

TCFD REPORT

2021



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THE TCFD RECOMMENDATIONS

There is a growing demand for standardized, climate-related risk disclosure in the financial sector, and creditors and investors are increasingly asking for reporting that is consistent, comparable, and clear. The Task Force on Climate-Related Financial Disclosure (TCFD) developed the TCFD disclosure recommendations to enhance market transparency and stability. TCFD encourages standardized reporting of financially material climate-related risks and opportunities to provide investors, lenders, and insurers with comparability when assessing and pricing companies.

The TCFD recommendations are grouped into four areas of disclosure that represent core elements of how organizations operate: governance, strategy, risk management, and metrics and targets. Moreover, the framework separates recommended disclosures into three main categories: risks related to the transition to a lower-carbon economy, risks related to the physical impacts of climate change, and climate-related opportunities. The TCFD has also incorporated potential financial impact as an integral part of its disclosure recommendations.

CORE ELEMENTS OF RECOMMENDED CLIMATE-RELATED FINANCIAL DISCLOSURES



Governance

The organisation's governance around climate-related risk and opportunities.

Strategy

The actual and potential impacts of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning.

Risk Management

The process used by the organisation to identify, assess, and manage climate-related risks.

Metrics and Targets

The metrics and targets used to assess and manage relevant climate-related risks and opportunities.

Figure 1: Reprinted from "Implementing the Recommendations of the Task Force on Climate-related Financial Disclosures" (June 2017)

In line with the TCFD disclosure recommendations, the TCFD report is an integrated part of Borregaard's annual financial reporting.

TCFD CONTENT INDEX

Borregaard is a signatory to the UN Global Compact and specifically focus on the principles 3, 4, 5 and 6; uphold freedom of association, right to collective bargaining, zero tolerance for forced labour, zero tolerance for child labour and discrimination. The commitment to combat human and labour rights violations is also expressed in our Human Rights Policy and our Code of Conduct which includes:

| GOVERNANCE | STRATEGY | RISK MANAGEMENT | METRICS AND TARGETS |
|--|---|--|---|
| Disclose the organization's governance around climate-related risks and opportunities. | Disclose the actual and potential impacts of climate-related risks and opportunities on the organisation's business, strategy, and financial planning where such information is material. | Disclose how the organisation identifies, assesses, and manages climate-related risks. | Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material. |
| Recommended Disclosures | Recommended Disclosures | Recommended Disclosures | Recommended Disclosures |
| a) Describe the board's oversight of climate-related risks and opportunities. | a) Describe the climate-related risks and opportunities the organisation has identified over the short, medium, and long term. | a) Describe the organisation's processes for identifying and assessing climate-related risks. | a) Disclose the metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process. |
| b) Describe management's role in assessing and managing climate-related risks and opportunities. | b) Describe the impact of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning. | b) Describe the organisation's processes for managing climate-related risks. | b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks. |
| | c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2° or lower scenario. | c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organisation's overall risk management. | c) Describe the targets used by the organisation to manage climate-related risks and opportunities and performance against targets. |

GOVERNANCE

Disclose the organization's governance around climate-related risks and opportunities.



Figure 1: Board-level oversight

Climate-related issues are integrated into Borregaard's governance mechanisms. The Board of Directors considers climate-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 monitor and evaluates the more specific issues and plans on behalf of and as preparation for the Board meetings. Climate objectives are part of the business plan, which is prepared by The Sustainability Board. The Sustainability Board informs and guides the CEO and the Group Executive Management on which sustainability issues to address and the measures to be implemented. The CEO reports current issues including sustainability issues to the Audit and Sustainability Committee and to the Board of Directors. The CEO meets the Board and ASC 6-8 times a year. Progress on climate-related goals and targets are overseen and monitored by the Board of Directors on every meeting. Every quarter, the Board oversees climate-related issues such as emissions, and in yearly meetings, the board sets the overall climate-related goals for the company. An annual summary of the climate objective, climate risks and opportunities and other focus issues is prepared for the annual report and sustainability report which is approved by the Board of Directors. The Board of Directors also oversee major capital expenditures, acquisitions and divestitures, and climate-related risks have been considered in the process.

GROUP EXECUTIVE MANAGEMENT OVERSIGHT

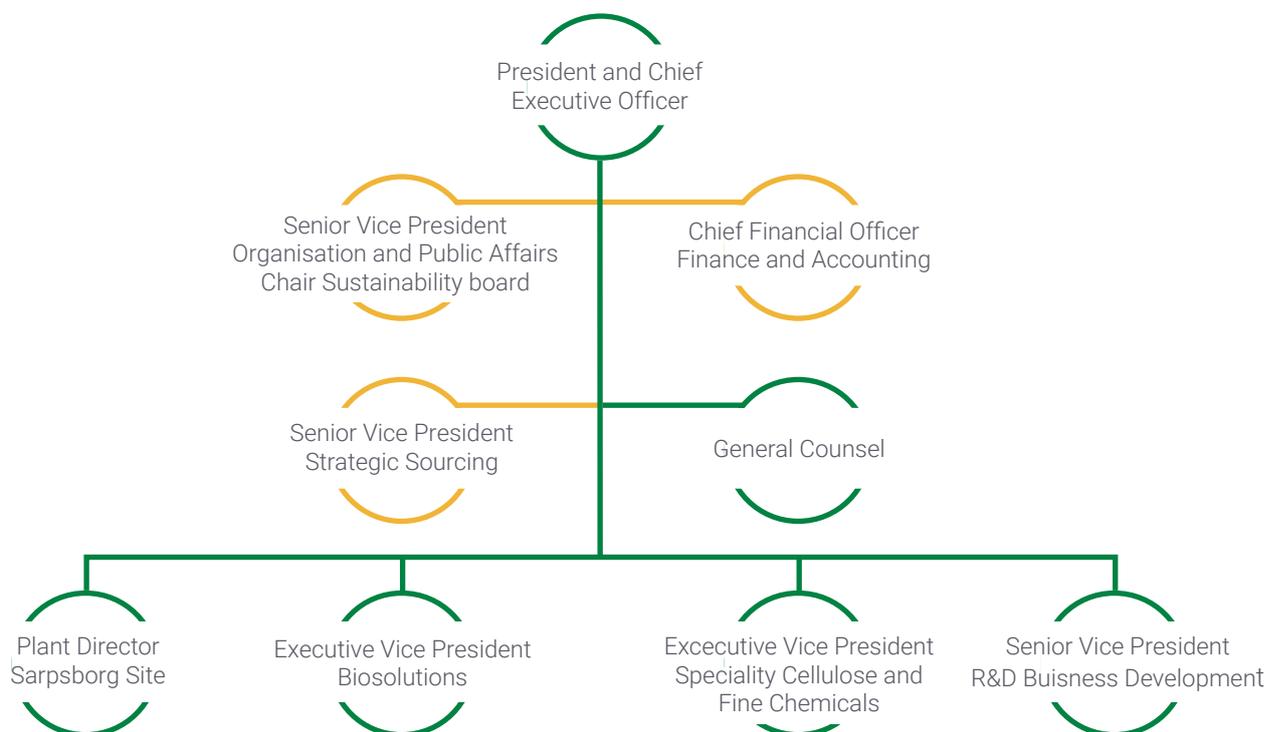


Figure 2: Group Executive Management oversight

The President and Chief Executive Officer (CEO) is the highest responsible for climate-related issues under the Board of Directors as climate-related issues are part of Borregaard's business strategy and are considered important for the company's long-term success. The CEO is ultimately responsible for monitoring, assessing, and managing climate-related issues, including climate-related risks and opportunities. The CEO leads the Group Executive Management and reports sustainability risks and strategic issues to the Board of Directors continuously as relevant issues arise. The responsibility for climate issues lies with the CEO because it is of utmost importance for the company that the CEO has a complete picture of all climate-related issues that can affect the business plan and can then also allocate the right resources to achieve the long-term strategies and goals.

The practical monitoring, assessment, and coordination of climate-related issues, including climate-related risks and opportunities are conducted by the Sustainability Board. The Sustainability Board has the responsibility for assessing Borregaard's sustainability and climate initiatives and coordinating this work in the value chain. The Sustainability Board reports directly to the CEO and the Group Executive Management. The Sustainability Board consists of three members from the Group Executive Management (represented in yellow), as well as other key employees at Borregaard which are responsible for the entire value chain and relevant sustainability functions.

The Senior Vice President Organisation and Public Affairs is chair of the Sustainability Board which coordinates all sustainability activities in Borregaard to ensure exchange of best practice and that the company has sufficient progress and anchored priorities. One of the SVP's responsibilities is to ensure that Borregaard's sustainability policies (e.g., Climate & EHS policy, code of conduct, human rights policy, and anti-corruption policy) are up to date and in accordance with best practice. The SVP is leading the processes of setting science-based targets, developing management routines and input to the Audit and Sustainability Committee, and contributing to input for monetary incentives and investments for climate-related activities. The SVP and the Sustainability Board are responsible for both assessing and coordinating climate-related risks and opportunities. In order to offload the CEO in the day-to-day strategic environmental work, the SVP has been appointed the responsibility as chair of the Sustainability Board. The SVP is a member of the Group Executive Management and reports to the CEO.

The Chief Financial Officer (CFO) is a member of the Sustainability Board and the Group Executive Management, and reports to the CEO. The CFO is responsible for internal and external financial reporting, financing and risk management, including climate-related and ESG reporting, and green financing. In this role, the CFO must also ensure that all public non-financial reporting is in accordance with the latest accounting requirements.

The Senior Vice President Strategic Sourcing is member of the Sustainability Board and the Group Executive Management, and reports to the CEO. The SVP is responsible for Borregaard's sourcing activities, including sourcing of energy, chemicals, and transportation, which are substantial emissions sources for the Group. The SVP is also responsible for ensuring sustainable sourcing of natural, renewable raw materials and that Borregaard reaches its target of sourcing only certified wood. In this role, the SVP must ensure that all suppliers meet a set of requirements, including climate-related requirements, and that key suppliers improve their work on sustainability.

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

STRATEGY

Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning where such information is material

CLIMATE-RELATED RISKS AND OPPORTUNITIES IDENTIFIED OVER THE SHORT, MEDIUM, AND LONG TERM

Borregaard assesses climate-related risks and opportunities on short term (1-4 years), medium-term (4-8 years) and long-term (8-28) time-horizons. As climate-related issues often manifest themselves over a longer time-horizon, long-term time-horizon is expanded over 25+ years in our physical climate risk assessment.

| TIME HORIZON | YEAR | |
|--------------|------|---|
| Short-term | 1-4 | Borregaard's strategic and financial period has a time horizon of 4 years. |
| Medium-term | 4-8 | Borregaard's environmental strategy contains a group-wide objective to achieve a reduction of greenhouse gas emissions by 2030 in line with a 1,5°C target from a 2020 base year. Plans to realize emissions reductions in this time period is established, and risks and opportunities related to climate change is evaluated. |
| Long-term | 8-28 | Borregaard has committed to a long-term net-zero target towards 2050 |

Table 1: Definition time horizons

We identify and assess company-level climate risks within our risk management model (ISO 31000). We have also used the TCFD framework 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. Below is a summary of this assessment.

| RISK TYPE | DESCRIPTION OF RISK |
|--|---|
| Current and emerging carbon pricing mechanisms | <p>Borregaard's site in Sarpsborg is subject to the EU's emission trading scheme (EU ETS). The price of carbon is forecasted to increase to \$140/tonne by 2040 and the allocation of free allowances will decrease, impacting Borregaard's operational costs. In addition, other carbon pricing mechanisms covering the transportation sector is also likely to be implemented. Borregaard sources its most important raw material, wood, from different locations in Norway and Sweden, which is transported by trucks, trains, or boats to the Sarpsborg site. Carbon pricing on emissions from transportation will impact Borregaard's indirect operations. Current and emerging carbon pricing mechanisms are considered a short to medium-term risk, with high financial impact. The risk is an integrated part of business plans initiated and the priority of this risk is high. Borregaard has implemented several risk mitigation activities such as increased use of renewable energy to reduce consumption of LNG and energy efficiency measures. The company has committed to a net-zero science-based target for reducing its scope 1, 2 and 3 GHG emissions according to the 1.5°C ambition.</p> |
| Changes in energy prices | <p>The EU has decided to raise its emission targets for 2030 and submitted proposals for changes in regulations to achieve this. This has already contributed to raising the CO₂ price significantly and had a clear effect on power prices in Norway in the last year, as countries and companies are demanding more renewable energy. Low availability of natural gas in Europe has resulted in extremely high power prices. Power prices will become more volatile, and the average energy price is expected to more than double towards 2040. Borregaard's electricity consumption was 730 000 MWh in 2020. With a more than doubling in energy prices in the coming years, Borregaard's indirect operation costs are likely to increase in the short to medium timeframe. The Sarpsborg site is currently most exposed to this risk as most of the Group's production is located here. Working actively to reduce energy consumption and enter into long-term contracts with energy suppliers to ensure stable energy prices for years to come, will make Borregaard adaptable to the increased energy prices.</p> |
| Wood availability | <p>In a world transitioning to a low-carbon economy, forests are likely to be more protected as forests are a natural ally in adapting to and fighting climate change and will play a vital role in making Europe the first climate neutral continent by 2050. In EU's Forest Strategy, it is stated that at least 30 % of EU's land area should be legally protected, hereunder strictly protecting ecosystems with the most potential to capture and store carbon (boreal forests from which Borregaard sources its wood) in trees and soil. More extreme weather such as storms, droughts, and forest fires can potentially also damage forests. Reduced availability of wood due to the abovementioned indicators as well as a likely increase in demand for low-carbon products made from wood will impact the wood availability in the years to come and increase prices. Increased price of Borregaard's most important raw material will likely impact the company's costs in the short to medium time horizon. The risk of wood shortage is mitigated to some extent as Borregaard has a solid market position and has the means to pay a price premium for wood.</p> |

| | |
|--------------------|--|
| | <p>Further, Borregaard makes R&D investments to utilize more from the raw material and make higher value-added products, further increasing its market position. Another more long-term risk mitigation activity is to develop other types of bio-based raw materials that can be used as alternatives. Borregaard has developed and patented the BALI concept. BALI™ is a biorefinery concept, developed by Borregaard for production of cellulosic sugar and ethanol and lignin biopolymers based on various biomass raw materials.</p> |
| Physical (Acute) | <p>The transportation to Borregaard site in Norway is likely to be impacted by acute weather events such as heavy rainfall. Heavy rainfall can trigger increased frequency of landslides, potentially blocking road and rail transportation routes. This can lead to delays in the value chain, impacting the company's operational costs. To mitigate the risk of disruptions to the value chain, Borregaard sources wood from different locations in Norway and Sweden, we have alternative transportation modes for several of our routes, and we can store larger volumes of wood if needed. Heavy rain can also trigger quick clay landslides at the Sarpsborg site. This can potentially damage on-site infrastructure and buildings, and in worst case stop the production. When new buildings or infrastructure are built, this inherent risk is always accounted for and financial impact of the risk is further mitigated by insurance solutions. Higher temperatures will likely increase the number of coastal flooding and their severity at Borregaard's site in Fernandina Beach in Florida. Ingoing and outgoing logistics can be highly impacted, in addition to the damage of equipment. The site is also exposed to tropical hurricane events and strong winds, and the site has already been closed twice because of challenging weather conditions. To mitigate the risk of disruption in production Borregaard can temporarily source products from other sites.</p> |
| Physical (Chronic) | <p>The risk of sea-level rise is likely to impact Borregaard's site in Fernandina Beach in Florida. Even if the global temperature stays well-below 2°C, the sea level will rise to 0.15 meters in 2030 and to 0.28 meters in 2050. Sea-level rise at the Florida plant can interrupt inbound and outbound logistics from the site, damage equipment and potentially flood the site. The site in Florida was built in 2018-2019, and Borregaard was well-aware of the potential physical climate impacts. Thus, to mitigate this risk of disruption in production, Borregaard can source products from other sites to ensure that the customers receive their products.</p> |

Table 2: Climate-related risks

| OPPORTUNITY TYPE | DESCRIPTION OF OPPORTUNITY |
|-----------------------|--|
| Resource Efficiency | <p>Borregaard's business model is based on the utilization of wood; utilize as much as possible from a wood log to increase value-added of existing products and develop new biobased products. We see opportunities in the efficient utilization of side streams and cascading use. Borregaard's biorefinery is an extraordinary cascading operation where wood, which consists of fibres, lignin, and sugar, is turned into cellulose before the side stream from this operation is utilized for a variety of other valuable products. The side stream is first used in the production of bioethanol before the side stream from the ethanol operation 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 utilizing one raw material to its maximum, Borregaard serves 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 to Borregaard in the transition to a low-carbon economy, as we can serve more customers from the same volume of wood.</p> |
| Renewable Energy | <p>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 science-based target, we will enhance the redundancy of Borregaard's energy system and facilitate flexibility in our electricity consumption. The result will be to switch from technology that uses steam to technology that uses electricity. We also search for technology to electrify the drying of lignin powder, rather than using natural gas for this process. Availability of more renewable sources like electricity from hydropower and wind, and biogas obtained from Borregaard's own or local producers are also important measures to achieve our ambitious emissions reduction target. This will reduce our exposure to future carbon price increases.</p> |
| Products and Services | <p>In the coming years, we believe there will be large environmental transitions that Borregaard could provide solutions for. Today, Borregaard makes biochemicals and biomaterial with low carbon footprint that can substitute a variety of oil-based products in different sectors. With our high innovation effort, we will be able to increase value-added for these products and develop new products. This will allow us to expand the use of our biochemicals and biomaterials products. Examples of climate-related product innovations include:</p> |

| | |
|-----------------|--|
| | <ul style="list-style-type: none"> • Use of lignin-based biopolymers as a dispersing and binding agent as an option to petroleum-based alternatives. 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. • Adding wood-based microfibrillar cellulose (Exilva) 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 2nd generation bioethanol can be used for this purpose. <p>The transition to a low-carbon economy can increase demand for our products with low carbon footprint.</p> |
| Capital Markets | <p>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 that have been 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.</p> |
| Resilience | <p>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. The company's 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 investment 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.</p> |

Table 3: Climate-related opportunities

THE IMPACT OF CLIMATE-RELATED RISKS AND OPPORTUNITIES ON BORREGAARD'S BUSINESSES, STRATEGY, AND FINANCIAL PLANNING

In 2019, the Science Based Targets Initiative (SBTi) approved our well-below 2°C temperature increase target. We are now in the process of revising this target to a 1.5°C temperature increase in line with the SBTi's Business Ambition for 1,5°C. Our updated near-term target and the net-zero target will be approved by SBTi in 2022. We will reduce Scope 1 and 2 emissions by 42 % by 2030 and by 90 % by 2050 from a 2020 base year. The indirect Scope 3 emissions will be reduced by 25 % by 2030 and by 90 % by 2050 from a 2020 base year.

An important part of our low-carbon transition plan is research and development, as well as collaborations aimed at creating sustainable solutions. Furthermore, by using resources, particularly wood, efficiently through the entire lifecycle, we create products with less environmental impact and low lifecycle costs, which differentiates Borregaard's products. Borregaard's portfolio includes products that actively contribute to reducing our customer's environmental impacts, for example through replacing ingredients in products made from oil with bio-based alternatives.

Examples of our low-carbon products include:

- Wood-based biopolymers to be used in e.g., plant nutrition, animal feed, glue, dust suppression and road stabilisation, to substitute less environmentally friendly components of products.
- Wood-based vanillin that can replace vanilla flavour made from mineral oil.
- Bioethanol made from woody biomasses as a substitute to petrol.

To reduce emissions from own operations, we have also implemented several emissions reduction initiatives. Examples of such initiatives include:

- Energy efficiency in production processes
 - Rebuilding the feed to the bio-boiler with new technology for vapor recompression (MVR) and salt removal to increase the utilization of available renewable fuels.
 - Utilize the surplus heat from the compressor station.
 - Optimize the use of evaporator in the new spray dryer which will decrease the natural gas consumption for drying lignin.
- Waste heat recovery from production processes and incineration of sorted household waste.
- Utilize more surplus heat from low-temperature heat sources.
- Replacing oil heating at the Sarpsborg site with district heating supplied from residual energy from our processes.
- Increase the use of biogas in the drying process of lignin.
- Implement plans to increase the use of hydropower to produce heat energy in our electro boilers.

To reduce emissions in our value chain we have implemented the following:

- The interdisciplinary long-term task force "Borregaard Emission Free Transport 2020-2050". A part of this task force is that suppliers with the intent of doing business with Borregaard must have plans for reducing carbon footprint in the short, medium, and long-term.
- Use electric vehicles for internal transportation when possible.
- Produce our own NaOH with much lower climate footprint than the chemicals we purchase.

We are also engaging with our customers and encourage them to map and reduce their own emissions. This will in time lead to reduced Scope 3 emissions for Borregaard.

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 & divestments. The increased demand for sustainable low-emission products has influenced the company's capital expenditure. Between 2015 and 2020 Borregaard invested close to MNOK 2 000 in various strategic projects to increase top-line growth of sustainable low-emission products and solutions. 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 % is the determining factor for these investments. Further, the climate-related risk of increased energy prices is influencing our financial planning as we are entering power purchase agreements with a time horizon of up to 12 years (medium to long time horizon). This, in addition to energy saving activities, will mitigate the risk of more volatile and higher energy prices. Energy saving activities are prioritised based on saving effect, internal rate and payback.

| Areas Influenced by Climate-Related R&Os | DESCRIPTION |
|--|--|
| Products and Services | <p>The products and services part of our operations have been influenced through identification of opportunities to offer sustainable products with minimized environmental and climate 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 yearly.</p> <p>As customers are becoming more concerned about their emissions, the demand for solutions that reduce emission increases.</p> |
| Supply chain | <p>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 CO2 emissions in the value chain as we strive to be a part of the green solutions. Thus, Borregaard has set an ambitious emissions reduction target committing us to reduce our indirect emissions by 25 % by 2030 and 90 % by 2050. Hereunder, the Group has set up an interdisciplinary long-term task force; "Borregaard Emission Free Transport 2020-2050". This task force aims to implements alternatives for more environmentally friendly transport solutions in the short, medium and long- term.</p> |
| Investments in R&D | <p>Climate-related issues have been identified as an opportunity for Borregaard to develop more low-carbon products and solutions. This has impacted our investment in R&D within the area, and investments have been made in a number of research projects and pilots that are related to products and solutions that can contribute to lower CO2 emissions. Investments in R&D has a long-term time horizon as it can take years to develop new products.</p> |
| Operations | <p>The risk of 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 energy savings activities for operations, and switching to the use of renewable energy rather than fossil fuels and steam. The work to implement these is ongoing in line with Borregaard's strategy to reduce direct emissions in line with the 1,5 degree target.</p> |

| | |
|--------------------------------------|--|
| Acquisitions / Divestments | Climate-related issues are integrated into Borregaard's Governance mechanisms, such as 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 emissions reductions initiatives and continuously developing our sustainable business model in the short, medium, and long-term to reduce emissions, 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. |
| Adaptation and mitigation activities | Increased risk of physical climate-related issues has impacted the company's financial planning of our assets. Borregaard's fixed assets can 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 is fully covered until 2030 under Property Damage and Business Interruption Coverage policy for all our sites. |

Table 4: Areas influenced by climate-related R&Os

THE RESILIENCE OF BORREGAARD'S STRATEGY, TAKING INTO CONSIDERATION DIFFERENT CLIMATE-RELATED SCENARIOS, INCLUDING A 2°C OR LOWER SCENARIO

Borregaard has analysed how climate change may impact its operations and the value chain. We have analysed physical and transitional risks and opportunities with help of public IPCC and IEA scenarios and other relevant sources. We have used both 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 is considers a business-as-usual scenario without ambitious climate policy changes. The scenarios were selected in order to test Borregaard's strategy resilience and better understand future strategic and financial impacts in both favourable and non-favourable scenarios. 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 greenhouse gas emissions by 42 % by 2030, to reduce our indirect emissions by 25% by 2030, and become net zero by 2050. Reducing global CO₂-emissions to net zero by 2050 is consistent with efforts to limit the long-term increase in average global temperatures to 1,5 °C.

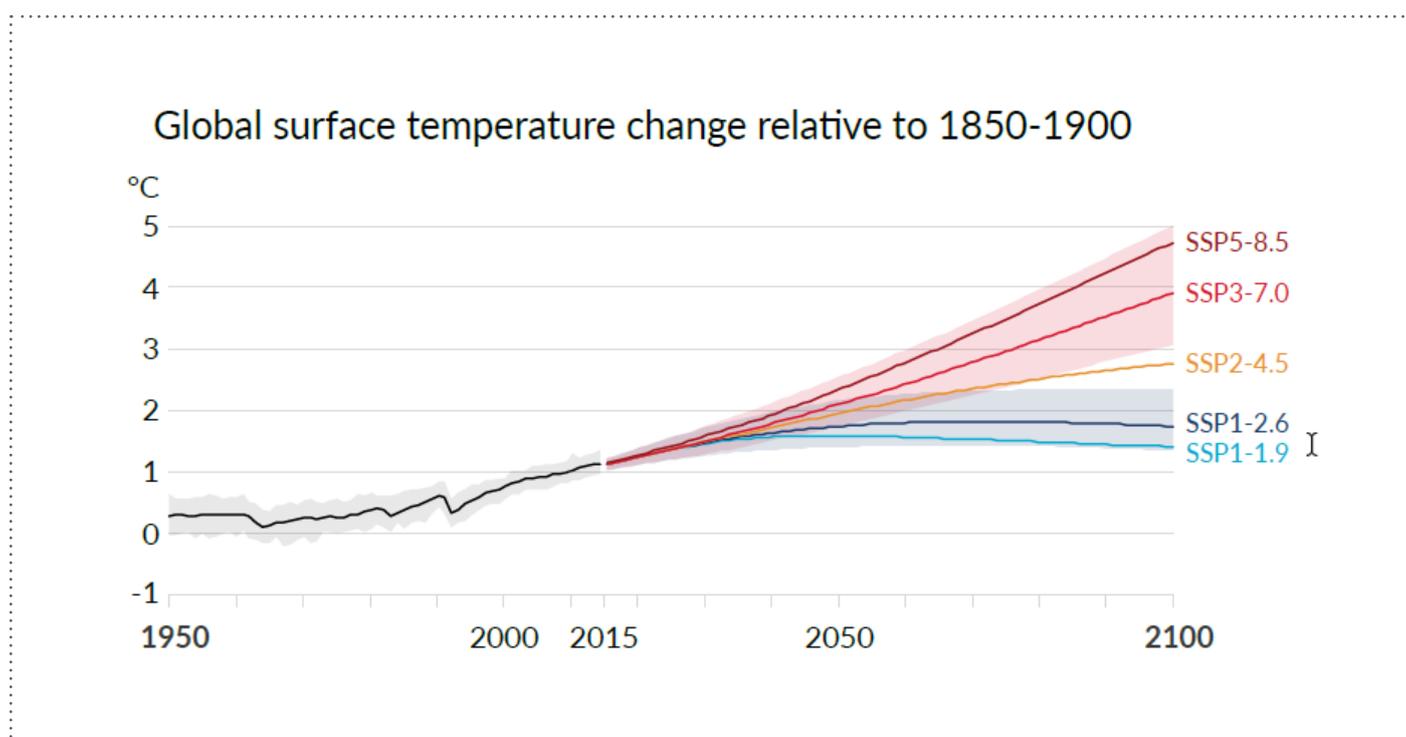


Figure 3: IPCC global warming pathways

WELL-BELOW 2°C SCENARIO - THE VERY LOW AND LOW GHG EMISSIONS SCENARIO

In this scenario, we assume an orderly transition to limit 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 CO₂ emissions peaked in 2020 and decline fast. High carbon price is 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 (ZNE) and Sustainable Development (SDS) Scenarios, 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.

BUSINESS-AS-USUAL SCENARIO (4°C) - THE VERY HIGH GHG EMISSIONS SCENARIO

The 4°C 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 climate-related conflicts increase in number 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 is 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.

Our complete scenario analysis is presented in Borregaard Scenario Analysis, see <https://www.borregaard.com/sustainability/sustainability-documentation>.

Conclusions and Strategic Response

The analysed risks and opportunities have medium to high impact on Borregaard in short-, medium- or long term. Medium impact means some effect on performance, or strategy being temporarily disrupted or delayed. High impact translates to considerable effect on performance and strategy affected.

Low-emission scenario

In the well-below 2°C scenario, the main climate-related risks are transitional and related to carbon pricing mechanisms, energy prices and reduced wood availability. To address its transitional risks, Borregaard has committed to an ambitious science-based, increases energy efficiency, enters long-term energy contracts, increases resource efficiency, and sources wood from multiple locations. This scenario supports Borregaard's climate-related opportunities which are mainly related to developing low-carbon products.

The risk of increased carbon prices for existing activities and implementation of carbon pricing for new sectors is significant to Borregaard as our operation costs will increase in the short to medium timeframe. To address this risk, Borregaard is working actively on emissions reductions, and has committed to become net-zero by 2050. Borregaard's operations in Norway is further eligible for free allocation of emission allowances. In the period from 2012 to 2020, Borregaard received more free allowances than the amount emitted due to our reduction initiatives. As the number of free allowances will be reduced in the coming years, Borregaard is well-positioned as we have a surplus of allowances which will balance the need for free allowances. Because of this, the increased carbon cost is offset to some extent, and we will be able to continue to invest in emissions reduction initiatives. As an example, Borregaard invests in measures to electrify more of its production and is seeking further funding. To attract funding, Borregaard must invest in processes that avoid substantial climate impact, because funding for companies subject to EU ETS is expected to decrease. Further, by increasing cooperation with suppliers and partners, Borregaard may better calculate and reduce its supply-chain emissions, which in turn helps manage the potential costs related to new and expanding carbon pricing mechanisms for e.g., the transport sector.

Borregaard has considered the threat of increased energy prices. With increased demand for renewable energy, gas prices in Europe, carbon prices and exchange capacity between the Nordics and Europe, the energy price is expected to double until 2040. In order to mitigate the exposure to higher electricity prices and tariffs following higher electricity consumption, we are continuously looking to enhance the redundancy of Borregaard's energy system and facilitate flexibility in our electricity consumption. This will benefit both Borregaard and the energy system as such.

Strengthened forest and biodiversity protection, increased use of natural sinks as carbon storage in addition to increased frequency of extreme weather, has been identified as factors reducing the availability of wood, and thus increasing the price. This will impact Borregaard's strategy as wood is our most important raw material. Borregaard's business model is based on the utilization of wood to increase value-added of existing products and develop new biobased products, and much of the Group's investments are directed to this purpose. If the availability of wood on the market is drastically reduced, Borregaard will need to increase its investments in resource efficiency to keep its market position, impacting our medium- and long-term strategy. The increasing biodiversity protection can impact investor expectations of Borregaard to ensure that we protect biodiversity in our business. The Group's strategy is to purchase raw material that is certified in accordance with PEFC/FSC. However, with the increased expectations, Borregaard would need to ensure an even more ambitious purchasing policy to avoid a loss in reputation as a sustainable company.

In a world transitioning to net-zero, Borregaard is well prepared for the likely increase in customer demand for low-carbon products. The core of our business model is resource efficiency and replacing fossil-based components of products with wood-based ones. The increased ratio of biofuel in the transport sector is an opportunity to Borregaard as we are a leading producer of second-generation bioethanol. Customers are increasingly seeking healthier products made with low-carbon ingredients. As Borregaard is already an established supplier of products in segments such as consumer goods applications, agriculture and construction, the company is in a good position to capitalize on the increasing demand of low-carbon products. Serving existing and new markets with our products to reduce global emissions is a key component of Borregaard's short-, medium-, and long-term strategy.

Reaching net-zero emissions require also using all available clean and efficient energy technologies. Borregaard sees opportunities in increased energy efficiency of operations such as utilizing low temperature heat, resulting in cost reductions especially in the currently less energy efficient operations. By making use of new technology our operations can become more efficient and low carbon. To reach net-zero, carbon removal of residual emissions will be necessary. Development in technologies for Carbon Capture and Storage (CCS) or sustainable Carbon Capture and Use (CCU) may be a prerequisite to achieve the target in 2050. Therefore Borregaard's biorefinery in Norway has signed an agreement with a cluster of companies in the region, and a feasibility study of technologies and value chains for CCS started up in 2020.

High-emission scenario

The financial impact of Borregaard's physical climate risks is estimated to be low in short-medium term, but on medium impact level in the long term. As temperatures rise, extreme weather events will become increasingly severe, and the impact of chronic climate change will increase. An extreme temperature event that occurred once every 50 years will likely occur every 3–4 years already if the earth reaches 2°C above pre-industrial temperatures. The IPCC also underlines that the world should expect more compound events occurring simultaneously. Already experienced full production stop twice at the Fernandina Beach site due to hurricanes, we expect this to increase in frequency. Sea-levels rise and storm surge can potentially cause damage to machinery and interrupt the ingoing and outgoing logistics from the site in Florida. However, as exposure is currently limited to sites with less production, the impact remains low.

The likelihood of disruptions in the value chain and to the Sarpsborg site due to landslides is expected to increase in the coming years as heavy rain becomes more severe. Transportation by road and rail is likely to be impacted as the transportation routes risk blocking. Transportation on inland waterways can potentially become more unpredictable in the future because more frequent high-water levels are expected by 2050, and

low water levels are expected after 2050. This will have an impact on the load factor and potentially increase the number of shipments from the sourcing locations. Borregaard's logistics is flexible (several transportation routes and transportation modes), limiting the risk of disruptions in the value chain to medium impact. Further, the site in Norway has been inspected to limit the risk of a landslide, and the site is insured against climate change incidents.

Increased rate of extreme weather events such as droughts is also potentially damaging to the forests where Borregaard sources its wood. Increased temperatures and drought increase the risk of forest fires.

Further, higher global temperatures increase the risk of pest damage to trees as pests such as the spruce bark beetle thrives in a warmer climate. To mitigate the risk of reduced access to wood, Borregaard works with forests owners to ensure sustainable forest management. Borregaard also has the possibility to purchase wood from other areas in Europe than Norway and Sweden if necessary.

RISK MANAGEMENT

Disclose how the organization identifies, assesses, and manages climate-related risks.

BORREGAARD'S PROCESS FOR IDENTIFYING, ASSESSING, AND MANAGING CLIMATE-RELATED RISKS IS INTEGRATED INTO BORREGAARD'S OVERALL RISK MANAGEMENT

Borregaard assesses climate-related risks and opportunities on short term (1-3 years), medium-term (3-8 years) and long-term (8+) time-horizons.

Borregaard uses the ISO 31000:2009 Risk management - Principles and guidelines as our definition of risk terminologies. Borregaard further uses ISO 31000 as our risk management model to identify, assess, and manage risk, including climate-related risk. The process defines the financial or strategic impact of climate-related risks. As defined by Borregaard, risks with substantive financial impact are risks with low, medium, or high negative effect on the Group's EBITDA in different time horizons. Climate-related risks are integrated into Borregaard's multi-disciplinary risk management process, and climate-risks are assessed more than once a year. Within risk framework, the sequence is to initiate, assess, analyse, plan for initiatives, implement, and review. To identify opportunities, Borregaard's R&D department work 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.

A central risk management function has been established in Borregaard headed by the Chief Risk Officer (CRO), who is responsible for Borregaard's risk management model and the implementation of the risk management process. However, each member of the Group Executive Management is responsible for identifying and manage climate-related risks within their respective areas. The individual unit managers in the Group are also responsible for acquainting themselves with all significant risk factors within their area of responsibility, thus contributing to a financially and administratively sound handling of these risks. Even though the members of the Group Executive Management and the individual unit managers have their responsibilities, it is the CRO that has the overall responsibility of managing climate-related risk across all business areas and disciplines. The purpose of the bottom-up risk management process is to provide an overview of the risks and uncertainties Borregaard is exposed to and to support value creation, ensure risk awareness and balance risk versus return for the entire company. The aggregated risk picture in Borregaard is consolidated by the CRO and reviewed by the Group Executive Management before it is submitted to the Audit and Sustainability Committee, and finally to the Board. The Board conducts a review of the Group's risk picture at least annually.

Borregaard identifies and assesses asset level climate-related risks and opportunities within the framework of our common process for risk and opportunity management. The Group identifies sources of risk, areas of impacts, events, and potential financial or strategic consequences and implement mitigation activities. The risk identification work starts with the initiating phase. In this phase of the process, the acceptance criteria associated with the risk is 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 risks are rated as "Low", "Medium" or "High" and are visualized in a matrix. Once a risk has been assessed and analysed as high enough, initiatives to mitigate the risk are implemented. The identified risks present an aggregated risk picture for Borregaard covering the entire Group's operations, and they have a high impact on our EBITDA. The owner of the risk factors implements relevant mitigation strategies and activities and consult the Group Executive Management in the process.

METRICS AND TARGETS

Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.

INTERNAL CARBON PRICE

The internal price on carbon applies to the operations in Sarpsborg, Norway, which is subject to EU ETS. Borregaard applies an internal price on carbon that reflects the EU ETS to change internal behaviour, drive energy efficiency, drive low-carbon investments and to identify and seize low-carbon opportunities. Our internal carbon price has for several years been the last years EUA forward price, but now the EUA price has increased dramatically and has direct influence on our energy cost and short-term decisions in energy mix, thus the carbon price is the actual EUA price. Borregaard has established an Energy and Climate committee which assesses monthly energy costs, including the development of the carbon price. The carbon price influences the marginal energy costs and is thus used for energy mix decisions in the short- and long-term perspective. The energy production at Borregaard has four different sources: LNG, light fuel oil, electricity, and waste. The energy price for the different sources includes the carbon cost and is included in the KPI-diagrams for energy cost. For instance, LNG or electricity are used for peak load steam, the carbon price is thus an important factor in the calculation to decide which source to use on the margin. Borregaard has made a price model to monitor how different factors in energy cost structure changes, including the CO₂ cost from the carbon price. The data trend is discussed in the monthly Energy and Climate committee meeting.

Scope 1, Scope 2, and Scope 3 greenhouse gas (GHG) emissions in tonnes

| | 2021 | 2020 | 2019 |
|---------------------------------|-----------|---------|-----------|
| Scope 1 | 153 285 | 130 945 | 141 616 |
| Scope 1 (biogenic emissions) | 150 748 | 139 657 | 131 683 |
| Scope 2 (location-based) | 64 818 | 65 414 | 62 126 |
| Scope 2 (market-based) | 308 291 | 336 965 | 231 284 |
| Scope 2 (biogenic emissions) | 70 214 | 72 159 | 74 612 |
| Scope 3 | 364 245 | 344 612 | 327 751 |
| Scope 3 (biogenic emissions) | 1 026 394 | 970 695 | 1 145 214 |

Table 5: GHG emissions, Borregaard Group

OUR CURRENT CLIMATE-RELATED TARGETS

Sustainability is, and has always been, an integrated part in Borregaard's strategy, as our core business is providing sustainable products and solutions with a documented favourable environmental impact which improve the customers' climate footprint. To ensure that we also reduce our own emissions, we have set ambitious emissions reduction targets that covers the entire Group and implemented activities and plans to achieve these targets. We follow the progress on the targets closely, and they are discussed every quarter in Board meetings. Our climate-related targets and their progress is reported annually to CDP Climate.

Overall emission reduction target to reduce Scope 1 and 2 emissions by 53 % by 2030 (applicable before 2022)

The target covers 100 % of emission in scope 1 and 2. The target is aligned with the Paris Agreement's goal to limit the increase in global average temperature to well-below 2°C above pre-industrial levels. Borregaard's target is based on IPCC scenario RCP 2.6.

- Base year: 2009
- Target Year: 2030
- Scopes: Scope 1+2 (location-based)
- Targeted reduction from base year: 53 %
- % of target achieved: 50 %

Overall emission reduction target to reduce Scope 3 emissions by 30 % by 2030 (applicable before 2022)

The target covers 100 % of emissions in scope 3 and include emissions from all categories. Borregaard has been able to collect more detailed Scope 3 data after the 2017 base year, and thus, the emissions have increased from 2017 to 2021. The target is aligned with the Paris Agreement's goal to limit the increase in global average temperature to 2°C above pre-industrial levels. Borregaard's target is based on IPCC scenario RCP 2.6.

- Base year: 2017
- Target Year: 2030
- Scopes: Scope 3
- Targeted reduction from base year: 30 %
- % of target achieved: -30 %

Target to reduce emissions per megawatt hour (MWh) (applicable before 2022)

This target is part of our overall emissions reductions target to reduce emissions by 53 % by 2030. We are reducing emissions from our energy to 0,1 tCO₂e/MWh by 2025. The target covers scope 1 and 2 emissions at the Sarpsborg site in Norway.

- Base year: 2009
- Target Year: 2025
- Scope: Scope 1+2 (location-based)
- Targeted reduction from base year: 41,9 %
- % of target achieved: 75 %

COMMITMENT TO NET-ZERO BY 2050

To ensure that Borregaard is in line with the more ambitious targets from the Paris Agreement, we have committed to becoming net-zero by 2050. The target submission was sent to the Science Based Target initiative in January 2022, and we expect it to be approved before September of this year.

Near-term emission reduction target to reduce Scope 1 and 2 emissions by 42 % by 2030 (applicable from 2022)

The target covers 100 % of emission in scope 1 and 2. The target is aligned with the Paris Agreement's goal to limit the increase in global average temperature to 1,5°C above pre-industrial levels. Borregaard's target is based on IPCC scenario SSP1-1.9.

- Base year: 2020
- Target Year: 2030
- Scopes: Scope 1+2 (location-based)
- Targeted reduction from base year: 42 %

Near-term emission reduction target to reduce Scope 3 emissions by 25 % by 2030 (applicable from 2022)

The target covers 100 % of emissions in scope 3 and include emissions from all categories. The target is aligned with the Paris Agreement's goal to limit the increase in global average temperature to 1,5°C above pre-industrial levels. Borregaard's target is based on IPCC scenario SSP1-1.9.

- Base year: 2020
- Target year: 2030
- Scopes: Scope 3
- Targeted reduction from base year: 25 %

Overall long-term emission reduction target to reach net-zero (applicable from 2022)

We will reduce our overall emissions in Scope 1, 2 and 3 by at least 90 % by 2050 and remove our residual emissions through carbon removal mechanisms.

WATER TARGET

Most of the water withdrawal and effluents are linked to Borregaard's biorefinery in Norway. The site is self-sufficient and has access to water from the river Glomma via its own water treatment facility. Water is important in the biorefinery, and is used for cooling, steam production and hot water production, as well as washing and transporting biomass in the production processes. However, most of the water used is returned to the river Glomma. Glomma has an average water flow of 577 m³/sec, so water scarcity is thus not a risk in Norway. Our production units in the US, Germany, the Czech Republic, and the UK use less than 5 % of the total withdrawal of water at Borregaard. The water is sourced from public waterworks, adjacent industrial areas, or ground water sources. The water scarcity risk is low to moderate for these production sites. Long-term targets for reduction in water withdrawal will be established and improvement projects will be identified.

Emissions of organic compounds to water (chemical oxygen demand (COD) or biological oxygen demand (BOD)) however do affect the aquatic environment in the river Glomma. The organic material stems mainly from the washing and processing of biomass into advanced products. Emissions of easily degradable organic matter (BOD) from our biorefinery have caused a proliferation of bacteria covering riverbed sediments close to the plant, which causes poor oxygen conditions. As a result, the ecological status in Glomma is classified

as poor and can be defined as a river with water stress. Borregaard has a sustainable water management system, and we have reduced the effluents of COD and phosphor by 42 % and 76 % over the last 10 years. We will implement measures to receive a further gradually reduction of COD towards 2026 and 2030. The target is to reduce the emissions of COD from 57 tonnes/day to a level between 40 to 47 tonnes/day by 2026, and to a level between 30 to 40 tonnes/day by 2030. Progress on water targets is reported annually to CDP Water.

INNOVATION TARGET

Strong innovation effort is one of Borregaard's strategic priorities. In addition to emission reduction, providing biobased products to enable the green transition and increased resource utilization of biobased raw material, is our climate mitigation change pillars. Long-standing research and development have resulted in solutions that respond to important long-term global challenges. To maintain our position as the world's most advanced biorefinery, Borregaard is dependent on developing the biorefinery concept by finding new biobased raw materials, as well as new products with high value and good environmental profile. Our ongoing innovation rate target is 15 % of new products and applications introduced the last 5 years.

CERTIFIED WOOD TARGET

Borregaard transforms forest raw material into high value-added products that can replace oil-based products. 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 and hence increased costs for wood raw material. To minimize the impact from forestry, Borregaard attaches great importance to sourcing wood from forests that are certified and managed in a proper, sustainable, and eco-friendly manner, including measures to maintain biodiversity. To ensure that forests continue to capture CO₂ from the atmosphere, play an important role to biodiversity and produce new raw materials for low-carbon products, Borregaard has set a target of sourcing 100 % certified wood, and the progress is reported annually to CDP Forests. Borregaard is Chain of Custody (CoC) certified in accordance with the FSC® and PEFC forest certification standards. In 2021, 99 % of the purchased wood was certified.