Climate Transition Analysis





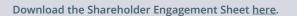
Overall Assessment

Bayer is projected to align with a 2°C warming scenario by 2030.

Bayer has set ambitious climate targets aiming for Net Zero GHG emissions by 2050, with interim goals for 2030. The company achieved an 11% reduction in total GHG emissions from 2019 to 2023 despite its sales growth. However, Planet Tracker's analysis indicates significant variability in emissions trends based on different starting points and scenario projections. This variability suggests that Bayer might struggle to meet its 2030 targets. Additionally, Bayer's climate strategy, includes a EUR 500 million investment in renewable energy and efficiency by 2030, but lacks specific mitigation investments for Scope 3 emissions, which are crucial given their substantial contribution to the company's total GHG footprint. Despite leading efforts in policy advocacy and integrating sustainability into governance and compensation, there are gaps in its suppliers performance, downstream emissions disclosure and impact, and clarity on capital expenditures. Clearer reporting on these aspects would substantiate Bayer's commitment to climate transition, without them, we conclude the company is projected to align with a 2°C warming scenario by 2030



This report is one of a series examining the climate transition plans of companies in the Climate Action 100+ list. This project is separate to and not affiliated with Climate Action 100+.





Climate Alignment

- Between 2019 and 2023, Bayer reduced total GHG emissions by 11% despite revenue growth, but emissions trends varied significantly depending on the starting point of the analysis.
- Projected scenarios indicate that Bayer may not meet its 2030 GHG reduction targets, potentially aligning with a 2°C warming pathway if the company is to to maintain its historical trend of the last five years.



Policy and Governance

- Bayer demonstrates a commitment to supplier sustainability, yet 44% of suppliers underperformed in sustainable procurement, and 18% underperformed in environmental protection. Additionally, deeper disclosure on downstream emissions and engagement outcomes is necessary.
- Bayer seeks to influence industry climate and is a leader in policy advocacy transparency, while its board incorporates sustainability in strategy and compensation; however, certain gaps in expertise and remuneration clarity remain.



Risk Analysis

- According to Bayer's 2023 TCFD disclosures, the company evaluates climate impacts using IPCC scenarios and integrates these insights into its risk management and business strategies.
- Despite its ambition to manage regulatory and physical climate risks, Bayer lacks detailed disclosures on the financial impacts and specific investments made to address these risks, highlighting a need for improved transparency and accountability.



Strategy Assessment

- Bayer's strategy for achieving Net Zero by 2050 includes a EUR 500
 million investment in renewable energy and efficiency. However,
 it lacks detailed disclosures on investments targeting Scope 3
 emissions, which constitute the majority of Bayer's GHG footprint.
- Despite some progress and sensible engagement with suppliers and industry policies, Bayer's current initiatives suggest it will miss its 2030 targets, ultimately aligning with its historical 2°C warming scenario trend.





Company Overview

Bayer AG (BAY) is a global enterprise operating in the healthcare and agricultural life-science sectors, focusing on developing solutions that address the key challenges in these fields. More precisely, in the last

five years (2019-2023) the company derived 47% of its revenue from its "Crop Science" segment, 40% from its "Pharmaceuticals", and 12% from its "Consumer Health" segment, as shown in Figure 1.

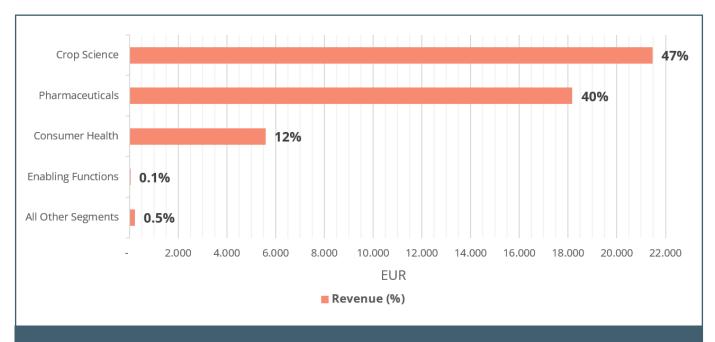


Figure 1: Revenue (%) - Breakdown by Business Segments (5Y Avg.). Source: Bayer Annual Reports 2019-2023 & Planet Tracker's calculations.

Notably, during the same period (2019-2023), the most profitable segment was 'Pharmaceuticals,' with a gross profit margin of 24%, followed by Consumer Health

at 17%. Despite being the highest revenue segment, Crop Science incurred a gross loss of 18%, as shown in Figure 2.



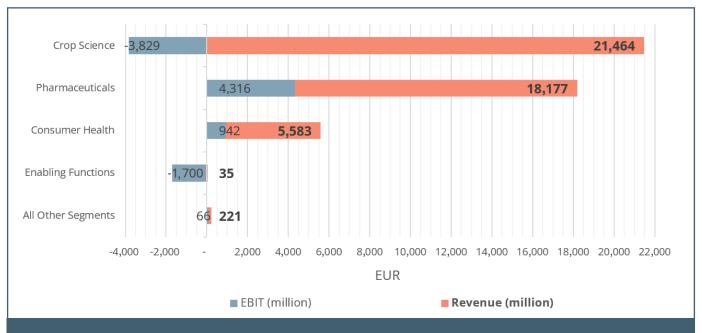


Figure 2: EBIT (million) & Revenue (million) - Breakdown by Business Segments (5Y Avg.). Source: Bayer Annual Reports 2019-2023 & Planet Tracker's calculations.

Geographically, Bayer derives most of its revenue East/Africa (30%), Asia/Pacific (19%), and Latin America from North America (34%), followed by Europe/Middle (16%), as shown in Figure 3.

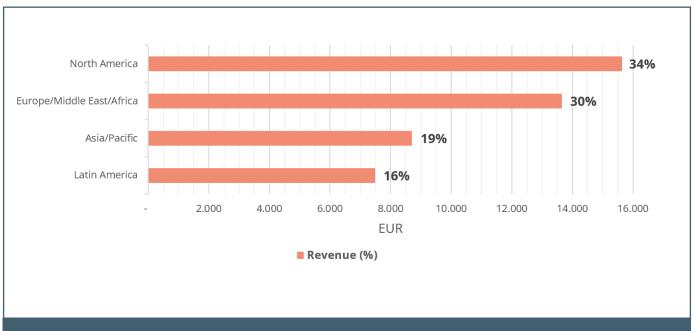


Figure 3: Revenue (%) - Breakdown by Geographic Areas (5Y Avg.). Source: Bayer Annual Reports 2019-2023 & Planet Tracker's calculations.

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For more detail, the top five countries the company a clear majority coming from the United States, as operates in account for 55% of its total revenue, with highlighted in Figure 4.

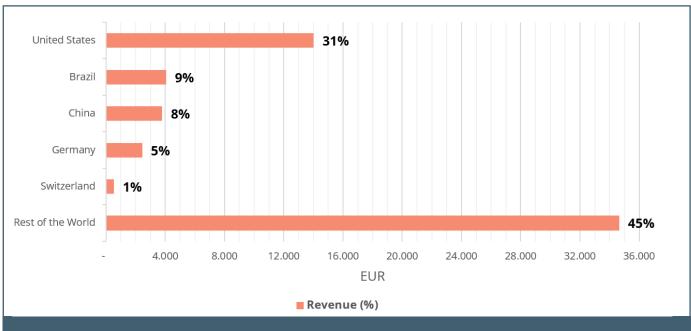


Figure 4: Revenue (%) - Breakdown by Countries (5Y Avg.). Source: Bayer Annual Reports 2019-2023 & Planet Tracker's calculations

In summary, Bayer's primary exposure to climate life-science sectors with a focus on related policies in transition risks and opportunities stems from developments in the healthcare and agricultural

the United States.



Climate Alignment

EMISSIONS INVENTORY

Bayer's most recent greenhouse gas (GHG) emissions disclosure¹ reports a total footprint of 12,180 KTCO₂e². Examining the breakdown of these emissions, in 2023, Scope 1 GHG emissions amounted to 16% of its total footprint, with Scope 2 emissions (market-based) making up 9%. The majority, 75%, originated from Scope 3 activities. Within this scope, 69% of the total footprint can be attributed to upstream activities3, while downstream activities4 were responsible for the remaining 6%.

Notably, Bayer does not disclose downstream "Consumption" or "Use of Goods Sold" emissions, which are significant contributors to the GHG footprint of chemical companies - e.g., over 41% of Incitec's Pivot GHG footprint came from 'consumption' in 20226. This omission means that Bayer is likely underestimating its total GHG footprint. Comprehensive disclosure of these emissions is essential for accurately assessing Bayer's climate strategy. According to Bayer's disclosures, Upstream "Purchased Goods" emissions are the main contributor to its GHG footprint with 54% of the total, as shown in Figure 5.

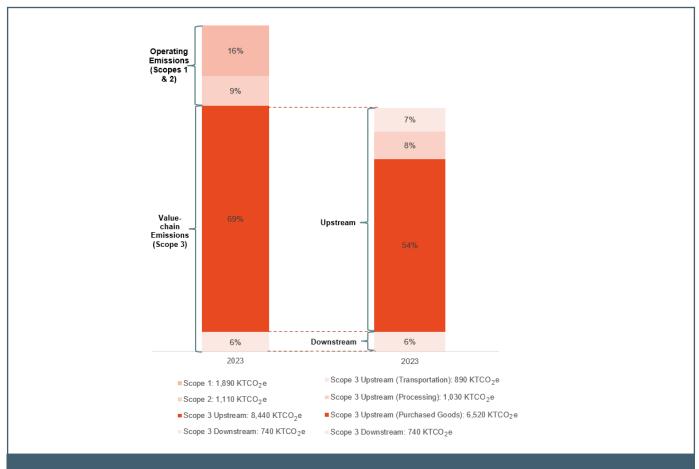


Figure 5: Value Chain GhG Emissions (2023) - Percentage Breakdown by Scope. Source: Bayer's TCFD Report 2023 & Planet Tracker's Calculations

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- As presented in its 2023 TCFD Report.
- Converted to KTCO₂e from MTCO₂e.
- Scope 3 upstream emissions include: (1) Purchased Goods emissions; (2) Processing - including the emissions from "Fuel and Energy Activities" not covered in Scope 1 and 2, and emissions from "Waste from Operations": (3) Transportation - covering emissions from "Transport & Distribution" and "Business Travel".
- Scope 3 downstream emissions include the "employees commuting" emissions and the "end-of-life of sold products" as an aggregate since the company does not distinguish between the two when disclosing its Scope 3 emissions in its 2023 TCFD Report.
- 5 Both terms refer to the same externality, although 'consumption' is usually used in companies' sustainability reports, and 'use of goods sold' is usually used in CDP answers.
- 6 For more details see Incited Pivot CTA



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Furthermore, a deeper look at the company's operating emissions (i.e., Scope 1 and 2) reveals that in 2023, 83% of these emissions came from the "Crop Science" segment - a statistic consistent for the last five years, as shown in Table 1. In other words, following the

Upstream "Purchased Goods" emissions, with 54% of Bayer's total GHG footprint, the second highest contributor is its Corp Science operating activity accounting for 20% of the total GHG footprint.

Table 1: Ba	nyer's Operating GH	G Emissions Breaka Tracker's Ca	lown; Source: Bayer Iculations	's TCFD Report 2023	? & Planet
Scope & Segment	2019	2020	2021	2022	2023
Scope 1 Emissions	2,080	2,010	1,930	1,910	1,890
of which Crop Science	82%	82%	83%	83%	82%
of which Pharma- ceuticals	10%	9%	9%	9%	9%
of which Consumer Health	1%	1%	1%	1%	1%
of which Others*	7%	8%	7%	7%	8%
Scope 2 (Market-based) Emissions	1,680	1,570	1,240	1,120	1,110
of which Crop Science	83%	88%	85%	83%	85%
of which Pharmaceuticals	11%	8%	10%	10%	9%
of which Consumer Health	5%	4%	4%	4%	5%
of which Others*	0%	0%	0%	3%	2%

^{*} These include greenhouse gas emissions from the vehicle fleet and emissions caused by the enabling functions.

EXTERNALITIES: TRENDS AND TARGETS

Between 2019 and 2023, Bayer achieved an 11% absolute reduction in total GHG emissions, dropping from 13,750 KTCO₂e in 2019 to 12,180 KTCO₂e in 2023 (see Figure 6). This decrease would be the equivalent of a 3% compounded annual drop, for a period when the company's revenue grew at a rate of 2% per year. Thus, if we take the revenue growth as an indicator of the increase of units sold it could be stated that the company achieved this reduction despite the increase in business - although Bayer was not profitable over this period with an average EBIT of EUR 206 million in

the red. Also, we recognise that a recovery in chemical prices could result in increased revenue without a rise in volumes sold.

Figure 6 shows that Bayer achieved a 12% reduction in emissions from 2019 to 2021, its highest emissions reduction in the last five years. However, starting in 2020, emissions increased by 2% over the following three years (2020-2022). This trend is also evident when taking 2021 as the starting point, with emissions rising by 1% from 2021 to 2023.

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These fluctuations highlight the challenge Bayer faces in maintaining a consistent downward trajectory in emissions mitigation. It also underscores, when undertaking this analysis, the importance of the starting point, when calculating the emissions change ratio, given the variability in their trend.

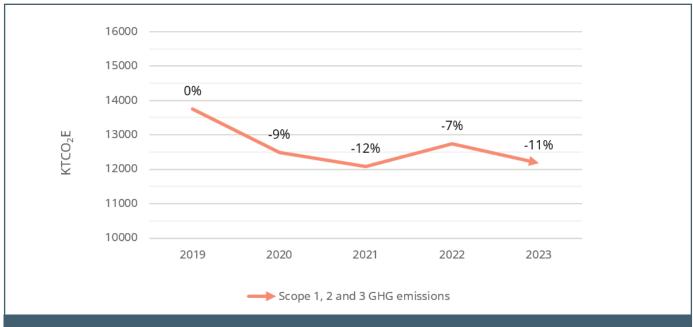


Figure 6: Bayer's GHG Emissions 5Y Historic Evolution; Source: Bayer's TCFD Report 2023 & Planet Tracker's Calculations.

Given the dynamic described above, to assess the company's alignment with its transition goals, we projected Scope 1, 2, and 3 GHG emissions up to 2030 using a scenario-based approach. This method provides a spectrum of potential outcomes considering Bayer's historical emissions evolution over the past five years (2019-2023), eliminating the limitations of a simple linear projection. Instead of relying on a single five-year emissions change ratio, this approach uses three scenarios based on the annual compounded

changes in GHG emissions from 2019 to 2021, 2020 to 2022, and 2021 to 2023. As shown in Figure 7, Scenario 1 will project Bayer's emissions going forward using the company's rate of change from 2019 to 2021, Scenario 2, would do the same using Bayer's rate of emissions change from 2020 to 2022, and lastly, Scenario 3 will use the most current rate of change from 2021 to 2023.



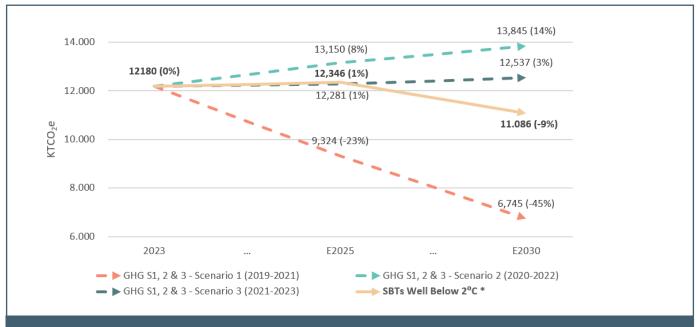


Figure 7: Future GHG Emissions – SBTs vs Extrapolated Trends (Three Scenarios). Source: Bayer's TCFD Report 2023, SBTi targets, and Planet Tracker Calculations.

* Bayer's SBTs aim is for an overall Scope 1, 2, 3 absolute GHG emissions reduction of approximately 10% by 2025 and 19% by 2030 from a 2019 baseline, in order to align with a Below 2oC pathway. Hence, since from 2019 until 2023, the company reduced its total footprint by 11% there is a differential/outperformance of 1% compared to the 2025 target – i.e., SBTs do not recommend Bayer to increase its GHG emissions by 1% from 2023 until 2025.

Based on these extrapolations, by 2030, under Scenario 1, the best-case scenario, the company will reduce its GHG footprint by 45% compared to its 2023 levels. This would outperform the company's current target. However, Scenario 2, the worst-case scenario, shows that Bayer will increase its 2023 emissions levels by 14%. Meanwhile, the most recent ratio of change, covered in Scenario 3, shows an increase in total emissions of 3% by 2030.

In contrast, Bayer's SBTs ambition is to reduce its Scope 1 and 2 emissions a 42% by 2030 from a 2019 baseline, and its Scope 3 emissions by 12.3% by 2030 from the same starting point. Moreover, if we are to update these targets accounting for the company's progress since 2019 up until 2023, these targets would translate into an absolute Scope 1, 2, and 3 GHG emissions reduction of approximately 9% by 2030 from a 2023 baseline as shown in Figure 7.

Still, it is worth noting that for the calculation of its Scope 3 target, Bayer only includes 88% of its Scope 3 footprint as stated by the company.

Furthermore, bear in mind that this projection assumes the company's historic mitigation efforts going forward - i.e., repeating or maintaining their output. This has two crucial implications; one, the initial efforts might not be repeatable in the future, thus the highest rate of decline (Scenario 1) might reduce in magnitude, and two, new mitigation efforts, or lack of them, could also affect the rate of change, positively or negatively.

In summary, historical trends show some progress in reducing GHG emissions, but overall, accounting for their variability, we conclude that the company is on track to slightly miss its 2030 targets, aligning with a 2°C pathway. However, due to the caveats mentioned, a more comprehensive assessment of Bayer's alignment with Paris-agreed targets will require further analysis of the company's future initiatives as covered in the following sections.



Policy and Governance

ENGAGEMENT AND INFLUENCE

Suppliers' Engagement

In 2023, Bayer launched a new Scope 3 Accelerator Program. This internal program coordinates Bayer's activities to manage and reduce GHG emissions from suppliers. For instance it sets stringent expectations for suppliers to exclusively use renewable energy by 2030 and to establish ambitious climate targets by 2025, aiming for net-zero emissions by 2050.

Additionally, Bayer has established a four-step process to enhance sustainability practices within its supply chain, incorporating cross-functional cooperation among Procurement, Public Affairs, Science Sustainability, and Health, Safety, and Environmental (HSE) enabling functions. As shown in Figure 8, these steps are designed to help Bayer achieve its Paris alignment, especially when it comes to its Scope 3 ambitions.

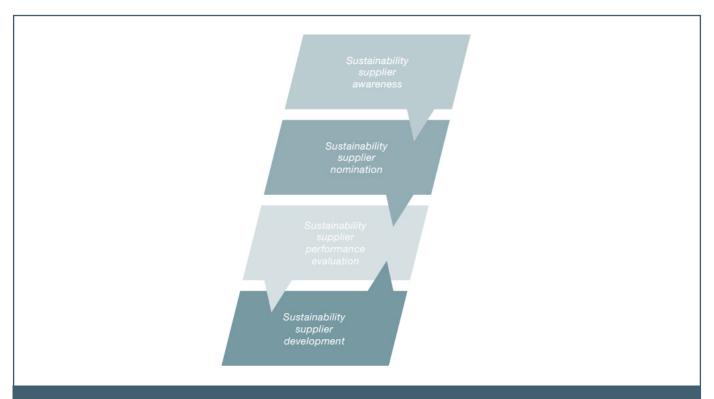


Figure 8: Bayer's Four-Step Management Process to Improve Sustainability Practices in the Supply Chain. Source: Bayer Sustainability Report 2023

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Step 1:

Sustainability Supplier Awareness

Bayer's sustainability requirements are outlined in its <u>Supplier Code of Conduct (SCoC)</u>. This code aligned with various international standards and policies, including the UN Global Compact, plays a critical role in both the selection and ongoing evaluation of its suppliers. The SCoC is supported by the <u>SCoC Guidance</u>, a publicly available document that was updated in 2023 to ensure up-to-date compliance.

Additionally, Bayer's standard supply contracts include a clause that authorises the verification of suppliers' compliance with its sustainability requirements. According to the company, this clause is integrated into Bayer's central contracting and purchase order systems, ensuring its application in all relevant contracts renewed in 2023 and thereafter.

Step 2: Sustainability Supplier Nomination

Bayer requires a sustainability evaluation for all strategically important suppliers and those identified as high-risk based on a sustainability framework developed in partnership with BSR (Business for Social Responsibility).

This framework assesses risks based on industry sector and country, targeting suppliers with annual expenditures over EUR 0.5 million. In 2023, this led to the evaluation of 190 strategic suppliers, accounting for 29% of Bayer's total procurement expenditure, and 339 high-risk suppliers, representing nearly 10% of total spend.

Step 3:Sustainability Supplier Performance Evaluation

For the actual evaluation, Bayer assesses supplier compliance with its sustainability standards primarily using EcoVadis online assessments and through audits by internal and external auditors. In 2023, EcoVadis evaluated 1,118 suppliers on Bayer's behalf, as shown in Figure 9.

Under this assessment, scores below 45 points are considered to be underperforming. Notably, the Sustainable Procurement section and the Environment were the lowest performers with 44% and 18% of suppliers scoring under 45 points, respectively.

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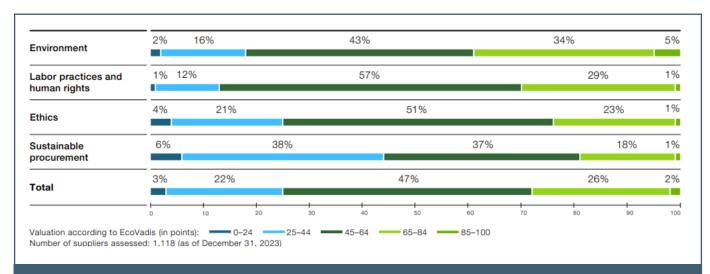


Figure 9: EcoVadis - Evaluating the Sustainability Performance of Bayer's Suppliers. Source: Bayer Sustainability Report 2023

Furthermore, in 2023, 134 supplier audits were conducted by external or internal auditors, focusing on both the specifications of Bayers SCoC and broader industry-specific standards such as the Pharmaceutical Supply Chain Initiative (PSCI) and Together for Sustainability (TfS)⁷.

As a result, over half of Bayer's purchased volume in 2023 came from suppliers who received a sustainability rating or underwent an audit, as shown in Figure 10. Also, excluding seeds8, around 9.6% (EUR 2.2 billion) of the purchased volume was attributable to companies with a potentially high sustainability risk - of which Bayer covered a total of 88% of the procurement spend (EUR 1.9 billion) with a sustainability rating (either by EcoVadis, TfS or PSCI), as shown in Figure 11.



⁷ Please note that TfS is an industry-level initiative driven by chemical procurement specialists. Each TfS member intends to help build sustainable chemical supply chains and regulatory requirements to respond to the needs and expectations of society. However, TfS is a partner to CEFIC (the European Chemical Industry Council), VCI (the German Chemistry Council), and CPCIF (the China Petroleum and Chemistry Industry Federation), all of which have mixed or contrary messaging when it comes to climate change policy as described in Annex I. For more details see - Climate Transition Mismatch.

⁸ The seed supply chain is structured differently, which is why the risk assessment cannot currently be implemented in the same way by all agricultural businesses.



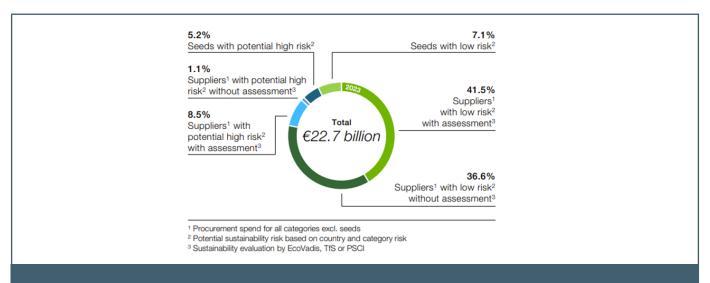


Figure 10: Bayer's Evaluated Procurement Spend 20231. Source: Bayer Sustainability Report 2023

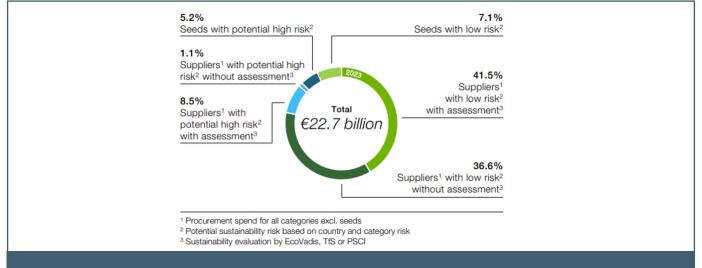


Figure 11: Bayer's Risk Analysis of Procurement Activities 2023. Source: Bayer Sustainability Report 2023

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Step 4:Sustainability Supplier Development

Finally, suppliers identified as underperforming in these sustainability assessments are provided with corrective action plans and undergo a re-evaluation after a designated period. According to Bayer, in 2023, 121 suppliers were engaged in this development process, with 30 of them completing it successfully and achieving a 93% rate of improvement. For those still showing critical shortcomings, other specific measures are prescribed, and compliance is closely monitored, with follow-up assessments or audits. However, the company clarifies that in 2023, they were not prompted to end any supplier relationship solely due to sustainability performance.

In total, 687 of the 1,252 suppliers (55%) assessed in 2023 improved their sustainability performance to some degree, according to the company.

Customers' Engagement

While Bayer does not disclose its Scope 3 downstream emissions linked to the "Use of Goods Sold", in 2019, the company set a goal to reduce in-field emissions from its farming customers by 30% per kilogram of crop produced in key markets by 2030. This initiative focuses on educating and guiding its customers in adopting more sustainable farming practices such as reduced tillage, which helps sequester carbon in the soil, and more precise use of crop protection and fertilisers to decrease GHG emissions. The base year for this target (2019) uses an estimated total emissions baseline of 100,000 KTCO₂e across the involved markets.

According to its latest CDP disclosures, Bayer aims to support its customers in achieving the 30% reduction by focusing on the major GHG-emitting crop systems in specific regions, including soy and corn in the United States, Brazil, and Argentina; paddy rice in India; and wheat, cotton, and oilseed rape/canola in various other geographies.

The engagement campaign prioritises the reduction of key GHGs like carbon dioxide, methane, and nitrous oxide emitted from field operations. To scale these climate-smart practices, Bayer has launched Carbon Farming Initiatives across all the regions it serves:

In addition, as highlighted in Bayer's 2024 <u>Transition</u> and <u>Transformation Plan</u>, the company is developing standardised methods for calculating **Product Carbon Footprints (PCFs)** and incorporating these metrics into sourcing decisions to drive emission reductions in its products.

Overall, Bayer's structured approach to enhancing supplier sustainability demonstrates a commitment to enforcing and upgrading sustainability standards within its supply chain aiming among other things for lower Scope 3 emissions. Still, there remains work to be done as 44% and 18% of suppliers underperformed when it comes to Sustainable Procurement and Environment, respectively, according to EcoVadis.

- North America: The Bayer PRO Carbono program in the U.S. offers farmers payments for adopting climate-smart practices based on the acres they enrol annually.
- Latin America: In Brazil, the Bayer Carbon Program began in 2021, involving around 1,800 farmers and over 200,000 acres. Participants must comply with specific social and environmental standards and are supported with soil analysis in partnership with Embrapa.
- Europe: Bayer initiated a decarbonisation program for agriculture in 2021, focusing on collaboration with key food chain partners at regional, local, and global levels.
- Asia/Pacific: The India Sustainable Rice project, also started in 2021, aims to reduce methane emissions from flooded paddy rice, recognising its significant impact on GHG emissions.

Through these targeted initiatives, Bayer is actively working to mitigate its environmental impact by promoting the widespread adoption of sustainable agricultural practices among its customers, contributing to broader environmental benefits. To enhance the robustness of its climate strategy, Bayer could provide more comprehensive disclosures on the externalities associated with downstream 'Use of Goods Sold' emissions. It's a pity that Bayer does not provide mor detailed reporting on the impact and effectiveness of customer engagement initiatives in reducing these emissions would provide a clearer picture of Bayer's overall environmental impact.

Climate Transition Analysis



Influence on Policymakers

Bayer engages in climate policy advocacy, exhibiting a broad support for climate action and key climate transition policies, although it presents some reservations, maintaining a mixed position in some areas.

The company generally endorses ambitious climate action by supporting limiting global warming to 1.5°C, in alignment with the IPCC recommendations. Also, it advocates for climate neutrality as a major economic focus in Germany and its public statements consistently endorse the goals of the UN Paris Agreement. Still, in its Industry Association Climate Review Engagement Update 2022, Bayer expressed a preference for regional carbon pricing mechanisms over national ones, highlighting a strategic approach that considers industrial competitiveness.

In this line, while Bayer supports major climate-related regulatory frameworks like the <u>EU Emissions Trading System</u> and champions cap and trade as effective market-based mechanisms for climate protection, it also shows some reservations. For instance, Bayer supports renewable energy mandates and GHG emissions reduction targets in the U.S. but has advocated for a measured approach in implementing new EU carbon removal policies in order to defend the voluntary market.

Furthermore, Bayer supports the transition from fossil fuels, evidenced by its backing of decarbonisation policies that align with the UN Paris Agreement. The company has advocated for ending new coal power development and phasing out existing coal power in line with global climate goals. It also endorses removing fossil fuel subsidies and encourages a rapid expansion of renewable energies in Europe to reduce reliance on Russian fossil fuels. Nonetheless, while supporting the energy transition, Bayer maintains a focus on competitiveness and has voiced concerns about the risks associated with rising energy prices and security.

Lastly, when it comes to its policy engagement at an industry level, the company critically evaluates its alignment with industry associations' climate policies, as detailed in its Industry Association Climate Reviews. Bayer has identified instances of misalignment with major associations like the German Chemical Industry Association (VCI), the Federation of German Industries (BDI), and the U.S. Chamber of Commerce. While, according to the company, these bodies have positions that largely align with Bayer's climate goals, discrepancies have been noted, particularly regarding the pace and scope of climate commitments. Bayer argues that seeks to influence these associations towards stronger climate advocacy, leveraging its significant positions within these groups rather than withdrawing from them.

Overall, while Bayer actively supports various climate policies and initiatives, its engagement is marked by a blend of strong advocacy in some areas and cautious, competitive considerations in others. To enhance its impact, Bayer should focus on aligning its advocacy efforts with the latest Paris-aligned standards and increase further the transparency in its policy engagements.

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MANAGEMENT ALIGNMENT

Sustainability Targets Oversight

Bayer operates under German corporation law, which requires a dual governance structure comprising the Board of Management and the Supervisory Board. The Board of Management is responsible for running the company with a strategy focused on long-term success, while the Supervisory Board has the role of overseeing and monitoring the activities of the Board of Management.

A. The Supervisory Board

Since 2022, the Supervisory Board has had its own ESG Committee, comprising the Chairman of the Supervisory Board and seven further members of the Supervisory Board, as presented in Table 2.

This committee focuses on Bayer's sustainable governance and business activities in the areas of environmenta protection, social affairs, and corporate governance (ESG) within the scope of responsibility of the Supervisory Board. In particular, the ESG Committee is responsible for the way sustainability is integrated into the business strategy, the establishment of sustainability targets, the nonmandatory ESG reporting and, if applicable, the auditing thereof, the opportunities and risks, and the organisational structures and processes in ESG areas, provided in each case that these do not fall within the responsibility of the Audit Committee.

Table 2: ESG Committee - Expertise and Experience Source: Bayer Annual Report 2023											
Representative of	Committee	Interna- tional business experi- ence	R&D	Agricul- ture / Food	Health- care	Finance	Controlling/ Risk management	HR	Govern- ance/ Compli- ance	Digital	Sustaina- bility / Climate protec- tion
	Dr. Paul Achleitner	✓				✓	✓	\checkmark	\checkmark		
	Ertharin Cousin (Committee Chairwoman)	✓		√				✓	✓		√
Shareholders	Colleen A. Goggins	✓			✓			✓			
	Prof. Dr. Norbert Winkeljohann (Board Chairman)	✓				√	✓	✓	√	√	√
	Yasmin Fahimi		✓				✓	\checkmark	✓		✓
Employees	Heike Hausfeld	✓						✓	√	√	
	Heinz Georg Webers	✓			✓		✓	\checkmark	✓		

Overall, Bayer's Supervisory Board and ESG Committee appear well-prepared to shape the company's sustainable development strategy and ensure alignment with environmental and societal objectives. However, it is noteworthy that while three of the seven

committee members have sustainability and climate protection experience, only the chairwoman has expertise in the company's highest footprint source, i.e., Agriculture/Food.



Climate Transition Analysis



A. The Management Board

In 2023, the Board of Management comprised six members (Table 3), with a seventh member serving on a transitional basis during April and May. The Board of Management runs the company under its responsibility

with the goal of achieving defined corporate objectives and sustainably increasing the company's enterprise value.

Table 2: Management Board Source: Bayer Annual Report 2023										
Director Name	Bill Anderson	Wolfgang Nickl	Stefan Oelrich	Heike Prinz	Rodrigo Santos	Julio Triana				
Position	Chairman	Finance Director	Prharmaceuticals Director	Labor Director	Crop Science Director	Consumer Health Director				

The Chairman of the Board of Management holds direct responsibility for climate protection in his role as Chief Sustainability Officer (CSO). Furthermore, according to Bayer's disclosures, the Chairman is supported by the Public Affairs, Science, Sustainability & HSE Enabling Function and the sustainability departments within the company's divisions. The divisions handle the operational implementation of the climate protection measures at their sites with the support of the enabling functions. Then group-wide working groups were created for the strategic and operational implementation of climate-change-related measures, and a special working group, analyses various climate scenarios and their impacts on the company's business.

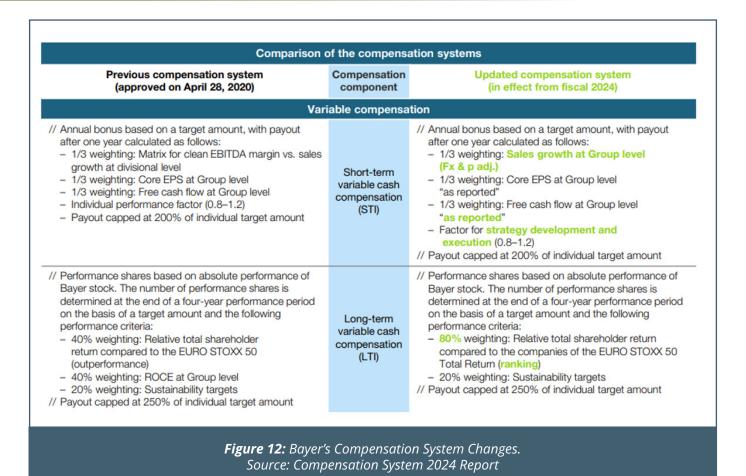
In addition, the Sustainability Council which was established in 2020 advises the Board of Management in all matters relating to sustainable development including climate protection. In the council's words, "[they] help Bayer achieve its sustainability targets in the best possible way and then push Bayer to go beyond its targets and transform into a systemic driving force for sustainability and a leader in its sectors"9.

However, while this seems to represent a sensible division of tasks and responsibilities when it comes to the management alignment with the company's climate target the best proxy comes from the sustainabilitylinked compensation.

For more details see - www.bayer.com/sites/default/files/vds-2024-04-18-sustainability-council-report-2023.pdf







Still, one of those updates is the change in Short-term variable cash compensations (STI) where the 'individual performance factor' is now substituted by the 'factor for strategy development and execution'. This is relevant as in addition to operational success in the form of growth of cash flow and thus the dividend potential, the strategy development and execution allows, according to the company, additional financial and, in particular, non-financial targets, such as ESG goals, to

be set. The level of the STI payout is based on each member's contractually agreed target amount, the target attainment for the three financial components, and the factor for strategy development and execution, as explained in Figure 13. Unfortunately, there is no breakdown of how much ESG targets would influence the 'strategy, development and execution' factor.



Planet Tracker

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Meanwhile, according to Bayer, achieving its GHG mitigation targets by 2030 is directly factored into the long-term compensation (LTI) of the Board of Management and Bayer's LTI-entitled managerial employees. For more detail, members of the Board of Management are eligible to participate in the annual tranches of the LTI if they purchase a determined number of Bayer's shares as a personal investment and hold them for a specified period¹⁰. The annual tranches are provisionally allocated in the form of performance shares at the beginning of each fiscal year, with an expected performance period of four years for each tranche. To establish the provisional number of performance shares, a contractually agreed target amount is divided by the value of a performance share at the time of allocation. The final number of performance shares is determined by multiplying the provisional number of performance shares by the total target attainment percentage.

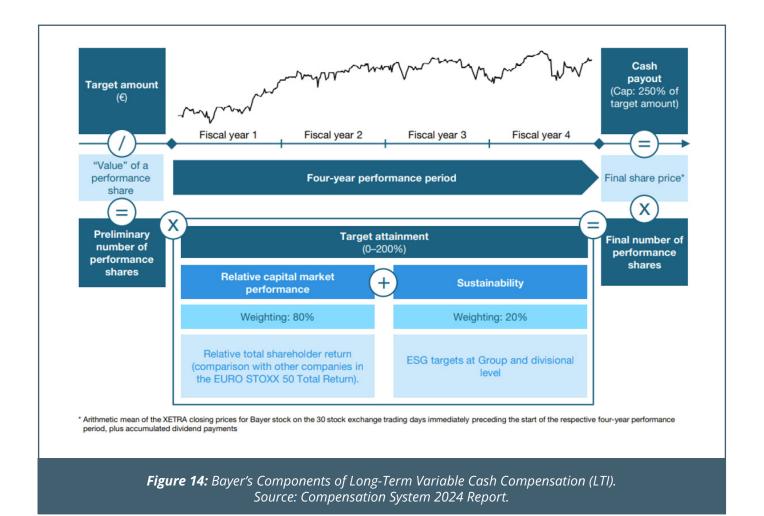
This percentage, in turn, is derived from the weighted target achievement percentage in the two performance criteria, one, relative capital market performance (80% weighting) and two, sustainability (20% weighting), and is capped at 200%. Depending on how well the company performs, the target achievement levels for the two performance criteria may vary between 0% and 200%. The payout is based on the arithmetic mean of the XETRA closing prices for Bayer stock on the 30 stock exchange trading days immediately preceding the end of the performance period plus the total dividends paid over the four-year performance period (dividend equivalent¹¹), multiplied by the final number of performance shares. The payout is capped at 250% of the contractually agreed target amount as shown in Figure 14.

¹¹ The dividend equivalent renders the Board of Management "dividend-neutral," with no financial incentive to keep dividends low.



¹⁰ Members of the Board of Management are required to build substantial positions in Bayer shares within four years of joining the Board. The Chairman (CEO) must purchase shares to the value of 200% of base compensation, while the other Board of Management members must purchase shares to the value of 100% of their respective base compensation. They must retain these shares for the remainder of their service on the Board of Management, and for two years thereafter. If they cannot provide evidence of this share ownership, they will not be entitled to payment of the LTI. The performance shares allocated as part of the LTI do not count toward the number of Bayer shares to be purchased under the Share Ownership Guidelines.





influence are explained by the company when it comes to its LTI. Accordingly, at the beginning of each tranche, the Supervisory Board defines sustainability targets for the respective four-year performance period that are measurable and in line with the company's strategy. In setting the sustainability targets, the Supervisory Board ensures that they are aligned with the Sustainable Development Goals (SDGs), and are also in step with international best practices, such as the SBTi, for how they are determined, measured, and reviewed. At the start of each tranche, the Supervisory Board sets a minimum value, a target value, and a maximum value

for the individual sustainability targets. If the target

value is achieved, the target attainment is 100%. If the

Different from the STI, sustainability targets and their

value achieved is below the minimum value, the target attainment is 0%. If the maximum value is reached or exceeded, the target attainment is 200%. The sustainability targets for the 2024 to 2027 LTI tranche are shown in Figure 15.

In conclusion, Bayer incorporates its sustainability targets into its LTI compensation. However, due to the existing caps, there is ambiguity regarding whether the achievement of financial targets would overshadow the importance of sustainability-linked compensation. This lack of clarity could undermine the effectiveness of sustainability incentives, in favour of a financial focused performance.



Reduction in ... Scope 1 and 2 greenhouse gas emissions ... smallholder farmers supported in low- and middle-income countries ... people supported with self-care in underserved communities ... women in low- and middle-income countries with access to modern contraception Figure 15: Sustainability Targets for 2024–2027 Tranche. Source: Compensation System 2024 Report.



Risk Analysis

FINANCIAL IMPACT

According to Bayer's <u>2023 TCFD</u> disclosures, the company acknowledges climate change as a significant challenge and aims to prioritise climate protection and the reduction of GHGs within its business strategy. The company employs the <u>IPCC Assessment Report 6</u> among other sources to evaluate climate change effects under two scenarios: the optimistic "Green Road" (SSP1-1.9) predicting a rise in temperature of

1.6°C between 2041 and 2060, and the "Rocky Road" (SSP3-7.0) suggesting an increase of approximately 2.1°C in the same period and potentially reaching 3.6°C by 2100. Bayer's scenario analysis covers short (2023-2025), medium (2026-2035), and long-term (2036-2050) horizons, aiming to integrate these insights into its enterprise risk management and business strategies as described in Figure 16.

Climate Impact Drivers		Short term (2021–2025)		Medium term (2026–2035)		Long term (2036–2050)	
		Risk	Opportunity	Risk	Opportunity	Risk	Opportunity
Transition impact drivers	-						
Laws, regulations, policies							
							
Carbon taxation/pricing, carbon border adjustment							
and offsetting	***						
Agricultural innovation and practices							
	*						
Commodity prices							
End customer/customer/market							
	(2)						
Food security							
	*						
Acute physical impact drivers							
Extreme weather events							

Chronic physical impact drivers							
Permanent water cycle							

Diseases							

Temperature							

Figure 16: Bayer's assessments of the individual climate impact drivers. Source: Bayer's 2023 TCFD Report.



Climate Transition Analysis



External Policy Drivers

Bayer anticipates regulatory changes as crucial drivers of climate transition risk, influenced by emissions reduction commitments from key regions where it operates, including the EU and China. For instance, the European Union's Green Deal, aiming for climate neutrality by 2050, could increase Bayer's costs through mechanisms such as the EU ETS or carbon taxes and drive shifts towards renewable energy and hydrogen technologies. Thus, Bayer projects additional costs of EUR 60-80 million by 2024 due to tightening EU ETS regulations, though according to the company, the overall impact remains low - i.e., below EUR 150 million. Similarly, China's commitment to achieving Net Zero emissions by 2060 suggests future regulatory adjustments that could impact Bayer's operations, especially in sectors like biofuels.

In its 2024 Transition and Transformation Plan, the company disclosed an internal carbon price of $\\\in$ 100 per metric ton of CO_2 for capital expenditure projects aimed at developing low-carbon technologies. This could be used as an estimate of the potential regulatory financial costs per ton of CO_2 .

Physical Impact Drivers

Acute Physical Impacts:

Bayer seems to recognise that intensified weather-related risks could disrupt operations and result in crop failures. The company's models forecast an increase in extreme weather events, such as droughts, heavy rains, and storms, with significant regional variations – i.e., North America may see more extreme precipitation, while South America could experience delayed monsoons and intensified droughts.

According to Bayer's projections, by 2050, there could be a yearly harvest loss of 17%, with up to 20% of arable land becoming unsuitable for farming¹².

Despite acknowledging these risks, Bayer does not quantify or publicly disclose their expected financial impact. Quantifying these impacts is crucial for understanding the potential financial burden on the company and preparing effective mitigation strategies. Public disclosure of these estimates would provide stakeholders with a clearer picture of the risks involved and the company's preparedness, ultimately enhancing Bayer's credibility and accountability in its climate risk management.

Chronic Physical Impacts:

The company also expects long-term climate change effects to alter the natural water cycle, and affect temperature patterns, directly impacting Bayer's agricultural activities. Concurrently, increased health risks related to climate changes, like cardiovascular diseases due to hotter summers or more frequent heatwaves, might boost demand for Bayer's healthcare products. However, besides reviewing its product development processes to address the critical health impacts of climate change, the company has not disclosed specific financial impacts of these long-term changes.



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Climate Transition Analysis



RISK MANAGEMENT

According to Bayer, its climate risk assessment is embedded within its enterprise risk management framework. The company states its accounting practices account for uncertainties linked to climate change, which could affect the financial position and results of its operations. Still, specifics are generally disclosed only anecdotally as highlighted in the next sections.

External Policy Risk Management

In response to potential regulatory changes, Bayer's strategy emphasises decarbonisation and GHG emissions reduction to align with a 1.5°C scenario and mitigate potential regulatory costs.

According to the company, Bayer's strategy includes:

Regenerative Agriculture: Bayer is actively working on solutions to reduce agricultural emissions, with an estimated potential reduction of up to 1 Gigaton of CO₂e. This includes promoting sustainable farming practices and developing new agricultural technologies¹³.

Renewable Energy: Bayer plans to source 100% of its electricity from renewable sources by 2029. The company currently derives 35.4% of its electricity from renewable sources¹⁴.

As an example, in 2023, Bayer entered a long-term renewable energy credit (REC) purchase agreement with Cat Creek Energy. This agreement will supply Bayer with 1.4 terawatt hours of renewable energy annually. Furthermore, by 2028, Bayer aims to source approximately 60% of the electricity for its U.S. sites from renewable energy, representing about 40% of its global power consumption.

However, details on the financial costs of these initiatives and their expected or potential emissions mitigation are not provided.

Physical Impact Management

Acute Physical Impacts:

To manage risks from increased extreme weather events, Bayer relies on comprehensive insurance coverage. This has proven effective in the past, as evidenced by a EUR 195 million insurance payout in 2023 following Hurricane Ida. However, this might not be the case in the future as insurance companies would most likely re-price the risk appropriately.

Bayer also sees climate change as an opportunity to innovate within its agricultural value chain through initiatives like the Preceon™ Smart Corn System, which is designed to withstand severe weather and reduce crop losses, enhancing resilience. According to the company, Bayer invests significantly in R&D (EUR 1.8 billion in 2023) to develop solutions that ensure sustainable food production and secure farmers' incomes.

Chronic Physical Impacts:

As previously mentioned, long-term changes such as shifts in climate zones pose significant risks to Bayer's agricultural operations. According to the company, Bayer continues to advance climate adaptation strategies and invest in innovations that enhance crop resilience and environmental sustainability, though specific financial commitments are not stated.

Overall, Bayer aims to actively manage both the transition and physical risks associated with climate change while capitalising on new business opportunities arising from the global shift towards a more sustainable and resilient economy.

Despite these initiatives, significant gaps remain in the disclosure of potential financial impacts and specific capital expenditures for risk management. Enhancing transparency in these areas is crucial for strengthening Bayer's climate strategy¹⁵. By detailing the financial implications of climate risks and specifying capital expenditures dedicated to risk mitigation, Bayer can provide stakeholders with a clearer understanding of its commitment to managing climate-related risks effectively.

¹⁵ Example: Air Liquide disclosed in its 2023 Universal Registration Document - Including the Annual Financial Report, the main environmental risks, related to greenhouse gas emissions, physical impact on operations, and water management.



¹³ Bayer 2024 Transition and Transformation Plan; Pages 5 & 36

¹⁴ Bayer 2024 Transition and Transformation Plan; Page 15



Strategic Assessment

CAPITAL ALIGNMENT

Bayer is committed to achieving Net Zero in GHG emissions across its entire value chain by 2050. The company has outlined a strategy that includes specific interim targets for 2030, focusing on renewable energy, energy efficiency, fleet electrification, and innovative offsetting initiatives to align its capital expenditures and investments with this sustainability goal.

Bayer's investment in sustainability primarily revolves around capital expenditure in renewable energies and energy efficiency improvements. By 2030, Bayer plans to invest a total of EUR 500 million, or EUR 50 million per year since the investment was announced, to enhance the energy efficiency of its facilities and expand the use of renewable energy sources. This investment would represent below 2% of the company's cash outflows for property, plant and equipment, and intangible assets and supports its objective of reducing Scope 1 and Scope 2 emissions by 42% relative to 2019 levels by 2030. In 2019, these emissions accounted for only 27% of Bayer's total GHG footprint.

As of 2022, 32.6% of Bayer's total purchased electricity volume was sourced from renewables, showing some progress toward its goal of achieving 100% renewable electricity procurement by the end of 2029. Bayer is also investing in process innovations and optimising energy management systems at its production sites, including projects focused on climate-neutral technologies such as geothermal energy and emissions-free steam production. However, the company has not disclosed the specific potential GHG reductions or energy efficiency gains from these investments, nor the invested quantity.

Bayer has also committed to transitioning its fleet of approximately 26,000 vehicles to electric vehicles by 2030, where technically and economically feasible. By 2022, about 18% of the fleet consisted of hybrid and electric vehicles, indicating progress towards electrification, although the potential GHG mitigation effects of this transition have not been disclosed.

Furthermore, Bayer incorporates an internal CO_2 price of EUR 100 per metric ton into the calculation of its capital expenditure projects to ensure alignment with its climate targets. The company conducts voluntary ecological assessments for significant capital projects (i.e., those exceeding EUR 10 million), aiming to integrate emissions reduction and efficiency into these evaluations. However, to achieve climate neutrality at its sites by 2030, Bayer plans to offset unavoidable emissions through certificates from recognised climate protection projects, focusing on nature-based solutions primarily in forestry and agriculture.

In 2022, Bayer offset over 450 kTCO₂e, about 4% of its disclosed GHG footprint, by financing projects in countries like Brazil and Indonesia. Bayer is also involved in the LEAF Coalition, which has mobilised over USD 1.5 billion since 2021 for forest conservation, although Bayer's specific contribution is not disclosed.

While Bayer's initiatives demonstrate an effort to align its capital expenditure with its sustainability goals, the transparency and extent of capital expenditures supporting the company's transition to a Paris-aligned pathway remain unclear, particularly beyond its operational emissions. This leads to the conclusion that the company's disclosed sustainability capex is still aligned with a business-as-usual scenario.

TRANSITION APPRAISAL

Planet Tracker's assessment of Bayer's climate transition ambitions reveals interim targets to reduce Scope 1 and 2 emissions by 42% and Scope 3 emissions by 12.3% relative to 2019 levels by the end of 2029, with a Net Zero goal by 2050. However, a detailed analysis of its current trajectory against these targets, along with its initiatives and investments, suggests potential alignment with a 2°C warming scenario by 2030, rather than the 1.5°C goal set by the Paris Agreement – i.e., the company might be able to continue its historical 2°C trend.

Climate Transition Analysis



Analysing the company's historical emissions trend, we observe an 11% reduction in total GHG emissions between 2019 and 2023. However, our analysis reveals variability depending on the chosen starting point for the assessment. To better evaluate alignment with its transition goals, we employed a scenariobased projection for Bayer's future GHG emissions, considering three different historical rates from consecutive three-year spans starting in 2019, 2020, and 2021. These scenarios suggest varied outcomes by 2030, leading to the conclusion that Bayer might miss its 2030 targets, aligning more closely with a 2°C warming scenario. This backward analysis must be substantiated by forward-looking initiatives and investments, for which we assessed the company's engagement with suppliers, customers, policymakers, as well as the management alignment with Bayer's sustainability targets, risk management, and sustainability capex.

Bayer's structured approach to enhancing supplier sustainability demonstrates a commitment to enforcing and upgrading sustainability standards within its supply chain, aiming for lower Scope 3 emissions. However, there remains work to be done, as 44% and 18% of suppliers underperformed in Sustainable Procurement and Environment, respectively, according to EcoVadis.

Regarding customer engagement, Bayer is actively working to mitigate its environmental impact by promoting sustainable agricultural practices among its customers and contributing to broader environmental benefits. However, a more in-depth disclosure regarding Bayer's externalities from the downstream

"Use of Goods Sold" is recommended. This, combined with the expected outcome of its customer engagement, would represent a much more solid strategy.

In terms of policy engagement at an industry level, Bayer critically evaluates its alignment with industry associations' climate policies, as detailed in its Industry Association Climate Reviews. Bayer has identified instances of misalignment with major associations like the German Chemical Industry Association (VCI), the Federation of German Industries (BDI), and the U.S. Chamber of Commerce. While these bodies largely align with Bayer's climate goals, discrepancies exist, particularly regarding the pace and scope of climate commitments. Bayer seeks to influence these associations towards stronger climate advocacy, leveraging its significant positions within these groups rather than withdrawing from them.

Overall, while Bayer actively supports various climate policies and initiatives, its engagement is marked by a blend of strong advocacy in some areas and cautious, competitive considerations in others. Bayer aims to manage both the transition and physical risks associated with climate change while capitalising on new business opportunities arising from the global shift towards a more sustainable and resilient economy. Despite these initiatives, significant gaps remain in the disclosure of potential financial impacts and specific risk management capital expenditures, highlighting areas where Bayer could improve transparency and accountability in its climate-related strategies.

Bayer's initiatives reflect an effort to align capital expenditures with its sustainability goals. However, there is a need for greater transparency regarding the specific financial commitments and expected impacts of these investments on achieving a Parisaligned pathway. Clearer reporting on these aspects, particularly beyond its operational emissions, would substantiate Bayer's commitment to climate transition. Otherwise, the company's sustainability capex is still aligned with a business-as-usual scenario, as without focused investments to mitigate Scope 3 emissions, Bayer is unlikely to meet its 2030 targets. Therefore, it would most likely align with a 2°C warming scenario.

Planet Tracker concludes that Bayer is on track for a 2°C warming scenario by 2030¹⁶.

All Climate Transition Analyses undertaken by Planet Tracker are sent to the company for comment prior to publication, giving management an opportunity to respond. Bayer provided a written response to our draft on 27th of June 2024, and their observations were included in this paper.

Based on the data accessed by Planet Tracker until May 2024.



Climate Transition Analysis



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Climate Transition Analysis



Annex I

German Chemical Industry Association (VCI).

The VCI has been actively involved in climate change policy discussions at both the EU and German levels, often adopting positions that can be seen as obstructing. While the association has supported high-level goals related to climate ambition and the shift towards renewable electricity for the chemical industry from 2022 to 2024, it has frequently opposed regulatory measures. Notably, the VCI has expressed opposition to several critical components of the EU Emissions Trading System, reflecting its selective support for climate initiatives.

European Chemical Industry Council (Cefic).

Cefic has shown a mixed stance towards EU climate change policies. The council has strategically engaged with EU policymakers across various policy areas, indicating a shift towards more positive engagement with climate policy since 2015. Despite this progress, Cefic continues to resist certain legislative proposals, particularly those aimed at enhancing the goals of the EU Emissions Trading System. This selective engagement highlights its still conservative approach to supporting climate policy.

China Petroleum and Chemical Industry Federation (CPCIF).

CPCIF has publicly endorsed climate policies through supportive statements on top-line objectives, including setting a cap on carbon emissions and specific carbon intensity targets. However, the federation exhibits resistance to fundamental changes in the energy sector, opposing shifts in the energy mix away from fossil fuels and the transition of chemical feedstocks away from fossil-based sources. This stance suggests a conservative approach to more transformative climate policies.





ABOUT PLANET TRACKER

Planet Tracker is a non-profit financial think tank producing analytics and reports to align capital markets with planetary boundaries. Our mission is to create significant and irreversible transformation of global financial activities by 2030. By informing, enabling and mobilising the transformative power of capital markets we aim to deliver a financial system that is fully aligned with a net-zero, naturepositive economy. Planet Tracker proactively engages with financial institutions to drive change in their investment strategies. We ensure they know exactly what risk is built into their investments and identify opportunities from funding the systems transformations we advocate.

PLANET TRACKER'S CLIMATE TRANSITION ANALYSIS -**FOOD SYSTEM COMPANIES**

As part of its Food & 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.

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