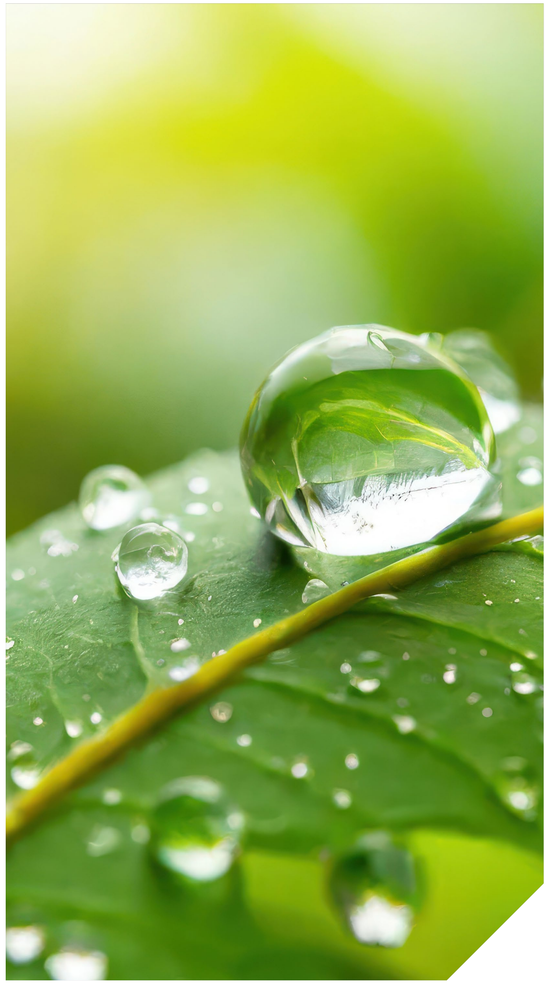
Borregaard

CLIMATE AND NATURE RISK

REPORT 2023

CONTENTS

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. To establish a foundation for effective regulation and innovation, the United Nations Sustainable Development Goal (SDG) 15 targets the protection, restoration, and sustainable utilisation of ecosystems. 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 nature-related risks and impacts associated with human actions, Borregaard has evaluated our impacts and dependencies on nature, and integrated nature as part of our sustainability strategy. This comprehensive assessment serves as a tool for identifying potential hazards, understanding the extent of ecological harm, and developing targeted mitigation strategies.

By building on the new standards 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 at providing a thorough 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. This is our first-year reporting in line with the IFRS S2, and we aim to improve our reporting of these standards in the future.

Borregaard will enhance our resilience to future ecological challenges by continuing to adopt sustainable practices and further reduce our environmental footprint.

GENERAL REQUIREMENTS

APPROACH TO MATERIALITY

For the report, materiality has been evaluated in accordance with the definitions by European Sustainability Reporting Standards (ESRS). Concurrently, we conducted a value chain analysis focusing on nature aspects following TNFD guidance, aligning with the double materiality assessment as per European Financial Reporting Advisory Group (EFRAG) guidance. TRENGER NY LINK. 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 operation, encompassing 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 distribution of finished products. We employed a multifaceted approach to gather data based on suppliers, Forest Stewardship Council (FSC) and Programme for the Endorsement of Forest Certification (PEFC) certifications, and production sites, ensuring a comprehensive understanding of our environmental impact across the supply chain, as well as basing the climate related risks on a scenario analysis.

LOCATION OF NATURE-RELATED ISSUES

We have conducted a thorough assessment of our nature-related dependencies and impacts across the entire value chain to be in line with the TNFD recommendations. By leveraging FSC certifications and value chain mapping tools, we have identified and assessed the location specific risks and opportunities associated with our operations. This location-based approach provides our stakeholders with valuable insights into our environmental performance.
The assessment has been disaggregated to the extent possible, ensuring that specific locations and ecosystems are considered. However, data regarding the specific location of sourcing of wood has been aggregated to a higher regional perspective. This is due to limited traceability and specificity of where trees are sourced from, and thus, in order to consider the whole region, will encompass the potential and actual nature-risks posed in the area. Overall, Borregaard's comprehensive and location-based analysis aligns with the TNFD recommendations, providing stakeholders with a clear 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.

TIME HORIZONS CONSIDERED

Borregaard assesses climate and nature-related risks and opportunities aligned with the ESRS time horizons where short-term is the reporting period in Borregaard's financial statements; the medium-term is from the end of the short-term reporting period up to 5 years, and the long-term time horizon is more than 5 years. Risks classified as long and medium-term, may also have impacts and risks in the shorter terms.

ENGAGEMENT WITH INDIGENOUS PEOPLES, LOCAL COMMUNITIES AND AFFECTED STAKEHOLDERS

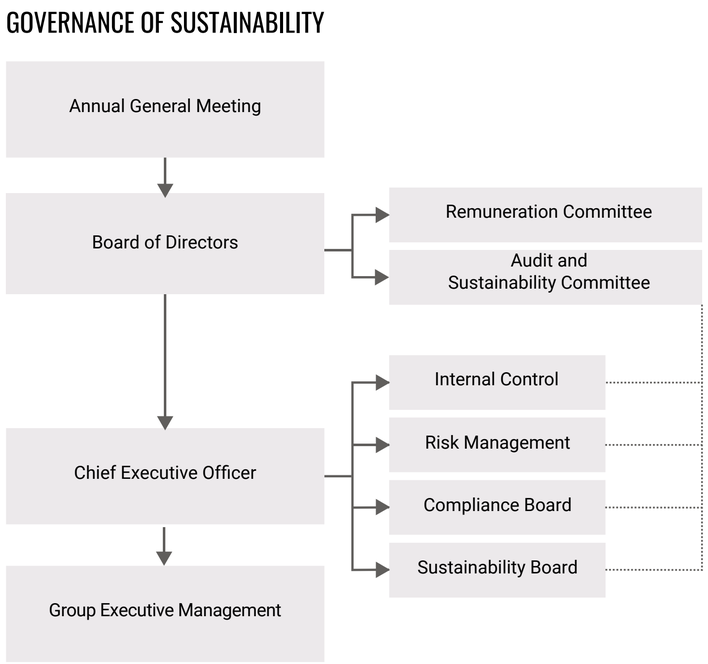
We actively engage with all our stakeholder's through consistent dialogue,
utilising a multifaceted approach that encompasses regular meetings, media analyses, and participation in various relevant arenas.
By fostering open communication channels, we gather valuable feedback, and build trust and transparency. This ongoing engagement ensures that our stakholder's perspectives are considered, concerns are addressed promptly,
and collaborative solutions are developed to navigate challenges and drive mutual growth.

GOVERNANCE

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

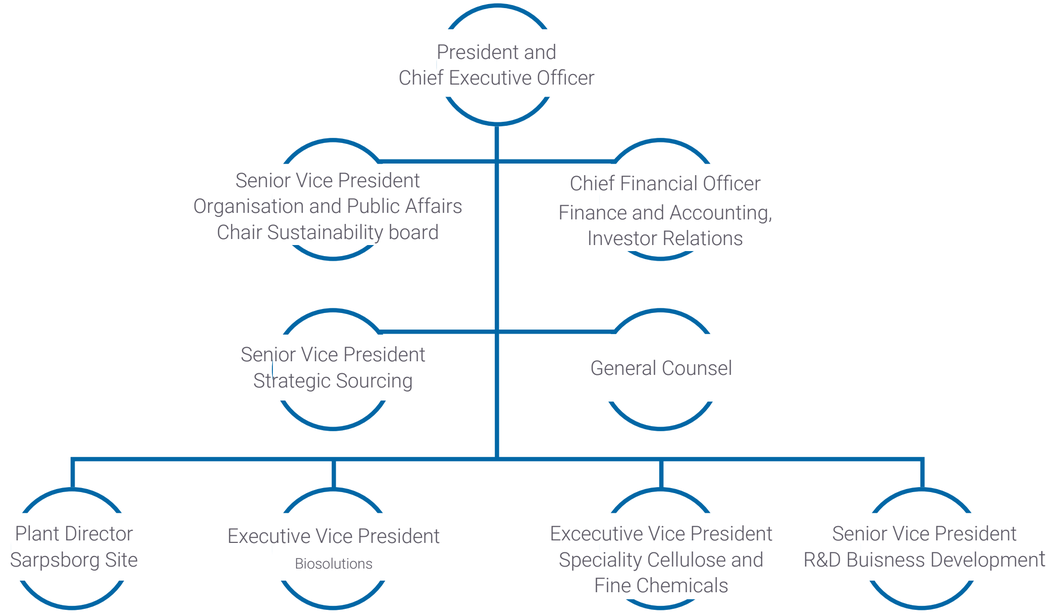
Both climate and nature management are integrated parts of Borregaard's governance mechanisms. The Board of Directors considers climate and nature-related issues when reviewing and guiding strategy, risk management policies, annual budgets and business plans, as well as setting Borregaard's performance objectives. The Board has established an Audit and sustainability committee (ASC) which monitors and evaluates the more specific issues and plans on behalf of and as preparation for the Board meetings. The ASC normally has six meetings per year. The Board reports key sustainability topics externally on a bi-annual basis.

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 current issues including sustainability and nature issues to the Audit and sustainability committee and the Board of Directors. The CEO meets the Board and ASC 6-8 times a year. Every quarter, the Board oversees 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 are reported in the integrated annual report approved by the Board of Directors. The Board of Directors also oversees major capital expenditures, acquisitions and divestitures where climate-related risks are considered in the process



BOARD-LEVEL OVERSIGHT

The practical monitoring, assessment and coordination of nature-related issues, including nature-related dependencies, impacts, risks and opportunities, are conducted by the Sustainability Board. They have the responsibility for assessing Borregaard's sustainability initiatives and coordinating this work in the value chain. The SB reports directly to the CEO and the Group Executive Management and consists of three members from the Group Executive Management (represented in green in figure 3), as well as other key employees who are responsible relevant sustainability functions.



GROUP EXECUTIVE MANAGEMENT OVERSIGHT

The members of the Group Executive Management are managing and assessing climate and nature-related risks and opportunities in their respective area of responsibility, even though they are not part of the Sustainability Board. As sustainability is one of Borregaard's core values it is natural that everyone in the top management have a particular focus on climate and sustainability in their roles.

STAKEHOLDER ENGAGEMENT

Borregaard is diligently advancing the cause of upholding human rights and ensuring fair working conditions across our entire value chain. Upholding the dignity of individuals is paramount to us, and we are committed to exercising vigilance to prevent 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 any entities affected by our business endeavours.

Our suppliers sign our Supplier Code of Conduct (SCoC) where they confirm to comply with, or actively pursue compliance with the standards given by the International Labour Organisation (ILO) and The Ten Principles of the UN Global Compact through the whole supply chain. Being a signatory to the UN Global Compact, our dedication to combating human and labour rights abuses is further underscored by our established policies and guidelines. Our report on Human Rights and Decent Working Condition describes our efforts in monitoring human rights and fair working conditions within our operations, collaborations with business partners, and throughout our supply chain aligning with the Norwegian Transparency Act. This legislation aims to ensure public access to information regarding corporate endeavours in these domains. Rooted in the UN's Guiding Principles on Business and Human Rights (UNGP) and the OECD's guidelines for multinational enterprises, the Transparency Act mandates organisations to undertake a comprehensive due diligence assessment. Our approach to due diligence encompasses six distinct steps:

1. Ensure accountability in policies and management systems
2. Monitor and assess negative impact/risk based in the enterprise itself, supply chains and business partners
3. Stop, prevent or reduce negative impact/risk
4. Supervise implementation and results
5. Communicate with direct parties concerned and rights holders on how the impact is handled
6. Ensure or collaborate on remedies where necessary

STRATEGY

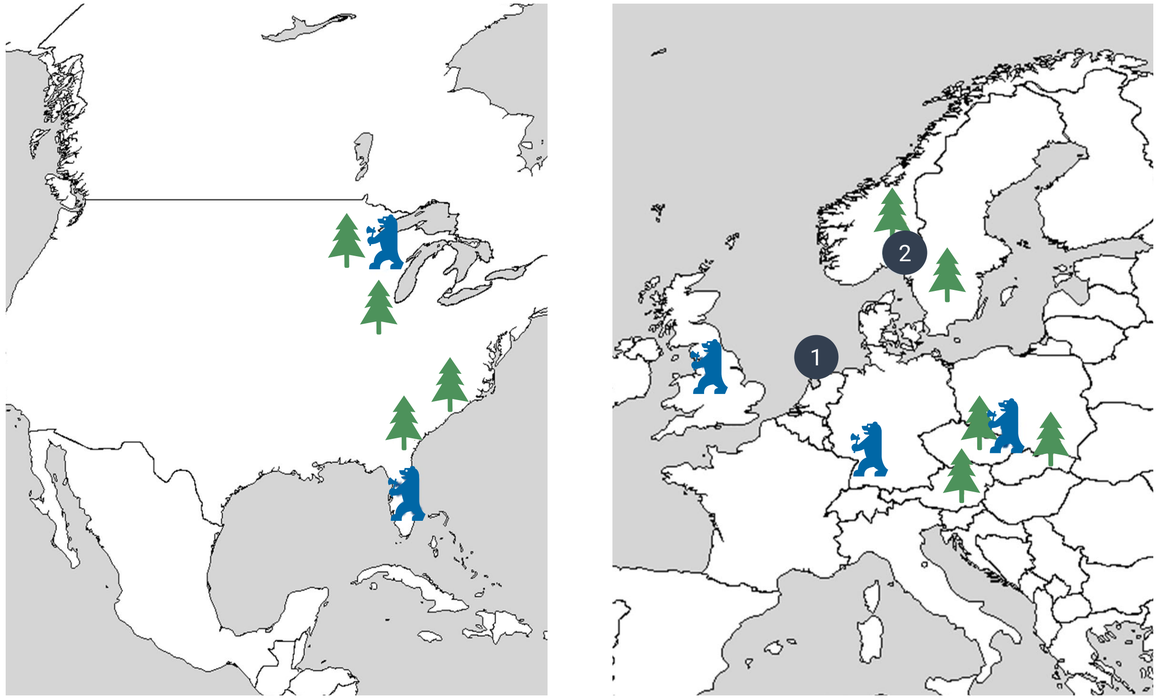
Borregaard's business model and strategy are tightly integrated with sustainable and efficient utilisation of the raw materials we use. A vital element is recognising the importance of sustainably managed forest ecosystems and identifying our climate and nature- related risks and opportunities. Based on our impacts and dependencies on raw materials for production we intend to further strengthen both Borregaard's climate and natures resilience to these challenges and help identify strategic changes to our approach, to maintain biosphere integrity and relevant targets.

RISKS AND OPPORTUNITIES

In combining our climate and nature risk assessment, we have used separate methods to identify the material risks and opportunities. We identify and assess company-level climate risks within our risk management model (ISO 31000). We have also conducted a scenario analysis to identify the most significant climate-related driving forces that are relevant for Borregaard and that might bring positive or negative financial or strategic impacts for the company. By mapping our value chain, as well as direct operational sites (see page 9), we identify our interference with nature throughout our value chain, posing risks and opportunities associated with our impacts and dependencies on nature. Using a location-based approach following the LEAP method, allowed us to identify the priority areas identified below, taking into consideration the sourcing location of our raw materials, as well as our production sites.

Priority locations for Borregaard include material locations and sensitive locations following TNFD criteria. Borregaard's production sites are considered material as they represent material nature-related dependencies and impacts.
The sensitive locations were determined by identifying sites in the value chain located in areas important for biodiversity and/or high ecosystem integrity (see figure below). These were identified by plotting the locations in online tools including WWF Biodiversity risk filter, IBAT, Nibio, Naturvardsverket and ENCORE. The results of the analysis using WWF Water Risk Filter revealed certain long-term risks for water quality at the production sites in Sarpsborg, Karlsruhe, Warrington, and Paskov. However, upon further evaluation and in the process of our materiality analysis, taking into consideration the impact metrics at each location, these locations were deemed not material. Borregaard's location in Sarpsborg Norway, with impact along the River Glomma is considered a priority and a sensitive location due to the impact on the ecological status of the river from the content of organic material in the wastewater from the biorefinery process, and the significance of measures to monitor and reduce impact. Additionally, Glomma is a secure long-term source of water, with little to no risk of drought, safeguarding the Sarpsborg production site from water scarcity.

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



MATERIAL AND SENSITIVE LOCATIONS

	Location	Activity	Sensitive location
	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 and pollution), no direct operations in sensitive locations.
1	Harlingen, Netherlands	Sourcing Salt	High materiality, sensitive area with protected ecosystems and biodiversity.
2	River Glomma, Sarpsborg	Production site and sourcing	Material for direct operations due to impacts of effluents, sensitive location due to Wild Atlantic Salmon population.
	Sourcing locations	Sourcing of wood	Using the WWF Biodiversity risk filter, several locations have been identified with protected and/or sensitive species in the areas where trees are sourced, and thus 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), and Dalsland (SE). To mitigate impacts on sensitive areas, Borregaard ensures that at least 99% of all sourced trees are certified (PEFC or FSC). As such, following the strict criteria of the certification schemes, biodiversity sensitive areas should be protected.

The results of the materiality assessment on climate and nature-related risks and opportunities are presented in the table below. Direct operations are marked in light blue, and upstream/downstream are white.
Climate and nature-related risks and opportunities have been identified over the short, medium, and long-term, and are classified to transition and physical risks. The time horizons for the risks and opportunities were assessed based on the duration of the risk and the impact. Long-term risks have impacts and long-term strategies lasting from 5 years and more, medium-term risks are assessed based on the risk on a 1–5-year basis, and short-term risks are risks occurring in the reporting year, with short-term strategies and impacts occurring within the year. Several identified risks have been assessed on long, medium, and short-term and are not limited to one.

Key drivers of physical and transition risks include increasing regulations on forest management and land-use changes, stricter regulations related to climate gas emissions and environment, resource availability including renewable energy, climate change as well as climate change mitigation measures. These transitions also encourage demand for sustainable products and present significant opportunities for Borregaard.

Impact/ Dependency	Driver	Risk/ Opportunity	Strategy to realise	Time horizon
		TRANSITION RISK		
Impact	Borregaard's scope 1, 2 and 3 emissions.	Risk	Current and emerging carbon pricing mechanism. Borregaard's site in Sarpsborg is subject to the EU's emission trading system (EU ETS).	Short to long-term
Impact	Emission of NOX, SO_2, dust particulate matter from direct operations can impact local air quality.	Risk	Anticipated rising emission costs for NOx pose a financial risk to Borregaard. Revision of local air quality directive. Investments in emission reduction technology and increased use of renewable energy are expected to reduce the emissions.	Short to medium-term
Impact	Our main water-related impact is emissions to water from direct operations of organic material (COD). Monitoring of the River Glomma shows that the emissions of COD influence the ecosystems in the river negatively, see Norwegian Institute for Water Research (NIVA) 2022 report. The EU Water framework directive compliance and stakeholder reporting are ongoing initiatives.	Risk	Borregaard strives improve water quality, requiring investments in technologies to reduce the emissions to meet our long-term targets and future stricter discharge limits.	Short term
Impact	Sourcing of salt: Permits for salt mining in the Wadden Sea are based on that there will not be any impact of land subsidence in the area. A "Hand on the Tap principle" is in place, meaning that the rates of subsidence are measured and modelled annually, and the supplier's production plan will be updated if necessary.	Risk	Financial impact from sourcing from another supplier, investment in cleaning of salt may be necessary.	Short to long-term
Impact	Sourcing wood impacts land ecosystem use which can cause land use change by affecting local biodiversity, soil degradation, land conversion and deforestation.	Risk	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.	Short to medium-term
Impact	Borregaard's Norway site has addressed mercury pollution from former activities, with groundwater and emission levels below permitted limits.	Risk	Borregaard's future costs for environmental remediation depend on several uncertain factors, such as changes in regulations or approval from authorities for the extent of actions.	Short to medium-term

Impact/ Dependency	Driver	Risk/ Opportunity	Strategy to realise	Time horizon
Impact	NIVA monitoring reveals River Glomma's ecological status outside Borregaard is affected by COD emissions. Wild Atlantic Salmon stock is vulnerable. The NIVA report is publicly available.	Risk	Ongoing investments to reduce emissions to water to improve the water quality of the River Glomma. The salmon cultivation facility has increased the young fish population.	Short to long-term
Dependency	Borregaard's reliance on wood, a critical but finite resource, raises concerns about the environmental impact of forest harvesting. We emphasise responsible forestry practices to balance resource needs with ecological sustainability.	Risk	Borregaard's wood sourcing is likely to be affected by upcoming legislation, including the Forests Act, LULUCF, EUDR and the EU Green Deal. These initiatives emphasise nature conservation and sustainable forest management, which may impact the company's procurement practices. We are actively monitoring these developments and implementing measures to ensure compliance.	Short to long-term
Dependency	Borregaard's biorefinery in Norway relies on SO_2, which poses risks of acute gas releases and harm to vulnerable ecosystems (very low likelihood).	Risk	The risk is reduced due to investments in technology to eliminate liquid SO_2 and strengthen the process safety with improved barriers. Third-party risk is eliminated.	Short to long-term

PHYSICAL

Impact	Borregaard's Norway port faces challenges from rising water levels in Glomma and drought on Rhine, disrupting raw material and product transport.	Risk	Varying water levels disrupt raw material and product transport, leading to higher logistics costs, reduced cargo capacity, and potential production discontinuation.	Short to long-term
Impact	Sourcing forests can impact land ecosystem use which affects local biodiversity, soil degradation, land conversion and deforestation.	Risk	Availability of forest may increase over time, along with climate change and other impacted biodiversity in areas.	Short to long-term
Dependency	Salt mining harms mudflats, causing subsidence and threatening ecosystems. Sea level rise worsens, impacting water salinity, food availability for marine life and birds.	Risk	Continued mining may damage ecosystems further, disrupting production and supply chain of salt.	Short to long-term
Dependency	Borregaard is dependent on nature's ability to regulate water flow, both from rain and sea level rises.	Risk	Extreme weather events affect Borregaard's transportation, raising costs due to rail sensitivity to heat and potential disruptions in road, rail, and water routes. Medium financial impact expected.	Short to long-term

Impact/ Dependency	Driver	Risk/ Opportunity	Strategy to realise	Time horizon
Dependency	Climate change is changing wind patterns globally.	Risk	Frequent tropical hurricanes in Florida impact Borregaard's logistics, equipment, and production at Fernandina Beach. Increased closures from strong winds and storm surges can affect income.	Short to long-term
Dependency	Climate change increases drought periods, causing risk for Borregaard’s logistics.	Risk	Karlsruhe (Germany) is reliant on Rhine transport; increased drought periods will increase logistic costs.	Short to long-term
Dependency	Climate change is causing heavier precipitation patterns in Norway.	Risk	Heavy rainfall increases risk of landslides, affecting Borregaard's Sarpsborg site with a medium to high risk of quick clay landslide for minor areas. Road and rail transportation face disruptions, impacting operational costs.	Short to long-term
Dependency	Climate change is increasing global temperatures, impacting growth patterns, and ecosystem changes.	Risk	Rising temperatures may harm Borregaard’s wood sources, increasing insect damage. Longer growing seasons for wood, prolonging season for spruce bark beetles, pose a significant threat to coniferous forests.	Short to long-term

BUSINESS PERFORMANCE

Dependency	Borregaard is dependent on supply of renewable electricity.	Opportunity: Resource efficiency	Conventional technology to cut the greenhouse gas (GHG) emission is available to realise cuts in in scope 1 GHG emissions, but sufficient grid capacity is required to realise several key projects of the plan.	Short to long-term
Dependency	Water accessibility at all production sites.	Opportunity: Resource efficiency	Because of Borregaard’s biorefinery locations, water scarcity is not a risk, thus Borregaard is at an advantage to other biorefineries.	Short to long-term
Impact	Borregaard's production of renewable substitutes for fossil-based chemicals minimises the emissions of GHG associated with conventional alternatives.	Opportunity: Products and services	Borregaard’s strategy and products reduces consumers downstream impacts on climate and nature, creating market value. Borregaard contributes to strengthening circular value chains and promote circularity by offering sustainable solutions.	Short to long-term

Impact/ Dependency	Driver	Risk/ Opportunity	Strategy to realise	Time horizon
Dependency	Efficient utilisation of wood side streams and cascading use of materials.	Opportunity: Resource efficiency	By utilising one raw material to its maximum, Borregaard serves many markets with unique products. Resource efficiency will increase further along with further investments in R&D and technology developments.	Short to long-term
Impact	By switching to alternative products and solutions that Borregaard offer, downstream environmental impact of waste can be reduced.	Opportunity: Products and services	Borregaard promotes circularity with biofuels and low-footprint bio-based products. focused on high-resource sectors like electronics, batteries, and packaging.	Short to long-term
Impact	Transition to green investments through Borregaard's Green financing framework, structured in accordance with the 2021 ICMA Green Bond Principles (GBP).	Opportunity: Capital flow and financing	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. Green financing framework is approved and in 2023 we placed NOK 500 million in new senior unsecured green bonds.	Short to long-term

SUSTAINABILITY PERFORMANCE

Own operations	The transition to a low-carbon economy will increase demand for bio-based products with low carbon footprint, that replace fossil-based products.		Borregaard's reputation and contribution to circular economy models enhances resilience and climate mitigation actions. With high innovation effort, we will be able to increase the value of these products as well as develop new products. This will allow us to expand the use of our biochemicals and biomaterials.	Short to long-term
Dependency	Due to Borregaard's impact on forests in the value chain, it is important to ensure sustainable forest management.	Opportunity: Ecosystem protection	We emphasise sustainable forestry and reducing risk of deforestation and thereby contribute to reduction of non-certified wood in the market.	Short to long-term

IMPACT OF CLIMATE AND NATURE-RELATED RISKS AND OPPORTUNITIES ON BORREGAARD'S BUSINESS MODEL, STRATEGY, AND FINANCIAL PLANNING

Climate-related risks and opportunities have influenced Borregaard's financial planning elements, such as revenues, indirect costs, capital expenditures, access to capital, assets, liabilities, and acquisitions and divestments. At the same time the increased demand for sustainable low-emission products has influenced our capital expenditure. Between 2023 and 2025 Borregaard will spend between mNOK 650 and mNOK 850 on environmental investments and between mNOK 650 and mNOK 900 on expansion investments within specialisation and increased product value. To be able to meet the growing demand for low-emission products, we continue to target our investments within e.g., sustainable conversion of bio-based raw materials. Investments have a long-time horizon, and the internal rate of 15% for expansion investments is the determining factor for these investments. Further, the climate-related risk of increased energy prices is influencing our financial planning. Entering power purchase agreements with a time horizon of up to 12 years (long time horizon) as well as energy conservation activities, will mitigate the risk of more volatile and higher energy prices. Energy conservation measures are prioritised based on saving effect, internal interest rate and payback.

Borregaard's effective strategic planning, commitment to emission reduction, and alignment with EU regulations make us well-positioned for resilience and attractive to investors. Our products have a wide range of use and multiple geographical markets, and consequently the business strategy is flexible and adaptable to changes such as acute weather events or shift in markets. The scenario analysis was used to identify and test Borregaard's resilience to the identified risks and opportunities mentioned above. Borregaard's logistics is flexible (several transportation routes and transportation modes), limiting the risk of disruptions in the value chain to medium impact, policies and guidelines. Our 🔗Human Rights and Decent Working Condition report delineates our efforts in monitoring human

The table below provides an overview of the areas of Borregaard's strategy, business model and financial planning impacted by climate and nature-related impacts and dependencies, as well as Borregaard's strategies to handle risks.

AREAS IN BORREGAARD'S STRATEGY AND FINANCIAL PLANNING INFLUENCED BY CLIMATE AND NATURE-RELATED RISKS.

AREAS	DESCRIPTION OF RISK
Operations	Increasing carbon prices affects our operations, especially in Norway where a significant part of our operations take place. This has led Borregaard to implement a range of GHG reducing and energy saving activities in production, as well as to invest in technology for switching to the use of more renewable energy rather than fossil fuels to produce heat energy. The implementation is ongoing and in line with Borregaard's strategy to reduce direct emissions to reach our 1.5°C target. We have committed to a net-zero science-based target for reducing our scope 1, 2 and 3 GHG emissions according to the 1.5°C ambition. Most of Borregaard's direct GHG emissions stems from energy production. New technology for changing from fossil to renewable energy is thus an opportunity for Borregaard to reduce emissions. To reduce emissions and meet our 2030 sciened-based targets in accordance with our Climate Transition plan, we will make technology investments for energy efficiency and increase the utilisation of renewable energy sources such as hydropower and biogas. We will enhance the redundancy of Borregaard's energy system and facilitate flexibility in our electricity consumption. This will reduce our exposure to future carbon price increases.
Products and services	The products and services part of our operations have been influenced through identification of opportunities to offer sustainable products with minimised climate and nature impact. There is an increasing demand for such products, and with Borregaard's implemented strategy to develop new products and solutions through innovation and investments, we will be able to meet market demand. The strategy has a time horizon of 3 years; however, it is revised annually. As customers are becoming more concerned about their emissions, the demand for solutions that reduce emissions increases.
Supply chain	The IPCC clearly describes the dramatic difference between an increase in the global average temperature to 2°C compared to 1.5°C. This has influenced Borregaard's strategy for GHG emissions in the value chain as we strive to be a part of the green solutions. Thus, we have set an ambitious emissions reduction target committing us to reduce our indirect emissions by 25% by 2030 and 90% (net-zero) by 2050. Borregaard's efforts in reducing scope 3 emissions are organised in our established Scope 3 programme. We continuously search for alternative suppliers and solutions for goods and services which can lead to reduced emissions, while at the same time taking cost and security of supply into account.
	Borregaard's main impacts on nature are in our value chain. By sourcing certified raw materials, we ensure that our purchases contribute to the sustainable management of forests.
Investments in R&D	Climate-related issues have been identified as an opportunity for Borregaard to increase the development of low-carbon products and solutions. This has impacted our investments in R&D within the area. Investments have been made in a number of research projects and pilots related to products and solutions that can contribute to lower CO_2 and NOX emissions. Investments in R&D has a long-term time-horizon as development of new products can be time-consuming.
	One significant impact on the company's operations involves the emissions of COD to River Glomma. We have adjusted our financial planning, with a specific investment plan approved by the Board of Directors in 2020. The plan aims to reduce COD emissions by 30-50% by 2030 and has been submitted to the Norwegian Environment Agency, detailing estimated costs, annual effects on COD, and implementation timelines for each activity. Quarterly progress reports on COD emissions are provided to the Board of Directors. The plan includes investments in improved washing equipment, spill collection, containment, evaporation, and incineration. The Norwegian Institute for Water Research monitors water quality in line with the UN's Water Framework Directive (WFD).

AREAS	DESCRIPTION OF RISK
Acquisitions / Divestments	Climate-related issues are integrated in Borregaard's governance mechanisms, such as the Board's oversight over major capital expenditures, acquisitions, and divestitures.
Access to capital	The opportunity of more favourable margins for Borregaard's loans, has influenced our strategy to reduce emissions. In the bilateral multicurrency revolving credit facility agreements we have with three Nordic banks our margins are linked to the Group's overall climate target. By implementing emission reductions initiatives and continuously developing our sustainable business model in the short, medium, and long term, Borregaard has access to sustainability linked financing. We also see possibilities in getting more financing from innovation funds, private and debt equity as well as government subsidies that have been allocated to assist in the transition to low-carbon technologies. The European Commission has unveiled its new Climate, Energy and Environment Aid Guidelines (CEEAG), which detail how member countries can support companies in the transition to a low-carbon economy. This is especially interesting to Borregaard as the financing includes investment in renewable energy, energy efficiency and industrial decarbonisation.
Access to natural capital	Access to natural capital is a key element of our business strategy and must therefore be safeguarded by having flexible logistics solutions and diversifying our supply of salt, wood raw materials, and other key natural resources we need for production. The Group's strategy is to purchase wood raw material that is certified in accordance with PEFC/FSC. In 2022, the PEFC standard was revised in cooperation with 15 different organisations of which five of these are from the environment and outdoor life side. By monitoring our wood suppliers each half year, we ensure the certificate standards are met.
Adaptation and mitigation activities	Increased risk of physical climate and nature-related issues have impacted the company's financial planning of our assets. Borregaard's fixed assets could be destroyed by more extreme weather such as heavy rain, flooding, and quick clay landslides in the coming years. The risk of financial impacts from damage to assets is mitigated as climate-related incidents are fully covered until 2030 under property damage and business interruption coverage policies for all our sites. Provision has been made for further investigation of risk.
	In addition to water-related concerns, We emphasise sustainable sourcing of wood in our strategic approach. Through due diligence processes and certifications, we aim to mitigate deforestation and the conversion of natural ecosystems within our direct operations and supply chain. Adherence to PEFC/FSC certification schemes plays a pivotal role in Borregaard's long-term business plan, setting standards for environmental responsibility.
Operating costs	Addressing operating costs associated with a salmon cultivation facility is another aspect of Borregaard's financial planning, with a commitment extending to 2032. COD emissions affected riverbed sediments, impacting conditions for the growth of the Atlantic Salmon stock. It is acknowledged that these measures may lead to increased recipe costs, with the goal of achieving good ecological status for River Glomma before 2033.

AREAS IN BORREGAARD'S STRATEGY AND FINANCIAL PLANNING INFLUENCED BY CLIMATE AND NATURE-RELATED OPPORTUNITIES

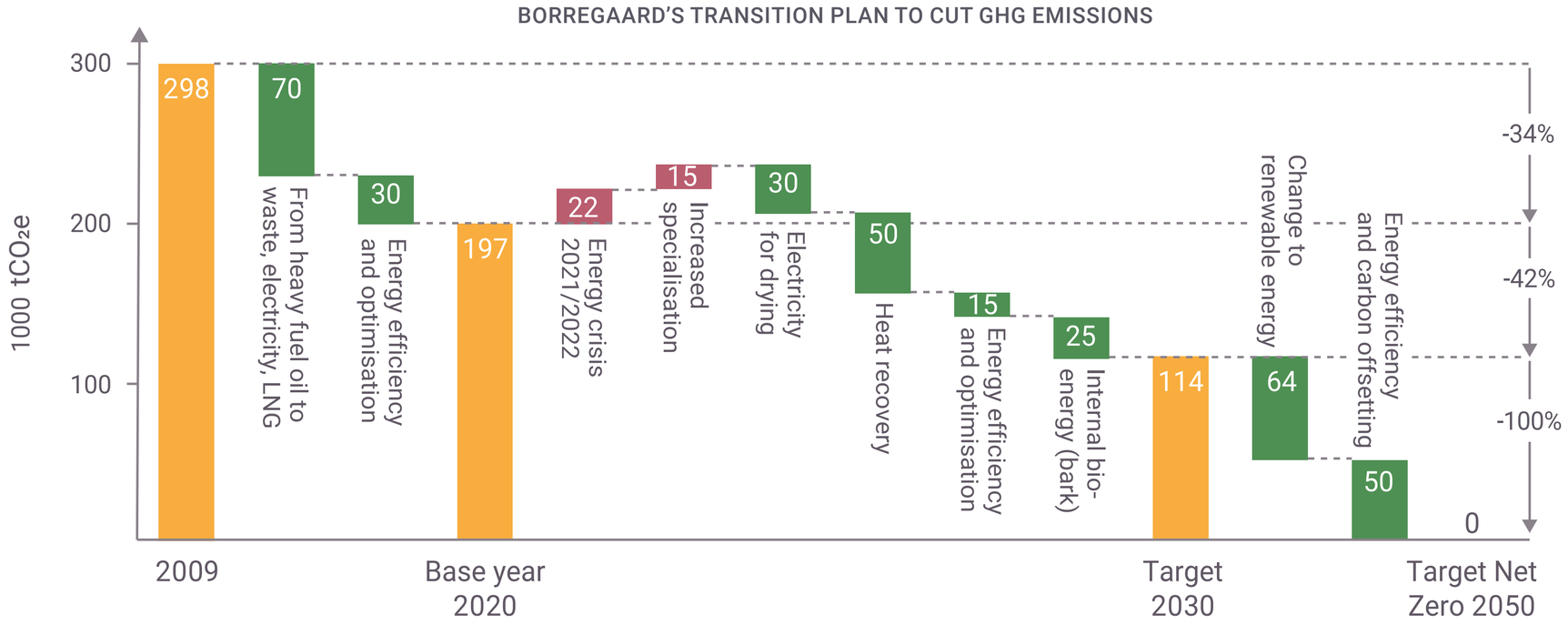
OPPORTUNITY TYPE	DESCRIPTION OF OPPORTUNITY
Resource efficiency	Borregaard's business model is linked to our advanced biorefinery that utilises the different components in the biomass to produce high value-added products that can substitute petrochemical alternatives. Borregaard's biorefinery is an extraordinary cascading operation where wood, which consists of fibres, lignin, and sugars, is turned into cellulose before the side stream from this operation is used for a variety of other valuable products. The side stream from the production of cellulose fibres, is first used in the production of bioethanol before it is converted into lignin- based biopolymers. Parts of the lignin are also used in the production of bio vanillin and parts of the cellulose are converted into cellulose fibrils. Some side streams from production are also sold to other industries, which in turn use them as raw materials in their production. By utilising one raw material to its maximum, we serve many markets with our unique products, and with further investments in R&D and technology developments, the resource efficiency will increase. This is an opportunity for Borregaard in the transition to a low-carbon economy, as we can serve even more customers from the same volume of wood.
Renewable Energy	Most of Borregaard's direct GHG emissions stem from energy production. New technology for switching from fossil to renewable energy is thus an opportunity for Borregaard to reduce emissions. To reduce emissions and meet our 2030 scienced-based targets, we will make technology investments for energy efficiency and increase our utilisation of renewable energy sources such as hydropower and biogas. We will enhance the redundancy of Borregaard's energy system and facilitate flexibility in our electricity consumption. This will reduce our exposure to future energy and carbon price increases.
Products and Services	The transition to a low-carbon economy will increase demand for our products with low carbon footprint that replace fossil-based products. In the coming years, we believe there will be large environmental transitions that Borregaard could provide solutions for. Today, Borregaard makes biochemicals and biomaterials with low carbon footprint that can substitute a variety of fossil-based products in different sectors. About 52% of Borregaard's sales revenues in 2023 came from bio-based products with lower climate/environmental footprint compared with fossil-based products. Our high innovation effort enable us to increase the value of these products as well as develop new products. This will allow us to expand the use of our biochemical and biomaterial products. Examples of climate-related product innovations include: • Use of lignin-based biopolymers as an option to petroleum-based dispersing and binding agents. The biopolymers are used in end-market applications such as construction, industrial binders, batteries, and agrochemicals. • Use of wood-based vanillin in the personal care and cosmetics industry as customers search for natural products. • By adding wood-based microfibrillar cellulose to the glue, the environmental profile of corrugated boards will increase. • Decarbonising the transport sector will replace fossil fuels with biofuels. This is an opportunity for Borregaard as our advanced bioethanol can be used for this purpose.

AREAS	DESCRIPTION OF OPPORTUNITY
Capital Markets	Borregaard has already received funding for innovation and energy transitions. However, we see possibilities in getting more financing from innovation funds, private and debt-equity as well as government subsidies allocated to assist in the transition to low carbon technologies. Further, The EU has unveiled its new Climate, Energy and Environment Aid Guidelines which detail how member countries can support companies in the transition to a low-carbon economy by investing in renewable energy, energy efficiency and industrial decarbonisation. Following the recent passage into law of the EU's taxonomy disclosure regulation, investors are positioning their portfolios to capture taxonomy compliance. Borregaard has activities that are EU taxonomy eligible. This is an opportunity for Borregaard to 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, creating high ESG trust with investors. We have Sustainability linked margin on long-term loans. There is a potentially lower interest expense on future loans. Premium pricing as "green" may impact the share price.
Resilience	Borregaard's efficient use of raw materials to create a variety of low-carbon products offered to different markets makes the company resilient to market changes. Borregaard has more than 800 different products in numerous applications which reduces our exposure to cyclical markets. Markets that will grow or decline due to climate change are identified. Our high innovation rate of new products further positions us to expand the product portfolio and attract new customers and new markets, increasing Borregaard's revenue. The current and expected future increased demand for low-carbon products and Borregaard's resilience planning through increased investments in R&D to meet this demand is likely to increase the market value of our company enabling us to further expand our product portfolio. In addition, we will maintain or increase the flexibility in sourcing, especially within energy and basic chemicals.

CLIMATE TRANSITION PLAN

In addition to the above-mentioned strategies and actions to handle climate and nature-related risks and opportunities, Borregaard has established a transition plan as presented in Annual Report , to cut GHG emissions. Borregaard's investments in renewable energy and efficiency over the past 14 years have cut GHG emissions by 34%. Key focuses include energy-efficient technology and increased use of renewables like hydropower and biogas. Our GHG transition plan presented at our Capital Markets Day in September 2022, is in line with our commitment to a science-based target consistent with limiting global temperature rise to 1.5°C. Key investments will be made at the Sarpsborg biorefinery in Norway.

Access to renewable energy and technology is crucial, with possible investments in innovative technologies for increased heat recovery. Ensuring adequate grid capacity is vital and as such, Borregaard plans upgrades to its power intake station and seeks long-term power purchase agreements. Funding will be sought from government schemes like Enova for energy efficiency and heat recovery technology. Additionally, Borregaard is exploring carbon capture and storage (CCS) and use (CCU) technologies, aiming for net-zero emissions by 2050. Collaboration with CCUS Norway facilitates knowledge sharing on environmental carbon management.



The diagram shows our transition plan with measures to reach our science-based target from the base year 2020 towards our near-term target in 2030 and net-zero target in 2050, and the results of completed measures from 2009 to 2020.
The increase from 2020 is due to increased use of fossil-fuel for energy linked to the energy crisis in Europe. Net-zero means a 90% absolute reduction and 10% carbon offsetting

Resilience of Borregaard's strategy and business model

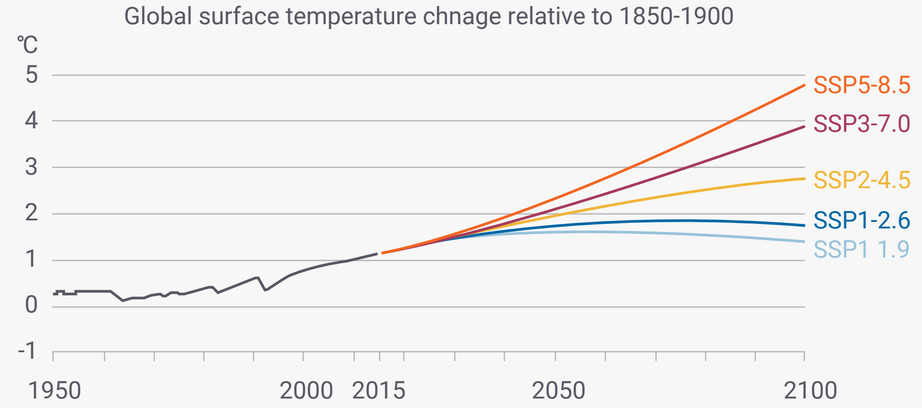
Borregaard has analysed how climate change may impact its operations and the value chain through a scenario analysis in accordance with earlier TCFD recommendations. The scenarios were selected to test Borregaard's strategic resilience and better understand future strategic and financial impacts in both 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. In addition, the Russian invasion of Ukraine, has led to higher pressure on the Nordic market for wood, due to banning of the Russian wood market. However, use of wood for bioenergy (EU's RED III directive) and other purposes may face stricter regulations, resulting in reduced use of wood for these applications and increased availability for wood as raw materials for biorefinery concepts. Wood is a crucial raw material for Borregaard's business model, thus we ensure our supply of wood by diversifying our sourcing locations and ensuring resource efficiency in all the resources we use. Given that our business model focuses on increasing the value of existing products and developing new bio-based products, Borregaard recognises the need for an ambitious purchasing policy to avoid any reputational damage as a sustainable company.

Scenario analysis

We have analysed physical and transitional risks and opportunities with help of public IPCC, IEA scenarios and other relevant sources and evaluated well-below 2°C and 4°C pathways. The well-below 2°C scenario assumes meeting the goals set in the Paris Agreement with climate change mitigation through policy changes, whereas the 4°C scenario considers a business-as-usual scenario without ambitious climate policy changes. The scenarios were selected to test our strategy's resilience and better understand future strategic and financial impacts in both favourable and non-favourable scenarios, with exposure to chronic and acute climate-related hazards such as changing temperature and precipitation patterns, water stress, and drought

Borregaard's short (1-4 years), medium (4-8 years) and long-term time-horizons (8-28 years) were taken into consideration. Borregaard commits to reduce our Scope 1 and 2 GHG emissions by 42% by 2030, to reduce our indirect emissions by 25% by 2030 and become net-zero by 2050. Reducing global GHG emissions to net zero by 2050 is consistent with efforts to limit the long-term increase in average global temperatures to 1.5°C.



IPCC global warming pathways

Narrative Well-below 2°C (RCP 2.6/SSP1-2.6 & IEA SDS and NZE)

In this scenario, we assume an orderly transition to limiting global warming to well-below 2°C. The scenario assumes a rise in climate policy ambition and coordinated, global climate action to start gradually in immediate future. This scenario is dominated by transitional risks and opportunities. The well-below 2°C scenario assumes that global CO_2 emissions peaked in 2020 and decline fast. High carbon prices are introduced in most economies, and global power is mostly generated using renewables. Due to low demand, fossil fuel prices are low. Customers and investors are increasingly climate-conscious and require more from Borregaard. Government and private investors prefer “green companies”. This scenario is based on IEA Net Zero Emissions (NZE) and Sustainable Development Scenario (SDS), as well as the IPCC SSP1-2.6 pathways. The IEA’s NZE scenario assumes net-zero emissions in 2050 whereas the SDS scenario reaches global net- zero emissions by 2070 (with many countries and regions reaching net zero much earlier). IPCC’s SSP1-2.6 pathway stays below 2°C warming relative to pre-industrial levels.

Narrative 4°C (RCP 8.5/SSP5-8.5 & BAU)

The 4ºC business-as-usual scenario is dominated by increasing physical risks, due to a lack of coordinated policy actions to limit climate change. In this scenario, economic growth is preferred over climate action and overconsumption of resources continues. The world continues to be dependent on fossil fuels and only modest rates of technological change and energy intensity improvements occur. Water becomes a key resource with limited availability and the number of climate-related conflicts increase because of poor agriculture and living conditions. Tens of millions of people move northwards in hope of a better life. As the globe is warming up, the severity and frequency of extreme weather events are increasing. Flooding, heavy precipitation and sea level rise impact Borregaard’s operations and value chain. The ambition for economic growth is not met, as GDP losses occur due to increased physical risks as the temperatures rise. This scenario is based on IPCC RCP 8.5 / SSP5-8.5 scenario.

NATURE-RELATED RESILIENCE

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 investigating plausible scenarios. The TNFD emphasises two critical uncertainties: the rate of degradation of ecosystem services and the balance between market and non-market forces.

The degradation of ecosystem services under various temperature scenarios directly affects wood availability. 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, use of wood for bioenergy (EU’s RED III directive) and other purposes may face stricter regulations, resulting in reduced use of wood for these applications and increased availability for wood as raw materials for biorefinery concepts.

Through our Responsible Sourcing Policy and Policy for environment, climate, health, and safety engagement we underscore our commitment to advocating for sustainable forest management and endorsing forest certification for all wood sources. The active pursuit of ensuring 100% of wood procurement to FSC or PEFC certification contributes significantly to promoting sustainable forest management while safeguarding economic, social, and environmental values.

Borregaard’s business model is based on the utilisation of wood to increase value of existing products and develop new bio-based products, and much of the Group’s investments are directed to this purpose. The transition to a society based on renewable and sustainable solutions with low-carbon footprint has resulted in an increased market for wood-based products. 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.

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 carried out 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 when defining 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. 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 conducted a materiality assessment in alignment with TNFD guidelines. This evaluation ensures that Borregaard's impact on the environment and people, the outside world's impact on our financial performance, and results in material topics within environment, social and governance, especially those related to nature and biodiversity, are thoroughly considered. The results from the materiality assessment conducted under TNFD are integrated and utilised further in Borregaard's Double materiality assessment report(link), which follows EFRAG guidance, ensuring a comprehensive evaluation of both financial and broader sustainability impacts, risks and opportunities. 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 come 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 Naturvardsverket. 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 common process for risk and opportunity management. Sources of risk, areas of impacts, events, and potential financial or strategic consequences and mitigation activities are identified. The risk identification work starts with the initiating 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 consult 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 are 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. 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 cooperation with sales, manufacturing, customers (actual and potential), external institutes, and universities in several countries. This cooperation 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 shall sign the Supplier Code of Conduct (SCoC) and are subject to risk assessment with respect to responsible sourcing. The existing supplier portfolio is assessed annually. A decision tree to guide the implementation of actions based on the results of the assessments is in place.

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

Sustainable forestry is important to Borregaard's strategy for sourcing raw materials as well as responding to nature-related dependencies, impacts, risks and opportunities. Our involvement with multi-partnership or stakeholder initiatives is important to achieve our goal of 100% certified wood. 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 Chair. Since 2019 a National Risk Assessment (NRA) of Norway was 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:

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

An example of actions taken is a field audit at the harvesting area in Søndre Land and Gran municipality in Norway. The purpose was to verify that the harvesting did no harm the natural ecosystem by securing that the harvesting was in accordance with all rules and regulations to secure the biodiversity and natural ecosystem. The field audit was conducted in 2021 together with an external biologist consultant. In 2021, we took actions towards all our pulpwood suppliers to get confirmation that no wood can come from areas where there is a conversion of natural ecosystems. This requirement is made for the whole purchasing area of our wood supplies. An example of actions regarding our commitment to "zero deforestation/ no deforestation": In 2021, we made an agreement with our main suppliers of wood in Norway to increase young forest care with 5% in the counties of Viken and Innlandet from 2020-2022.

The risk assessment is presented and reviewed quarterly by the Audit and Sustainability Committee 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 acquainting themselves with all significant risk factors within their own area of responsibility, thus contributing to a financially and administratively sound handling of these risks. Borregaard has established a central risk management function at Group level, headed by the Chief Risk Officer (CRO), who is responsible for Borregaard's risk management model and implementation support.

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 in our strategy, we intend to report transparently and in accordance with relevant metrics for our operations. Furthermore, the disclosure metrics below is selected to align with guidance from TNFD and IFRS S2 and demonstrate Borregaard's initial efforts in collecting relevant data to identify the risks and opportunities in a quantitative way.

In a business heavily reliant on timber, aligning with TNFD and TCFD metrics is an ongoing effort. Our data collection and analysis processes are adapting to recommended disclosures. Although current metrics are mainly qualitative, we are transitioning to 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 state of nature, using the recommended metrics from the IFRS S2 and the TNFD framework.

Driver of nature change			Our metric	State in 2023	Explanation/ Unit	Status
Climate change	**IFRS S2**	GHG emissions	Scope 1	132,771	t CO_2e	Borregaard measures and report our emissions in accordance with the GHG protocol. See our Annual report for further breakdown of our carbon account.
			Scope 2	64,093	t CO_2e	
			Scope 3	410,791	t CO_2e	
Land use change	TNFD C1.0	Total spatial footprint	**Sum of area controlled (m2)**	**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	m²	
			Karlsruhe	20.000	m²	
			Paskov	~200	m²	
			Wisconsin	12.525	m²	
			Florida	1.662	m²	
	C1.1	Ecosystem use change by type of ecosystem and business	Type of ecosystem: Forest Business activity: Sourcing wood	-	m²	Borregaard is developing metrics to monitor our impact on nature in our value chain. In future reports we aim to include these metrics.
		Ecosystem that is used sustainably managed by type of ecosystem	Boreal Forests	-	m²	

Driver of nature change			Our metric	State in 2023	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)	53 302	Megalitres	Water is one of our main nature related dependencies as it is vital for cooling, steam production and hot water production, as well as washing and transportation of biomass in the production processes. However, most of the water used is returned to the River Glomma.
			Amounts of key pollutants			
			COD	46	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	tonnes/24 hours	
			Copper	0.01	tonnes/24 hours	
			AOX	0.2	tonnes/24 hours	
			Phosphor	0.02	tonnes/24 hours	
			Hg	1.7	kg/year	
			Nitrogen	0.27	tonnes/24 hours	
			Fiber (suspended solids (fibres)	4.5	tonnes/24 hours	
	C2.2	Waste generation	Hazardous	4,072	tonnes/year	
			Non hazardous	30,811	tonnes/year	
		Disposal	Recycling / Recovery	17,270	tonnes/year	
			Landfilling	17,317	tonnes/year	
	C2.3	Plastic pollution	Total weight of plastics	1300	tonnes/year	Our production uses some plastic in packaging, and we are looking to develop this metric to monitor our use of plastic in our operations. The number is from Borregaard Sarpsborg.
	C2.4	Non GHG air pollutants	Particulate matter ($PM_{2.5}$ and/or PM_{10})	63	tonnes/year	
			Nitrogen oxides (NO_2, NO and NO_3)	98	tonnes NOX/year	

Driver of nature change			Our metric	State in 2023	Explanation/ Unit	Status
			Sulphur oxides (SO_2 , SO, SO_3 , SOX)	55	tonnes SO_2/year	
Resource use	C3.0	Water withdrawal and consumption	Water withdrawal	53,755	megalitres	
			Water consumption	308	megalitres	
			Water discharge	53,488	megalitres	
	C3.1	Proportion of total natural commodities	Amount of wood raw materials	1 mill	fm^3	Used in Borregaard Biorefinery, Norway
			Limestone (CaCO3)	21,503	tonnes	From Visnes Kalk, Norway
			Sulphur, liquid	17,957	tonnes	From Preem Petroleum Lysekil, Sweden
			Sodium chloride (NaCl)	79,370	tonnes	From Frisia Zout BV Harlingen, Netherlands
		Sourced under a sustainable management plan	Proportion of total high risk natural commodities	99%		IBorregaard is working to ensure 100% certified wood raw materials is sourced for our production.

RISK AND OPPORTUNITY METRICS AND TARGETS

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: 21.5 GJ/TAD cellulose in 2023.	Average electricity spot price (Oslo region) at 724 NOK/MWh in 2023.	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 2023. 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 1,722 GWh, 1,050 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 12% of total cost in 2023, NOK 610 million.	Investments of NOK 650-850 million in 2023-2025 to reduce emissions by 83,000 t CO_2 (scope 1 and 2). The first investment (NOK 230 million) will be finalised in 2024. The investment will reduce CO_2 emissions and increase energy flexibility, enabling a potential cost reduction (see page 15). Maintained flexibility for variable load in strained periods for renewable energy, results in reduced energy cost. Spraydriers at the site in Norway independed of fossil energy.
Product and services (Products that replaces fossil based)	About 52% (NOK 3.7 million) of Borregaard's sales revenues in 2023 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 favour our products.
Capital markets	81% of long-term financing (including Revolving Credit Facilities) at the end of 2023 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 price: BioSolution products NOK 11,753 per mtds. BioMaterials products NOK 16,527 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.

CLIMATE AND NATURE RISKS

	CURRENT EXPOSURE	CURRENT PRICE LEVEL & COST	FUTURE (2030) EXPOSURE
Current and emerging carbon pricing mechanism	EU ETS: 120,107 t CO_2 in 2023 CO_2 tax for waste incineration: 37,970 t CO_2 emission rights owned 664,700. Scope 3 emissions 354,303 for 2023.	EU ETS 85 EUR/t CO_2, free allowances covers the demand. CO_2 tax 238 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 1,781 GWh, heat energy is 1,235 GWh (from LNG, light oil, biofuel, biogas, waste and electricity), wheras 546 GWh is power supply. Long-term power supply contracts.	Energy is 12% of total cost in 2023, NOK 610 million.	Increased electric power supply from the grid (35 MW), but maintained flexibility for variable load in strained periods. Reuced dependency for auxillary fuel. Total energy at the same level as today, energy efficiency is offset by volume increase. The share of electricity for power supply will increase and energy for heat will decrease. Long-term power supply contracts.
Availability of forest raw material	1 million fm^3, 99% certified wood PEFC/FSC standard.	Wood 12% of total cost in 2023, NOK 630 million.	Sourced volume of wood will increase with 5-10% to 1.05 - 1.10 million m3 due to debottlenecking. Future price level will be based on availability. Availability can be reduced due to stricter certification schemes for PEFC/FSC and changes in forest regulations.
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.	Supply chain alternatives - cost below NOK 10 million. NAT/CAT Insurance in place. Payout related to ground conditions was NOK 15 million in 2023.	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 expectede to increase.
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.

RESPONSE METRICS AND TARGETS

	BASE YEAR	TARGET YEAR	TARGET STATUS
		CLIMATE	
Near-term emissions (Scope 1+ 2)	2020	2030	Target reduction from base year: 42% % of target achieved (2023): -8%
Near-term emissions (Scope 3)	2020	2030	Target reduction from base year: 25% % of target achieved (2023): 11.5%
Long-term net zero (SBTi)	2020	2050	Target reduction from base year: 90% % of target achieved (2023): same level, but 8% reduction from 2022
		NATURE	
Purchased wood to the biorefinery in Sarpsborg shall be certified (FSC or PEFC).	2022	2030	Target % certified wood: 100% 2022: 98%
Reduce COD emissions to Glomma	2021	2025	Emissions of COD reduced by 25-30% (40 tonnes COD/day) 2021: 55 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 are 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 plants 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 2024, Borregaard plans to enhance its environmental documentation with an LCA for its German production facility and publish four new EPDs. 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, increasing value-added from its 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. Additionally, Borregaard is pursuing inorganic growth through strategic investments, exemplified by its stake in Alginor and startups like Lignovations and Kaffe Bueno, aligning with its commitment to sustainability and innovative solutions. Beyond implementing our climate transition plan, Borregaard is committed to ongoing assessment of climate-related risks and opportunities. We actively monitor evolving international climate regulations and strive to remain industry leaders.

NATURE

By comprehensively assessing climate and nature-related risks and opportunities, Borregaard has gained a holistic perspective on future risks and identified the interconnectedness between environmental factors. Moving forward, Borregaard intends to expand and refine its scenario analysis to encompass both climate-related and nature-related risks and opportunities. Having identified key material impacts in terms of pollution, water management, biodiversity, and resource use, we have established an ambitious way forward, to manage our risks and opportunities. We will also engage in workshops and projects that aim to develop measures and standards to take natural conditions into account in a sustainable way.

In 2024, we will enhance process safety by systematically identifying risks and implementing mitigation measures. Building on hazard analyses from 2022 and 2023, we'll strengthen safety measures in key areas such as 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, our climate transition plan will increase the use of renewable electricity, reduce reliance on natural gas, and limit municipal waste incineration, positively impacting local air quality. Investment plans are in place to address SO_2 emissions, aligning with anticipated stricter air quality directives.

In alignment with the European Water Frame Directive and EU Green Deal Initiative, we're committed to reducing effluents to water, aiming for a good ecological status in the River Glomma by 2033. Our transition plan outlines measures for a gradual reduction of COD, with targets set for 2026 and 2030. We're also focusing on water efficiency improvement projects and establishing long-term targets for water withdrawal reduction. Anticipating the revision of the EU's Industrial Emissions Directive in 2024, we're prepared to meet regulatory requirements by emphasising resource optimisation and circularity in our operations. Furthermore, we're exploring the positive impact our sustainable biochemicals can have on water consumption and emissions in customer applications, potentially replacing chemicals containing harmful substances or microplastics, and anticipating favourable changes in EU chemical regulations.

We aim to maintain or improve our A- rating in the CDP Forest reporting category and strive to source 100% certified wood, despite potential challenges posed by evolving 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. We will consider expanding our PEFC CoC cerfification to other sites outside Norway. We'll actively engage with stakeholders to assess nature-related risks, particularly focusing on compliance with the Regulation on deforestation-free products (EUDR) enforced in June 2023. This 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. Operators and traders have 18 months from June 29, 2023 to comply with the new rules.

Biorefineries represent a crucial pathway toward achieving sustainability goals, yet they are currently not recognised 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
GOVERNANCE Disclose the organization's governance around nature-related dependencies, impacts, risks, and opportunities	6
a) Describe the board's oversight of nature-related dependencies, impacts, risks, and opportunities.	6
b) Describe management's role in assessing and managing nature-related dependencies, impacts, risks, and opportunities	7
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	8
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.	8
a) Describe the nature-related dependencies, impacts, risks, and opportunities the organization has identified over the short, medium, and long term.	9
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.	16
c) Describe the resilience of the organization's strategy: to nature-related risks and opportunities, taking into consideration different scenarios.	21
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.	11
RISK AND IMPACT MANAGEMENT Disclose how the organization identifies, assesses, and manages nature-related dependencies, impacts, risks, and opportunities.	24
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).	24
b) Describe the organization's processes for managing nature-related dependencies, impacts, risks, and opportunities.	25
c) Describe how processes for identifying, assessing, prioritizing, and monitoring nature-related risks are integrated into the organization's overall risk management.	25
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.	26
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.	29
b) Disclose the metrics used by the organisation to assess and manage dependencies and impacts on nature.	27
c) Describe the targets and goals used by the organization to manage nature-related dependencies, impacts, risks and opportunities and performance against targets.	32

APPENDIX B – IFRS S2 INDEX

This is the first year Borregaard is reporting in line with the IFRS S2, some disclosures will be in progress and improved throughout 2024.

Chapter	Page number
GOVERNANCE Disclose information on governance controls, processes, and procedures an entity uses to monitor, manage, and oversee climate-related risks and opportunities.	6
(a) information on governance body (board, committee/equivalent) or individual responsible for oversight of climate risks and opportunities	6
(b) management's role in the governance processes, controls and procedures used to monitor, manage, and oversee climate risks and opportunities	7
STRATEGY Disclose the entity's strategy for managing climate risks and opportunities	9
(a) the climate-related risks and opportunities that could reasonably be expected to affect the entity's prospects;	9
(b) the current and anticipated effects of those climate-related risks and opportunities on the entity's business model and value chain;	16
(c) the effects of those climate-related risks and opportunities on the entity's strategy and decision-making, including information about its climate-related transition plan;	20
(d) the effects of those climate-related risks and opportunities on the entity's financial position, financial performance and cash flows for the reporting period, and their anticipated effects on the entity's financial position, financial performance, and cash flows over the short, medium, and long-term taking into consideration how those climate-related risks and opportunities have been factored into the entity's financial planning; and	29
(e) the climate resilience of the entity's strategy and its business model to climate-related changes, developments, and uncertainties—taking into consideration the entity's identified climate-related risks and opportunities.	21
RISK AND IMPACT MANAGEMENT Disclose how the organization identifies, assesses, and manages climate-related risks and opportunities.	24
(a) the processes and related policies the entity uses to identify, assess, prioritise, and monitor climate-related risks	24
(b) the processes the entity uses to identify, assess, prioritise, and monitor climate-related opportunities, including information about whether and how the entity uses climate-related scenario analysis to inform its identification of climate-related opportunities; and	24
(c) the extent to which, and how, the processes for identifying, assessing, prioritising, and monitoring climate-related risks and opportunities are integrated into and inform the entity's overall risk management process.	25
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.	26
(a) information relevant to the cross-industry metric categories;	27
(b) industry-based metrics that are associated with business models, activities or other common features that characterise participation in an industry; and	In development
(c) targets set by the entity, and any targets it is required to meet by law or regulation, to mitigate or adapt to climate-related risks or take advantage of climate-related opportunities, including metrics used by the governance body or management to measure progress towards these targets.	32