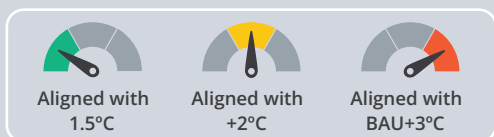




Overall Assessment

LyondellBasell (LYB) could be aligned with a 1.5 °C warming scenario by 2030.

LyondellBasell aims to achieve Carbon Neutrality by 2050, targeting a 42% reduction in Scope 1 and 2 emissions and a 30% reduction in Scope 3 emissions by 2030, from a 2020 baseline. Despite a 3% increase in total emissions from 2020 to 2023, LYB has identified initiatives for reducing its operating emissions including energy efficiency, renewable electricity procurement and electrification, use of hydrogen, and carbon capture and storage/ utilisation (CCS/CCU). These measures are supported by approximately USD 400 million capital expenditure in 2024 and a USD 500 million green bond, with a more specific focus on recycling, renewable energy, pollution controls, and energy efficiency. For Scope 3 emissions, LYB plans to exit its refining business by 2025, increase the use of renewable and circular feedstocks, and engage with suppliers to reduce emissions across its supply chain. The exit from refining alone could reduce 37% of LYB's current Scope 3 emissions. However, limited engagement with customers linked to transition, affiliations with trade associations in conflict with climate policy, and the lack of long-term remuneration incentives tied to climate transition, could potentially constrain its overall ambitions. While Planet Tracker believes LYB is likely to meet its 2030 targets, the company could strengthen its position by enhancing its transparency, especially on financial disclosures related to climate-related risks and the expected impact of its investments on emissions reductions.



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+.

Download the Shareholder Engagement Sheet [here](#).



Climate Alignment

- Between 2020 and 2023, LYB saw a 3% increase in total GHG emissions. According to Planet Tracker calculations, without further mitigation efforts, these emissions could rise by an additional 8% by 2030.
- However, the company has outlined a series of quantified initiatives with the potential to reverse this trend and achieve the necessary 34% absolute reduction in total emissions by 2030, from a 2023 baseline, to align with a 1.5°C pathway.



Policy and Governance

- LYB has a strong supplier engagement strategy, which includes focused assessments, proactive risk management, and financial incentives for sustainability improvements. This approach could potentially reduce Scope 3 emissions by 5,000 KTCO₂e by 2030, as per the company's expectations.
- Despite this, LYB shows limited engagement with customers linked to transition, maintains affiliations with trade associations that conflict with climate policy, and lacks long-term remuneration incentives tied to climate transition, all of which could undermine its ambitions.



Risk Analysis

- The assessment of LYB's climate transition risks reveals a significant financial exposure, with potential annual cost increases ranging between USD 88 million and USD 332 million by 2028.
- While the company has developed a comprehensive approach to managing the regulatory risks associated with the EU Emissions Trading System (ETS), it falls short of providing a complete financial overview of other identified climate-related risks.



Strategy Assessment

- LyondellBasell's capital allocation strategy demonstrates its ambition to advance its climate transition goals, with approximately USD 1 billion in total investment.
- Based on the company's initiatives, engagement, and investments, LYB appears to be on track to meet its 2030 targets and achieve Carbon Neutrality by 2050.

Company Overview

LyondellBasell (LYB), is a global petrochemical producer, ranking in the top eight chemical companies by revenue in 2023¹. The company derives its revenue from six operating segments, namely, Olefin and Polyolefins (O&P) Americas², O&P Europe, Asia, and International (EAI)³, Intermediate and Derivatives (I&D)⁴, Advanced Polymer Solutions (APS)⁵, Refining⁶,

and Technology⁷. As shown in Figure 1, over the last five years (2019-2023) the O&P EAI segment brought in the highest share of revenue with 26% of the total, followed closely by I&D with 24% and Refining with 20%. Overall, LYB's O&P global activity is the highest revenue-generating segment with 45% of the total sales.

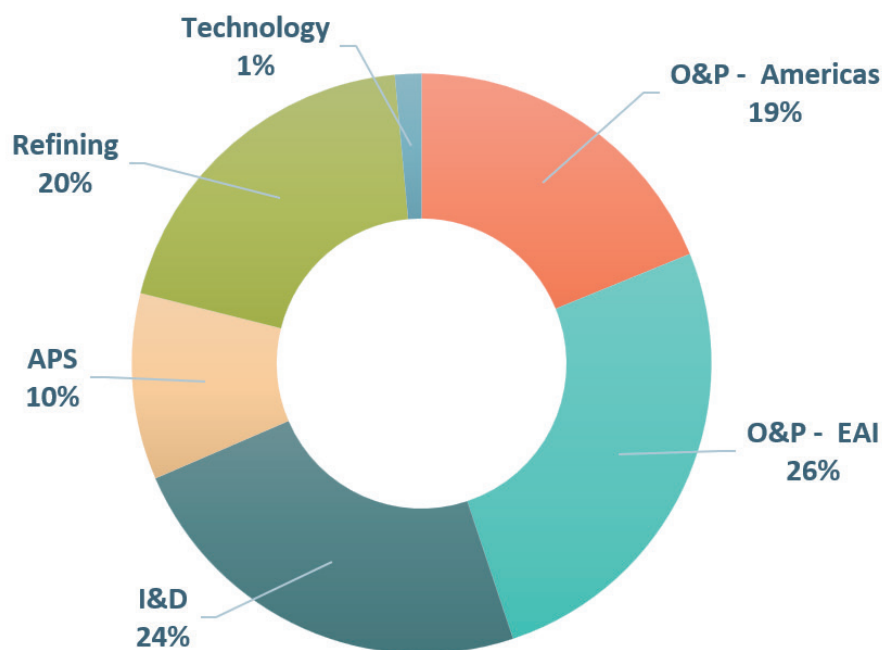


Figure 1: Revenue (%) - Breakdown by Business Segments (5Y Avg.).
Source: LYB Annual Reports 2019-2023 & Planet Tracker's calculations.

Moreover, the company is the world's second-largest producer of polypropylene and one of the leading producers of polyethylene⁸.

Accordingly, these products represent 16.4% and 19.7% of LyondellBasell's total revenue, respectively, as shown in Figure 2.

1 As shown in "Global Top 50" by Chemical & Engineering News - July 22, 2024.

2 Manufactures and markets olefins and co-products, polyethylene and polypropylene in North America and South America.

3 Produces and markets olefins and co-products, polyethylene and polypropylene in Europe, Asia, and other international markets.

4 Manufactures and markets propylene oxide and its derivatives; oxyfuels and related products; and intermediate chemicals, such as styrene monomer, acetyls, ethylene oxide and ethylene glycol.

5 Produces and markets compounding and solutions, such as polypropylene compounds, engineered plastics, masterbatches, engineered composites, colours and powders.

6 Refines heavy, high-sulphur crude oil and other crude oils of varied types and sources available on the U.S. Gulf Coast into refined products, including gasoline and distillates.

7 Develops and licenses chemical and polyolefin process technologies and manufactures and sells polyolefin catalysts.

8 As stated in the company's 2023 Annual report page 12.

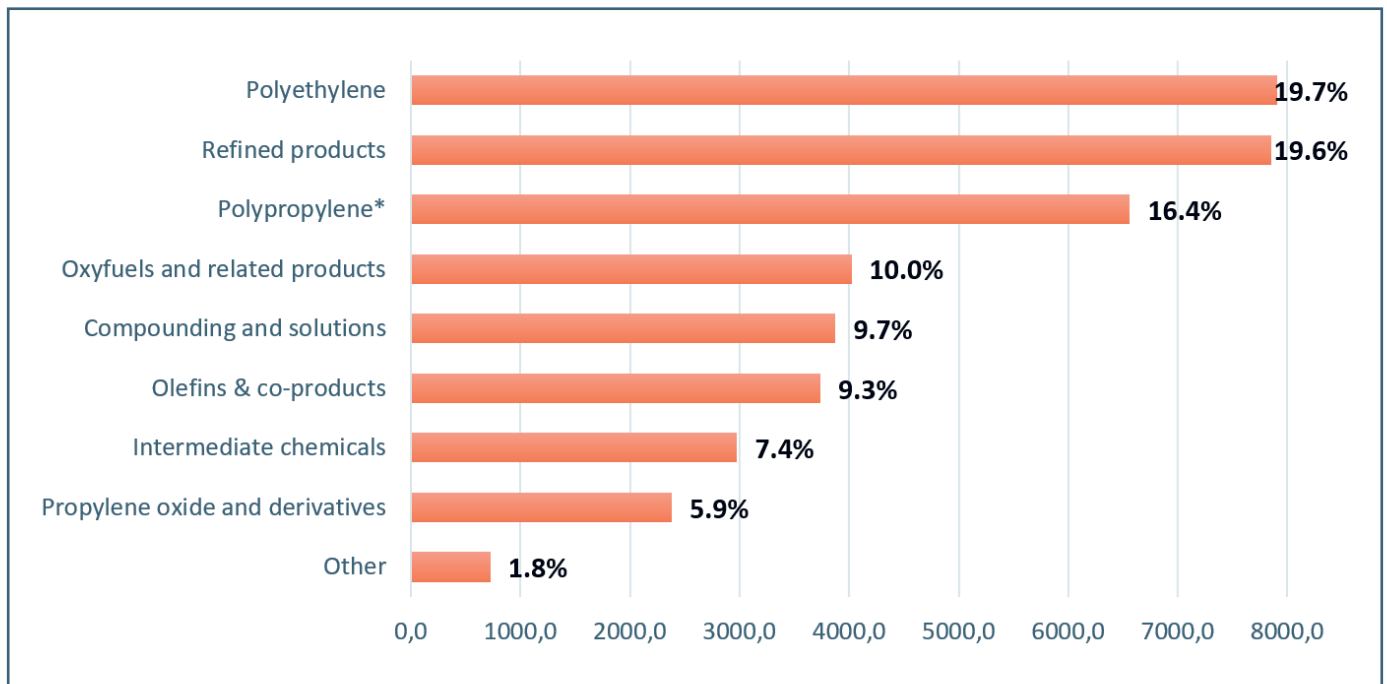


Figure 2: Revenue (%) - Breakdown by Chemicals Sold (5Y Avg.). Source: LYB Annual Reports 2019-2023 & Planet Tracker's calculations. * The "Polypropylene" segment includes the sales from the "Advanced Polymers" segment, which was not reported separately in 2022 and 2023.

Geographically, LYB operates mainly in the Americas, Europe, and Asia. In the last five years, on average, almost half of LyondellBasell's total revenue came

from the United States (48%), followed by Germany with 7% and China with 5%.

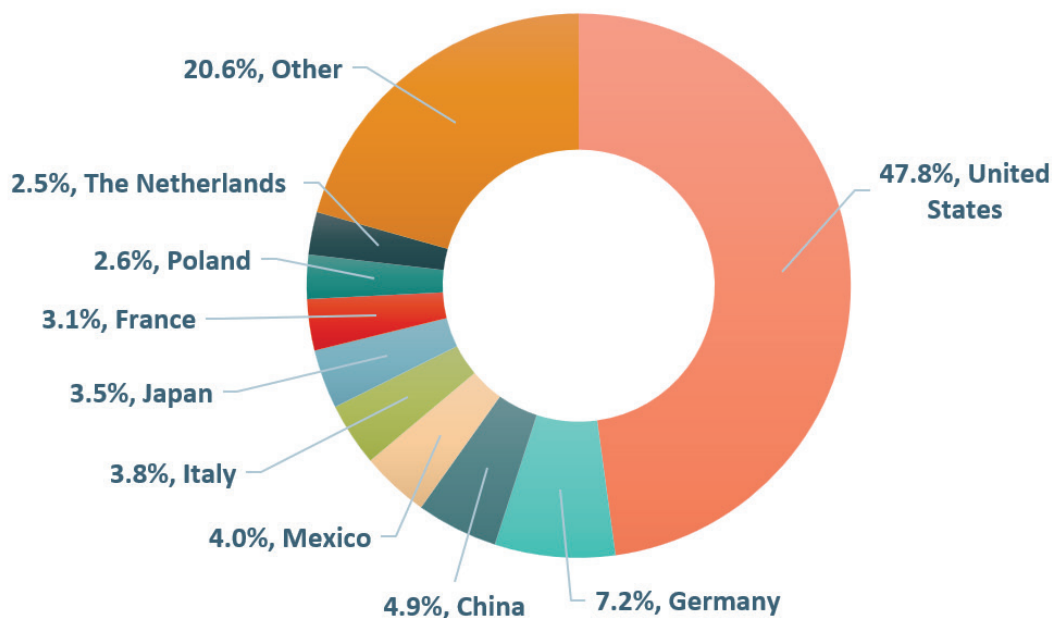


Figure 3: Revenue (%) - Breakdown by Geography (5Y Avg.). Source: LYB Annual Reports 2019-2023.

In conclusion, it can be deduced that LYB's main exposure to climate transition risks and opportunities arises from developments in the polyethylene, refined products, and polypropylene markets with a focus on related policies in the United States and Europe.

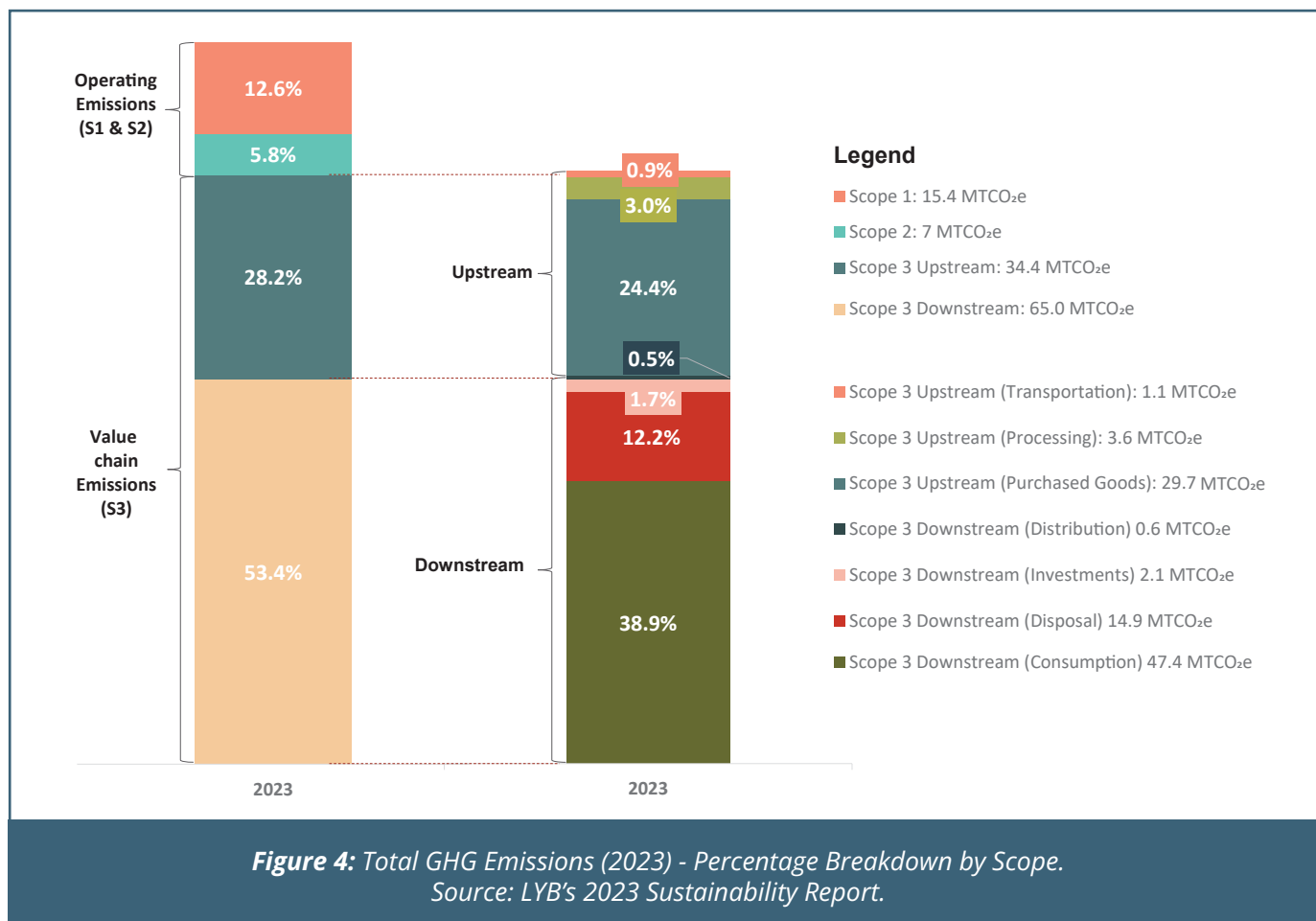
However, company representatives clarify that "refined products" will not be material in LYB's climate transition risks and opportunities given its commitment to exit the refining business no later than Q1 2025.

Climate Alignment

EMISSIONS INVENTORY

In LyondellBasell's most recent greenhouse gas (GHG) emissions disclosures⁹, its total footprint stands at 121,800 KTCO₂e¹⁰. Examining the breakdown of these emissions in 2023, we found that operating emissions were 18.4% of its footprint, with Scope 1 GHG emissions accounting for 12.6% of the total emissions, and Scope 2 emissions (location-based) making up the remaining 5.8%. Most emissions, 81.6%, came from Scope 3 activities.

Within this scope, 28.2% of the total emissions can be attributed to upstream activities¹¹, while downstream activities¹² were responsible for the remaining 53.4%¹³. Notably, the main contributors include "Downstream Consumption," accounting for 38.9% of total emissions, and upstream "Purchased Goods," contributing 24.4% of the total footprint, as shown in Figure 4.



⁹ Presented in its 2023 Sustainability Report.

¹⁰ This is an approximation, as 12.24 MTCO₂e were converted to KTCO₂e, for easier company comparison between peers.

¹¹ **Scope 3 upstream** emissions include: (a) Purchased Goods - accounting for the emissions associated with chemicals considered as feedstock; (b) Processing - including the "Capital Goods" emissions - i.e., emissions relating to capital expenditures for property, plant and equipment, the emissions from "Fuel and Energy Activities" not covered in Scope 1 and 2, and emissions from hazardous and non-hazardous "Waste generated in Operations"; (c) Transportation - covering emissions from "Upstream Transport & Distribution" associated with inbound (suppliers) transport operations.

¹² **Scope 3 downstream** emissions include: (a) Consumption - covering emissions associated with the "Use of sold products" primarily comprised of sold fuel products from refinery operations, olefin operations and the oxyfuels business; (b) Disposal - or emissions from "End of life treatment of sold products" - i.e., emissions related to the typical end-of-life treatments arising during recycling, incineration, and landfilling of articles at the end of their service life; (c) Investments - referring to the emissions from equity investments; (d) Distribution - emissions from the transportation of finished goods.

¹³ This distribution is relatively similar to another leading chemical company, [SABIC](#), which ranked in the top seven chemical companies by revenue in 2023.

In the next section, to assess the company's potential emissions evolution, we examine its past performance. While Planet Tracker intended to analyse LYB's total emissions evolution over the past five years (2019 to 2023), the company only started to disclose its full GHG footprint – i.e., including Scope 3 emissions

– in 2020. As a result, for a like-for-like comparison, the following section will assess the evolution of the company's GHG emissions from 2020 to 2023 and their potential alignment with the company's Climate Transition targets.

EXTERNALITIES TRENDS AND TARGETS

Company Trends

Between 2020 and 2023, LYB experienced a 3% absolute increase in total GHG emissions, rising from 118,200 KTCO₂e in 2020 to 121,800 KTCO₂e in 2023. This increase was primarily due to rises in Scope 3 Upstream and Downstream emissions of 8.5% and 2.7%, respectively, over the 2020-2023 period.

Meanwhile, Scope 1 and 2 decreased from 2020 to 2023 by 1.3% and 7.9%, respectively, as shown in Figure 5.

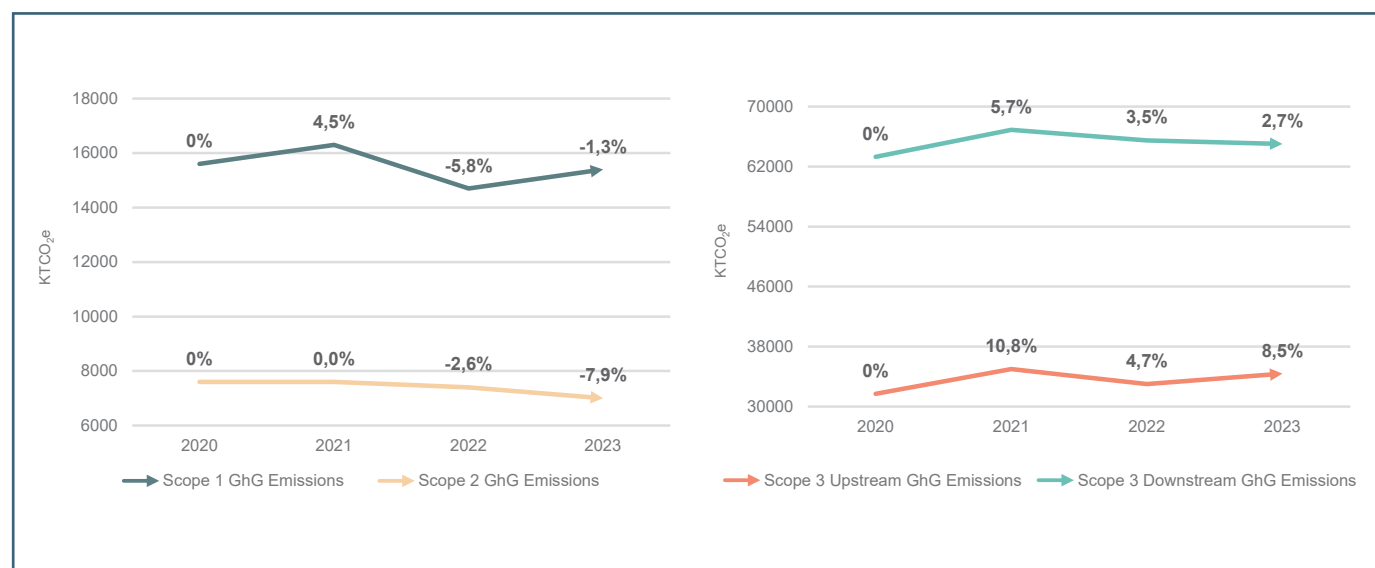


Figure 5: GHG Emissions Evolution 2020 - 2023 – Percentage Change Breakdown by Scope.
Source: LYB's 2023 Sustainability Report and Planet Tracker Calculations.

To evaluate the company's alignment with its transition goals, we projected Scope 1, 2, and 3 GHG emissions up to 2030 using a straightforward extrapolation model based on the annual emissions change rate from 2020 to 2023. This projection assumes no additional mitigation efforts beyond historical measures. Also, for the 2020-2023 period, the company experienced a 14% annual increase in sales. Thus, our estimation exercise takes into consideration the economic growth of the company, by default.

Accordingly, based on our extrapolation, by 2025, Scope 1 and 2 emissions are forecasted to reach 15,268 KTCO₂e and 6,627 KTCO₂e, respectively, and by 2030, 14,943 KTCO₂e and 5,778 KTCO₂e. Meanwhile,

upstream Scope 3 emissions are expected to reach 36,327 KTCO₂e by 2025 and 41,628 KTCO₂e by 2030, with downstream Scope 3 emissions projected at 66,159 KTCO₂e in 2025 and 69,146 KTCO₂e in 2030. Consequently, **without additional mitigation efforts, the extrapolated emissions by 2030 would total 131,496 KTCO₂e, representing an 8% absolute increase compared to 2020 levels.** In this scenario, by 2030, 52.6% of LYB's total emissions would come from downstream activities, followed by 31.7% from upstream activities, with the remaining 11.4% and 4.4% from Scope 1 and 2 activities respectively, as illustrated in Figure 6.

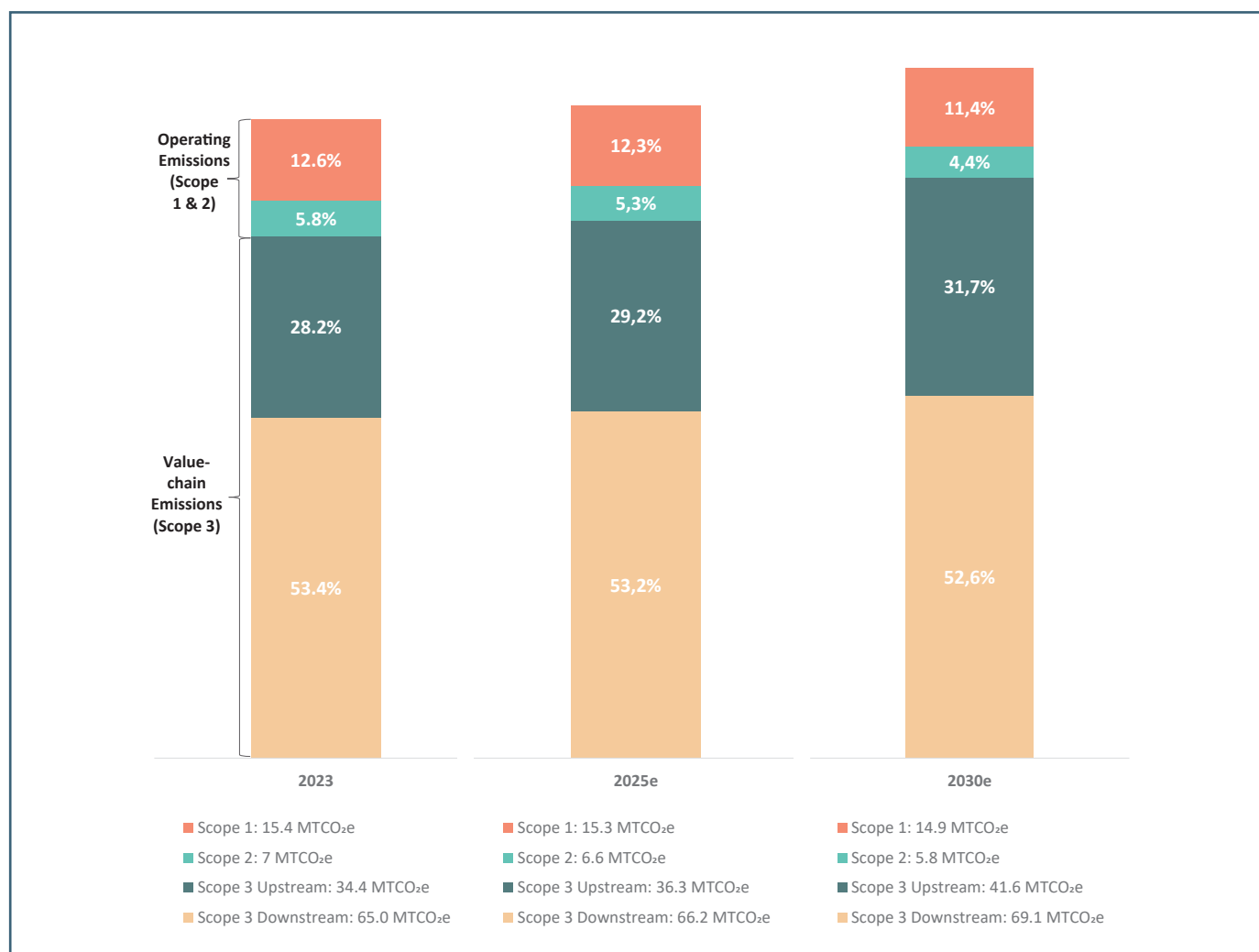


Figure 6: Value Chain GHG Emissions (2025e & 2030e) – Percentage Breakdown by Scope.
Source: LYB's 2023 Sustainability Report and Planet Tracker Calculations

Company Targets

In 2022, LYB committed to having its 2030 climate targets validated as science-based by the Science Based Target Initiative (SBTi). Although the initial commitment was accepted, according to the company, the validation process was paused due to a global hold on companies involved in oil and gas activities. However, LYB states it is actively participating in developing the SBTi's chemical sector standard, anticipated for release in 2024. In the meantime, their main goal is to achieve **Carbon Neutrality by 2050**¹⁴, with an interim goal of reducing Scope 1 and 2 GHG

emissions by 42% by 2030, and Scope 3 GHG emissions by 30% by 2030¹⁵, on an absolute basis. This ambition would translate into an **absolute GHG emissions reduction of 34% in Scope 1, 2 and 3 emissions from 2023 to 2030**. Meanwhile, our extrapolations show that as it stands, by 2030 LYB will increase its emissions by 8% from its 2023 level. Hence, as shown in Figure 7, based on its historical initiatives only, LYB would surpass its SBT recommended level by 51,540 KTCO₂e or 64%.

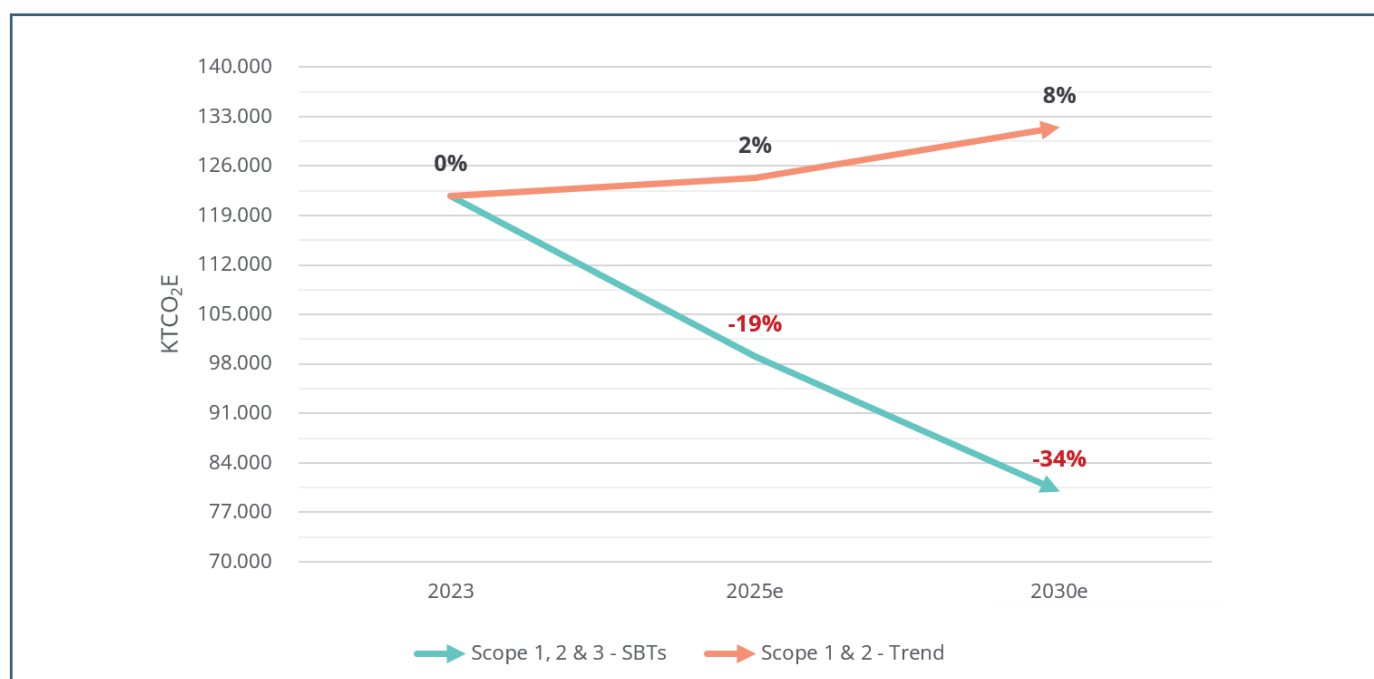


Figure 7: SBTs¹⁶ vs Extrapolated Trends. Source: LYB's 2023 Sustainability Report and Planet Tracker Calculations.

To avoid this gap and trend toward the set SBTs, LyondellBasell presents future initiatives such as (a) energy efficiency, (b) renewable electricity and electrification, (c) hydrogen use, and (d) carbon capture

and storage/utilisation (CCS/CCU). These initiatives aim to reduce the operating emissions from 23,200 KTCO₂e to 13,500 KTCO₂e by 2030, as presented in Figure 8.

¹⁴ LYB refers to this target as achieving net zero GHG emissions from its global operations by 2050 – i.e., from its Scope 1 and 2 activities.

This is defined as Carbon Neutrality. For a Net Zero ambition, LYB's 2050 goal should include a Scope 3 absolute reduction target too.

¹⁵ This is the most ambitious Scope 3 target of companies in the CA100+ chemical sector.

¹⁶ Yet to be approved by the SBTi.

Regarding Scope 3 activities, the company's biggest source of emissions, LYB's main initiatives are (a) exiting from the refining business and (b) engaging with suppliers, as highlighted in Figure 9. Notably, LYB's Scope 3 target only takes into consideration around three-quarters of its global 2020 Scope 3

emissions¹⁷, including emissions from feedstocks and raw material (category 1), energy-related emissions (category 3), upstream transportation (category 4), use of sold products (category 11) and equity investments (category 15).

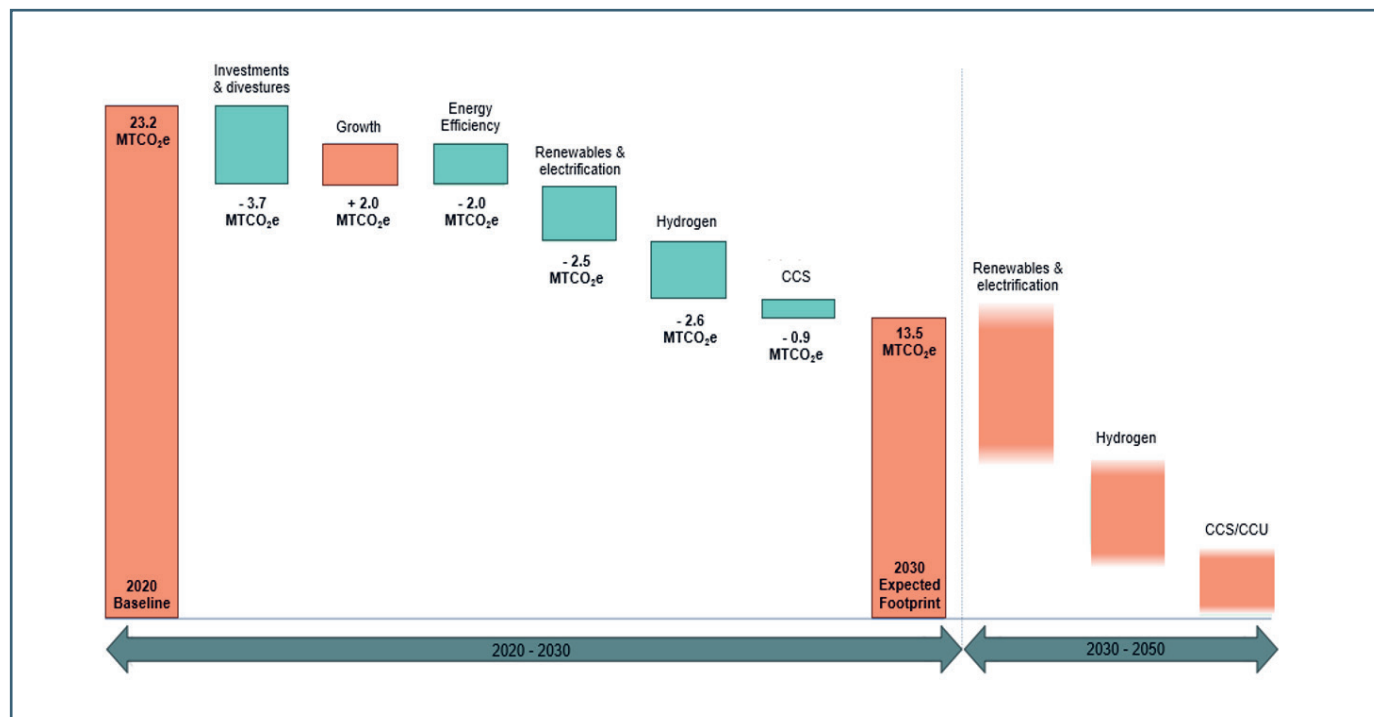
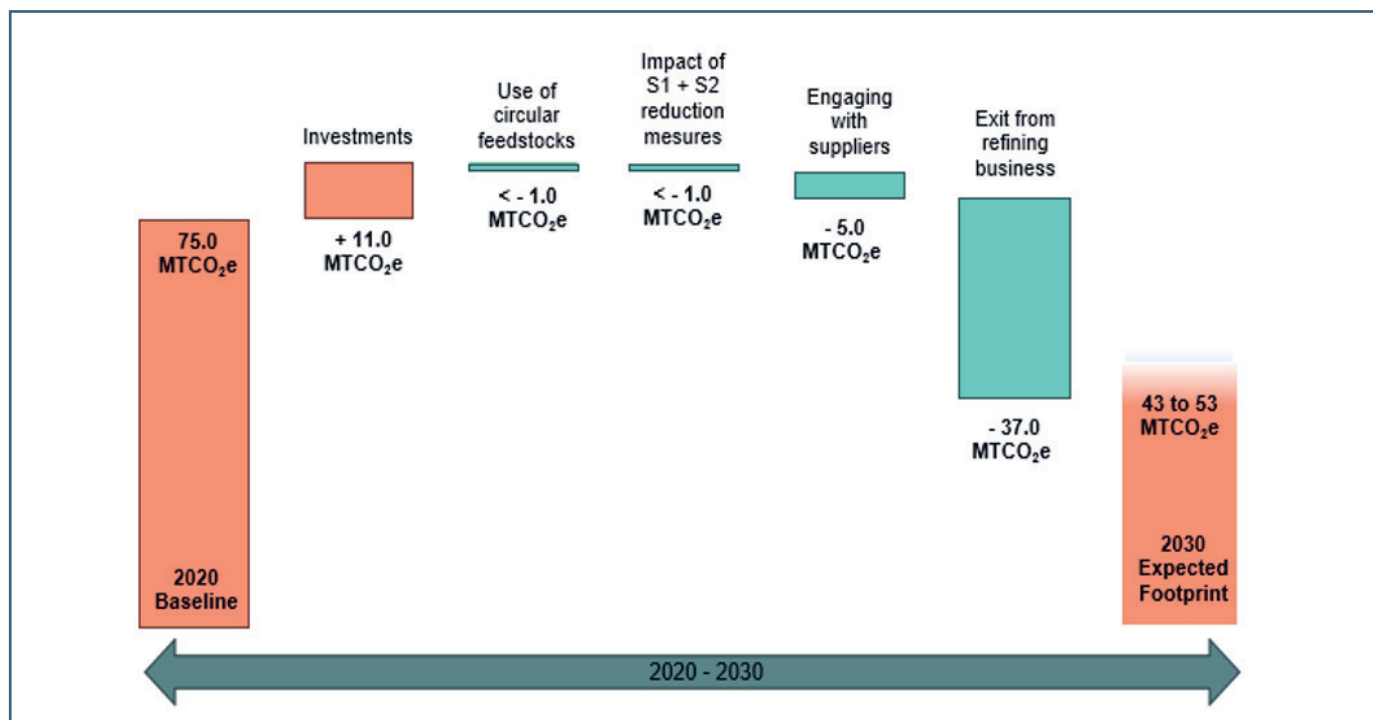


Figure 8: LYB Carbon Neutrality Roadmap - Key Initiatives; Source: LYB 2023 Sustainability Report.

¹⁷ For its Scope 3 target LYB has a baseline of 75,000 KTCO₂e out of a total Scope 3 footprint of 95,000 KTCO₂e.



*Figure 9: LYB Scope 3 emissions reduction Roadmap - Key Initiatives;
Source: LYB 2023 Sustainability Report.*

Based on Planet Tracker’s calculations, for LYB to align with the Paris Agreement ambition of achieving a 1.5°C alignment by 2030, the company will have to reduce its current 2023 emissions by 34%. However, the company’s historical trend, as presented in Figure 7, indicates that without additional mitigation measures, most likely, LYB will increase its total emissions by 8%. This would result in the company missing its current targets and aligning with a 2°C pathway instead of 1.5°C by 2030. Still, given the company’s stated initiatives to avoid this misalignment, which are quantified and

also appear to account for the economic growth of the company, it is plausible that LYB will align with a 1.5°C by 2030.

For higher confidence, in the next sections, we will assess the company’s planned key mitigation actions to determine LYB’s credibility in reaching its climate transition goals.

Policy and Governance

ENGAGEMENT AND INFLUENCE

Suppliers' Engagement

LyondellBasell's supplier engagement strategy is fundamental in its Scope 3 emissions management and subsequent achievement of its broader climate transition goals.

Key Components of Supplier Engagement

- **Sustainable Procurement and Risk Mapping:**

LyondellBasell employs a procurement strategy that involves specific due diligence and risk mapping. The company uses the EcoVadis IQ platform to assess environmental, social, and ethical risks across its supply chain. In 2023, LYB assessed over 1,500 suppliers, representing a 120% increase from the previous year¹⁸. Suppliers identified as high-risk are asked to complete an EcoVadis sustainability assessment or undergo a Together for Sustainability (TfS) audit. Suppliers scoring below 45 on EcoVadis are required to implement corrective actions¹⁹.

- **Supplier Carbon Reduction Program:**

To address Scope 3 emissions, LYB rolled out a supplier carbon reduction program focusing on suppliers with the most significant impact on the company's product carbon footprint (PCF). In 2023, the company requested all suppliers to share their PCF data, conducted meetings with key feedstock suppliers to discuss emissions reduction pathways and involved selected suppliers in a pilot test of TfS' PCF data-sharing solution using Siemens' SiGreen technology.

- **Audits and Corrective Actions:**

LyondellBasell conducts thorough TfS audits to evaluate suppliers' sustainability practices, including management, environment, health and safety, labour, and human rights. These audits often result in supplier-specific corrective action plans to address

areas for improvement. In 2023, TfS audits conducted by LyondellBasell identified several major findings, particularly related to health and safety and labour rights. For the findings of these audits, the company demands corrective actions within appropriate timeframes and may terminate relationships with non-compliant suppliers after repeated engagement attempts.

- **Incentivising Supplier Engagement:**

LyondellBasell has also introduced a Supply Chain Finance (SCF) program in partnership with J.P. Morgan and Taulia²⁰. This program incentivises suppliers to obtain sustainability ratings by offering improved pricing for those achieving qualifying EcoVadis scores. This approach not only encourages suppliers to improve their sustainability performance but also aligns financial incentives with environmental and social governance (ESG) goals.

In short, LYB's supplier engagement strategy is a robust one. With focus assessments, proactive risk management, and financially incentivising sustainability improvements, this approach is likely to mitigate risks in the supply chain, reduce Scope 3 emissions, and support the company's overall transition objectives.

Customers' Engagement

While LYB's customer engagement, as part of its climate transition strategy, is relatively limited, in 2022 the company formed the Customer and Commercial Excellence group to enhance its customer alignment efforts. This group's mandate is to integrate customer feedback into product development, respond to market needs, and support sustainability commitments throughout the value chain. Other initiatives include undertaking life cycle assessment (LCA) studies in order to improve the circularity of its products and determine the best practices within the chemical industry.

¹⁸ According to the LYB 2023 Sustainability Report, 1,533 suppliers were assessed in 2023 vs 678 in 2022.

¹⁹ No supplier relationships were terminated due to audit findings or EcoVadis assessments in 2023.

²⁰ For more details see [J.P. Morgan – Supply Chain Finance](#)

Influence on Policymakers

LyondellBasell's participation in industry associations plays a crucial role in its strategy to influence and shape industry standards. The company is involved in over 170 industry associations worldwide, predominantly in the United States and Europe. While the company publicly supports top-line action on climate change, its involvement in certain industry associations and positions on specific climate policies reveal a more nuanced and sometimes caveated approach.

Governance and Transparency

LyondellBasell has disclosed its industry association memberships in its 2023 Climate Advocacy Report. However, while the disclosure offers information on the policy positions of these groups compared to LYB's position, it only describes briefly how LYB attempts to influence them²¹. The company's involvement in associations like the American Fuel and Petrochemical Manufacturers (AFPM), National Association of Manufacturers (NAM), and the American Chemistry Council (ACC), which have engaged negatively on climate change policy, highlights potential misalignments between the company's public climate commitments and the lobbying activities of these groups²². Notably, LYB only states a misalignment with AFPM.

Senior Executive Involvement

Senior executives from LYB hold influential positions in key industry associations, such as the European Chemical Industry Council (CEFIC) and the American Fuel and Petrochemical Manufacturers (AFPM). Both organisations have engaged in lobbying activities including negative positions on the European Union and the United States climate legislation. This raises questions about LyondellBasell's influence on these associations' policy stances and the alignment with its stated climate goals.

In summary, LYB's engagement with industry associations is a complex aspect of its climate strategy. While the company publicly supports top-line climate action, its involvement in and influence over industry groups that often adopt more conservative or negative positions on specific climate policies implies a more conventional approach. Also, the lack of transparency regarding how the company aligns its advocacy with its industry associations adds to the inconsistency of its climate ambition discourse. This is particularly important as we head into the final round of the negotiations on the Global Plastic Treaty later this year²³.

²¹ For more details see pages 8 to 21 - [Link](#)

²² For more details see our "[Climate Transition Mismatch](#)" report.

²³ For more details see our note - [What financial institutions should take away from the 4th round of Global Plastics Treaty negotiations.](#)

MANAGEMENT ALIGNMENT

Sustainability Targets Oversight

The Board

LyondellBasell's Board of Directors oversee the company's sustainability targets. The Board guides the company's sustainability strategy through its Health, Safety, Environmental, and Sustainability (HSE&S) Committee. This committee is tasked with the oversight of key sustainability and climate-related risks and opportunities. According to the company, it meets regularly to review progress on sustainability goals, such as climate change initiatives and circular economy projects, to ensure that these objectives are aligned with LYB's overall strategic direction. This oversight would reflect the Board's commitment to integrating sustainability into the company's broader corporate governance framework.

The Management

At the management level, sustainability oversight is integrated into the responsibilities of LyondellBasell's executive leadership. The Chief Executive Officer (CEO) oversees the company's Environmental, Social, and Governance (ESG) profile, regularly engaging with the Executive Committee on sustainability topics. The Executive Committee, which includes senior executives such as the Executive Vice President for Sustainability and Corporate Affairs and the Executive Vice President for Operational Excellence and HSE, is directly responsible for the execution of sustainability strategies. This team manages the day-to-day aspects

of sustainability programs, ensuring alignment across business segments and functions. Furthermore, the formation of the Sustainability Council in 2023 and the Net Zero Transition team in 2022 highlights the management's ambition to address both, long-term and short-term, sustainability challenges. According to the company, this includes Scope 1, 2, and 3 emission reduction targets.

Management Compensation

LyondellBasell has linked short-term management compensation to ESG performance metrics. Since 2022, the company has incorporated ESG metrics into its short-term incentive program for the CEO, Executive Committee members, and other employees. Specifically, 30% of the total payout under this program is determined by ESG performance, with 20% tied to safety metrics and 10% to sustainability metrics. The majority, 60%, is tied to business results, measured by EBITDA and the rest 10% to value creation.

Overall the company's approach to sustainability oversight and compensation shows its commitment to deliver on its transition targets. However, the lack of a long-term compensation incentive linked to transition detracts from this ambition. For a comparison of 39 companies involved in the plastic value chain please see "[Plastics – Executive Compensation](#)" which includes a [Best Practice Guide](#).

Risk Analysis

FINANCIAL IMPACT

In our climate transition credibility assessment we also reviewed LYB's disclosed financial implications. The company describes a series of risks and opportunities linked to climate such as regulatory, technology, legal, market, reputation, and physical risks, as well as technology and market opportunities. However, no monetary quantity is disclosed with regards to these risks and opportunities besides the impact linked to regulation – e.g., carbon pricing mechanisms.

External Policy Drivers

Direct Operations Impact Due to Regulation (Carbon Pricing Mechanisms)

According to the company, LyondellBasell faces significant financial risk due to evolving regulations under the European Union Emissions Trading System (EU ETS). The company operates manufacturing sites in Europe, which account for close to 25% of its Scope 1 emissions, totalling approximately 3,600 KTCO₂e annually. The EU's revised climate targets, particularly the reduction of free emission allowances and potential inclusion of chemicals and polymers under the Carbon Border Adjustment Mechanism (CBAM), are expected to increase LYB's operating costs.

The company anticipates a shortfall of 1,000 to 2,000 KTCO₂e allowances over the next five years, with allowance prices projected to be between EUR 80 and 150 per metric ton²⁴. This translates to an estimated financial impact of between EUR 80 to EUR 300 million or USD 88 to USD 332 million over this period. Consequently, the company states it has initiated several emission reduction initiatives at its European sites, which may mitigate this risk by reducing its overall GHG emissions by approximately 500 KTCO₂e annually.

Cost Reduction through Enhanced Production and Distribution Efficiency

LyondellBasell has also identified an opportunity to reduce direct operating costs by implementing more efficient production processes at its sites in Europe. More specifically, at its Wesseling site, the company plans to phase out the use of coal for onsite energy production, replacing it with a steam purchase agreement and other efficiency measures. This project is expected to reduce GHG emissions by 150 KTCO₂e annually and lower energy consumption by approximately 480,000 MWh per year.

The anticipated cost savings from reduced energy and fuel demand are estimated by LYB at USD 61 million annually²⁵. However, these savings will be partially offset by increased electricity and steam purchase costs²⁶, totalling USD 29 million annually. The net financial benefit from this opportunity is projected to be approximately USD 36 million per year, as the implementation of the project is also estimated to reduce maintenance costs by approximately USD 4 million per year.

24 This would be the equivalent of USD 88 to USD 166 per metric ton at an exchange rate of EUR 1 = USD 1.1050 (the rate stated by the European Central Bank at the end of 2023).

25 Linked to current fuel prices of USD 127.03 per MWh (based on an average of 2022 market prices across different regions).

26 Assuming an electricity market price of USD 257.83 per MWh (based on average 2022 prices)

RISK MANAGEMENT

External Policy Risk Management

Response to the Impact Due to Regulation (Carbon Pricing Mechanisms)

To address the financial risks posed by the EU Emissions Trading System (ETS), LyondellBasell's strategy includes improving energy efficiency, transitioning to lower carbon-intensive fuels, electrifying process equipment, and capturing and reusing CO₂. These initiatives are expected to reduce the company's exposure to rising European Union Allowances (EUA) prices and decrease the need for additional emission allowances. The cost of these initiatives, including the phaseout of coal at the Wesseling site and the steam purchase agreement with Evonik, is estimated by LYB at EUR 29 million or USD 32 million annually.

Enhanced Production and Distribution Efficiency Deployment

The realisation of the identified opportunity at the Wesseling site involves a shift from coal-based energy production to more efficient and sustainable alternatives. The project, costing according to LyondellBasell USD 29 million annually, includes expenses for increased electricity purchases and steam procurement. Despite these costs, the initiative is expected to generate net annual savings of approximately USD 36 million, driven by reductions in energy and fuel demand.

This initiative would not only reinforce the company's commitment to sustainable and cost-effective operations, but would also contribute to LYB's interim and long-term GHG reduction goals.

In conclusion, LyondellBasell has outlined a comprehensive approach to managing the regulatory risks associated with the ETS and identified opportunities for cost savings through efficiency improvements. However, the company's overall disclosure falls short of providing a complete financial picture. The lack of monetary quantification for most of the identified risks and opportunities leaves a significant gap in transparency and, makes it difficult for investors to fully assess the financial implications of LYB's climate transition strategy.

Strategic Assessment

CAPITAL ALIGNMENT

LyondellBasell has disclosed several investments and sustainability-linked capital expenditures supporting its climate transition initiatives. The investments outlined in its 2023 sustainability report cover various aspects of reducing GHG emissions, expanding renewable energy use, and enhancing recycling capabilities.

Investments and Sustainability Linked Capital Expenditures

- **Green Bond Issuance:** In May 2023, LYB issued a USD 500 million Green Bond to fund projects focused on the circular economy, renewable energy, pollution prevention, and energy efficiency. By the end of 2023, approximately USD 195 million of the bond proceeds had been allocated to initiatives such as the MoReTec-1 advanced recycling plant and plastic waste sorting infrastructure via Cyclyx International.

- **MoReTec-1 Project:** LyondellBasell is constructing the MoReTec-1 plant in Wesseling, Germany, a commercial-scale facility designed to produce 50,000 metric tons of plastic from advanced recycling annually using proprietary technology. The project is supported by a EUR 40 million grant from the EU Innovation Fund and partly funded by Green Bond proceeds.

- **Expansion of Mechanical Recycling Capacity:** LYB has expanded its mechanical recycling operations through acquisitions and joint ventures, including full ownership of Quality Circular Polymers (QCP) and APK²⁷, and investments in companies like Stiphout Industries B.V. and Rodepa Vastgoed B.V. These efforts aim to increase the production of recycled polymers, contributing to LYB's goal of producing 2 million metric tons of recycled and renewable-based polymers by 2030. Green Bond proceeds have been used to finance several of these initiatives.

- **Cyclyx International Investment:** LyondellBasell holds a 25% equity stake in Cyclyx International, focused on developing an advanced sorting infrastructure in the United States. The Cyclyx Circularity Center (CCC) in Houston, designed to process 150,000 metric

tons of plastic annually, is presented by LYB as a key element of its broader strategy to secure feedstock for recycling processes. This investment is also supported by Green Bond funds.

- **Venture Capital Investments:** According to LYB, the company has invested in venture capital funds like the Lombard Odier Investment Managers (LOIM) Plastic Circularity Fund and Chrysalix Venture Capital's Carbon Neutrality Fund. These funds support early-stage innovations in recycling technologies and low-carbon solutions, particularly in challenging sectors such as chemicals. Proceeds from the Green Bond have been directed toward these investments.

- **Capital Expenditure on Sustainability Goals:** LyondellBasell appears to have integrated its sustainability initiatives into its long-range financial plan, estimating that about **20% of its total capital expenditures over the next two years will be directed toward these goals**. This includes an expected USD 400 million in 2024 to fund projects related to energy efficiency, renewable energy procurement, and necessary infrastructure. The success of these projects also relies on collaboration with external stakeholders, including grid operators and utility providers, to ensure the necessary infrastructure is in place.

LyondellBasell's capital allocation strategy demonstrates its ambition of advancing its climate transition goals, with close to USD 1 billion total investment. Nevertheless, transparency regarding the financial commitment needed for each initiative to achieve these long-term objectives rather than scattered examples would provide a more comprehensive understanding of its capital alignment.

²⁷ LyondellBasell announced in August 2024 its full ownership of APK - for more details see [link](#).

TRANSITION APPRAISAL

Planet Tracker analysed LYB's Climate Transition strategy, assessing its GHG emissions evolution and evaluating its alignment with the Paris Agreement. In 2022, LYB has committed to achieving net zero GHG emissions from its global operations (Scope 1 and 2), i.e., Carbon Neutrality, by 2050. The company also plans to reduce its Scope 1 and 2 emissions by 42% and Scope 3 emissions by 30% by 2030, relative to a 2020 baseline.

According to our analysis, LyondellBasell reduced its absolute Scope 1 and 2 GHG emissions by 1.3% and 7.9%, respectively, between 2020 and 2023. However, the company's historical trend indicates potential challenges in achieving the reductions needed by 2030, without additional mitigation efforts. Based on its Scope 3 trends, LYB's overall emissions would increase by 8% by 2030.

To achieve its transition targets, the company presented the following **Scope 1 and Scope 2 emissions reduction initiatives**:

1. Energy Efficiency Improvements (- 2.0 MTCO₂e):

LyondellBasell is focusing on optimising energy use across its manufacturing processes to lower its energy footprint, reduce GHG emissions, and cut operational costs. This initiative is part of a broader effort to improve efficiency and reduce the carbon intensity of its operations.

2. Renewable Electricity and Electrification (- 2.5 MTCO₂e):

LYB aims to source a significant portion of its electricity from renewable sources. The company has committed to procuring at least 50% of its electricity from renewable sources by 2030, from 2020 levels. Additionally, LyondellBasell stated that is working to electrify its processes where feasible, reducing reliance on fossil fuels.

3. Hydrogen Use (- 2.6 MTCO₂e):

The company aims to increase the use of hydrogen as a fuel source in place of more carbon-intensive fuels. Accordingly, Hydrogen is expected to play a critical role in reducing emissions from energy use at LYB's facilities.

4. Carbon Capture and Storage/Utilization (CCS/CCU) (- 0.9 MTCO₂e):

LyondellBasell is investing in technologies to capture and store or reuse CO₂ emissions from its operations. This initiative is relevant for addressing emissions that are difficult to eliminate through other means, although, at this point in time, their potential mitigation capacity is limited.

5. Investments and Infrastructure Developments (- 3.7 MTCO₂e):

The company assures investors that is making substantial capital investments in infrastructure to support these initiatives, including grid connections and partnerships with utility providers. In 2024 LYB expects to spend approximately USD 400 million on projects that contribute to these goals.

Regarding Scope 3 emission reduction, LYB's initiatives are:

1. Exit from the Refining Business (- 37.0 MTCO₂e):

LyondellBasell has announced plans to exit its refining business by the end of the first quarter of 2025. This move is expected to significantly reduce its Scope 3 emissions, as refining is a major source of indirect emissions. More precisely, this initiative could reduce 37% of LYB's current Scope 3 emissions (99,400 KTCO₂e in 2023), in absolute terms, in the next 2 years.

2. Increased Use of Renewable and Circular Feedstocks (- 1.0 MTCO₂e):

The company is working to increase the use of renewable and recycled feedstocks in its production processes. This initiative is part of the company's broader circular economy strategy, which aims to reduce the carbon intensity of its products.

3. Supplier Engagement (- 5.0 MTCO₂e):

LYB is actively engaging with suppliers to encourage the reduction of GHG emissions across its supply chain. This includes working with suppliers of raw materials and logistics services to lower their carbon footprints, as explained in the previous sections.

Overall, Planet Tracker expects LyondellBasell to meet its long-term transition targets. This expectation is based on the company's initiatives, engagement, and investment aimed at closing the gap between its current emissions trend and the emissions level recommended by SBTs. However, certain limitations in the presented strategy could hinder this alignment. Therefore, we encourage LyondellBasell to enhance its sustainability-related customer engagement and to be more transparent about its influence and alignment

with trade associations and other policymakers that are at odds with climate policy. Additionally, we recommend the introduction of specific long-term climate transition-linked remuneration for senior management, the quantification of climate-related risk and management, and a clearer connection between investment/capital expenditure and the anticipated emissions reduction.

Planet Tracker concludes that LyondellBasell is on track for a 1.5°C pathway by 2030²⁸.

²⁸ Based on the data accessed by Planet Tracker until August 2024.

DISCLAIMER

As an initiative of Tracker Group Ltd., Planet Tracker's reports are impersonal and do not provide individualised advice or recommendations for any specific reader or portfolio. Tracker Group Ltd. is not an investment adviser and makes no recommendations regarding the advisability of investing in any particular company, investment fund or other vehicle. The information contained in this research report does not constitute an offer to sell securities or the solicitation of an offer to buy, or recommendation for investment in, any securities within any jurisdiction. The information is not intended as financial advice.

The information used to compile this report has been collected from several sources in the public domain and from Tracker Group Ltd. licensors. While Tracker Group Ltd. and its partners have obtained information believed to be reliable, none of them shall be liable for any claims or losses of any nature in connection with information contained in this document, including but not limited to, lost profits or punitive or consequential damages. This research report provides general information only. The information and opinions constitute a judgment as at the date indicated and are subject to change without notice. The information may therefore not be accurate or current. The information and opinions contained in this report have been compiled or arrived at from sources believed to be reliable and in good faith, but no representation or warranty, express or implied, is made by Tracker Group Ltd. as to their accuracy, completeness or correctness and Tracker Group Ltd. does also not warrant that the information is up-to-date.



ABOUT PLANET TRACKER

Planet Tracker is a non-profit financial think tank producing analytics and reports to align capital markets with planetary boundaries. We aim to create a 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, nature-positive 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

As part of its Petchems programme, Planet Tracker is examining the transition plans of chemical 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 leading chemical companies to account for the quality of their climate transition plans and their execution against those plans. We also encourage investors to use this information to engage effectively with these companies with the ultimate aim of driving the sustainable transformation of the chemical industry.

ACKNOWLEDGEMENTS

Lead Author: Ion Visinovschi, Senior Research Analyst, Planet Tracker

Data Analysis: Ailish Layden, Research Associate, Planet Tracker

Collaborators: John Willis, Director of Research, Planet Tracker

Feedback: Company representatives offered their feedback on 05/09/2024, and their views were included in this paper.

WITH THANKS TO OUR FUNDERS



*Suggested citation:
Visinovschi I., LyondellBasell Climate Transition
Analysis, Planet Tracker (2024)*

*For further information please contact: Nicole Kozlowski, Head of Engagement,
Planet Tracker nicole@planet-tracker.org*