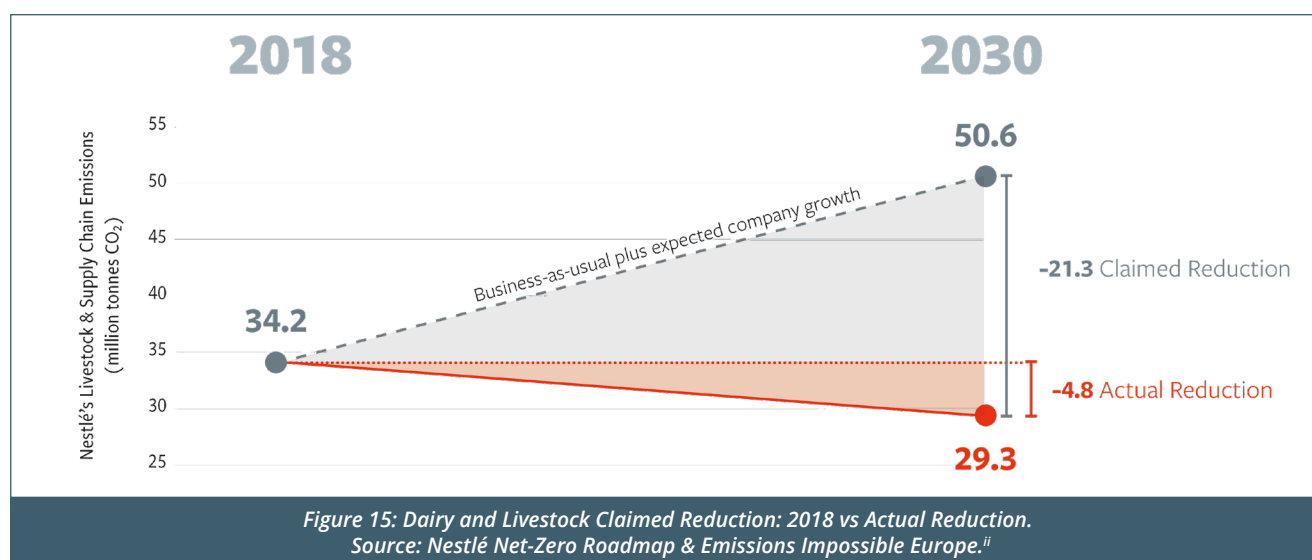
Among those actions Nestlé identifies that¹⁸:

- a** Making farms more productive through training and better herd management would reduce Upstream emissions by 8,400 KTCO₂e;
- b** Caring for grassland to store more carbon by using regenerative agriculture and organic fertilizers would reduce emissions by 3,200 KTCO₂e;
- c** Cutting the methane produced by animals during digestion through nutrition changes would reduce emissions by 3,200 KTCO₂e;
- d** Feeding livestock with more sustainable feed would reduce emissions by 2,700 KTCO₂e;
- e** And, other livestock actions feed would reduce emissions by 2,300 KTCO₂e.

Similarly, under a **business-as-usual** scenario, **Soil and Forests emissions would increase to 37,000 KTCO₂e by 2030 from a 2018 baseline**, while **a set of predetermined actions would lower them to 14,000 KTCO₂e.** These actions consist of:²⁰

- a** Preventing deforestation in the supply chain, which would reduce Upstream emissions by 8,000 KTCO₂e;
- b** On-farm agroforestry – planting trees and other plants around and among crops, which would reduce emissions by 5,000 KTCO₂e;
- c** Improved agricultural practices like cover cropping, using organic fertilizers and multiple crop rotation, which would reduce emissions by 5,000 KTCO₂e;
- d** Agroforestry off-farm, which would reduce emissions by 2,000 KTCO₂e;
- e** And, restoring degraded forests and peatlands, which would reduce emissions by 2,000 KTCO₂e.

Nevertheless, **these practices have not been quantified** in terms of development time, country of origin, number of providers, success factors and rarely in terms of investment required per mitigation action. Hence, it is not possible to properly evaluate the probability of success nor the likelihood of the actual impact (as opposed to the theoretical figures provided). Also, it is worth noting that although these mitigation actions would theoretically lower **Dairy and Livestock emissions** by 42% comparing business-as-usual with the expected impact, factually these would only have a **14% absolute reduction compared with 2018** - see Figure 15.



²⁰ Nestlé defined these actions based on research and data as of December 2020.



Similarly, these mitigation actions would theoretically lower **Soil and Forests** by 62% comparing business-as-usual with the expected impact, but in reality this would constitute a **44% absolute reduction compared with 2018**.

When it comes to **managing the exposure to extreme weather** events such as storms and flooding, in the last five years (2016-2020) an average of 195 facilities have been inspected by risk engineer experts. They provided information on property risks, recommendations for improving standards of prevention and emergency plans for floods and storms on a case-by-case basis. The costs associated with this analysis averaged USD 1.5 million per annum. In terms of the implementation cost of the recommended measures, the annual average cost recorded since 2019 is approximately USD 18 million. This corresponds to the implementation cost of the recommendations made by Nestlé's main insurer without considering the costs of response to the risk. In other words, the **company is investing** around USD 19.5 million annually or a **3% annual premium on the**

total exposure of USD 0.56 billion to manage this risk. This would indicate that Nestlé is preparing adequately for the exposure mentioned above.

As for the risks associated with changes in **climate and weather patterns**, over the last five years (2016-2020), Nestlé invested an average of USD 132 million per year to build a sustainable, long-term supply chain. To mitigate these risks the firm focused on offering tactical support, loans, training and technology to coffee and cacao farmers. Moreover, in the 2022 'Future of Climate Action Forum' Nestlé representatives disclosed that **from 2020 to 2025, USD 1.3 billion will be invested in regenerative agriculture**. In relative terms this equals the potential loss caused by the exposure.

In conclusion, **Nestlé's risk management initiatives seem sensible with respect to Physical Impact risks but appear to lack concreteness when it comes to External Policy risks, which in the long run might detract from its net-zero ambitions.**



Strategy Assessment

CAPITAL ALIGNMENT

Having identified its major sources of CO₂e, and including its Scope 1, 2 and 3 on its net-zero roadmap, Nestlé's latest SBT aims for a 1.5°C scenario. Accordingly, the company **plans to invest USD 3.5 billion by 2025 to reduce its absolute Scope 1, 2 and 3 emissions by 20% and 50% by 2025 and 2030, respectively, using a 2018 emissions base year.** It is worth emphasising that although the company's mitigation actions go up to 2030, the disclosed investment only goes up to 2025. Thus, if deemed required, the firm might consider additional investment in the future or not.

Based on the historical trend, **by 2030, 93% of emissions would come from Scope 3 Upstream activities.** Hence, mitigating them becomes paramount. Nestlé plans to invest USD 1.3 billion of the USD 3.5 billion total by 2025 to reduce these emissions and has put forward a series of initiatives to mitigate the emissions from its **Dairy and Livestock sourcing** and also from its impact on **Soil and Forests**. These two categories **account for almost 70% of Nestlé's Scope 3 Upstream emissions in 2018.**

Yet, **the absolute reduction in emissions for these two categories, based on Nestlé's present intentions is only 24%,** down to 43,300 KTCO₂e (2030) from a baseline of 59,200 KTCO₂e (2018). However, the company claims a mitigation of 49% by taking 2018 emissions as the baseline, adding to them BAU emissions for a total of 87,600 KTCO₂e by 2030 and then reducing those emissions down to 43,300 KTCO₂e via its mitigation initiatives. Hence, Nestlé is comparing 2030 mitigated emissions with 2030 BAU emissions, not with 2018 absolute emissions.

As previously stated, **the investment disclosed by the firm to support these intentions amounts to USD**

1.3 billion from 2020 to 2025 (or USD 260 million per year) and focuses on regenerative agriculture. Hence, **most of Nestlé's mitigation initiatives are not tied to specific abatement investments, nor measured on an annual basis to allow tracking.** This approach makes it challenging for third parties such as Planet Tracker to determine independently their validity. Also, no adjustment mechanisms have been disclosed by the company to correct course in the event these targets are missed.

Going a step further, Planet Tracker linked Nestlé's top mitigation initiatives for Dairy and Livestock, and Soil and Forests with the global agriculture mitigation abatement cost curve developed by McKinsey.²¹ A total of **24,800 KTCO₂e of expected emissions reduction** can be linked to abatements costs. These reductions would **require an investment of USD 2.60 billion by 2030,** or USD 260 million per year (since 2020) in order to be achieved. Yet, these costs omit 19,500 KTCO₂e of expected emissions reductions coming mainly from preventing deforestation, on and off-farm agroforestry and restoring degraded forests. If we include the **cost of forest conservation** (USD 22/TCO₂e) and **restoration** (USD 45/TCO₂e), based on Chua, Grafton and Nguyen (2022)²², it would amount to **another USD 581 million by 2030** - see Table 7.

Therefore, **the USD 1.3 billion abatement investment disclosed by Nestlé would only cover a reduction in Dairy and Livestock, and Soil and Forests emissions of 17,067 KTCO₂e by 2030.** In turn, **this would result in a total of 70.533 KTCO₂e emissions** from a high of 87,600 KTCO₂e expected by Nestlé by 2030.

Based on these findings and the insufficient data provided when it comes to mitigations metrics, **Nestlé's capital alignment with net-zero cannot be assured.**

²¹ Using proxies developed by McKinsey & Company (2020): [Agriculture and climate change](#)

²² Chua, Grafton and Nguyen (2022): [A global analysis of the break-even prices to reduce atmospheric carbon dioxide via forest plantation and avoided deforestation.](#)



Table 7: Nestlé's GhG Mitigation Actions & Abatement Cost Mapping. Source: Nestlé's Net-zero Roadmap; McKinsey & Company (2020); Chua, Grafton and Nguyen (2022) - Agriculture and Climate Change; Planet Tracker Calculations.

Emissions origin	Top Mitigation Initiative (by Nestlé)	Emissions Reduction (KTCO ₂ e)	Mitigation Measures	Estimated USD/TCO ₂ e Abatement cost	GhG Abatement Cost (USD)
1. Dairy and Livestock	Enhancing productivity via training and better herd management	8,400	Increase livestock production efficiencies	119	999,600,000
	Improving grassland carbon storage via regenerative agriculture and organic fertilizers	3,200	Controlled-release and stabilised fertilizers	65	208,000,000
	Cutting the methane production during digestion through nutrition changes	3,200	Animal feed mix optimisation	131	419,200,000
	Feeding livestock with more sustainable feed	2,700			353,700,000
	Other livestock actions feed	2,300	Animal feed additives	88	202,400,000
2. Soil and Forests	Improved agricultural practices	5,000	Conversion from flood to drip/sprinkler irrigation	84	420,000,000
			Controlled-release and stabilised fertilizers		
			Improved fertilization timing		
3. Soil and Forests (general mitigation measures)	Preventing deforestation in the supply chain	8,000	Forest Conservation	22	176,000,000
	On-farm agroforestry	5,000	Forest Restoration	45	225,000,000
	Off-farm agroforestry	2,000			90,000,000
	Restoring degraded forests and peatlands	2,000			90,000,000
4. Others (1+2)	-	2,500	?	?	?
TOTAL (1+2)	-	24,800	-	-	2,602,900,000
TOTAL (1+2+3)	-	41,800	-	-	3,183,900,000
TOTAL (1+2+3+4)	-	44,300	-	-	?

TRANSITION APPRAISAL

In order to assess Nestlé's Climate transition, Planet Tracker reviewed its GhG emissions evolution over the last five years (2016-2020) as well as its latest sustainability reports (e.g., Net-Zero Roadmap - 2021). Although the reports presented in 2021/2022 show promising developments, one year does not provide a trend. Hence, we are unable to determine if it will continue, or is just transient. Therefore, the bulk of the analysis takes into account the reports published between 2017 and 2021, which cover 2016 to 2020 data.

Taking a forward-looking approach, we examine Nestlé's main source of emissions, its Scope 3 Upstream activities. Consequently, **the only mitigation initiative with a proven track record that Planet Tracker has the confidence that Nestlé will achieve by 2030 is deforestation-free supply chains for its main commodities**. The company has shown consistency in improving in this regard with **83% of its key ingredients being deforestation-free in 2020** compared to 71% in 2019 and 63% in 2018.



Furthermore, Nestlé aims to be deforestation-free by 2025. According to the company, this would reduce Scope 3 Upstream emissions by 8,000 KTCO₂e by 2030.

Meanwhile, based on **Planet Tracker's** extrapolation, **the emissions from Dairy and Livestock, and Soil and Forests** would reach 77,399 KTCO₂e by 2030, or a 31% increase compared to 2018. If the deforestation-free mitigation is taken into account, Nestlé's top two emissions sources **would reach 69,399 KTCO₂e by 2030, or a 17% increase compared to 2018.**

As a result, **neither the historical trends of emissions, Planet Tracker's estimates, nor Nestlé's disclosed mitigation investment indicate that the 2030 SBT will be met.** This statement assumes that Scope 1 and 2, and Scope 3 Downstream would align or be close to aligning with 1.5°C by 2030, which

would represent around 7% of Nestlé's total emissions. Meanwhile, the Scope 3 Upstream emissions alignment would be largely determined by the evolution of Dairy and Livestock, and Soil and Forests linked emissions.

For more detail, Planet Tracker calculated Nestlé's "Temperature Alignment", based on these two categories. To do so, an estimate of climate sensitivity was used. We used the Global CO₂e remaining budget in 2030²³ and compared it with Nestlé's CO₂e budget overshoot relative to its SBT in 2030. Based on this relative overshoot a temperature in °C was derived.

Consequently, according to Nestlé's estimates, the company would align with 1.7°C, while **based on both Nestlé's disclosed mitigation investments and Planet Tracker's estimates, the company would align with +2.0°C by 2030** - see Table 8.

Table 8: Nestlé's Temperature Alignment using an estimate of Climate Sensitivity.
Source: Planet Tracker Calculations.

Variables	Nestlé's Estimate	Mitigation Investment Disclosure Estimate	Plant Tracker Estimate
Implied KTCO ₂ e budget (SBT)	29,600	29,600	29,600
Nestlé's expected KTCO ₂ e emissions (2030)	43,300	70,533	69,399
Nestlé's target overshoot (undershoot)	46%	138%	134%
SBT temperature (°C)	1.50	1.50	1.50
Global KTCO ₂ e remaining budget (2030)	30,000,000	30,000,000	30,000,000
Nestlé's Over/(Undershoot) in KTCO ₂ e	13,885,135	41,486,028	40,336,357
Baseline Temperature (°C)	1.1	1.1	1.1
Warming Ratio	0.000000013	0.000000013	0.000000013
Nestlé's Temperature Alignment (°C)	1.7	2.1	2.0

Although the company has made good progress, especially since 2021, by putting forward a Net-zero Roadmap and tying Management's remuneration to ESG KPIs, we need to see evidence that these initiatives are bearing fruit. Our assessment at this stage is that **Nestlé has a series of initiatives for mitigating Upstream Scope 3 emissions, but lacks a comprehensive plan with sufficient investment to reach its desired 2050 net-zero target.**

We conclude that Nestlé is on track for a +2.0°C outcome by 2030.

²³ As stated by IPCC (p. 95) - "Mitigation Pathways Compatible with 1.5°C in the Context of Sustainable Development".



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ABOUT PLANET TRACKER

Planet Tracker is an award-winning non-profit financial think tank aligning capital markets with planetary boundaries. Created with the vision of a financial system that is fully aligned with a net-zero, resilient, nature positive and just economy well before 2050, Planet Tracker generates breakthrough analytics that reveal both the role of capital markets in the degradation of our ecosystem and show the opportunities of transitioning to a zero-carbon, nature positive economy.

PLANET TRACKER'S CLIMATE TRANSITION ANALYSIS – FOOD SYSTEM COMPANIES

As part of its Food and Land Use programme, Planet Tracker is examining the transition plans of the food system (Consumer Goods) companies covered by the Climate Action 100+ list (<https://www.climateaction100.org/whos-involved/companies>). Our goal is to provide investors with the key information and analysis they need to be able to hold food system companies to account for the quality of their climate transition plans and their execution against those plans, and to encourage them to use this information to engage effectively with these companies with the ultimate aim of driving the sustainable transformation of the global food system.

ACKNOWLEDGEMENTS

Author: Ion Visinovschi, Company Analyst, Planet Tracker

WITH THANKS TO OUR FUNDERS



Suggested citation: Visinovschi I. Nestlé S.A. Climate Transition Analysis (2022)

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