CLIMATE AND NATURE RISK

REPORT 2024

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UNDERSTANDING THE CLIMATE-NATURE NEXUS

In the face of mounting climate and environmental pressures, the preservation and regeneration of our planet's natural systems have become paramount. Six of the nine planetary boundaries – established to safeguard the Earth's health – have now been breached. Land-use and land-use change, alongside the introduction of invasive species, are recognised as two of the five primary drivers of biodiversity loss, desertification, and land degradation. The United Nations' Sustainable Development Goal (SDG) 15 targets the protection, restoration, and sustainable utilisation of ecosystems to establish a foundation for effective regulation and innovation. This goal aims to significantly contribute to halting and reversing desertification, land degradation, and biodiversity loss. Building upon this framework, the Montreal Kunming Agreement (Global Biodiversity framework), signed in December 2022, emphasises the global significance of nature conservation and restoration. It specifically underscores the interconnectedness of biodiversity, climate change, and the Paris Agreement.

As such, it is crucial for companies to implement strategies aimed at mitigating and minimising their climate and nature impacts. Simultaneously, the restoration and protection of terrestrial ecosystems, which play a vital role in human activities, and in nature and climate restoration must be prioritised.

To systematically evaluate and disclose the climate- and nature-related risks and impacts associated with human actions, Borregaard has assessed our impacts and dependencies on nature and inegrated nature into our sustainability strategy. This comprehensive assessment serves as a crucial tool for identifying potential hazards, understanding the extent of ecological harm, and informing targeted mitigation strategies. Understanding impacts on nature is key to understanding the associated transition risks Borregaard faces, just as Borregaard's dependencies on nature's resources such as wood, are the main source of the identified physical nature-related risks (NOU, 2024).

In accordance with the standard from the International Financial Reporting Standards (IFRS) S2 for Climate-Related Disclosures and following the recommendations of the Task Force on Nature-Related Financial Disclosures (TNFD), this report aims to provide a comprehensive assessment of climate and nature risk and opportunities. In doing so, we consider our impacts and dependencies on nature and use these as a baseline for understanding our risks and opportunities.

With the aim of adopting more sustainable practices, reducing our environmental footprint, and enhancing our resilience to future ecological challenges, Borregaard seeks to ensure a transition to a more circular economy.

GENERAL REQUIREMENTS

APPROACH TO MATERIALITY

For the report, materiality was assessed in accordance with the definitions by European Sustainability Reporting Standards (ESRS). Concurrently, a value chain analysis focusing on nature aspects was carried out following the TNFD guidance, aligning with the double materiality assessment outlined by the European Financial Reporting Advisory Group (EFRAG). This report was subsequently revised in parallel with the double materiality evaluation.

SCOPE OF DISCLOSURES

Borregaard has conducted a comprehensive location-based assessment of our upstream value chain and direct operations, covering all locations involved in our production chain. This assessment focused on identifying and analysing the climate- and nature-related risks and opportunities associated with our operations, from sourcing raw materials to distributing finished products. We employed a multifaceted approach to data collection, incorporating supplier information, Forest Stewardship Council (FSC) and Programme for the Endorsement of Forest Certification (PEFC) certifications, and details from production sites. This ensured a thorough understanding of the environmental impact across the supply chain, while also basing climate-related risk assessments on scenario analysis.

LOCATION OF NATURE-RELATED ISSUES

We have conducted a comprehensive assessment of our nature-related dependencies and impacts across the value chain, from sourcing to production, in alignment with the TNFD recommendations. By leveraging FSC and PEFC certifications and value chain mapping tools, we have identified and assessed location-specific risks and opportunities associated with our operations. This location-based approach offers stakeholders valuable insights into our environmental performance. The analysis has been disaggregated wherever possible, ensuring that specific locations and ecosystems are considered. However, data on the precise sourcing location for wood has been aggregated to a broader regional level due to limited traceability and the inability to specify exact locations. This aggregated approach ensures that the potential and actual nature risks within the entire region are comprehensively addressed. Overall, Borregaard's detailed, and location-based analysis aligns with TNFD recommendations, providing stakeholders with a transparent understanding of the company's environmental impact.

INTEGRATION WITH OTHER SUSTAINABILITY-RELATED DISCLOSURES

Climate- and nature-related impacts, dependencies, risks and opportunities are material to Borregaard's governance and strategic planning. As such the disclosures in this climate and nature risk report, aligned with the recommendations from the IFRS and TNFD, are also integrated in Borregaard's annual report, in relation to the disclosures of the material topics covered by ESRS E1 Climate change and ESRS E4 Biodiversity and Ecosystems.

TIME HORIZONS CONSIDERED

To ensure the results of the scenario analysis are relevant, Borregaard has differed the definition of the medium- and long-term horizons presented in the annual report and double materiality report which aligns with ESRS. The short-term corresponds to the reporting period covered in Borregaard's financial statements, the medium-term spans from the end of the short-term reporting period up to 9 years, and the long-term encompasses periods exceeding 10 years.

ENGAGEMENT WITH INDIGENOUS PEOPLES, LOCAL COMMUNITIES AND AFFECTED STAKEHOLDERS

Borregaard actively engages with all its stakeholders through continuous dialogue, employing a multifaceted approach that includes regular meetings, media analyses, and participation in various relevant forums. By fostering open communication channels, we gather valuable feedback, build trust and promote transparency. This ongoing engagement ensures that stakeholder perspectives are considered, concerns are addressed promptly, and collaborative solutions are developed to overcome challenges and drive mutual growth.

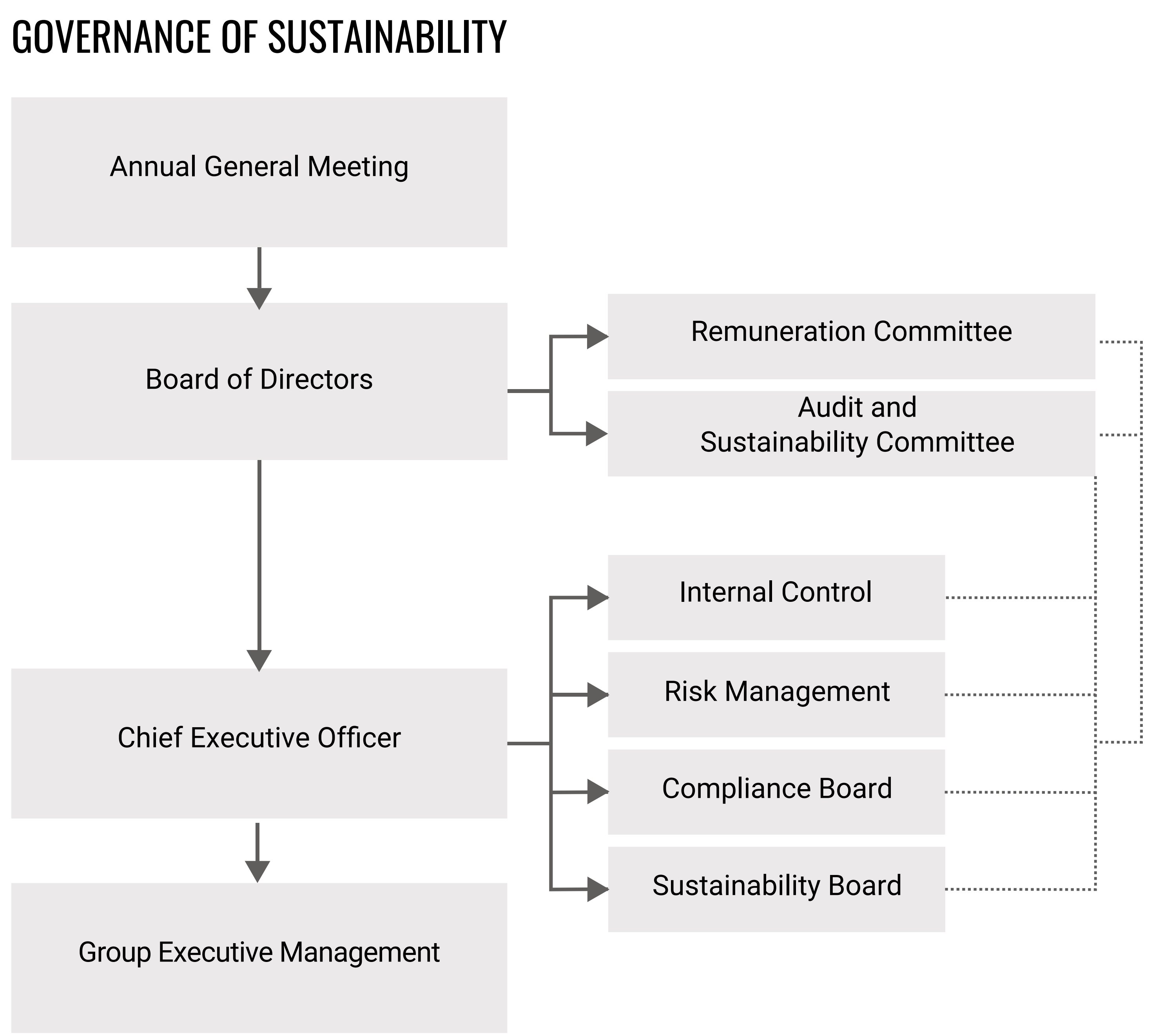
GOVERNANCE

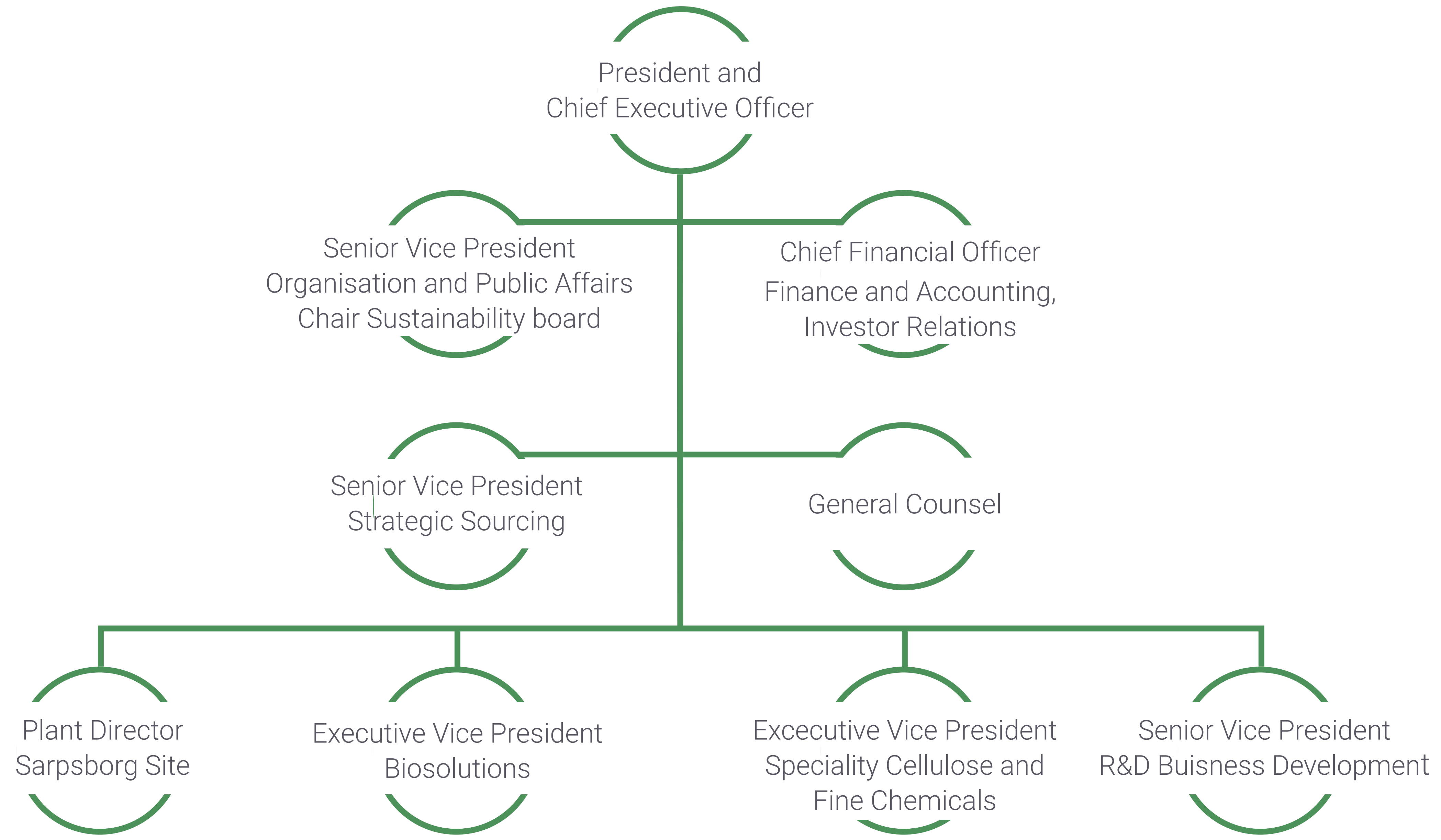
BOARD OVERSIGHT AND MANAGEMENT OF CLIMATE- AND NATURE-RELATED RISKS AND OPPORTUNITIES

Both climate and nature management are integral to Borregaard's governance mechanisms. The Board of Directors considers climate- and nature-related issues when reviewing and guiding strategy, risk management policies, annual budgets and business plans, as well as setting Borregaard's performance objectives.

Restorative and sustainability objectives are part of the business plan, which is prepared by the Sustainability Board (SB). The SB informs and guides the CEO and the Group Executive Management of which sustainability issues to address and the measures to be implemented.

The CEO reports on current issues, including sustainability and nature-related matters to the Audit and sustainability committee (ASC) and the Board of Directors. The CEO meets the Board and ASC 6-8 times a year. Each quarter, the Board reviews climate- and nature-related issues, and the Board sets overall climate-related goals for the company annually. An annual summary of climate objectives, climate risks and opportunities, and other material issues is included in the integrated annual report, which is approved by the Board of Directors. The Board also oversees major capital expenditures, acquisitions, and divestitures where climate-related risks are considered throughout the process.





BOARD-LEVEL OVERSIGHT

The practical monitoring, assessment, and coordination of nature-related issues, including nature-related dependencies, impacts, risks and opportunities, are managed by the Sustainability Board (SB). The SB is responsible for evaluating Borregaard's sustainability initiatives (including climate and nature) and coordinating these efforts along the value chain. The SB reports directly to the CEO and the Group Executive Management. It consists of three members from the Group Executive Management along with other key employees responsible for relevant sustainability functions.

GROUP EXECUTIVE MANAGEMENT OVERSIGHT

Members of the Group Executive Management are responsible for managing and assessing climate- and nature-related risks and opportunities within their respective area of responsibility, regardless of their role in the Sustainability Board. As sustainability is a fundamental core value of Borregaard it is inherent in the duties of the senior management to maintain a strong focus on climate and sustainability considerations within their roles.

STAKEHOLDER ENGAGEMENT

Borregaard is committed to advancing human rights and ensuring fair working conditions throughout our entire value chain. Upholding the dignity of individuals is a fundamental priority, and we remain vigilant in preventing any infringements upon human rights or violations of fair labour practices. While we hold ourselves accountable for our operations, our responsibility extends to our interactions with partners, suppliers, subcontractors, and all entities affected by our business activities.

Our suppliers are required to sign our Supplier Code of Conduct (SCoC), committing to comply with or actively pursue compliance with the standards set by the International Labour Organisation (ILO) and The Ten Principles of the UN Global Compact across their entire value chain. As a signatory to the UN Global Compact, we reaffirm our dedication to combating human and labour rights abuses through robust policies and guidelines. Our Human Rights and Decent Working Condition report outlines our efforts to monitor human rights and fair working conditions within our operations, collaborations with business partners, and throughout our supply chain, in alignment with the Norwegian Transparency Act. This legislation ensures public access to information regarding corporate efforts in these areas. Anchored in the UN's Guiding Principles on Business and Human Rights (UNGP) and the OECD's guidelines for multinational enterprises, the Transparency Act requires organisations to conduct comprehensive due diligence assessments. Our approach to due diligence comprises six key steps:

1. Ensure accountability in policies and management systems
2. Monitor and assess negative impacts/risks within the enterprise itself, supply chains and business partners
3. Stop, prevent or reduce negative impacts/risks
4. Supervise implementation and results
5. Engage with directly affected parties and rights holders to communicate how impacts are handled
6. Ensure remedies are provided or collaborate on appropriate solutions where necessary

STRATEGY

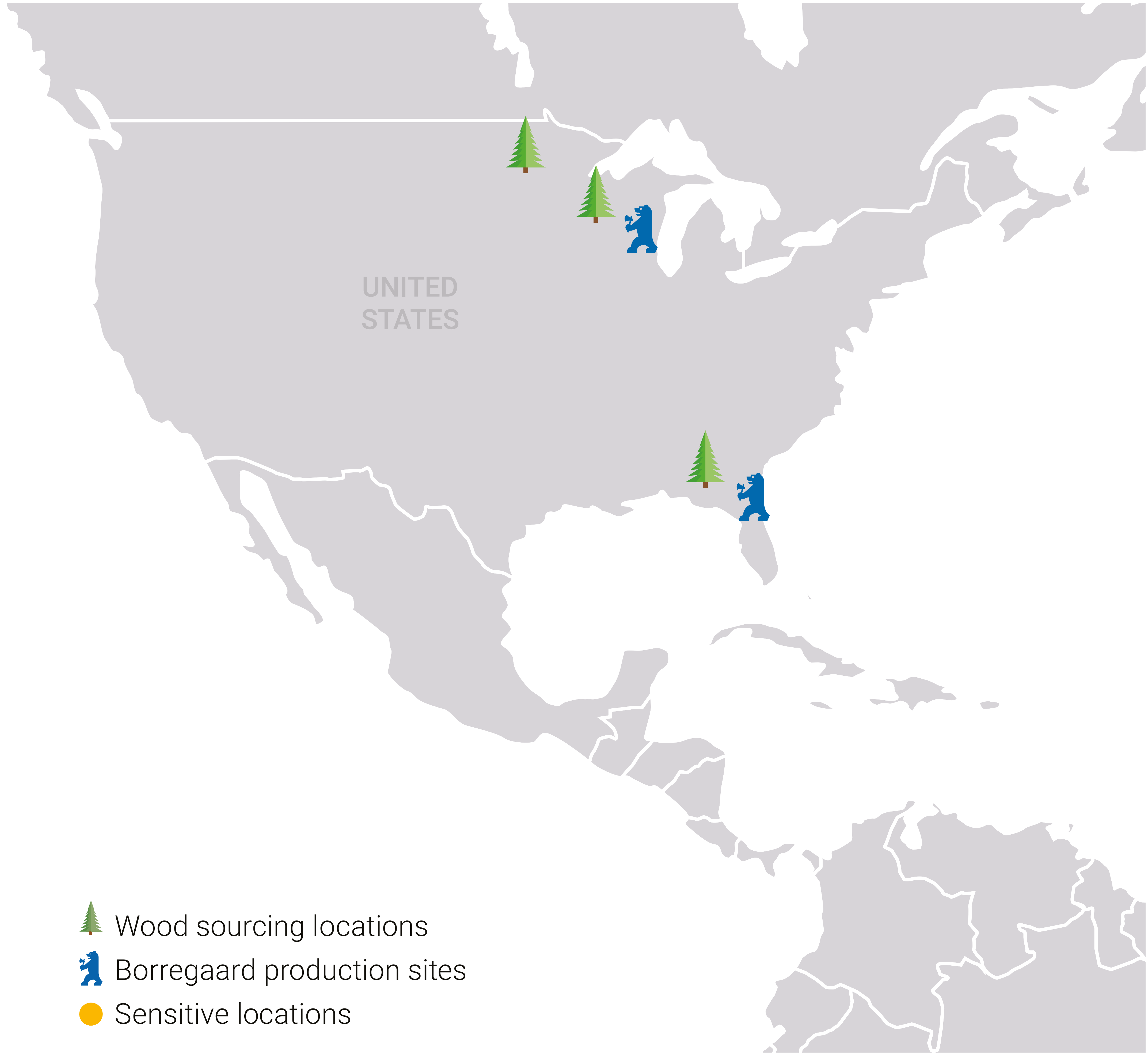
Borregaard's business model and strategy are deeply rooted in the sustainable and efficient utilisation of raw materials, with a strong focus on the importance of sustainably managed forest ecosystems. By identifying climate- and nature-related risks and opportunities we aim to address our impacts and dependencies on raw materials used in production. Our goal is to further enhance Borregaard's climate and nature resilience while identifying strategic adjustments to our approach. This commitment supports maintaining biosphere integrity and achieving relevant sustainability targets.

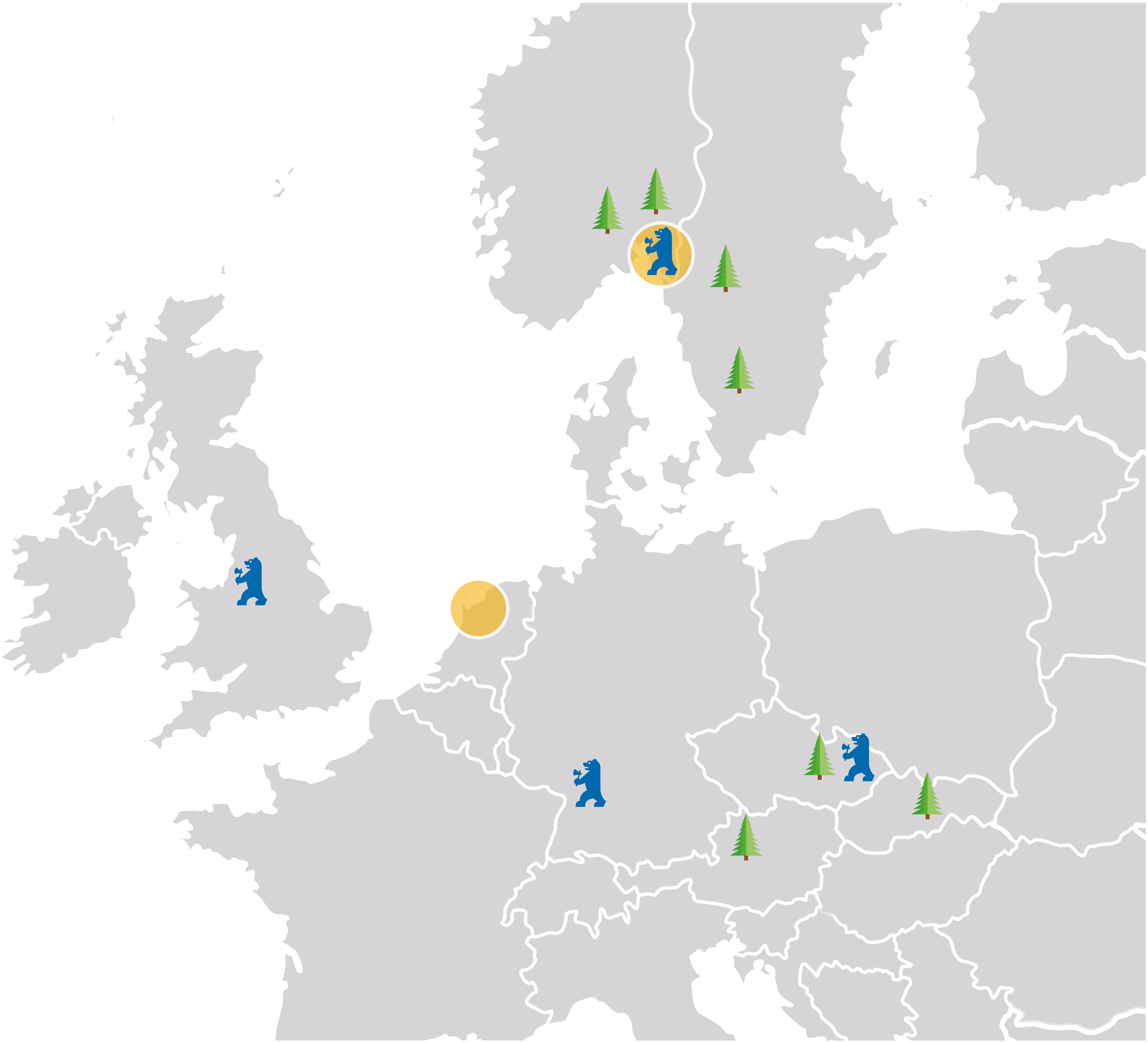
RISKS AND OPPORTUNITIES

In combining our climate and nature risk assessment, we used separate methods to identify the material risks and opportunities. At the company level, climate risks were identified and assessed within our risk management model (ISO 31000). Additionally, we conducted a scenario analysis to identify the most significant climate- and nature-related driving forces relevant to Borregaard, focusing on potential positive or negative financial or strategic impacts.
By mapping our value chain and direct operational sites (see page 9), we assessed our interference with nature throughout our value chain, identifying risks and opportunities linked to our impacts and dependencies on nature. Using a location-based approach following the LEAP method, we identified priority areas by considering the sourcing location of our raw materials and our production sites.

Priority locations for Borregaard include both material and sensitive locations, as defined by TNFD criteria. Borregaard's production sites are considered material because we have identified material nature-related dependencies and impacts at these locations. Sensitive locations were determined by identifying sites in the value chain located in areas critical for biodiversity and/or high ecosystem integrity (See figure below). Borregaard's nature- and climate-related risks and opportunities were identified based on the activities and related impacts at all locations in both direct operations and the upstream value chain. To identify these sites, we used online tools including WWF Biodiversity risk filter, IBAT, Nibio, Naturvardsverket and ENCORE. Our analysis using WWF Water Risk Filter highlighted long-term risks for water quality at the production sites in Sarpsborg, Karlsruhe, Warrington, and Paskov. However, after further evaluation during our materiality analysis, and considering the impact metrics at each location, we determined that these sites do not present material water-related risks. Borregaard's location in Sarpsborg, Norway, is considered a priority and sensitive location due to its impact on the ecological status of the River Glomma, resulting from the content of organic material in the wastewater from our biorefinery process. The significance of ongoing measures to monitor and reduce this impact makes it a key focus area for us.

Spatial maps showing Borregaard's production sites, sensitive locations, and sourcing locations for wood





	LOCATION	ACTIVITY	SENSITIVE LOCATION	IMPACT/DEPENDENCY PATHWAYS	TIME HORIZON
	Sarpsborg (Norway), Florida (US), Wisconsin (US), Karlsruhe (Germany), Paskov (Czech Republic), Warrington (UK)	Production sites	Material for direct operations due to impacts (non-GHG emissions, pollution, and resource use).	Production sites impact local environments through pollutants and other disturbances. The state of nature in each of the production sites has remained the same (with the exception of Sarpsborg – see explanation below).	Short to long term
1	Harlingen, Netherlands	Sourcing Salt	High materiality, sensitive area with protected ecosystems and biodiversity.	Borregaard's salt sourcing from Harlingen in the Wadden Sea is influenced by impact drivers such as resource extraction and external factors like climate change, leading to habitat alteration and biodiversity loss, which in turn affect the availability of vital ecosystem services such as water filtration and habitat provision in the region.	Short to long term
2	River Glomma, Sarpsborg, Norway	Production site and sourcing	Material for direct operations due to impacts of effluents, sensitive location due to Wild Atlantic Salmon population.	Borregaard's production site by the river Glomma in Sarpsborg contributes to pollution, impacting water quality as well as external factors like climate variability, which combined harm the wild Atlantic Salmon population and disrupt ecosystem services such as biodiversity support and natural water purification (NIVA, 2024).	Short to long term
	Sourcing locations	Sourcing of wood	Using the filters in Naturkartverket and IBAT, several locations have been identified with protected and/or sensitive species in the areas where wood is sourced, and thus they are considered sensitive locations. The following locations are identified with high or very high risk for impact on ecosystem intactness: Poltar (SK), Innlandet, Akershus, and Buskerud (NO), Dalsland (SE).	Borregaard has a dependency on wood raw materials for production. To mitigate impacts on sensitive areas, Borregaard ensures that 100% of all sourced wood is in accordance with FSC® Controlled wood and at least 95% of all sourced trees are certified in accordance with PEFC. By adhering to the strict criteria of these certification schemescriteria of the certification schemes, biodiversity-sensitive areas should be protected.	Short to long term

An assessment of the ecological state of nature in the River Glomma downstream from the biorefinery was conducted by NIVA in 2023. The map on the right shows measurement points recorded at the Sarpsborg location. The results indicate minimal organic load upstream of Borregaard's discharge points, and a significant load observed downstream. However, seven of the eight heavily impacted monitoring stations (stations 3–11) have gradually improved since 2015. Notably, two stations (monitoring stations 6 and 9) have, for the first time, been classified as having a good status with regard to heterotrophic growth. These improvements are likely due to Borregaard's reduction of COD and BOD discharges in recent years (see Metrics and Targets for emissions metrics). The salmon population has also shown some improvement; in 2023, 174 adult fish were caught during the regular rod-fishing season, significantly more than in 2022 and the highest number since stocked fish were first included in catch data in 2015. The catch included 144 fin-clipped stocked fish and 30 non-fin-clipped fish, in line with previous years. Non-fin-clipped fish, which are either wild or unmarked stocked fish, suggest that fewer than 30 spawners originated from natural reproduction. Furthermore, due to fishing conditions, some fish were likely caught multiple times, indicating the actual number of spawners was even lower. High water levels and lingering small salmon contributed to increased recapture rates.

Results from broodstock fishing later in the autumn also indicated a low number of spawners.

Mapping the impacts from Borregaard's key locations and value chain has informed the risk and opportunity assessment. The results of the materiality assessment on climate- and nature-related risks and opportunities are summarised in the table below. Climate- and nature-related risks and opportunities have been identified for the short, medium, and long term, and are categorised as either transition or physical risks. The time horizons for these risks and opportunities were assessed based on their duration and impact. Long-term risks are defined as those with impacts extending 10 years or more. Medium-term risks are assessed based on a 1–9-year period and short-term risks are those occurring within the reporting year, with strategies and impacts also confined to that year. Based on the climate and nature scenario analyses, financial impacts were also estimated using desk research and internal discussions, considering the financial materiality thresholds from the double materiality assessment.

The description of the risks is based on the inherent risk from the key drivers and does not take into consideration any mitigating measures. The financial impact reflects the estimated cost of mitigating and adaptive measures needed to address inherent risks.

Key drivers of physical and transition risks include stricter regulations on forest management, land-use changes, and climate-related emissions, along with resource availability (including renewable energy), climate change, and mitigation measures. These transitions also drive demand for sustainable products, presenting significant opportunities for Borregaard.

Wild Salmon stock in Glomma
Borregaard has invested in a salmon stock facility at the biorefinery in Sarpsborg to support the preservation of the salmon population in the river Glomma. In addition to enhancing strategic resilience to transition risk associated with regulations on the salmon populations and water quality, this initiative contributes to strengthening the resilience of the salmon population in the river.

Ecosystem condition of the River Glomma in 2023 near Borregaard's Sarpsborg biorefinery (NIVA, 2024)

CLIMATE RISK AND OPPORTUNITIES

DRIVER	DESCRIPTION OF RISK/ OPPORTUNITY	VALUE CHAIN STAGE			LOW EMISSION SCENARIO (SSP1-2.6 & NZE)			HIGH EMISSIONS SCENARIO (SSP5-8.5)		
		Upstream	Direct	Downstream	Short-term	Medium-term	Long-term	Short-term	Medium-term	Long-term
RISK: PHYSICAL										
Tropical cyclones at Fernandina beach affecting logistics and production sites.	Increased hurricane activity in Florida disrupts logistics, damages equipment, and halts production at Fernandina Beach. Prolonged closures from strong winds and storm surges can reduce income.		X	X	🟠	🟠	🔴	🟠	🟠	🔴
Landslides and flooding due to heavy rainfall impacting logistics at the Sarpsborg site.	Increased rainfall heightens the risk of quick clay landslides and disrupts the site, road and rail transport, increasing operational costs. Rising Glomma water levels worsen these logistics issues.		X		🟢	🟠	🟠	🟢	🟠	🔴
Increased periods of drought affecting logistics at the Karlsruhe site.	Dependence on Rhine River logistics in Karlsruhe faces higher costs due to reduced water levels during drought periods.		X	X	🟢	🟢	🟢	🟢	🟠	🟠
RISKS: TRANSITION										
Non-compliance with upcoming legislation affecting wood sourcing, deforestation, and emissions from production.	Upcoming EU legislation, including the EUDR, LULUCF, and EU Green Deal emphasise sustainable forestry and conservation, impacting wood procurement practices.		X		🟠	🟠	🔴	Transition risks are only evaluated based on an NZE scenario.		
Rising cost of NOx emissions from production sites (Sarpsborg).	Financial risk from stricter air quality directives for SO_2 and NOx and higher NOx emission costs, mitigated by investment in emission reduction technologies and electricity for steam production.		X		🟢	🟢	🟠			
Current and emerging carbon pricing mechanisms at all sites. EU ETS developments at Sarpsborg.	Borregaard's Sarpsborg site is subject to the EU Emissions Trading System (EU ETS), posing financial risks from evolving carbon pricing policies.		X		🟢	🟠	🟠			

🟢 low risk/opportunity 🟠 medium low risk/opportunity 🔴 high risk/opportunity

DRIVER	DESCRIPTION OF RISK/ OPPORTUNITY	VALUE CHAIN STAGE			LOW EMISSION SCENARIO (SSP1-2.6 & NZE)			HIGH EMISSIONS SCENARIO (SSP5-8.5)		
		Up-stream	Direct	Down-stream	Short-term	Medium-term	Long-term	Short-term	Medium-term	Long-term
Changing trends in demand for fossil fuel and access to high sulphur crude oil negatively impacts the price and availability of purchased liquid sulphur.	Borregaard will need to assess alternatives such as alternative supplier relations and technologies.	X	X		🟢	🟢	🔴			
OPPORTUNITY: PRODUCTS AND SERVICES										
Maximising biomass utilisation to produce high-value, low-carbon products.	Borregaard's advanced biorefinery maximises biomass utilisation by converting 94% of wood feedstock into high-value biochemicals, biomaterials, and bioenergy. This includes producing lignin-based biopolymers, speciality cellulose, bioethanol, and vanillin, replacing oil-based alternatives and reducing carbon footprints across various industries.		X	X	🟠	🟠	🔴	Transition opportunities are only evaluated based on an NZE scenario.		
OPPORTUNITY: ENERGY SOURCE										
Switching from fossil fuels to renewable energy to reduce emissions and costs.	Investments in hydropower, biogas, and energy efficiency will cut emissions and meet 2030 targets. Flexible electricity systems will reduce exposure to fluctuating energy and carbon prices.		X		🟢	🟢	🟠			
OPPORTUNITIES: MARKETS										
Expanding markets for low-carbon biochemicals and biomaterials.	Borregaard's innovations, such as lignin-based biopolymers and bioethanol, replace fossil-based products. This addresses the growing demand for sustainable solutions across diverse industries.		X	X	🟢	🟠	🔴			
Mitigating market risks with a diversified low-carbon product portfolio.	Borregaard's 800+ products across various markets reduce cyclical risks. R&D investments ensure flexibility in sourcing and help meet future demand for low-carbon solutions.	X			🟢	🟠	🔴			

🟢 low risk/opportunity 🟠 medium low risk/opportunity 🔴 high risk/opportunity

‹ PREVIOUS | NEXT ›

NATURE RISK AND OPPORTUNITIES

DRIVER	DESCRIPTION OF RISK/ OPPORTUNITY	VALUE CHAIN STAGE			AHEAD OF THE GAME (SSP1-2.6 & NZE)			SAND IN THE GEARS (SSP5-8.5)		
		Up-stream	Direct	Down-stream	Short-term	Medium-term	Long-term	Short-term	Medium-term	Long-term
RISK: PHYSICAL										
Sourcing forests impacts land ecosystem use which affects local biodiversity, soil degradation, land conversion and deforestation.	Declining biodiversity destabilises ecosystems reducing the health and productivity of forests. This could impact the long-term availability and quality of raw materials, leading to increased costs.	x			low	low	low	low	low	high
Rising temperatures may lead to delays in Borregaard's sourcing of wood. Longer growing seasons cause a prolonged season for spruce bark beetles, posing a significant threat to coniferous forests.	Due to Borregaard's dependency on wood, a reduced supply and availability of wood impacts prices and delays in the value chain.	x	x		low	low	medium low	low	medium low	high
RISK: TRANSITION										
The supply of salt for Borregaard's production relies on permits for salt mining in the Wadden Sea, granted on the condition that mining does not cause land subsidence in the area. A "hand on tap" principle is implemented, meaning that subsidence rates are measured and modelled annually. The supplier's production plan is updated as necessary based on these findings.	Borregaard faces a financial impact if sourcing from another supplier becomes necessary, and additional investments in cleaning of salt may also be required.	x	x		low	medium low	high / medium low	Transition risks are only evaluated based on an NZE scenario.		
EU regulations and global biodiversity initiatives drive forest restoration and the use of forests as climate sinks, affecting Borregaard's wood supply, adaptation costs, and market position.	Sourcing of wood impacts land ecosystem use which can cause land use change by affecting local biodiversity, soil degradation, land conversion and deforestation.	x	x	x	low	low	medium low			

● low risk/opportunity ● medium low risk/opportunity ● high risk/opportunity

DRIVER	DESCRIPTION OF RISK/ OPPORTUNITY	VALUE CHAIN STAGE			AHEAD OF THE GAME (SSP1-2.6 & NZE)			SAND IN THE GEARS (SSP5-8.5)		
		Up-stream	Direct	Down-stream	Short-term	Medium-term	Long-term	Short-term	Medium-term	Long-term
COD emissions from Borregaard's refining process impacts the wild Atlantic salmon stock in the river Glomma. The emissions are closely monitored, and a report is publicly available from NIVA.	Ongoing investments in emission reduction may help expand the salmon cultivation facility in the River Glomma.		X		🟠	🟣	🟣🟠	Transition risks are only evaluated based on an NZE scenario.		
Monitoring of the River Glomma shows that emissions of COD influence the ecosystems in the river negatively (ref. NIVA 2022 report). The EU water framework directive compliance and stakeholder reporting are ongoing initiatives.	Borregaard strives to improve water quality, which requires investments in technologies to reduce emissions to meet long-term targets and stricter discharge limits.		X		🟢	🟠🟢	🟠			
Borregaard's wood sourcing is likely to be affected by legislation under the EUDR. These initiatives emphasise nature conservation and sustainable forest management, which may impact the company's procurement practices. Borregaard are actively monitoring these developments and implementing measures to ensure compliance.	The increased costs to ensure traceability in the value chain could affect the availability of wood, which Borregaard is dependent on.	X	X	X	🟢	🟢	🟠			
Anticipated stricter air quality directives.	Investment plans are in place to address SO_2 emissions, aligning with the emerging regulations.		X	X	🟢	🟠	🟠			

🟢 low risk/opportunity 🟠 medium low risk/opportunity 🟣 high risk/opportunity

DRIVER	DESCRIPTION OF RISK/ OPPORTUNITY	VALUE CHAIN STAGE			AHEAD OF THE GAME (SSP1-2.6 & NZE)			SAND IN THE GEARS (SSP5-8.5)		
		Up-stream	Direct	Down-stream	Short-term	Medium-term	Long-term	Short-term	Medium-term	Long-term
RISK: SYSTEMIC										
Continued salt mining causing subsidence and ecosystem collapse qualifies as a systemic nature risk because its effects can cascade across interconnected systems. Ecosystem collapse disrupts critical services like water purification, flood regulation, and soil stability, leading to widespread environmental and economic harm. These disruptions can damage infrastructure, undermine local economies, and create liabilities for financial institutions, potentially destabilising the financial system. Furthermore, as natural systems like water cycles are deeply interdependent, localised ecosystem failures can trigger broader crises, exemplifying the definition of systemic risks.	For Borregaard, continued salt mining in a biodiversity-sensitive area poses a significant risk to its supply chain and operations. If mining activities lead to subsidence and ecosystem collapse, the availability and quality of salt could be disrupted, threatening a critical raw material for the company. This could increase costs, force the company to seek alternative sources, and expose it to reputational risks tied to environmental degradation. Additionally, reliance on an unstable supply chain tied to systemic nature risks may undermine Borregaard's resilience and long-term sustainability, particularly as stakeholders demand greater accountability for environmental impacts.	X			🟠	🟣/🟠	🟣	Transition risks are only evaluated based on an NZE scenario.		
OPPORTUNITIES: RESOURCE EFFICIENCY										
Efficient utilisation of wood side streams and cascading use of materials.	By utilising wood logs to their maximum potential, Borregaard serves multiple markets with unique products. Resource efficiency will improve further with continued investments in R&D and technological advancements, driving market growth.	X	X	X	🟠	🟠	🟣	Transition opportunities are only evaluated based on an NZE scenario.		

🟢 low risk/opportunity 🟠 medium low risk/opportunity 🟣 high risk/opportunity

‹ PREVIOUS | NEXT ›

DRIVER	DESCRIPTION OF RISK/ OPPORTUNITY	VALUE CHAIN STAGE			AHEAD OF THE GAME (SSP1-2.6 & NZE)			SAND IN THE GEARS (SSP5-8.5)		
		Up-stream	Direct	Down-stream	Short-term	Medium-term	Long-term	Short-term	Medium-term	Long-term
The transition to a low-carbon and nature-focused economy will increase demand for bio-based products with low carbon footprint, that replace fossil-based products.	The combined effect of consumer and investor attention, along with policy measures, drives the demand for sustainable solutions. Borregaard's strategy and products reduce consumers' downstream impacts on climate and nature, creating market value. Borregaard contributes to strengthening circular value chains and promotes circularity by offering sustainable solutions.		X	X	🔴	🔴	🔴			
Water accessibility at all production sites.	Borregaard's production locations have a high availability of water, ensuring a reliable water supply regardless of climate change.		X		🟢	🟢	🟢			
OPPORTUNITIES: BUSINESS PERFORMANCE										
Transition to green investments through Borregaard's Green financing framework, structured in accordance with the 2021 ICMA Green Bond Principles (GBP).	Borregaard can attract new investors as our processes and products are integrated in value chains that support and enable transitions to a circular economy and mitigate climate change. This creates high ESG trust. The green financing framework is approved and in 2023 we placed NOK 500 million in new senior unsecured green bonds.		X	X	🟠	🔴	🔴			

🟢 low risk/opportunity 🟠 medium low risk/opportunity 🔴 high risk/opportunity

BUSINESS MODEL AND VALUE CHAIN

Borregaard's operations are already facing physical climate- and nature-related impacts. At the Sarpsborg biorefinery, flooding can disrupt production schedules, Increase maintenance demands, and necessitates investments in slope stabilisation and drainage systems. The Fernandina Beach facility in Florida faces the current risk of more frequent and intense hurricanes. In the last 3 decades sea surface temperatures in the Gulf of Mexico (which gives rise to a high number of hurricanes) have increased by 0.3°C. The effects are already evident, as data show hurricane activity in the region has increased in frequency and intensity in the last decade alone. These effects are exacerbated by rising sea levels and an increase in mean global heat content of the oceans. Both of which have shown an upward trend in the last 3 decades. In Germany, drought-induced low water levels on the Rhine River constrain barge transport, leading to increased logistics costs and delivery delays to the Borregaard site in Karlsruhe.

At Sarpsborg, heavy precipitation, rapid snowmelt, and river overflow from the Glomma cause localised flooding and landslides, threatening infrastructure and transport routes. The risk level of this location according to the WRI Aqueduct Water Risk Atlas is already between medium-high. Spring in particular faces the highest risk of flooding as the combination of snowmelt and heavy precipitation can lead to more frequent occurrences.

Projected climate scenarios suggest future challenges for Borregaard's operations. At the Sarpsborg site, precipitation is expected to rise by 5.7% under the SSP5-8.5 scenario, intensifying flood risks and further straining infrastructure. New requirements for existing and new buildings to mitigate changes due to climate are already being brought in. These add to costs associated with climate-related risks for Borregaard. In Germany, rising maximum surface air temperatures under SSP5-8.5 could increase by 19.3% by 2059, prolonging Rhine River droughts and requiring costlier logistics shifts to road and rail. In Florida, sea surface temperatures are anticipated to rise by over 2°C by 2059 under SSP5-8.5, resulting in more intense hurricanes that risk operational shutdowns, infrastructure damage, and higher recovery costs. Additionally, disruptions in the value chain, particularly in the sourcing of salt and wood, could significantly impact productivity in a high-emissions, long-term scenario.

Borregaard's advanced biorefinery converts over 94% of wood feedstock into biochemicals, biomaterials, and bioenergy, minimising waste and reducing fossil fuel reliance. A recently completed project at the Sarpsborg biorefinery will reduce CO_2 emissions by 30,000 tonnes annually, improve energy flexibility, and lower dependence on natural gas, showcasing Borregaard's climate resilience strategy. To further avoid harm, we prioritise sustainable sourcing by selecting raw materials such as FSC- and PEFC-certified wood, ensuring sustainable forest management. Bi-annual supplier monitoring and collaboration with stakeholders, including environmental organisations, mitigate risks of deforestation and ecosystem conversion. Flexible logistics and diversified sourcing strategies further reduce dependence on vulnerable ecosystems, safeguarding access to natural capital. To reduce the environmental footprint, Borregaard invests in innovative technologies that lower the climate, and nature-related impacts of its products. For example, efforts to reduce COD emissions aim to improve water quality and achieve good ecological status for the River Glomma by 2033, thereby addressing harm to riverbed sediments and supporting the Atlantic salmon population. Restoration efforts focus on improving degraded ecosystems through participation in multi-stakeholder initiatives such as watershed management, enhancing biodiversity and ecosystem functionality in line with Target 2 of the Global Biodiversity Framework (GBF). Through these efforts, Borregaard demonstrates a comprehensive approach to integrating the mitigation hierarchy into its business practices.

Central to its strategy, the biorefinery maximises resource efficiency by extracting value from wood logs and wood chips from sawmills and transforming side streams into bioethanol, lignin-based biopolymers, biovanillin, speciality cellulose and cellulose fibrils. This cascading approach ensures optimal resource use, enabling it to serve more customers with the same volume of raw materials while reducing environmental impact. By advancing R&D and technology, Borregaard enhances its ability to deliver bio-based alternatives, such as lignin biopolymers for industrial use and wood-based vanillin for cosmetics, that replace fossil-based products. These efforts solidify its role as a leader in biochemicals and biomaterials, driving growth and innovation in sustainable markets.

CONCENTRATION OF CLIMATE-RELATED RISKS AND OPPORTUNITIES

Borregaard's climate-related risks and opportunities are concentrated across key regions, facilities, and logistics networks. The Sarpsborg biorefinery faces growing risks from heavy rainfall and flooding. Annual precipitation is expected to rise from 895 mm to 946 mm by 2059 under SSP5-8.5, a 5.7% increase. This increase also heightens the risk of more heavy precipitation events occurring. Intense rainfall could overwhelm drainage systems and destabilise slopes, particularly those that contain large deposits of quick clay, threatening infrastructure and access routes. Investments in slope stabilisation and drainage systems are essential for mitigation. Increases in flooding events at the site, driven by climate-related forces, also have the potential to indirectly negatively impact nature. Heavy rainfall and river overflow can wash pollutants from production areas, storage facilities, or nearby industrial zones into local watercourses, such as the Glomma River. Saturated soils and overwhelmed drainage systems increase the likelihood of runoff carrying chemicals, organic materials, or other contaminants into the river, potentially impacting water quality and local ecosystems. This not only raises environmental concerns but could also result in regulatory scrutiny, clean-up costs, and reputational risks for Borregaard. Ensuring robust containment measures, improved drainage infrastructure, and regular monitoring of runoff are critical to mitigating this risk.

In Florida, the Fernandina Beach facility is highly vulnerable to hurricanes and storm surges. Under SSP5-8.5, sea levels could rise by over 1 meter by 2059, increasing the risk of catastrophic flooding. Rising SSTs and reduced vertical wind shear may lead to more frequent and severe hurricanes, further endangering operations.

In Germany, the Karlsruhe site depends on the Rhine River for logistics but faces risks from drought. Under SSP1-2.6, temperatures are expected to increase to 11.3°C by 2059, and under SSP5-8.5, to 12°C. These changes will exacerbate low water levels, restricting barge navigation and increasing reliance on road and rail logistics. This shift could raise transport costs and disrupt supply chains, requiring strategic adjustments to ensure continuity.
Despite these risks, the focus on bio-based innovation presents significant opportunities. Borregaard is investing in technologies supporting decarbonisation and meeting regulatory demands. New products, such as granulated lignin-based biopolymers for detergents and agricultural applications, cater to the growing demand for eco-friendly solutions. Investments in bio-based start-ups like Alginor ASA and Kaffe Bueno expand Borregaard's capabilities and diversify its value chain, reinforcing its leadership in green markets.

FINANCIAL POSITION, FINANCIAL PERFORMANCE AND CASH FLOW

Current Financial Effects
During the reporting period, Borregaard experienced notable financial effects from climate- and nature-related risks and opportunities. The company has in 2024 NOK 187 million in Sarpsborg projects to reduce CO_2 emissions by 30,000 tonnes annually, advancing its net-zero emissions goal for 2050. This capital expenditure has lowered energy costs through reduced LNG consumption and improved energy efficiency. The projects were complemented by a long-term electric power contract covering 10–15% of Sarpsborg's energy needs, stabilising costs and mitigating fossil fuel price volatility. Borregaard has had average annual revenue growth of 8.6%

over the past five years. Borregaards bio-based products contribute substantially to climate change mitigation and often serve as less polluting substitutes for hazardous chemicals. However, for the 2024 Taxonomy reporting, Borregaard's eligible economic activities are limited to the climate change mitigation objective, 34 % of the sales revenue are taxonomy aligned.

Due to previously exceeding permitted levels of chemical oxygen demand (COD) discharge into Glomma, the Norwegian Environment Agency (Miljødirektoratet) and Niva monitor Borregaards production unit in Sarpsborg. This has led to increased monitoring of the company's activities to ensure compliance with environmental regulations. The monitoring includes regular sampling and reporting of water quality, with the company bearing the costs of this oversight.

Disruptions in the sourcing of wood could arise from among other things stricter forestry regulations and climate impacts on forests, driving up raw material costs and potentially halting production. Such risks highlight the need for proactive resource management and investment in sustainable practices to safeguard operations and financial stability.

Anticipated Financial Effects

Over the short-, medium-, and long-term, Borregaard anticipates that climate- and nature-related risks and opportunities will influence its financial position, performance, and cash flows. In the short-term, capital expenditures are expected to rise due to ongoing investments in emissions reduction and efficiency projects, including the NOK 70 million biopolymer capacity expansion and the NOK 100 million lignin demonstration plant. These initiatives aim to meet the growing market demand for sustainable solutions while advancing the company's net-zero emissions strategy. Although these projects may increase near-term costs, they are projected to deliver substantial medium- and long-term benefits through cost savings and revenue growth from market diversification. Under the SSP1-2.6 scenario, stable climate conditions may enable Borregaard to prioritise these investments without major disruptions. However, operational costs could increase due to sourcing challenges for critical raw materials such as salt and certified wood.

Disruptions in salt mining from biodiversity-sensitive areas and difficulties in securing certified wood may lead to higher procurement costs and delays, impacting cash flows. Furthermore, investments in technologies to reduce emissions and improve water quality are likely to elevate short-term expenses as Borregaard works to meet our targets for emission reduction of COD in 2026 and 2030.

In the medium term, physical climate risks such as increased flooding at Sarpsborg and more intense hurricanes at Fernandina Beach could elevate maintenance and operational costs, particularly under a high emissions scenario. Additional cash outflows may be required for mitigation measures like slope stabilisation and facility fortifications. However, Borregaard's investments in bio-based innovation are expected to drive revenue growth in high-demand sectors like batteries, agriculture, and homecare, cushioning financial impacts. In the long term, sustained investments in renewable energy and electrification will be critical to achieving net-zero targets. These expenditures will likely be offset by increased revenues from climate-resilient products such as biopolymers, advanced bioethanol, and cellulose fibrils. Under SSP5-8.5, more severe climate impacts may necessitate greater adaptation costs. Additionally, further cost pressures from systemic and transition risks could occur in the medium-term. Resource scarcity, such as the reduced availability and quality of wood and salt, may face higher sourcing costs or be forced to invest in alternative raw material suppliers. Efforts to clean salt and improve the environmental impact of its operations may require significant capital expenditure. The investment in improving water quality and addressing SO2 emissions will contribute to increased operating expenses, as Borregaard aligns with emerging environmental regulations.

Capital expenditures to implement the climate transtion plan are estimated at NOK 700-900 million for the period up to 2030. Of this, NOK 356 million were spent by the end of 2024. These investments contributed to an 7% year-over-year reduction in scope 1 and 2 GHG emissions, demonstrating operational cost efficiencies from energy conservation. Revenue from the BioSolutions segment reached NOK 4,241 million, driven by strong demand for lignin-based biopolymers. While current operations are financially robust, various scenarios outlined in Borregaard's climate analysis suggest divergent future impacts. Under SSP1-2.6, milder climate disruptions could sustain steady investments, while SSP5-8.5's severe impacts may necessitate higher adaptation costs, affecting cash flow stability.

Extreme weather events pose material risks to Borregaard's assets, particularly at Sarpsborg and Fernandina Beach. Projected increases in flooding at Sarpsborg and intensified hurricanes in Florida could require adjustments to asset depreciation rates and higher maintenance provisions.
Prolonged droughts impacting the Rhine River threaten transportation logistics at the Karlsruhe site, potentially increasing valuation adjustments for transport-related assets. Under SSP1-2.6, these risks remain moderate and manageable, while SSP5-8.5 forecasts escalating challenges that may lead to greater financial adjustments, including higher contingency reserves and strategic reallocations of resource
Long-term impacts concerning nature loss may involve sustained pressure on revenues and expenses if biodiversity degradation continues to destabilise ecosystems, threatening the long-term availability of raw materials. The need for increased investments in alternative sourcing, cleaner production technologies, and stricter supply chain traceability could drive up costs.

Additionally, liability risks related to environmental degradation or supply chain disruptions could affect Borregaard's asset values, potentially leading to reputational damage and increased insurance costs. These long-term risks could influence Borregaard's ability to attract financing, depending on its ability to demonstrate resilience and accountability in managing nature-related risks.

Over different time horizons, Borregaard expects varying financial impacts aligned with its climate strategy. In the short-term, ongoing investments in the NOK 70 million biopolymer expansion and the NOK 100 million lignin demonstration plant, together with a capacity increase at the Sarpsborg biorefinery, will elevate capital expenditures. These projects, funded by operational cash flows of NOK 1.56 billion in 2024 and targeted financing under Borregaard's Green Financing Framework and sustainability linked credit facilities, are expected to enhance long-term revenue streams. Medium-term revenues will benefit from increased production of specialised biopolymers for batteries and detergents, offsetting rising adaptation costs such as slope stabilisation and infrastructure fortifications. In the long-term, as Borregaard transitions to net-zero emissions by 2050, stable revenue growth from biopolymers, speciality cellulose, cellulose fibrils and bioethanol is anticipated to maintain financial resilience, though expenditures under high-impact scenarios like SSP5-8.5 could exceed projections due to intensified climate-related disruptions. Overall, while Borregaard's investments in sustainability and resource efficiency can drive revenue growth in the long-term, nature-related risks pose substantial financial challenges, requiring strategic investments and ongoing adaptation plans to mitigate these risks.

Nature-related risks and opportunities serve as a key input to Borregaard's financial planning processes by informing strategic decisions on sourcing, investments, and operational improvements. These factors are incorporated into cost forecasts, risk management strategies, and long-term business planning, ensuring that the company is prepared for potential disruptions, such as resource scarcity or regulatory changes, while also capitalising on opportunities to innovate and meet market demand for sustainable products. As such, nature-related risks and opportunities are integral to Borregaard's financial models, enabling the company to align its growth ambitions with environmental sustainability goals.

STRATEGY AND DECISION-MAKING

Response to climate-related risks and opportunities
Borregaard integrates climate-related considerations into its business model, focusing on sustainability and innovation. Recent resource allocations include NOK 187 million invested in Sarpsborg, in 2024 to cut GHG emissions by 30,000 tonnes annually, reduce LNG dependence, and improve energy efficiency and flexibility. In the beginning of 2024, Borregaard announced a NOK 275 million investment to upgrade the electricity transformation capacity at the Sarpsborg site. This infrastructure investment will facilitate delivery of long-term environmental goals and make headroom for future growth projects. To expand into climate-resilient markets, Borregaard has allocated NOK 70 million to increase biopolymer capacity for applications in batteries and green technologies. A NOK 100 million demonstration plant under construction focuses on next-generation lignin-based products for homecare and industrial cleaning applications, reflecting a strategy centred on innovation and targeted capital expenditure. The NOK 490 million

capacity increase project at the Sarpsborg site is the first step in a two-step debottlenecking project to increase the output of speciality cellulose, lignin-based biopolymers and advanced bioethanol by 5-10%.

Borregaard's mitigation efforts include electrifying operations, particularly at the Sarpsborg biorefinery, to lower GHG emissions. These efforts rely on access to green energy and expanded transmission capacity. Site-specific adaptations include improved drainage systems and slope stabilisation at Sarpsborg to mitigate flooding risks and landslides. In Florida, hurricane preparedness measures include facility fortifications and contingency planning to address extreme weather. Indirect mitigation efforts focus on customer and supply chain collaboration. For example, lignin-based biopolymers help clients replace oil-based alternatives, while specialty cellulose supports industries transitioning to biodegradable materials. Investments in start-ups like Alginor and Kaffe Bueno diversify Borregaard's supply chain and expand climate-friendly offerings.

Borregaard is committed to achieving net-zero emissions by 2050, with interim targets aligned with the Paris Agreement. The 2030 goal includes major reductions in scope 1 and 2 emissions through initiatives like energy efficiency improvements and LNG reductions. The transition plan assumes stable access to renewable energy, supportive policies, and technological advances. Dependencies include the development of green energy infrastructure and partnerships to enable product transitions. Progress is monitored through detailed emissions tracking and periodic reporting, ensuring accountability for achieving science-based targets.

Resourcing climate-related activities

Borregaard allocates significant resources to support its climate strategy. Capital expenditures to implement the action plan are estimated at NOK 700-900 million for the period up to 2030. Of this, NOK 356 million were spent by the end of 2024. Capital expenditures from 2025 onwards for the projects outlined in the transition plan are still under development, and both the configuration of equipment and the associated cost estimates have not yet been finalised.

The company's investment in R&D focuses on innovative, sustainable solutions. Dedicated teams within sustainability and operational departments oversee these initiatives, ensuring alignment with corporate goals. Collaboration with suppliers, government agencies, and research institutions bolsters these efforts, ensuring that Borregaard's activities are supported by external expertise and funding where available.

Borregaard has made substantial progress on previously disclosed climate-related initiatives. The NOK 187 million emissions reduction project at the biorefinery in Sarpsborg was completed in 2024 with annual GHG reductions of 30,000 tonnes from 2025. The NOK 70 million biopolymer expansion is nearing completion, with new production lines being phased into operation. Borregaard's commitment to renewable energy is demonstrated by a 10-year power purchase agreement that will meet 10-15% of Sarpsborg's energy needs with renewable energy.

The company's emissions performance has improved, with scope 1 and 2 emissions reduced by 8% from 2023, through energy conservation and lower fossil fuel use. Process improvements have contributed to a reduction in chemical oxygen demand (COD) emissions to water, although it was a small set back in 2024 due to lower performance of the waste water treatment, further emphasising environmental progress. Transition risks are only evaluated based on an NZE scenario. These achievements reinforce Borregaard's ability to execute its climate strategy effectively, building confidence in its capacity to meet long-term sustainability objectives while remaining aligned with global climate goals.

Response to nature-related risks and opportunities

Borregaard has not finalised a nature transition plan or set science-based targets for nature, however, is actively working to minimise risks and impacts in the value chain.

RESILIENCE OF BORREGAARD'S STRATEGY AND BUSINESS MODEL

Borregaard has analysed how climate change may impact its operations and the value chain through a scenario analysis in accordance with IFRS and TNFD recommendations. The

scenarios were selected to test Borregaard's strategic resilience and better understand future strategic and financial impacts in both favourable and non-favourable scenarios. External factors such as strengthened forest and biodiversity protection, increased use of natural sinks as carbon storage, and the occurrence of extreme weather events, have been identified as potential challenges impacting wood availability and prices. The identified physical and transition risks and opportunities materialise in different ways in different scenarios in the short-, medium- and long-term, and has allowed for further analysis of the resilience of Borregaard's strategy going forward in the upstream value chain and Borregaard's direct operations. The analysis of climate-related scenarios can also contribute valuable insights to the examination of nature-related risks, with the latter being a more exploratory approach in exploring plausible scenarios, examining the negative feedback loops between increasing rates of climate change and nature loss. The scenarios explore two critical uncertainties: the rate of degradation of ecosystem services and the balance between market forces, such as supply chain disruptions and resource scarcity, and non-market forces, including regulatory changes and societal pressures, to assess their combined impact on economic and environmental systems.

Physical risks

Borregaard's climate resilience assessment demonstrates how its strategy and business model are designed to address climate risks and leverage opportunities. For example, infrastructure upgrades at key sites enhance operational continuity by addressing vulnerabilities to extreme weather. However, significant uncertainties persist, including the timing and severity of physical climate and nature risks, as well as the scalability of renewable energy infrastructure necessary for operational electrification. Addressing these uncertainties through more refined scenario planning and adaptive strategies will further enhance Borregaard's climate and nature resilience.

In a low emissions scenario for physical risks Borregaard's availability of wood is not at risk, as climate change slows and resource efficiency improves. Additionally, with the rise of more initiatives for carbon emissions reductions and conservation efforts, the availability of sustainably sourced materials increases. Sustainably sourced wood and sustainable forest management are peaking, ensuring forest health and the regeneration of trees for material production.

In the high emission physical scenario, there is some misalignment between climate and nature action, which may impact the availability of sustainably managed forests. But still in the medium-term, the effects of climate change do not have a significant impact on Borregaard's sourcing of wood. In the long term, climate change impacts local biodiversity, extreme weather and soil degradation due to continued overharvesting of forests. Rising temperatures affect leaf phenology (bud break, leaf maturation, and leaf senescence), which increases vulnerability to late spring frosts and soil freezing, stressing trees and reducing their productivity. Warmer temperatures paired with drier conditions during the growing season can also cause tree stress and decrease overall forest productivity (i.e., tree growth) and will impact availability of wood raw materials.

The degradation of ecosystem services under various temperature scenarios directly affects wood availability. In Norway and Sweden, warmer temperatures are expected to influence forest health and increase the risk of wood degradation due to heightened insect activity. While moderate warming under the SSP1-2.6 scenario is unlikely to significantly alter pest dynamics, sustained temperature increases in the SSP5-8.5 scenario could lead to more frequent pest outbreaks, as warmer conditions would accelerate the life cycles of destructive pests like the spruce bark beetle. This could allow multiple pest generations per season, leading to widespread tree damage, weakened tree health, and a potential decrease in wood quality and availability for Borregaard.
As trees become stressed by higher temperatures and drought, they would be more susceptible to infestations, accelerating forest degradation. This would impact Borregaard's raw material supply, particularly if pest populations grow uncontrollably, necessitating the exploration of alternative sourcing strategies and potential supply chain adjustments.
Borregaard reinforces its commitment to sustainable forest management through its Responsible Sourcing Policy and its Policy for Environment, Climate, Health, and Safety Engagement, ensuring that all wood sources are certified. The active pursuit of ensuring that 100% of wood procurement adheres to FSC or PEFC certification contributes significantly to promoting sustainable forest management while safeguarding economic, social, and environmental values.

The resilience of Borregaard's strategy is rooted in the diverse product portfolio of over 800 items, which makes the company adaptable to market shifts and reduces exposure to cyclical industries. The growing demand for low-carbon products is anticipated to drive revenue growth, supported by Borregaard's strategic investments in R&D and the expansion of its product offerings. With ongoing efforts to ensure flexible sourcing, particularly in energy and basic chemicals, Borregaard enhances its resilience to climate change and market fluctuations. These opportunities are aligned with Borregaard's long-term sustainability goals, including its commitment to the Global Biodiversity Framework (GBF), specifically supporting targets related to sustainable production, reducing ecosystem degradation, and promoting the circular economy. Sustainable forest management in Norway has had a significant positive impact on standing volume in Norway's forests. Thus, by diversifying supply of wood, Borregaard's resilience to the changing landscape of forest regulation and timber prices remains strong.

Transition risks

In a Net Zero scenario, upcoming legislations addressing the climate and nature transitions such as the EU green deal, Paris Agreement, CSRD reporting requirements, the EU Deforestation Regulation (EUDR), and the Global Biodiversity Framework's targets emphasise the pathway in which the global economy is shifting. These initiatives are expected to influence procurement practices; and Borregaard is actively monitoring these developments and implementing measures to ensure compliance. As a result, the company faces a low to medium risk from new EU regulations, supported by its robust approach to transition risk management, and diverse product portfolio.

The current and planned investments focusing on emissions reduction, renewable energy adoption, and expanding production capacity for sustainable products strengthen Borregaard's position in low-carbon markets while also mitigating climate-related risks such as extreme weather events. Furthermore, the planned investments in innovative technologies, such as next-generation biopolymers, are expected to support long-term revenue growth by meeting the increasing demand for climate-friendly solutions, as the directives and emerging requirements materialise. Borregaard's business model, centred on enhancing the value of existing products and developing innovative bio-based alternatives, underscores the need for an ambitious purchasing policy to maintain its reputation as a leader in sustainability. The company prioritises sustainable sourcing, ensuring resilience in the face of supply chain pressures. For instance, the Russian invasion of Ukraine has heightened competition for Nordic wood due to bans on Russian imports. Despite this, Borregaard remains well-positioned as stricter regulations, such as the EU's RED III directive, could reduce the use of wood for bioenergy, potentially increasing the availability of wood for biorefinery applications. By leveraging these shifts, Borregaard strengthens its capacity to adapt to evolving market and regulatory landscapes while reinforcing its commitment to sustainable and nature-positive operations.

Monitoring of the River Glomma conducted by NIVA indicates that COD emissions negatively impact river ecosystems. Borregaard is actively engaged in ongoing initiatives to ensure compliance with the EU Water Framework Directive and stakeholder reporting. To improve water quality, Borregaard annually invests in technologies that reduce emissions, aligning with long-term targets and preparing for stricter future discharge limits. Similar to previous studies, the results show that there is little organic load upstream of Borregaard's discharge points and a significant load downstream of these points. Elevated pollution levels above permitted thresholds could expose the company to liability risks and financial penalties. The monitoring by NIVA also indicates that the ecological status of the river outside the company's operations is affected by COD emissions, posing a risk to the vulnerable wild Atlantic salmon stock.

Continued salt mining causing subsidence and ecosystem collapse is a systemic nature risk with cascading effects on interconnected systems. It disrupts services like water purification, flood regulation, and soil stability, causing environmental and economic harm, infrastructure damage, and financial liabilities. For Borregaard, salt mining in biodiversity-sensitive areas poses a risk of disrupting salt supply. Ecosystem collapse could lead to increased costs, the need for sourcing alternatives, and potential damage the

company's reputation. Reliance on an unstable supply chain tied to systemic risks undermines resilience and long-term sustainability, especially amid growing stakeholder demands for environmental accountability.

Factors such as heightened forest protection and increased demand driven by stringent carbon pricing in Europe further constrain access to wood supply. While the demand for wood is expected to rise as companies shift towards lower-carbon materials, Borregaard's robust market position enables it to absorb higher wood prices. However, less established companies may encounter challenges or face closure due to elevated costs or specific regulations. In a business-as-usual scenario, weather events also pose potential impacts. However, the use of wood for bioenergy (EU's RED III directive) and other purposes may face stricter regulations, leading to a reduced use of wood for these applications and an increased availability of wood as raw materials for biorefinery concepts.

SCENARIO ANALYSIS

The following chapter provides an overview of the methodologies and assumptions applied in the climate and nature scenario analyses. These analyses are interconnected, with the nature scenario analysis building upon the narratives and frameworks established in the climate scenarios to explore the dynamic relationship between climate and nature, often referred to as the climate-nature nexus. This approach ensures a holistic understanding of how climate-related changes influence nature and vice versa, offering a comprehensive perspective on the interdependencies between these critical systems.

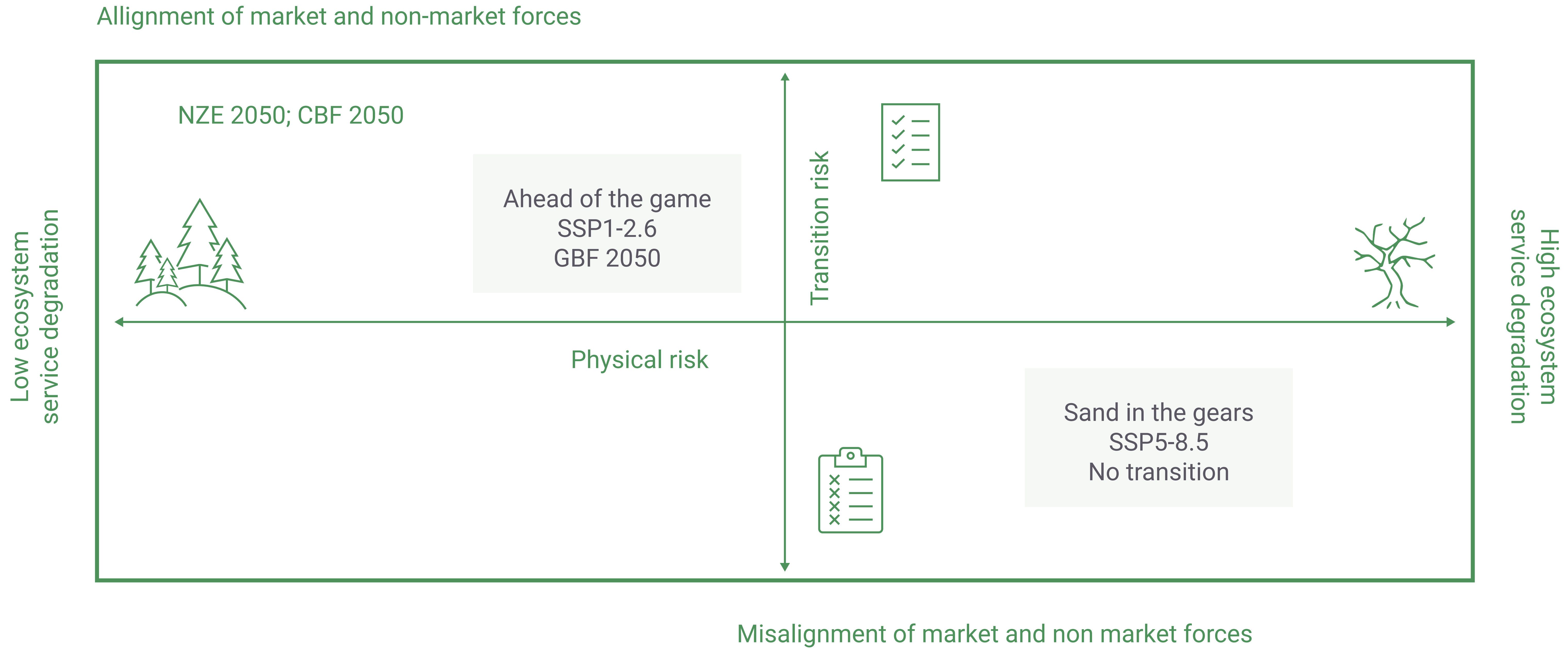
Climate

Borregaard conducted its climate-related scenario analysis in 2024 to assess its resilience to climate-related risks and opportunities across short (1 year), medium (2–9 years), and long (10+ years) time horizons. The analysis focused on key operational sites, including the Sarpsborg biorefinery in Norway, the Fernandina Beach facility in Florida, and the Karlsruhe logistics hub in Germany, as well as critical dependencies such as the Rhine River for logistics and various forests across Europe and America that Borregaard relies on for raw materials. Borregaard selected three climate-related scenarios for the analysis: SSP1-2.6, representing a low-emissions pathway with strong mitigation efforts, SSP5-8.5, which models high emissions and severe physical risks,

and the IEA NZE 2050 (Net Zero Emissions) scenario, aligned with global decarbonisation goals. These scenarios were chosen to address a diverse range of potential futures, encompassing both physical risks (e.g., flooding, hurricanes, droughts) and transition risks (e.g., regulatory shifts, decarbonisation efforts). The IEA NZE scenario specifically focuses on the transition to a net-zero economy, while the SSP scenarios provide a broader view of physical climate risks under varying levels of mitigation.
These scenarios were selected for their relevance to Borregaard's operational resilience and long-term sustainability, with SSP1-2.6 and IEA NZE aligned with the Paris Agreement's climate goals.

Nature
Unlike climate scenarios, such as the SSP's, RCP's and NZE, there are currently no universally accepted, standardised definitions for nature-related scenarios. To address this gap, Borregaard employs climate change as a central driver of biodiversity loss, examining how these changes might impact the natural resources and dependencies critical to its operations.
By positioning climate change as a key factor in these scenarios, we aim to understand its indirect effects on nature and how these changes might amplify the company's exposure to nature-related risks.

In addition, the analysis follows TNFD's Scenario Analysis guidance throughout the process and have evaluated the scenarios presented by TNFD as explained under each scenario in this chapter. The scenarios are informed by the latest climate and nature science from the UNCCD report, and the Intergovernmental Science-policy Platform on Biodiversity and Ecosystem Services (IPBES).



NARRATIVE SCENARIO DESCRIPTIONS

PHYSICAL RISK	
LOW EMISSION SCENARIO (SSP1-2.6)	HIGH EMISSION SCENARIO (SSP5-8.5)
Climate The SSP1-2.6 scenario envisions an optimistic trajectory driven by sustainable practices, global cooperation, and significant investments in education, health, and human well-being. Global population peaks at 8.5 billion mid-century and declines to 7 billion by 2100, with rapid urbanization reaching 92% by 2100. GDP rises from $100 trillion in 2020 to $565 trillion by 2100, supported by technological progress, energy efficiency, and equitable economic growth, including rapid development in poorer countries. Energy demand remains at 50% of today's levels, driven by a shift to renewables and biomass, with minimal eliance on coal and oil. Emissions peak between 2040-2060, even without climate policies, and decline to 22-48 gigatonnes of CO_2 by 2100, leading to 3-3.5°C warming. SSP1 assumes improved management of global commons, low population growth due to advancements in education, and income convegence. When paired with RCP2.6, which limits warming to 1.5°C, the scenario highlights the importance of global cooperation and effective climate policies, although uncertainties remain around ocean-atmosphere processes and non-CO_2 GHG impacts, the dynamics of which can be lacking in some climate model projections.	**Climate** The SSP5-8.5 scenario envisions a world of rapid economic growth and technological progress, driven by an energy-intensive, fossil fuel-based economy. Population peaks at 8.5 billion in 2050 and declines to 7.38 billion by 2100, while Energy demand triples to 1,500 EJ per year, dominated by fossil fuels, with coal, oil, and gas use remaining high and renewables contributing only 186 EJ by 2100. Emissions peak at 130.4 $GtCO_2$ annually by 2100, resulting in a global temperature rise of 4-5°C. Unlike SSP1, this scenario assumes no significant climate mitigation, reflecting a "business-as-usual" trajectory under RCP8.5. Economic development is tied to resource-intensive lifestyles, abundant fossil fuel exploitation, and minimal climate policy intervention. Despite assumptions of global cooperation, the lack of mitigation policies and uncertainties in ocean-atmospheric processes and non-CO_2 GHG impacts increase the risks associated with this pathway.
Nature The Low-Emissions Scenario (SSP1-2.6) envisions a world with ambitious carbon reduction efforts, including extensive ecosystem restoration and protection, covering nearly half of Earth's land by 2050 (based on the SSP1-2.6 low emissions scenario). It leads to a tripling of protected areas, particularly in Sub-Saharan Africa and Latin America, preserving biodiversity, water regulation, and carbon storage. This protection will also limit agricultural expansion, requiring 9% higher yields by 2050. Additional carbon storage of 83 gigatons will be achieved, and biodiversity loss will decrease by a third. The shift to more efficient technologies, like electric heat pumps and increased nuclear energy, along with investments in circular economies, will reduce resource consumption and environmental impacts. Policies linking carbon and nature goals, such as carbon taxes and nature-positive product labelling, will drive change, while a stable economy supports long-term investments in nature-positive initiatives. This scenario will help assess physical nature risks over the short-, medium-, and long-term.	**Nature** In the High-Emissions Scenario (SSP5-8.5) environmental assets deteriorate rapidly due to a global prioritization of short-term economic growth over long-term sustainability. Fragmented and slow political and financial systems fail to implement broad actions against degradation. Organizations focus on mitigating immediate disruptions, externalizing costs and compounding overexploitation. Under the SSP5-8.5 high-emissions pathway, no significant efforts to protect or restore natural assets are made by 2050. Rapid economic expansion drives widespread land degradation, with 16 million km^2 expected to degrade, particularly in Sub-Saharan Africa, as agricultural expansion meets a 45% rise in food demand, reducing natural areas by 3 million km^2, especially in Sub-Saharan Africa and Latin America. CO_2 emissions from land-use changes and soil degradation will rise by 69 gigatons, while worsening soil quality and drought risks reduce crop yields. Weak nature protection policies and inefficient resource use leave ecosystems vulnerable, widening inequalities between developed and developing economies in managing resources. Unequal distribution of benefits from environmental assets amplifies global inequities. Short-term exploitation incentives dominate, hindering sustainable management, while carbon reduction efforts remain disconnected from nature-based solutions, escalating long-term risks. This scenario highlights high economic vulnerability from weak nature policies and environmental degradation, emphasizing the costs of ignoring the interconnectedness long-term.

TRANSITION RISK

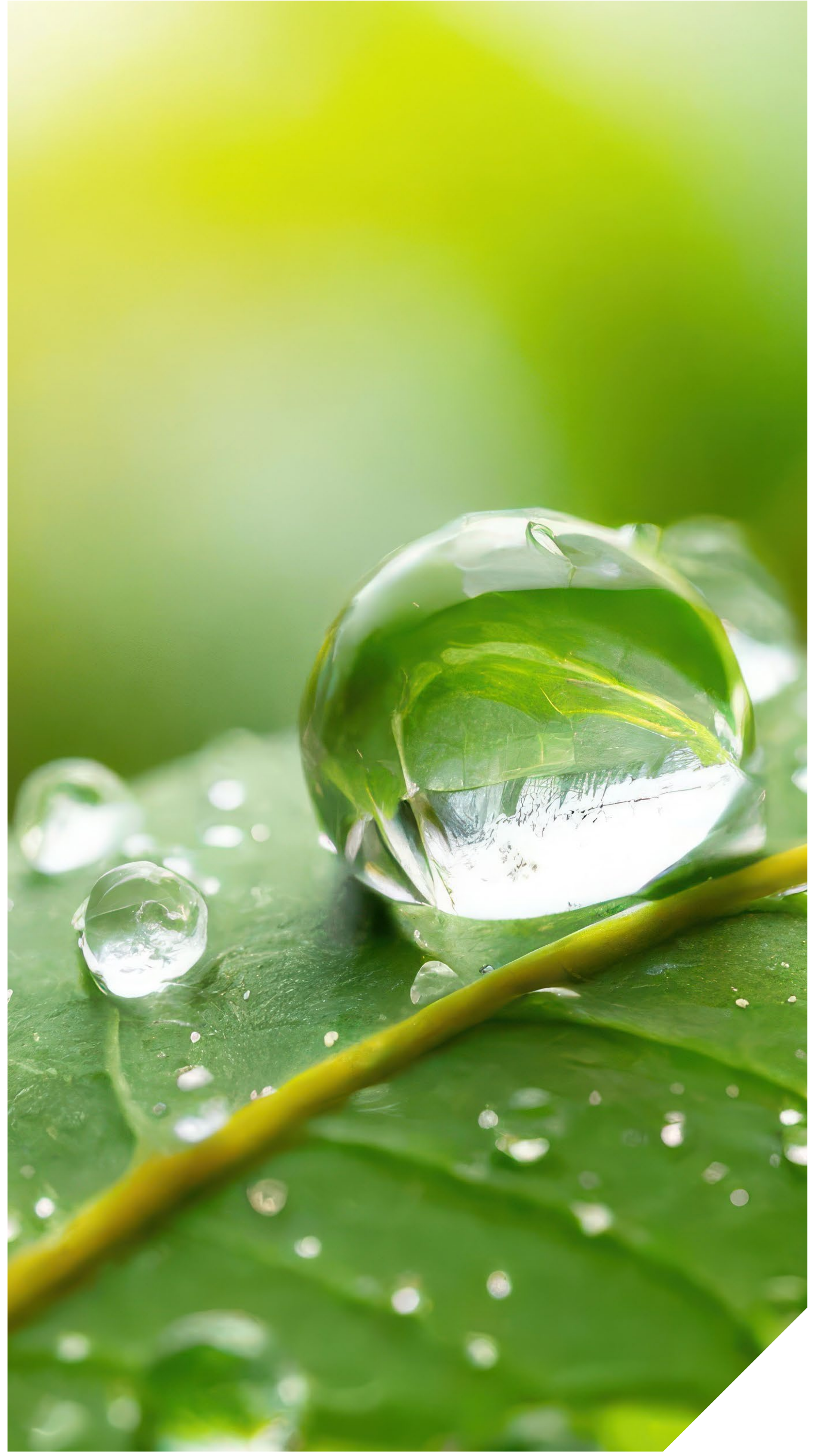
Climate

The IEA Net Zero Emissions (NZE) scenario incorporates global policies aimed at achieving a net-zero economy, including the European Union's Fit for 55 bill and other sector-specific decarbonization measures for power, industry, buildings, and transport. It also factors in regional policies, such as carbon markets and standards in large regions or states, which significantly influence global energy systems. Economic activity and population growth are key drivers of energy demand, with energy prices based on international fossil fuel prices and regional subsidies/taxes. The population is projected to grow from 8 billion in 2022 to 9.7 billion by 2050, with slower growth according to the UN's medium variant. Global economic growth is projected at an average of 2.6% per year to 2050, influenced by regional investment dynamics, employment rates, and trade changes.

Nature

For transition risks, we use a scenario based on the targets of the Global Biodiversity Framework for 2030 and 2050, similar to how the IEA NZE scenario supports the goal of limiting global warming to 1.5°C, in line with the Paris Agreement. Just as the IEA NZE provides a clear path for climate goals, the Global Biodiversity Framework aims to halt and reverse biodiversity loss, offering a structure for sustainable nature-related actions aligned with climate goals. Progress in carbon reduction and climate policies is accelerating the development of a policy and macro-prudential framework aimed at achieving nature-positive outcomes. Despite this momentum, the tangible losses from nature degradation remain relatively low. This presents opportunities for organizations to take leadership roles in advancing nature-focused initiatives. However, growing scepticism surrounds potential overreach in this area, driven by the lack of concrete evidence on impact and risk, as well as limited visible opportunities tied to carbon-neutral growth. In developed economies, consumers are calling for greater transparency regarding the environmental impact of products, mirroring their existing demand for clarity on carbon footprints. Responding to this trend, major retailers are beginning to display both carbon and nature scores on their products, promoting informed and sustainable consumer choices.

RISK AND IMPACT MANAGEMENT



PROCESS FOR IDENTIFYING, ASSESSING, AND PRIORITISING CLIMATE- AND NATURE-RELATED RISKS.
A sound risk culture in Borregaard's operating units is a prerequisite for a successful risk management process. Comprehensive risk assessments related to both operations and projects are conducted on an ongoing basis in all operating units and reported to the next management level.

Borregaard follows the ISO 31000:2009 Risk management principles and guidelines as our definition of risk terminologies. Borregaard further uses ISO 31000 as a risk management model to identify, assess, and manage risk, including climate-related risk. The process defines the financial or strategic impact of climate- and nature-related risks. The 2024 NIVA report also informs this process, particularly regarding the assessment of risks tied to the ecological status of local ecosystems. For example, the report underpins efforts to manage COD (chemical oxygen demand) emissions, which are directly linked to ecological health. Borregaard uses data-driven methods to identify and assess risks by setting clear targets, such as achieving good ecological status by 2033. Current assumptions, like maintaining COD emissions below 40 tons per day after 2030, are informed by thorough analysis. However, recognizing the dynamic nature of ecosystems, Borregaard continuously prioritizes risks by monitoring environmental conditions. If measurements indicate insufficient progress, additional measures are implemented to address the risks effectively. As defined by Borregaard, risks with substantial financial impact are risks with low, medium, or high negative effect on the Group's EBITDA in short-, medium-, and long-time horizon.

Borregaard has undertaken a materiality assessment in alignment with TNFD and EFRAG guidelines. This evaluation ensures that Borregaard's impact on the environment and people, as well as the outside world's impact on our financial performance, are thoroughly considered with a focus on material topics within environment, social and governance, particularly those related to nature and biodiversity.
The results from the materiality assessment conducted under TNFD are integrated and utilised further in Borregaard's Annual Report.
A scenario analysis was conducted to help identify and inform management on climate-related risks and opportunities over the short-, medium- and long-term. Input on nature-related risks comes from using risk maps, stakeholder dialogue, environmental risk assessment of our operations (ISO 14001) and regulatory compliance.
We conducted a comprehensive risk assessment by examining various risk maps, including WWF Biodiversity and Water risk filter, as well as resources from IBAT, Nibio, and Naturvårdsverket. These maps offered valuable insights into potential environmental and biodiversity threats.

Borregaard identifies and assesses asset-level climate- and nature-related risks and opportunities within the framework of our unified process for risk and opportunity management. Sources of risk, areas of impacts, events, and potential financial or strategic consequences are identified, and mitigation activities are implemented accordingly. The risk identification process begins with the initiation phase, where the acceptance criteria associated with the risk are set to ensure the correct probability and consequence scales for the business. The sequence is then to assess, analyse, plan for initiatives, implement the initiatives and review them. There is a set of predefined criteria for how risks are assessed using a risk register scale. The probability and the consequence of the risk are rated as "Low", "Medium" or "High" and are visualised in a matrix.

Once a risk has been assessed and defined as high, and thereby prioritised, initiatives to mitigate it are implemented. The identified risks present an aggregated risk picture for Borregaard covering the entire Group's operations. The owner of the risk factors implements relevant mitigation strategies and activities and consults the Group Executive Management in the process.

PROCESS FOR MANAGING CLIMATE- AND NATURE-RELATED RISKS AND OPPORTUNITIES

Managing climate- and nature-related risks and opportunities is integrated multidisciplinary parts of Borregaard's business processes and are assessed more than once a year. Risk management shall ensure that risks relevant to Borregaard's objectives are identified, analysed, and dealt with early and in a cost-effective manner. The risk assessment is presented and reviewed quarterly by the Audit and Sustainability Committee (ASC) and at least annually by the Board. An operating unit's risk assessment identifies the principal risk factors associated with the unit's value chain. The individual unit managers in the Group are responsible for familiarising themselves with all significant risk factors within their area of responsibility, thereby contributing to a financially and administratively sound handling of these risks. Borregaard has established a central risk management function at the Group level, headed by the Chief Risk Officer (CRO), who is responsible for Borregaard's risk management model and implementation support.

Borregaard applies a consistent approach to evaluating nature-related risks and opportunities alongside other types of risks. Through Borregaard's double materiality assessment, nature-related risks are assessed using the same framework as other risks, ensuring comparability and integration into broader decision-making processes. Environmental factors are evaluated to determine their potential impact, while financial implications are used to quantify the risk factor. This enables Borregaard to prioritise nature-related risks and opportunities on an equal footing with other risk categories, ensuring that responses and management decisions are aligned with their overall risk profile and strategic objectives. Within the risk framework, the sequence is to initiate, assess, analyse, plan for initiatives, implement and review. To identify opportunities, Borregaard's R&D department works in close co-operation with sales, manufacturing, customers (actual and potential), external institutes, and universities in several countries. This co-operation has resulted in innovative developments of low emissions products and solutions.

Environmental factors are integrated into the sourcing decisions and the assessment of suppliers. New suppliers must sign the Supplier Code of Conduct (SCoC) and are subject to a risk assessment with respect to responsible sourcing. The existing supplier portfolio is assessed annually. A decision tree is in place to guide the implementation of actions based on the results of these assessments.

Sustainable forestry is crucial to Borregaard's strategy for sourcing raw materials as well as responding to nature-related dependencies, impacts, risks and opportunities. The long-term availability of certified raw material is essential, and a cross-functional initiative has been established to identify and assess measures to secure it. Further, our involvement with multi-partnership or stakeholder initiatives is key to achieve our goal of 100% certified wood.
To concretise Borregaard's risk management strategy, we are an active member of PEFC and FSC through our membership in the Norwegian Pulp and Paper Association (TFB), where we have two board members, including the vice chair.
Since 2019, a National Risk Assessment (NRA) of Norway has been established by the FSC Working group to assess the impact on activity on the status of ecosystem and habitats.
The following stakeholders are board members in FSC Norway, former Foreningen Skogen:

- Social chamber: Protect Sapmi, and Norsk Friluftsliv
- Economic Chamber: Norges skogeierforbund, Treindustrien, and TFB
- Environmental Chamber: Sabima and WWF.

An example of action taken in 2024, is mutual financial agreements with our wood suppliers to preserve the forest ecosystem by participating in the mapping of Capercaillie lek sites and the development of soil moisture maps to reduce track damage during harvesting. The financial agreement is designed to support sustainability measures aimed at securing natural resources, maintaining biological diversity, and other sustainability initiatives. As a part of the financial agreement, the forest owners are also required to provide insight into their sustainability efforts, focusing on elements that are relevant to share.

METRICS AND TARGETS

Climate and nature play a significant role in Borregaard's sustainability strategy and management of risks and opportunities. To fully integrate a climate- and nature-based approach into our strategy, we report transparently and in accordance with relevant metrics for our operations. Furthermore, the disclosure metrics below, selected to align with guidance from TNFD and IFRS S2, demonstrate our initial efforts in collecting relevant data, to identify the risks and opportunities in a quantitative manner.

In our business, which is reliant on wood raw material, aligning with TNFD and TCFD metrics is an ongoing effort. Our data collection and analysis processes are adapting to the recommended disclosures. Although current metrics are primarily qualitative, we are transitioning towards defining quantitative targets. Future disclosures, spanning the next twelve to twenty-four months, will reflect our commitment to comprehensive reporting.

IMPACTS AND DEPENDENCIES METRICS AND TARGETS

The following metrics are used to quantify Borregaard's impacts and dependencies on climate and the state of nature, using the recommended metrics from the IFRS S2 and the TNFD framework.

DRIVER OF NATURE CHANGE			OUR METRIC	STATE IN 2023	STATE IN 2024	EXPLANATION/ UNIT	STATUS
Climate change							
	IFRS S2	GHG emissions	Scope 1	132 771	120312	t CO_2e	
			Scope 2	64 093	62468	t CO_2e	(Location based)
			Scope 3	410 791	487301	t CO_2e	
Land use change							
	TNFD C1.0	Total spatial footprint	Sum of area controlled (m2)	1 534 387	1 534 387	m²	Total area of each production site Borregaard has. The sites are not located near or in any biodiversity sensitive areas.
			Sarpsborg	1 500 000	1 500 000	m²	
			Karlsruhe	20 000	20 000	m²	
			Paskov	~200	~200	m²	
			Wisconsin	12 525	12 525	m²	
			Florida	1 662	1 662	m²	
	C1.1	Ecosystem use change by type of ecosystem and business	Type of ecosystem: Forest Business activity: Sourcing wood				
		Ecosystem that is used sustainably managed by type of ecosystem	Forests				

DRIVER OF NATURE CHANGE			OUR METRIC	STATE IN 2023	STATE IN 2024	EXPLANATION/ UNIT	STATUS
Pollution							
	C2.0	Pollutants released to soil split by type				Not included as pollution to soil is not deemed material for Borregaard.	
	C2.1	Wastewater discharged	Volume of water discharged (total)	53 870	54049	Megalitres	
			Amounts of key pollutants				
			COD	46	53	tonnes/24 hours	Main water challenge: Emission of organic matter in Norway's River Glomma. COD measures organic content. Emission monitoring essential for water quality. The permit for COD in the effluent is 59 tonnes per 24-hour period (on average over the year) to comply with BAT levels for emissions to water.
			BOF	10	11	tonnes/24 hours	
			Copper	0.01	0.01	tonnes/24 hours	
			AOX	0.20	0.25	tonnes/24 hours	
			Phosphor	0.02	0.02	tonnes/24 hours	

‹ PREVIOUS | NEXT ›

DRIVER OF NATURE CHANGE			OUR METRIC	STATE IN 2023	STATE IN 2024	EXPLANATION/ UNIT	STATUS
			Hg	1.70	0.9	kg/year	
			Nitrogen	0.27	0.31	tonnes/24 hours	
			Fiber (suspended solids (fibres)	4.50	5.2	tonnes/24 hours	
	C2.2	Waste generation	Hazardous	4 072	5041	tonnes/year	
			Non hazardous	31119	34773	tonnes/year	
		Disposal	Recycling / Recovery	16758	18967	tonnes/year	
			Landfilling	18434	20847	tonnes/year	
	C2.3	Plastic pollution	Total weight of plastics	1300	1300	tonnes/year	
	C2.4	Non GHG air pollutants	Particulate matter ($PM_{2.5}$ and/or PM_{10})	63.0	55	tonnes/year	
			Nitrogen oxides (NO_2, NO and NO_3)	98.0	111	tonnes NOX/year	
			Sulphur oxides (SO_2 , SO, SO_3 , SO_x)	55.0	57	tonnes SO_2/year	
Resource use							
	C3.0	Water withdrawal and consumption	Water withdrawal	54 177	54 359	megalitres	
			Water consumption	308	310	megalitres	
			Water discharge	53 488	53302	megalitres	
	C3.1	Proportion of total natural commodities	Amount of wood raw materials	1 mill	1 mill	fm^3	Used in Borregaard Biorefinery, Norway
			Limestone (CaCO3)	21 503	20 169	tonnes	From Visnes Kalk, Norway
			Sulphur, as produced SO_2.	39 163	35 244	tonnes	From Preem Petroleum Lysekil, Sweden
			Sodium chloride (NaCl)	79 370	72 074	tonnes	From Frisia Zout BV Harlingen, Netherlands
		Sourced under a sustainable management plan	Proportion of total high risk natural commodities	99%	95%		

CLIMATE RISKS

	Current exposure	Current price level & Cost	Future (2030) Exposure
Current and emerging carbon pricing mechanism	EU ETS: 105,915 t CO_2 in 2024 CO_2 Tax for waste incineration: 37,748 t CO_2 Emission rights owned 647,269. Scope 3 emissions 487,301 for 2024.	EU ETS 85 EUR/t CO_2, free allowances covers the demand. CO_2 Tax 176 NOK/t CO_2	EU ETS: Remaining exposure in 2030 20,000 t CO_2/year, future EUA price and no free allowances (unlike today). Expect free allowances to cover CO_2 emissions to 2030. Plan to reduce CO_2 emissions will reduce future need for emission rights. Emissions from transportation within EU-ETS. CBAM*: Main raw materials locally sourced.
Increased energy prices	Total energy 1,859 GWh, energy from fossil-based sources is 640 GWh (from LNG, light oil and waste), wheras 1,218 GWh is from renewable sources (power supply, biofuel and biogas) of which 779 GWh is from electricity. Long-term power supply contracts.	Energy is 9% of total cost in 2024, NOK 537 million.	Total energy 1,859 GWh, energy from fosil-based sources is 640 GWh (from LNG, light oil and waste), wheras 1,218 GWh is from renewable sources (power supply, biofuel and biogas) of which 779 GWh is from electricity. Long-term power supply contracts.
Physical acute (change in weather conditions)	Supply chain/Operations - Challenging river conditions (Rhine and Glomma). Operations: Hurricanes in Florida. Operations: Investigation and measures to reduce risk related to ground conditions due to heavy precipitation, risk of landslide. Remediation of contaminated soil.	Costs related to supply chain alternatives not considered to be material. NAT/CAT Insurance in place. Payout related to ground conditions was NOK 24 million in 2024. Accrual related to remediaton of contaminated soil of NOK 30 million i n 2024.	More challenging river conditions (Glomma and Rhine) can increase supply chain cost. Increased risk of hurricanes and possible downtime cost for the operations. Increased precipitation may impact ground conditions (may lead to higher expenditure related to buildings and infrastructure). Changes in weather conditions may impact growth rate, forest health and harvesting conditions may increase the wood cost. NAT/CAT cost is expected to increase. Future costs for environmental remediation depends on a number of uncertain factors, such as changes in regulations or approval from authorities for the extent of actions. Monitoring of contaminated areas will continue to confirm that implemented measures are sufficient, and if not sufficient, additional costs will incur.
Physical chronic (sea level rise)	Current exposure low, the risk is not likely to have consequence before 2030.	N/A	Sea level rise in Florida could have an effect after 2030, but relevant climate scenarios was considered when the plant was build.

CLIMATE OPPORTUNITIES

	Current exposure	Current price level & Cost	Future (2030) Exposure
Resource efficiency (high utilisation of raw materials/ energy)	94% utilisation of wood. Energy conservation program: 21.7 GJ/TAD cellulose in 2024.	Average electricity spot price (Oslo region) at 487 NOK/MWh in 2024.	Utilise bark from wood debarking at the wood yard for energy >75 GWh/year. 100% material or energy recovery of waste streams that was landfilled in 2024. Increased energy efficiency allows for higher production without increasing energy consumption. Heat recovery solutions reduces demand for new renewable energy capacity.
Renewable energy (reduced GHG exposure)	Total energy 1,859 GWh, 1,218 GWh from renewable sources. CO_2 emissions from energy is the major emissions source - technology are available to invest in more renewable energy solutions to acheive our scienced based emisson targets. Flexibility for variable load (LNG, electricity and light oil).	Energy is 9% of total cost in 2024, NOK 537 million	Investments of NOK 650-850 million in 2025-2027 to reduce emissions by 83,000 tCO_2 (Scope 1 and 2). The first investment (NOK 230 million) was finalised in 2024. The investment will reduce CO_2 emissions and increase energy flexibility, enabling a potential cost reduction Maintained flexibility for variable load in strained periods for renewable energy, results in redzuced energy cost. Spray dryers at the site in Norway independed of fossil energy.
Product and services (Products that replaces fossil based)	About 51% (NOK 3.8 billion) of Borregaard's sales revenues in 2024 came from biobased products with lower climate/environmental footprint compared with fossil-based products.	Sales revenue for biobased products.	Increased value of biobased products. Changes in EU chemical and environmental regulations may facour our products.
Capital markets	82% of long-term financing (including Revolving Credit Facilities) at the end of 2024 had a sustainability linked margin or were issued in accordance with Borregaard's Green Financing Framework ("green financing").	There were indications that the margin on the green bond issued in 2023 got a slight discount compared to a traditional bond issue. However, it is difficult to quantify the exact effect.	100% "green financing" ambition in 2030. Expect the margin discount on "green financing" to increase towards 2030, which will mean lower interest expenses.
Resilience	800 different products in numerous applications, reduced exposure to cyclical markets. Markets that will grow or decline due to climate changes are identified.	Average sales price in 2024: BioSolutions products NOK 12,045 per mtds. BioMaterials products NOK 16,343 per mt.	Upgrading the product portfolios in both BioSolutions and Speciality Cellulose. Innovation portfolio and sustainability offering new opportunities. Maintained/ increased flexibility in sourcing, especially within energy and basic chemicals.

	Current exposure	Current price level & Cost	Future (2030) Exposure
TCFD) Price on each tonne of GHG emissions used internally by an organisation.	Internal Carbon Pricing	Borregaard continuously assess the annual prognosis as shown by the price curve in relation to our transition plan and net-zero by 2050. For current and short-term analyses, we utilise both the carbon price curve from the Norwegian Ministry of Finance and data derived from ICE on futures (ICE owns exchanges for financial and commodity markets).	The price curve shows the following price until 2050: 1010 Nok/tonnes (2030), 1720 NOK/tonnes (2040), 1960 NOK/tonnes (2050).
TCFD) Proportion of Executive Management remuneration linked to climate considerations.	Remuneration	Short-term incentive plan: CPO is member of the Group Executive Management and part of the company's bonus scheme with a max gain of 50% of annual salary. The bonus criteria are based on financial performance, health and safety performance (max 7.5%) and personal goals with mandatory targets within sustainability/ESG (0-10%). Long-term incentive plan: CPO is entitled to an option programme which gives a certain number of options with a 3–5-year vesting period. Max gain is 100% of annual salary. The number of options awarded is dependent on a set of criteria met; financial, innovation and sustainability/ESG. The sustainability criteria are linked to performance; "Results among the top 10% in at least two recognised third-party assessments" (e.g CDP and EcoVadis) 16.6% of the max number of options awarded are dependent on these criteria met (could be value of 16.6 % of one annual salary).	

RESPONSE METRICS AND TARGETS

METRIC	BASE YEAR	TARGET YEAR	TARGET STATUS
CLIMATE			
Near-term emissions (Scope 1+ 2)	2020	2030	Target reduction from base year: 42% % of target achieved (2024): 6,9%
Near-term emissions (Scope 3)	2020	2030	Target reduction from base year: 25% % of target achieved (2024): increased by 19% due to expanded scope in Cat 1
Long-term net zero (SBTi)	2020	2050	Target reduction from base year: 90% % of target achieved (2024): 6,9% (scope 1 and scope 2)
NATURE			
Purchased wood to the biorefinery in Sarpsborg shall be certified (FSC or PEFC).	2022	2030	Target % certified wood: 100% 2024: 95%
Reduce COD emissions to Glomma	2021	2025	Emissions of COD reduced by 25-30% (40 tonnes COD/day) 2024: 53 tonnes COD/day We have reduced the emission of COD with 53% since 2010, the plan targets COD reduction to 47 t/day by 2026 and 40 t/day by 2030 which will give a positive impact on SDG 12.4.
Production, consumption, and sourcing of raw materials that is traceable (%)	2020	2025	100% of our raw materials is traceable to the source.
We have a long-term target to reach a chain of custody certification for all our mills outside Norway.			100% of all mills have Chain of Custody certification.
Total area set off for voluntary protection in sourcing area (ha)	To meet our commitment for "Restoration and compensation for historical deforestation and/or conversion," our 2021 Supplier Development Action plans mandated a mutually agreed Key Performance Indicator (KPI) for voluntary protection in Viken County for all strategic wood suppliers in Norway. Certified suppliers must compensate for past deforestation.		In total, the conservation decision encompasses 71.8 km2 of new protected areas. Of this, 42.9 km2 is productive forest. After the conservation decision, just over 5.2% of the forest in Norway is protected. Just over 3.9% of the productive forest in Norway is protected.
Our ambition is to set a Science Based Target for Nature (SBTN). Because of Borregaard’s nature-dependency on wood and forest-related issues will be considered throughout the lifespan of the company.			

FORWARD LOOKING – CLIMATE AND NATURE

CLIMATE

In 2025 market expansion efforts will focus on low carbon technologies, leveraging successful product launches and identifying new opportunities, particularly in sustainable chemicals regulated by the EU. Strategic priorities include specialisation through innovation, enhancing value creation from our biorefinery, and exploring new raw materials and products. Initiatives encompass lignin-based biopolymers, cellulose fibrils, and speciality cellulose, aiming for growth, improved sustainability, and market diversification. As defined in Borregaard's capital markets day 2024, Borregaard is pursuing inorganic growth through strategic investments in Bio-based start-ups exemplified by its stake in Alginor and partnerships with startups like Lignovations and Kaffe Bueno, aligning with its commitment to sustainability and innovative solutions. Beyond implementing the climate transition plan, Borregaard is committed to ongoing assessment of climate-related risks and opportunities. Borregaard actively monitors evolving international climate regulations and strives to remain an industry leader.

NATURE

By comprehensively assessing climate- and nature-related risks and opportunities, Borregaard has gained a holistic perspective on future risks and identified the interlinkages between environmental factors. Moving forward, Borregaard intends to expand and refine its scenario analysis on both climate-related and nature-based risks and opportunities, to ensure the resilience of Borregaard's strategy, whilst also managing impacts on climate and nature. Having identified key material impacts in terms of pollution, water management, biodiversity, and resource use, we have established an ambitious way forward, to manage risks and opportunities.

In 2025, Borregaard will enhance process safety by systematically identifying risks and implementing mitigation measures. Building on hazard analyses from 2023 and 2024, Borregaard has started a program to strengthen safety measures in key areas like the digester and hydrochloric acid production plant. Ongoing training programmes will boost safety awareness among operators and enhance process safety expertise among engineers and specialists.

Additionally, Borregaard's climate transition plan will increase the use of renewable electricity, positively impacting local air quality. Long-term plans are in place to address SO_2 emissions, aligning with anticipated stricter air quality directives from 2030.

In alignment with the European Water Framework Directive and EU Green Deal Initiative, we are committed to reducing effluents to water, aiming for a good ecological status in the River Glomma by 2033. Borregaard's transition plan outlines measures for a gradual reduction of COD, with targets set for 2026 and 2030. This also focuses on water efficiency improvement projects and establishing long-term targets for water withdrawal reduction. In anticipation of the revision of the EU's Industrial Emissions Directive in 2024, Borregaard is prepared to meet regulatory requirements by emphasizing resource optimization and circularity in our operations going forward. Furthermore, Borregaard continues to explore the positive impact sustainable biochemicals can have on water consumption and emissions in customer applications, potentially replacing chemicals containing harmful substances, and anticipating favorable changes in EU chemical regulations.

Borregaard will continue ensuring sustainable forest raw material supply through long-term partnerships and transparent communication of sustainability expectations. Borregaard intends to improve and expand our location assessment activities going forward. This involves expanding PEFC CoC certifications to Germany, the UK and the Czech Republic. Borregaard will actively engage with stakeholders to assess nature-related risks, particularly focusing on compliance with the Regulation on deforestation-free products (EUDR). The regulation mandates that wood-based products in the EU market must demonstrate origins from non-deforested land or contributing to forest degradation, replacing the EU Timber Regulation. It will apply to large operators and traders starting December 30, 2025 while micro- and small enterprises will have until June 30, 2026. Borregaard has launched a project with the objective of ensuring timely compliance and maintaining the accessibility of our products in the market after the regulation is enforced. The project is cross-functional involving members from procurement, manufacturing, sales support and logistics and sales, IT, trade compliance and regulatory departments. A steering committee, with four of its six members from the top management team, oversees the project. Additionally, structured collaboration with other affected companies and stakeholders has been formed aiming to share information and develop common tools and processes to meet the requirement and enhance transparency across the value chain.

Biorefineries represent a crucial pathway toward achieving sustainability goals, yet they are currently not recognized as an economic activity within the EU Taxonomy for advancing the circular economy. Borregaard, alongside CEPI, has submitted a proposal to include biorefineries in future considerations for circular economy contributions. Anticipating that products like speciality cellulose and cellulose fibrils will eventually be covered by the EU Taxonomy, we aim to further expand our eligible economic activities. Our commitment to reaching 100% material or energy recovery from all waste fractions by 2030 remains steadfast.

APPENDIX A – TNFD INDEX

Chapter	Page number	ESRS DR
GOVERNANCE Disclose the organization's governance around nature-related dependencies, impacts, risks, and opportunities		
a) Describe the board's oversight of nature-related dependencies, impacts, risks, and opportunities.	5-6	**ESRS 2** GOV-1: 20 GOV-2: 26 GOV-5: 34
b) Describe management's role in assessing and managing nature-related dependencies, impacts, risks, and opportunities	6	**ESRS 2** GOV-1: 22 GOV-2: 26
c) Describe the organisations human rights policies and engagement activities and oversight by the board and management, with respect to indigenous peoples, local communities, affected and other stakeholders, in the organisations assessment of, and response to, nature-related dependencies, impacts, risks and opportunities	7	**ESRS 2** GOV-4: 30 SBM-2: 45b MDR-P: 65e, f **ESRS E4** E4-2: 23; 24 **ESRS S3** S3-1: 17; AR10

STRATEGY Disclose the actual and potential impacts of nature-related risks and opportunities on the organization’s business, strategy, and financial planning where such information is material.		
a) Describe the nature-related dependencies, impacts, risks, and opportunities the organization has identified over the short, medium, and long term.	14-17	**ESRS 2** SBM-3: 48 IRO-1: 53c(i) **ESRS E4** SBM-3: 16a; AR9
b) Describe the impact/effect of nature-related dependencies, impacts, risks, and opportunities have had on the organization’s businesses model, value chain, strategy, and financial planning, as well as any transition plans or analysis in place.	18-28	**ESRS 2** SBM-3: 48b; d **ESRS E4** E4-3: 28a E4-2: 23d E4-6: 42
c) Describe the resilience of the organization’s strategy: to nature-related risks and opportunities, taking into consideration different scenarios.	28-31	**ESRS 2** SBM-3: 48f MDR-A: 69 **ESRS E4** E4-1: 13; 18S E4-6: 44a; b
d) Disclose the locations where there are assets and/or activities in the organisation's direct operations, and where possible, upstream, and downstream value chain(s) that meet criteria for priority locations.	9-10	**ESRS E4** SBM-3: 16 IRO-1: 17; 19 **ESRS E2** IRO-1: 11; AR5

RISK AND IMPACT MANAGEMENT Disclose how the organization identifies, assesses, and manages nature-related dependencies, impacts, risks, and opportunities.		
a) Describe the organization's processes for identifying and assessing nature-related dependencies, impacts, risks, and opportunities in i) its direct operations and ii) its upstream and downstream value chain(s).	32-33	**ESRS 2** SBM-1 IRO-1: 53 **ESRS E4** IRO-1: 17a; b; AR 9b E4-5: AR27
b) Describe the organization's processes for managing nature-related dependencies, impacts, risks, and opportunities.	33	**ESRS 2** IRO-1: 53 **ESRS E4** E4-2: 20
c) Describe how processes for identifying, assessing, prioritizing, and monitoring nature-related risks are integrated into the organization's overall risk management.	32-33	**ESRS 2** IRO-1: 53
METRICS AND TARGETS Disclose the metrics and targets used to assess and manage relevant nature-related dependencies, impacts, risks, and opportunities where such information is material.		
a) Disclose the metrics used by the organization to assess and manage material nature-related risks and opportunities in line with its strategy and risk management process.	38-40	**ESRS E4** E4-6 **ESRS 2** MDR-M: 77
b) Disclose the metrics used by the organisation to assess and manage dependencies and impacts on nature.	35-37	**ESRS E4** E4-5
c) Describe the targets and goals used by the organization to manage nature-related dependencies, impacts, risks and opportunities and performance against targets.	41	**ESRS 2** MDR-T: 79 **ESRS E2** E2-3

APPENDIX B – IFRS S2 INDEX

Chapter	Page number	ESRS DR
Governance Disclose information on governance controls, processes, and procedures an entity uses to monitor, manage, and oversee climate-related risks and opportunities.		
Information on governance body or individual responsible for oversight of climate risks and opportunities	5-6	**ESRS 2** GOV 1: 22(a, b, d); 23 GOV 2: 26(a, b)
Management's role in the governance processes, controls and procedures used to monitor, manage, and oversee climate risks and opportunities Management's role in the governance processes, controls and procedures used to monitor, manage, and oversee climate risks and opportunities	6	**ESRS 2** GOV 1: 22(ci, cii)
Strategy Disclose the entity's strategy for managing climate risks and opportunities.		
Climate-related risks and opportunities	12-13	**ESRS 2** SBM-3: 48(a, e)
Business model and value chain	18-20	**ESRS 2** SBM-3: 48(a, b)
Strategy and decision-making	23-24	**ESRS 2** SBM-3: 47; 48; MDR-A: 68(a-e); 69(a-c) **ESRS E1** E1-1: 14; 16(a-j); AR2-5 SBM-3: AR8(b) E1-3: 26-28; E1-4: 30, AR31

Financial position, financial performance and cash flows	20-23	**ESRS 2** SBM-3: 48(d, e) **ESRS E1** E1-9: AR70(a); AR73(a); AR74(a)
Climate resilience	24-31	**ESRS E1** SBM-3: 19; AR6; AR7(b); AR8(a, b) IRO-1: 20(ci), 21; AR11(d); AR12(c); AR13(b, c, d); AR15. E1-3: AR19(a, b)
Risk management Disclose how the organization identifies, assesses, and manages climate-related risks and opportunities		
The processes and related policies the entity uses to identify, assess, prioritise, and monitor climate-related risks	32-33	**ESRS E1** IRO-1: 20; 21; E1-2: 22; 23; 24; E1-6: 53(cii, ciii, e, g, h); E1-9: 65(a)
The processes the entity uses to identify, assess, prioritise, and monitor climate-related opportunities	33	**ESRS 2** IRO-1: 53(c) **ESRS E1** SBM-3: 19(b, c); IRO-1: 20(c); E1-2: 24; E1-9: 65(a)
Integration of processes in the entity's overall risk management process.	32-34	**ESRS 2** IRO-1: 53(e, f)

Metrics and targets Disclose the entity's performance in relation to climate risks and opportunities, including progress towards any set climate targets and any targets it is required to meet by law or regulation.		
Metrics	34-40	**ESRS 2** GOV-3: 29(c) MDR-M: 77(a, b); 80(i) **ESRS E1** GOV-3: 13 E1-1: 16(c, e, f); AR4 E1-6: 44(a, b, c); 49; 50; AR39(a, b); AR42; AR45(c, d); AR46(b, c, f, i); AR47(g) E1-8: 62, 63(a, c) E1-9: 64(c); 66(a, d); 67(a-e); AR78
Targets	41	**ESRS 2** MDR-T: 79, 80 **ESRS E1** E1-4: 30; 33; 34; AR23; AR24; AR25; E1-7: 59(a, b); 61; AR57(b); AR62(b, c)