



Norske Skog
Saugbrugs

SUSTAINABILITY REPORT 2020





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ABOUT NORSKE SKOG SAUGBRUGS AS'

operations

Norske Skog Saugbrugs was founded in 1859, and became part of Norske Skog Group in 1989. The company has a long tradition and high competence in making SC- (super calendered) and UMI (uncoated mechanical improved) paper for the international market. Our main markets are Europe (UK, Germany, France and Italy) and North America. Today, Saugbrugs is one of the largest and most modern production facilities of SC- and UMI-paper in the world.

For several decades, Norske Skog Saugbrugs has produced paper on three paper machines. From January 2021 the paper machine 5 is shut down.

The raw materials of the SC- and UMI-paper are Norwegian spruce, fillers and chemical pulp. Saugbrugs has made significant investments in a TMP - (Thermo Mechanical Pulp) process that places the mill in a leading position within fibre quality and energy consumption. The energy consumption of the

mill is based on clean Norwegian hydropower and biomass, leaving greenhouse gas emissions at a very low level.

Saugbrugs started to produce and sell biogas in 2017. The biogas production is based on the mill's waste streams. Today, the biogas is used for utility vehicles in Halden. Saugbrugs is also actively working to develop new fibre-based products. During 2020 we have launched two new fibre-based products in CEBINA and CEBICO. CEBINA is nanofibrils which adds rheology control in fluids and armouring in solid materials. CEBICO is a biocomposite which can be used in plastics. All projects are in synergy with our paper production, thus contributing to the sustainability of our mill.



Production capacity SC- and UMI-paper:

385.000

tonnes from two paper machines per year

End use:

catalogues, magazines, retail, advertising material and biogas

Market:

100 %

paper export (main markets Europe and North America)

Design capacity biogas:

+2.700.000

nm3 biogas per year

Power consumption:

100 %

electricity

**Turnover:
NOK**

2.5

billion

Wood consumption:

100 %

of all wood comes from sustainably managed forests (FSC / PEFC certified)

**Number of employees:
Approx**

445

+ 50 apprentices/trainees

NORSKE SKOG SAUGBRUGS AS AND

The UN Sustainable Development Goals (SDGs)

The UN Sustainable Development Goals (SDGs), adopted by world leaders in September 2015, are a call for action for all countries and businesses to promote prosperity while protecting the planet. The 17 SDGs address the global challenges we face, including those related to poverty, inequality, climate, environmental degradation, prosperity, and peace and justice. The SDGs interconnect and it is important that the world achieves each of the SDGs and its targets set for 2030.

Norske Skog Saugbrugs supports all the 17 SDGs, but realize that some are more relevant to our business. This report explains how Norske Skog Saugbrugs relates to each of the UN Sustainable Development Goals (SDGs). The most relevant ones are those where we can make a difference and contribute positively.

We have dealt with the following questions:

- 1) How do the SDGs affect our operations and business strategies?
- 2) How may we influence and contribute to the achievement of the specific goal?

We realize that achieving the 17 SDGs requires changes. "As is" will not help the world reach these goals. Going forward, we will further assess in more detail how we can contribute to achieving the SDGs. We will continue to develop our own goals and measure our performance.

This report is prepared and approved by the Management of Norske Skog Saugbrugs AS.



Sustainability and profitability go hand in hand

Norske Skog's core values of openness, honesty and cooperation as well as our policies and guidelines are built on the UN Universal Declaration of Human Rights and the 10 principles of UN Global Compact. These values also guide Norske Skog Saugbrugs' business activities and sustainability work and are, together with the leadership principles, the foundation for ethical and competitive business conduct. To demonstrate Norske Skog Saugbrugs' commitment we have prepared this report aligned with the UN Sustainability Development Goals (SDG's). This report show how Norske Skog Saugbrugs, through operations and development, contributes to a sustainable development.

Norske Skog Saugbrugs' employees are committed to produce and develop our magazine paper every day. However, Norske Skog Saugbrugs is also developing new energy and fibre products in synergy with paper production. Our waste streams are used to produce biogas and new fibre products are developed to replace material based on fossil sources. Norske Skog Saugbrugs cooperates with customers, suppliers, the local community and others for sustainable development. At Norske Skog Saugbrugs sustainability and development go hand in hand.



Erik Sandersen

KJELL-ARVE KURE
General Manager

E“Norske Skog Saugbrugs is an example of one of several Norwegian industrial companies that do world-class energy-efficiency work. In Halden, this project will contribute to a significant decline in electricity consumption,” says Enova’s Strategy Director Tonje Foss.

NORSKE SKOG SAUGBRUGS WITH PIONEERING ENERGY EFFICIENCY

ENOVA and the NOX-Fund have allocated a total of NOK 66 million for energy-efficiency measures at Norske Skog Saugbrugs in Halden, Norway. Norske Skog Saugbrugs is investing a total of NOK 165 million in energy-efficiency measures at the plant. After extensive development work and successful investments over several years, Norske Skog Saugbrugs has already created one of the world’s most energyefficient processes to produce thermomechanical pulp (TMP) for SC- and UMI-paper.

NORSKE SKOG SAUGBRUGS RECEIVES SUPPORT TO BUILD DEMO PLANT FOR **PRODUCTION OF CEBICO BIOCOMPOSITE**

Innovation Norway has allocated NOK 15 million to support the construction of a demonstration plant for the development of fibre composite production at Norske Skog Saugbrugs in Halden, Norway. This will accelerate the ongoing development work to industrialise the production of a new type of biocomposite, which can be included in furniture, packaging and car interiors.

The innovation provides a biocomposite which replaces plastic, reduces fossil CO2 emissions, reduces oil consumption, provides better resource utilisation through increased use of recycled and renewable raw materials.

Strategic priorities

Norske Skog Saugbrugs' long-term strategy is to be an innovative and leading SC- and UMI-paper, fibre and energy company.

Our strategic business priorities: retaining a successful and responsible core business, while developing opportunities for growth in the bio-sourced products and the bio-economy, give us a well-defined starting point for identifying the prioritized SDGs for Norske Skog Saugbrugs.

Based on our assessment of 1) the extent the SDG's affect our operations and business strategies and 2) the extent we may influence and contribute to the achievement of the specific goal, we believe that we can make the greatest difference and contribute positively through the prioritized SDGs highlighted in the illustration.

We have summarized what the prioritized SDGs mean to us in one sentence:

Norske Skog Saugbrugs shall create value for people and society in a responsible way, while maintaining a sustainable environment and use of natural resources



Norske Skog Saugbrugs' prioritized SDGs

In the overview, we have highlighted the prioritized SDGs.

For each of the most relevant SDGs we summarize how we relate to the goals, e.g. our ambitions and relevant targets and actions initiated or planned. The ambitions, relevant targets and planned activities are also summarized in a table in the end of the report.

For the SDGs considered less relevant to Norske Skog Saugbrugs, we provide a brief description and a summary of ambitions and actions.





Ensure healthy lives and promote well-being for all at all ages

Business themes that Norske Skog Saugbrugs focuses on:

- Occupational health and safety
- Increase job attendance by promoting mental health and well-being

Ambition:

Norske Skog Saugbrugs' health, environment, safety and quality (HESQ) vision: «All employees and other people who work at Norske Skog Saugbrugs should be in as good a physical and mental state when they go home as when they arrived at work».

Norske Skog Saugbrugs is committed to provide a safe working environment for our employees, contractors and visitors. Health and safety considerations are integrated into our day-to-day business and this applies to every activity carried out by our employees and contractors. We aim to have zero personal injuries, both H1 and H2. Furthermore, we aim to reduce sickness absence rates and to increase focus on job attendance for all employees. We have set a specific target of short and midrange absence (1-16 days) at or below 2%

Norske Skog Saugbrugs has an occupational health service for all employees. This occupational health service maps employees' health and work environment and focuses on prevention so we

can stay healthy and have a fully sound working environment. We have a health program "I BEDRE FORM" («IN BETTER SHAPE») to promote daily physical activities for all our employees. Our ambition is at least 30 minutes daily activity.

Norske Skog Saugbrugs' objective is to have no employees with drug, alcohol or tobacco abuse problems. Employees with abuse problems will be offered a suitable treatment program.

Performance:

Norske Skog Saugbrugs has a high focus on occupational safety. We see a decrease in the number of accidents and the risk level in general. Nevertheless, we are sure we can improve our performance by continuing to systematically work with our safety barriers.

We perform a regular self-assessment to identify focus areas for improvement which leads into a yearly HES action plan. In 2021 we will change to the latest version of DNV Synergi Life. DNV Synergi Life is an operational risk management tool from DNV. We will continuously work with "Visible leadership", our program for vigorous, caring and improvement-oriented leadership.

Norske Skog Saugbrugs has a close follow up of all absence by working closely with personell leaders. We have signed a letter of intent regarding a

more inclusive workplace (IA Agreement with supplementary agreements) with the aim of reducing sickness absence rates and increasing focus on job attendance for all employees. The IA Agreement builds on a tripartite cooperation between the national authorities, the trade unions and the company. This cooperation ensures the participation of all parties involved. We will actively follow this IA agreement and we will revise and develop our in-house guide for absence.

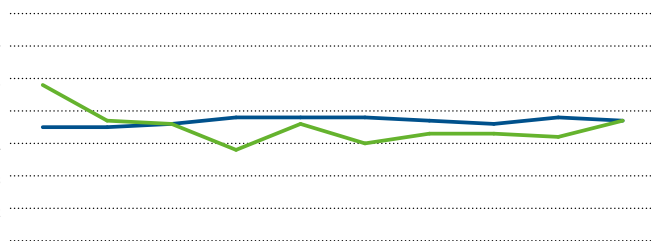
We offer occupational health service to all employees in accordance with our ambition. Our current health program has a strong participation in all activities for promoting at least 30 minutes of daily activity. We offer different activities such as fitness facilities, every-day activity challenges and hiking in our local areas.

We have a smoking ban in all our facilities. We promote «stop-smoking-courses» for all our employees. Today, fewer employees smoke than five years ago.

We cooperate with AKAN (Arbeidslivets kompetansesenter for rus- og avhengighetsproblematikk) (National Committee for Treatment of Alcohol and Drug Abuse) in the prevention and treatment of drug, alcohol and gaming abuse. Each year we have one or two colleagues attending treatment programs.

SICK LEAVE

Percentage

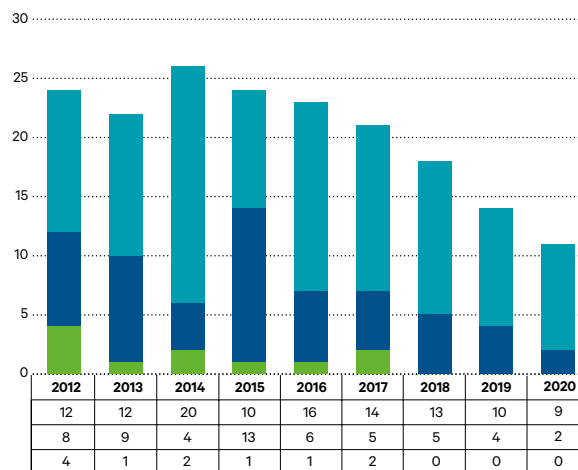


2012	2013	2014	2015	2016	2017	2018	2019	2020
5.8	4.7	4.6	3.8	4.6	4.0	4.3	4.3	4.7
4.5	4.5	4.6	4.8	4.8	4.8	4.7	4.6	4.7

- Norske Skog Saugbrugs
- Norwegian industry

H1, H2 AND H3 ACCIDENTS

number of accidents



- First aid treatment accidents (H1)
- Medical treatment accidents (H2)
- Lost Time Accidents (H3)

4 QUALITY EDUCATION



Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

Business themes that Norske Skog Saugbrugs focuses on:

- Strategically develop competence
- Lifelong learning

Ambition:

Norske Skog Saugbrugs' objective is that competence for all our employees shall result in increased ability to achieve:

- Continuous improvement in the business value chain
- Innovation leading to new products and improved processes
- Profitable commercialization of new products

Our goal is to have a broad access to qualified personnel in the short and long term. This is a requirement for employment, decent work and entrepreneurship. We also actively work directly with our personnel leaders to ensure a healthy and efficient work environment.

Performance:

Our employees are our most important resource. This means that the development of our employees is a task that needs to have a high priority.

Our competence strategy and on-job training covers a wide variety of fields:

- Apprenticeships
- Documented training, internal and external courses
- Trainee program
- Decentralized engineer training
- Industrial Ph.D.

For many years, we have had a large number of apprentices; more than 10% of our total workforce, at any one time, are apprentices. This is our single most important recruitment channel. On average, all personnel attend a minimum of 30 hours formal training each year.



Erik Sandersen



Erik Sandersen

Joanna Shepherd (29) first became familiar with Norske Skog Saugbrugs while writing her master's thesis in collaboration with our company.

After completing her master's degree in engineering, Joanna was employed in a permanent position as Continuous Improvement Engineer at Norske Skog Saugbrugs. She has now worked at our company for five years and has during this time demonstrated a wide range of skills and abilities in her role.

Joanna is a talented orienteering athlete and member of Halden SK's elite orienteers. She has participated in the World Orienteering Championships four times, with several good results.

5 GENDER EQUALITY



Achieve gender equality and empower all women and girls

Business themes that Norske Skog Saugbrugs focuses on:

- Individual competence development
- Recruitment process

Ambition:

Norske Skog Saugbrugs' objective is that all persons have equal development possibilities. This means that women have equal opportunities to have leading positions in our organization. Norske Skog Saugbrugs wants to increase the number of female employees.

Performance:

We are not satisfied with our current number of female employees, in all aspects of our organization; however, we do have female apprentices and trainees and a number of females in leading positions. We also have a number of female employees who currently are in or have completed different specially designed programs for female talent. It is also a focus area to give female employees all possibilities regarding strengthening competence, see SDG 4

In 2021 we will establish a Gender Equality and Diversity Committee, which will play a key role in supporting and providing recommendations on measures contributing to greater gender equality and diversity at every level of our organization. Initially, the committee will be focused on developing a policy and action plan aimed at creating and retaining an inclusive and more diverse culture at work.



Erik Sandersen

From left: Rita Lettenstrøm (lab operator), Ingunn Fristad (Order Fulfilment Manager), Marte Kydland (trainee), Joanna Sheperd (Continuous Improvement Engineer), Turid Gjellestad Johansen (Technical Customer Support Manager) and Lisa Grimstad (HESQ Manager).

6 CLEAN WATER AND SANITATION



Ensure availability and sustainable management of water and sanitation for all



Carsten Dybevig

Business themes that Norske Skog Saugbrugs focuses on:

- Improve water quality by reducing pollution and minimize the release of chemicals and materials
- Improve water quality through effluent treatment
- Sustainably manage water through reduction, reusing, recovering, recycling and replenishing

Ambition:

Norske Skog Saugbrugs is committed to maintain a sustainable environment and a responsible use of natural resources. We are committed to foster innovation and implement continuous improvement activities in order to have a sustainable water management.

Our objective is to treat all waste water according to best available technology, to minimize emissions of fiber, oil and chemicals and to minimize our fresh water consumption. For 2021 we have set a target of reducing our fresh water consumption by 15 % compared to 2020 result.

Performance:

Norske Skog Saugbrugs has an effective and well-educated emergency response team in case of uncontrolled discharges. Their response will minimize the impact of uncontrolled emissions.

Permit breaches are reported and managed according to standard procedures. Any permit breaches will be continuously monitored and discussed with supervisory authorities.

We have had our own biological effluent treatment plant since 1992. The effluent treatment plant has been redesigned several times after this first installation, as a consequence of new available technology. All waste water is cleaned in our effluent treatment plant before returning to the recipient. Please refer to SDG 14 for specific emissions to water (suspended solids and Chemical Oxygen Demand (COD)).

Water is used and recovered multiple times through our pulp and papermaking process. We have a continuous focus to minimize our water consumption. Due to the shutdown of paper machine 5 and the start-up of Therminator 2 project (SDG 7), we will decrease our water consumption by 15 % in 2021.



Ensure access to affordable, reliable, sustainable and modern energy for all

Business themes that Norske Skog Saugbrugs focuses on:

- Energy efficiency
- Renewable energy
- Circular economy with sustainable use of all materials

Ambition:

Norske Skog Saugbrugs is committed to continuously reduce our energy consumption and to become more environmentally friendly by changing the sources of energy. Our objective is to avoid energy from fossil sources.

Our objective is to ensure sustainable use of materials in our operation. We aim to utilize all waste waters and bi-process flows. Bi-process flows are used for generating thermal energy in the form of bio sludge and fibre sludge. Waste waters are used for production of biogas. We aim for an increased biogas production during the coming years.

Performance:

Norske Skog Saugbrugs consumes only electricity from Norwegian hydropower. Our largest consumer of electricity is the thermal mechanical pulping (TMP) process. Over the last decade, we have been able to reduce the specific energy consumption through this process by 37 %.

During 2020 Norske Skog Saugbrugs has invested a total of NOK 165 million in energy efficiency measures at the plant; the NEXT and the Therminator 2 project. The NEXT project will take the electrical energy efficiency in the TMP process to a new level. The specific energy consumption will decrease by an additional 8%, reaching 45% overall reduction compared to the baseline 2005. The start-up will be first quarter of 2021.

Thermal energy is used for heating and drying of the paper. Today the generation of thermal energy consist of 99.8 % renewable energy; mostly heat recovered from the TMP process and, combustion of both internal and external bio-fuel.

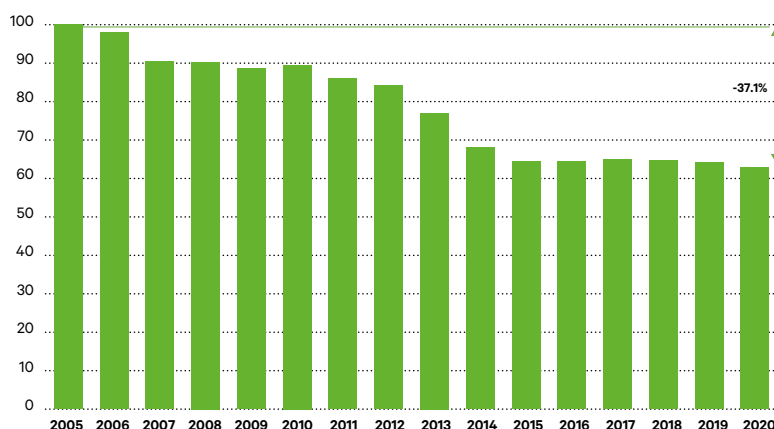
During 2021 our oil boiler will be shut down, contributing to a further increase in share of renewable energy.

As a consequence of the NEXT project, recovered heat from the TMP process will be reduced. To produce the same amount of thermal energy, we need to increase the load in our bio boiler, leaving us with an increased NOX emission. The Therminator 2 project utilize warm flows in our processes to reduce the need for thermal energy. These measures gives a yearly reduction in thermal energy of 13 MW. The Therminator 2 project thus avoid increase in NOX emissions caused by the start-up of NEXT project.

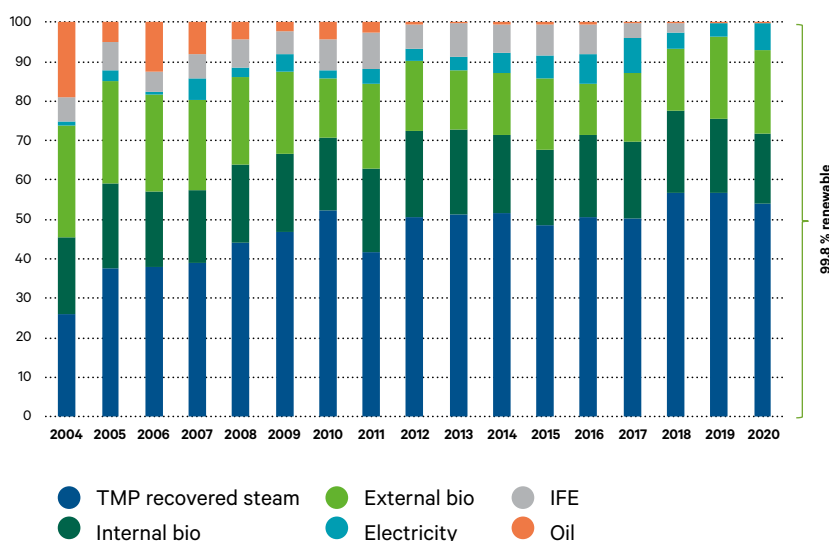
Norske Skog Saugbrugs is a producer of biogas. We started production of biogas in 2017 following a redesign of our effluent treatment plant. Since the start-up year, we have continuously improved this process towards better efficiency. 2020 was the best production year since the start-up and in 2021 we will increase our production further due to the shut down of paper machine 5.

Norske Skog Saugbrugs is certified in accordance with ISO 50001.

SPECIFIC ENERGY CONSUMPTION DURING PULPING
% vs baseline 2005



THERMAL ENERGY GENERATION



8 DECENT WORK AND ECONOMIC GROWTH



Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

Business themes that Norske Skog Saugbrugs focuses on:

- Employment
- Non-discrimination
- Elimination of forced or compulsory labor

Ambition:

Norske Skog Saugbrugs is committed to promote diversity and inclusion by providing equal employment opportunities and treat all employees fairly and with respect.

All employees and others acting on behalf of Norske Skog Saugbrugs are expected to conduct business in an ethical manner and must comply with applicable laws and regulations at all times.

Norske Skog Saugbrugs fully complies with all Norwegian labor laws, and is an active supporter of a broad cooperation with trade unions.

Norske Skog Saugbrugs also fully complies with all laws regulating collective bargaining and recognises the freedom of association. Our commitment to respect this freedom of association is embodied in the Global Framework Agreement on the Development of Good Working Relations, concluded by Norske Skog Group and the IndustriALL Global Union.

Norske Skog Saugbrugs respects and supports the human rights of all individuals potentially affected by our operations and subscribes to the United Nations Global Compact principles.

Performance

In 2020, unions represented 92 % of our employees for collective bargaining purposes.

The turnover of people, excluding retirement, has been close to 2 %. Our employment levels are not subject to seasonal variations, and the share of temporary employment is around 3 % of the total workforce, mainly as cover for long term absence.

There has been no reported incidents of child labour, forced or compulsory labor in the last 40+ years. The risk of such incidents in the supply chain is considered low, and a high-level risk assessment of suppliers has not provided information or indications of any violation by our suppliers.

Continuous improvement (CI) is a well implemented way of working at Norske Skog Saugbrugs since many years back. Over the years our CI work have

resulted in yearly savings of 100-200 MNOK/y. We have a dedicated CI-team to facilitate the work but the work, as such, involves the entire mill, covers all departments and the whole value chain from supply trough production, maintenance and sales to outbound logistics. The work ensures an efficient way of working and an efficient and a sustainable use of resources. The CI-work has led to savings in thermal energy, electrical energy and chemical use. It has also ensured a high yield and lowest possible loss of wood and filler. The work has also lead to the establishment of a logistical setup of incoming wood that is largely based on train. This has not only resulted in the lowest possible cost, but also the lowest possible CO2-footprint.



9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

Business themes that Norske Skog Saugbrugs focuses on:

- encourage innovation by research and development
- new and improved products with better performance
- digitization

Ambition:

Norske Skog Saugbrugs is committed to continuously improve our existing products with regards to use of natural resources and carbon footprint. Our portfolio of paper products should continuously be developed to match the paper market. We have set a target for sale of new paper products to 90 000 tons in 2021.

Our objective is to develop new, sustainable products outside our core business, either with new bio based materials or energy produced from bio based materials. We have several ongoing projects and aim to achieve 50 % of EBITDA from new business areas by 2030. We will commercialize projects and continue to explore projects within bioenergy and biomaterial that support and develop the business. We will continuously perform at least 3 internal research and development projects and continuously participate in 3 external research and development programs.

Performance:

Norske Skog Saugbrugs has been able to develop our existing products and product mix as a consequence of research and development of fiber production technology. As from 2020, we have a portfolio of sustainable products with our NorSC Value, NorSC Lite, NorSC Polar and Nor Opaq/Nor Opaq Plus.

During 2020 we have introduced two new fibre-based products in CEBINA and CEBICO.

We have received support from Innovation Norway to build a demonstration plant for production of CEBICO fibrecomposite. This will accelerate the ongoing development work to industrialise the production of a new type of biocomposite, which can be included in furniture, packaging and car interiors.

The innovation provides a biocomposite which replaces plastic, reduces fossil CO₂ emissions, reduces oil consumption, provides better resource utilisation through increased use of recycled and renewable raw materials.

“We want to contribute to reduced plastic consumption by creating new, green products with significantly reduced carbon footprints, and find good solutions to recycle significantly more plastic than today. The plant is crucial for accelerating the industrialisation of new

sustainable, bio-based products.”

Managing Director Kjell-Arve Kure at Norske Skog Saugbrugs

Norske Skog Saugbrugs owns and participates in several research and development programs that foster a sustainable industry and a circular economy.

Ongoing internal R&D projects:

- Setting up a new pilot plant for developing and demonstrate new fibre-composite products
- Running the R&D projects “Nanoheft” and “Lignano” developing Cebina product applications
- Applied for new public funding in Green Platform announcement – NFR

Ongoing external R&D programs:

- Partner in the Bio4fuel program under Environment-friendly energy research (FME)
- Partner in Borg CO₂ CCS project running a pre-feed study of a 50 000 tons CCS plant at Saugbrugs
- Partner in Berry Alloc project, developing new bio-composite system for floors.

We develop and implement digital solutions to collect, share and use data for better efficiency and more stable processes throughout the whole life cycle. In 2021 we will define a new digitization strategy.

CEBINA

– ENVIRONMENTALLY IMPROVES OTHER PRODUCTS



“The CEBINA sales in the fourth quarter are incredibly exciting. We have been able to establish promising cooperation with companies, consultants and researchers, who see the unique potential in the green and sustainable product we have developed,” says Hugo Harstad, Commercial Development Director of CEBINA at Norske Skog Saugbrugs.

CEBINA replaces existing viscosifiers used in epoxy, adding improved flow properties. Epoxy based on CEBINA is of particular interest due to its health and environmental qualities, as well as reduced time in deployment. Beyond epoxies, new variants of CEBINA will add similar benefits to glue and paint. Production capacity for CEBINA will be expanded in line with increased demand.



Eivind Nag, Adsign

11 SUSTAINABLE CITIES AND COMMUNITIES



Make cities and human settlements inclusive, safe, resilient and sustainable

Business themes that Norske Skog Saugbrugs focuses on:

- Social development
- Urban development
- Infrastructure

Ambition:

Norske Skog Saugbrugs aims to be a strong and solid contributor in our town. This is achieved by working with the community in various ways, both authorities and private partners.

Performance:

Norske Skog Saugbrugs is currently in the process of building a high school in cooperation with the regional authorities. Our earlier production buildings will house the school, and the project aims to develop the local urban area around the factory buildings through good infrastructure and an area to be used by the community.

As our factory is situated in the middle of Halden town, it is paramount that the relationship with our neighbors is well maintained. We continuously focus on all aspects of this relationship, eg. noise reduction, traffic, air, water etc.

In the community, we also have regular and onetime activities. For example, each year we award an honorary prize to athletes aged 14-18. We have donated a SeaBin to the municipality - a unit that acts as a floating garbage bin skimming the surface of the water. Saugbrugs has partnered with Kirkens Bymisjon Halden, to help disadvantaged young people to give them work experience, and to help them into employment.

Saugbrugs also has a tradition for promoting outdoor activities, through a longstanding relationship with various recreational sports associations.









Ensure sustainable consumption and production patterns

Business themes that Norske Skog Saugbrugs focuses on:

- Resource efficiency of products and services
- Materials recycling
- Sustainable sourcing
- Product and service information and labelling

Ambition:

Norske Skog Saugbrugs key objectives are efficient production processes with high yield on raw material and energy utilisation. We shall maintain 99,5 % yield of incoming wood. We will reduce waste from our operation and have set a target of no ash delivered to landfill within 2025.

Norske Skog Saugbrugs expects all of our business partners to comply with the applicable laws, regulations and principles set out in Norske Skog Group's Code of Conduct.

We will only use raw materials from sustainably managed sources. Our goal is to have 100 % certified wood in our products.

Norske Skog Saugbrugs shall have an environmental performance that supports our customers in reaching their environmental objectives.

Performance:

We have high yield on our raw material. 96 % of the incoming wood will end up in the final paper products, while the residual is used for generating thermal energy in the form of bio sludge, fibre sludge and biogas. In total a yield on incoming woods of 99,5%.

In 2020 we have taken important steps forward to start the elimination of landfill and enable a possible recirculation of fly ash into new products. During the year we have started up a qualification

process where our fly ash has passed the initial tests for use in cement production. A partnership has been established with a large European cement producer with a common goal of bringing all the fly ash from Norske Skog Saugbrugs into their production. We have invested in the necessary equipment needed to be able to load the fly ash on bulk transport lorries and early 2021 we received an export permit and are now planning for the first full scale trials.

Norske Skog Saugbrugs has systems and processes to make sure that all wood used in our products comes from sustainably managed forests. We have third-party verified Chain of Custody (CoC) certification systems in place and all our fibre is certified according to this. Please refer to SDG 15 to read more about sustainably managed forest.

Norske Skog Saugbrugs' procurement system is a sustainable procurement system. This

means that we systematically shall collect our costumers' demands to secure that our processes support our costumers' sustainability objectives. Norske Skog Saugbrugs audit our main suppliers' sustainability performance and we are systematically assessing both environmental impact as well as social responsibility when entering new contracts with suppliers.

Our products come with an environmental product declaration for paper (Paper Profile and Carbon Footprint) which guides the paper buyer according to environmental performance on standardized environmental parameters.

Norske Skog Saugbrugs is certified in accordance with ISO 9001, 14001 and 50001.



Erik Sanderson

13 CLIMATE ACTION



Take urgent action to combat climate change and its impacts

Business themes that Norske Skog Saugbrugs focuses on:

- Reduced Greenhouse Gas emissions
- Investments in renewable energy
- Continuously improve life-cycle impact

Ambition:

Norske Skog Saugbrugs has integrated the reduction of greenhouse gas emissions as a key part of our business strategy. Our goal is to reduce energy consumption, change the sources of energy and to optimize the use of process chemicals and transport. We will actively participate in the work to combat climate change.

We have set a specific target to reduce the CO₂ emission (EU ETS regime) by 20 % vs 2020 and to have a net zero CO₂ emission kg/ton paper in 2030. Through 2021 we will reduce inbound pulp wood and saw mill chips transport by 25 % vs H1 2020.

Performance:

Norske Skog Saugbrugs is working hard to reduce our carbon footprint and in 2020 we reached a level of 1185 tonnes CO₂-emissions

based on the EU ETS regime. This is a reduction of 97 % since 2004.

The shut down of our oil boiler in 2021 will reduce the carbon footprint with another 20% compared to 2020 performance.

Our carbon footprint, based on the CEPI carbon footprint tool, covers emissions from several elements of our value chain:

- Pulp and paper production
- Forest and recycling operations
- Producing other raw materials and fuels
- Purchased electricity and heat
- Transport – excluding transport to final customer which is calculated on a case by case basis

In 2020 we reached a level of 152,4 kg CO₂/tonne of paper based on this method.

Norske Skog Saugbrugs is part of an industrial cluster that has carried out a feasibility study of Carbon Capture Storage. The project enters now in a pre-FEED of a value chain capture of 50 000 tons of CO₂/year facility at Saugbrugs. The pre-FEED will be carried out in 2021.

A life cycle study made by IVL, Swedish Environmental Research Institute, concludes that paper from fresh fibres has lower environmental impact than paper from recycled fibres given that the paper is produced where the environmental impact of production electricity is low and the forests is sustainably managed. This is the situation for Norske Skog Saugbrugs' paper.

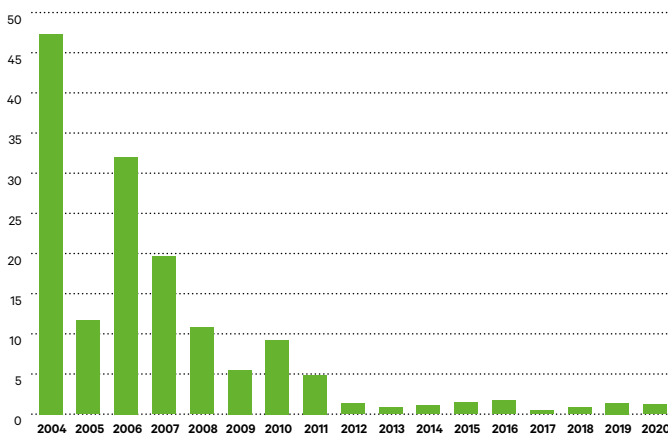
Please refer to SDG 7 to read more about energy consumption and production.

Norske Skog Saugbrugs has over years focused on moving transport of round wood and saw mill chips from road to railway as a part of reducing our environmental impact. Through 2020 we have established two railroad terminals for saw mill chips and we are establishing a new round wood terminal to move more transport from road to railway. The effect of the actions taken in 2020 will reduce the number of trucks to the mill by 2000.

To handle climate risks and opportunities we will establish a system for performing an annual climate risk and opportunity analysis.

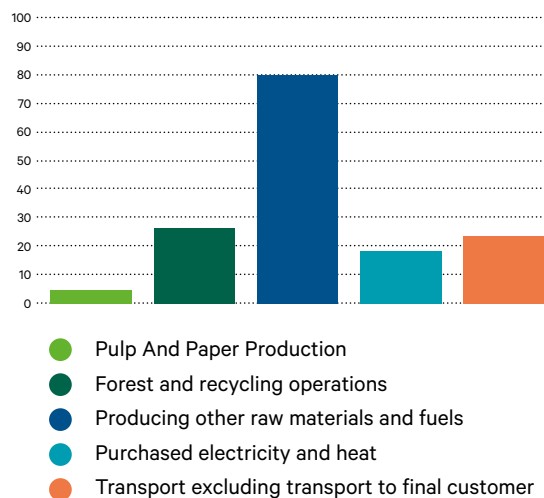
EU ETS CO₂-EMISSIONS, FOSSILE

1000 ton/year



CEPI CARBON FOOTPRINT 2020

kg CO₂/tonnes of paper





Conserve and sustainably use the oceans, seas and marine resources for sustainable development

Business themes that Norske Skog Saugbrugs focuses on:

- prevent and reduce marine pollution of all kinds
- sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts

Ambition:

Norske Skog Saugbrugs objective is to prevent and reduce pollution of all kinds. We are committed to follow the ambitious permit given by the Norwegian government. Our objective is to ensure sustainable impacts on marine and coastal ecosystems.

Performance:

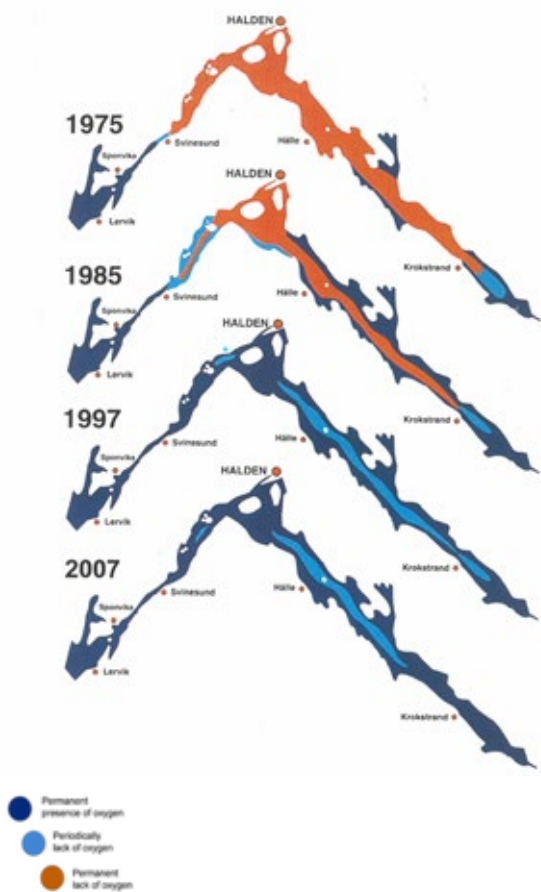
With the increase of industrial effluents, our near-by eco-system Iddefjorden became more and more polluted. During the 1950's almost all larger organisms in the fjord died out. In the early 70s, we carried out several large environmental investments. Fish, animals at the bottom of the fjord and algae were slowly starting to recolonise the fjord. After the shutdown of the Cellulose Pulp Mill in 1991 and the start-up of our own effluent treatment plant in 1992, the conditions at the bottom of the fjord have been rapidly improved in the vicinity of Halden.

The treated wastewater from Saugbrugs is discharged into Tista. This affects the river

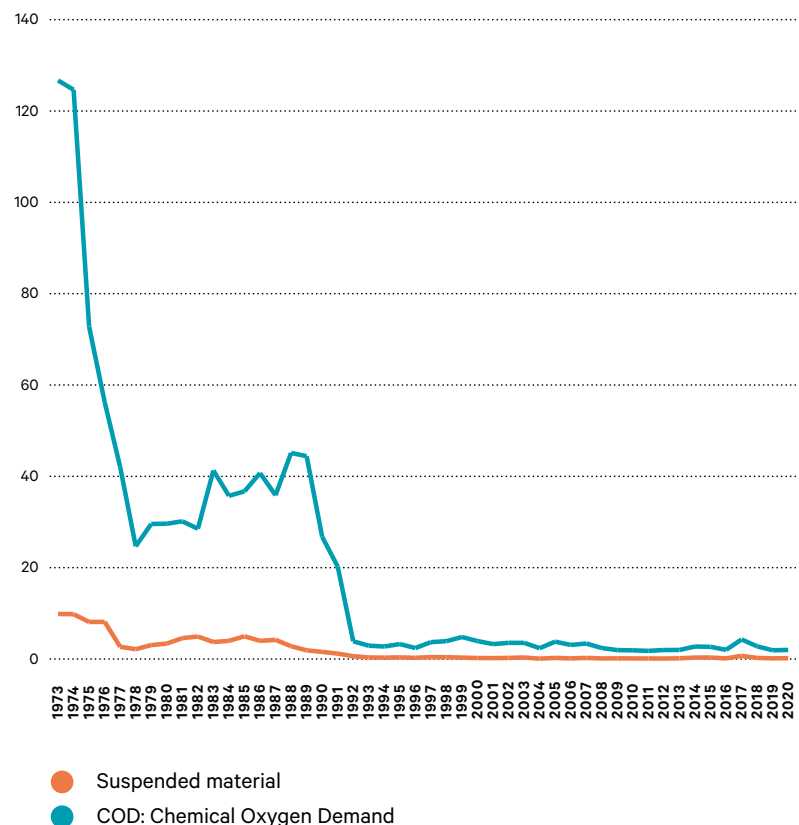
and fjord negatively. In 2015 and 2018, action-oriented monitoring according to the Water Frame Directive was carried out in Tista and the Iddefjord. The monitoring will be repeated again in 2021. Based on the results of this monitoring, actions will be initiated.

We have a continuous focus on improvement activities related to emissions of suspended solids and COD. We expects a decrease in both caused by the shut down of paper machine 5.

We have financed and built a salmon cultivation facility and salmon ladders within our own premises.



EMISSIONS TO WATER
1000 ton/year





Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

Business themes that Norske Skog Saugbrugs focuses on:

- Deforestation and forest degradation
- Sustainable fibre sourcing
- To prevent and reduce emissions to air

Ambition:

Forestry and use of forest products play an important role in the combat of climate change. For the forest value chain to be a part of the climate change solution, the forests must be managed sustainably. Our goal is to maintain 100 % certified wood in our products.

Our objective is to prevent and minimize emissions of SO₂ and NO_x from our operations. We are committed to follow the ambitious permit given by the Norwegian government.

Performance:

Norske Skog Saugbrugs has systems and processes to make sure that all wood used in our products comes from sustainably managed forests. We have two third-party verified Chain of Custody (CoC) certification systems in place:

- PEFC
- FSC

All our fibre is certified according to either the PEFC or FSC CoC certification system.

Atmospheric discharge from our boilers is continuously monitored by inline sensors and analysed every quarter by approved external contractors. To be able to maintain low SO₂ emissions, we have made strategic decisions not to use sulphurous bleaching chemicals in our operations. To avoid increase of NO_x emissions caused by start-up of NEXT project, we will finalise and start-up Therminator 2 project in 2021.



The mark of responsible forestry





Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

Business themes that Norske Skog Saugbrugs focuses on:

- Effective, accountable and transparent governance
- Compliance with laws and regulations
- Anti-corruption

Ambition:

Norske Skog Saugbrugs' goal is to create competitive shareholder values within our strategic goals. As part of the Norske Skog group, we share the important instruments for achieving this objective, which includes good principles for corporate governance and a clearly defined division of responsibilities and roles between Norske Skog's governing bodies.

All employees and others acting on behalf of Norske Skog Saugbrugs must act in compliance with applicable laws and regulations and ethical

guidelines at all times. Norske Skog has a zero tolerance policy for non-compliant behavior and will take necessary actions in order to respond to any breaches that may occur.

Performance:


To meet future sustainability expectations, we conduct our business mandates and activities according to the Norske Skog Groups internally developed Steering Guidelines, Power of Attorney structure and Operating Model. These provide the basic framework for our mandates and activities.

Norske Skog Saugbrugs has – as a business unit in the Norske Skog Group - a high degree of independence and accountability. Norske Skog Saugbrugs' general manager is responsible and accountable for decisions and results within the unit. The Norske Skog Group has common

standards of conduct for all business units and employees through our Steering Guidelines. The group apply a uniform basis for our operations across countries and cultures with regard to HESQ (health, environment, safety and quality), people development, financial reporting and legal compliance. In these areas, our conduct must be based on the same sustainable principles to promote the shared interests of the Norske Skog Group and our stakeholders.

Norske Skog Saugbrugs has for a number of years maintained a reporting (whistle-blowing) channel, where employees and other stakeholders can report on possible unethical and/or unlawful behavior, and be assured confidential and serious treatment of the report. Any confirmed non-compliance will be followed-up with fair consequences.





HOW NORRSKE
SKOG SAUGBRUGS
RELATES TO THE
OTHER SDGS

1 NO POVERTY



End poverty in all its forms everywhere

Earnings, wages and benefits

Ambition:

We aim to maximize Norske Skog Saugbrugs' value through reliable, responsible and sustainable conduct throughout our operations

Performance:

We have delivered a significant increase in profits in the last year and safeguarded employment for our workers. Our mill is producing profitably at full capacity.

Our company is a cornerstone of the local communities. We work closely with the local communities through an open dialogue.

2 ZERO HUNGER



End hunger, achieve food security and improved nutrition and promote sustainable agriculture

We do not have a significant impact on food systems or agriculture nor are we operating in societies with high poverty.

We deliver organic materials from production waste to agriculture for re-use.



10 REDUCED INEQUALITIES



Reduce inequality within and among countries

Earnings, wages and benefits

Ambition:

Norske Skog Saugbrugs is committed to an inclusive work culture, and appreciates and recognizes that all people are unique and valuable and should be respected for their individual abilities and views.

Norske Skog Saugbrugs is working to implement the Norwegian Discrimination Act's objective within our business. This includes activities

to promote gender equality, ensure equal opportunities and rights, and to prevent discrimination due to ethnicity, national origin, descent, skin colour, language, religion and faith.

Performance:

Norske Skog Saugbrugs have signed a letter of intent regarding a more inclusive workplace ("IA Agreement") (with supplementary agreements). The IA Agreement builds on a tripartite

cooperation between the national authorities, the trade unions and Norske Skog Saugbrugs, with the aim of reducing sickness absence rates and increasing focus on job attendance for all employees. This cooperation ensures the participation of all parties involved.

For further information about gender diversity, please see SDG 5.



17 PARTNERSHIPS FOR THE GOALS
















Strengthen the means of implementation and revitalize the global partnership for sustainable development

The Norske Skog Group was the first international paper manufacturer to sign an agreement with the International Federation of Chemical, Energy, Mine and General Workers' Unions (ICEM) and the Norwegian United Federation of Trade Unions concerning employee rights on a global basis.

The Norske Skog Group were also an early adopter of the 10 principles in the UN Global Compact.

The Norske Skog Group's research and development work is performed at the individual business units and in cooperation with external

research institutions. The work is coordinated centrally, with the aim to leverage synergies and best practices throughout the group. There is a continued focus on the evolution of paper products and new innovative green alternatives to existing resources.

Sustainability Development Goals overview		E/S/G & E*	Focus areas	Ambition/ Area
	3	S	Health and Safety	To increase job attendance for all employees
			Health and Safety	To ensure a healthy and safe working environment
	4	S	Learning and development	To attract and to keep top talent
	5	S	Gender equality	To promote gender equality throughout the organisation
	6	E	Resource efficiency	To sustainably manage water
	7	E	Resource efficiency	To reduce electrical energy consumption
			Climate Action	To use sustainable energy sources
	8	G	Anti-Corruption	To have systems that prohibits practices such as bribery, facilitation payments, fraud, extortion, collusion, and money laundering; the offer or receipt of gifts, loans, fees, rewards, or other advantages as an inducement to do something that is dishonest, illegal, or represents a breach of trust. This also include practices such as embezzlement, trading in influence, abuse of function, illicit enrichment, concealment, and obstructing justice.
			Child labour	To prohibit the use of child labor within our operations and avoid contributing to the use of child labor suppliers and customers.
	9	G & E	Profit	To continue to delevepe existing portfolio of paper products
				To commercialize CEBINA
				To commercialize CEBICO
				Perform or participate in research and development programs that foster a sustainable industry and a circular economy.
	11	S	Local communities	To understand the actual and potential impacts our operations have on local communities, and to understand their expectations and needs.
		E	Indirect economic impact	To report the extent of development of significant infrastructure investments and services supported, both current or expected impacts on communities and local economies.
	12	E	Resource efficiency	To maintain high yield on raw materials
		E	Climate Mitigation: Waste	To reduce waste from our operations
		G	Responsible sourcing	To ensure sustainable supplier value chain handling
	13	E	Climate Action	To reduce GHG emissions
		E	Climate Adaption	To handle climate risk and business opportunity understanding
	14	E	Climate Mitigation: Emissions	To prevent and reduce marine pollution of all kinds
			Climate Mitigation	To sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts
	15	E	Responsible sourcing	To ensure sustainable sourcing of raw material
			Climate Mitigation: Emissions	To prevent and reduce emissions of SO2 and NOX from our operations
	16	G	Public policy	To abstain from financial and in-kind political contributions.
		S	Health and Safety (Customer)	To ensure our customers healthy and safe working environment.
		G	Anti Competitive behaviour	To abstain from anti-competitive behaviour and adhere to relevant competitive legislation.
		S	Non-discrimination	To have systems that prohibits discrimination on grounds of race, color, sex, religion, political opinion, national extraction, or social origin as defined by the ILO, or other relevant forms of discrimination involving internal and/ or external stakeholders.

* E/S/G&E: Environment / Social / Governance and Economy

Targets	Planned activities
Short and midrange absence (1-16 days) at or below 2%	Close follow up of all absence, work closely with personell leaders. Revise and develop our in-house guide for absence. Actively follow IA agreement, between the company, unions and government.
To reach zero personal injuries (H1 and H2)	Systematically work with our safety barriers. Performing a regular self-assessment to identify focus areas for improvement. Identify a yearly HES action plan. Changing to the latest version of DNV Synergi. Continuously work with 'Visible leadership' - our program for vigorous, caring and improvementoriented leadership.
To achieve at least 85 % of new hired skilled workers to be recruited from apprentices programs by 2025.	Implementing advanced apprentice programs at all mills, including extended training programs.
To continuously have two trainee positions or internships for master degree students.	Cooperating with local schools and selected universities about relevant programs.
To develop and establish new training programs to secure critical competence.	Further develop leadership training programs and network, and to establish and implement plans to develop core competence.
To achieve a 100 % completion rate for compentece plans by 2022.	Keep high focus throughout the organisation through yearly reviews, individual follow-up.
To provide training modules for technical core skills, "soft" skills and compliance skills	Offering training and supplementary education for all through their entire job career, i.e. annual review of performance and revision of annual plans for training and development.
Increase number of female employees by 10% in 2021.	Establish Committee on Gender Equality and Diversity, actively work with recruiting of female apprentices.
Reduce water consumption by 15 % in 2021 compared to 2020 result.	Shut down of PM5 and reduction of fresh water with Terminator project.
To reduce the specific energy consumption in the TMP process with an additional 8%, reaching 45% overall reduction compared to the baseline 2005.	Finalise and start up of the NEXT project in H1 2021.
To eliminate use of fossile energy sources.	Shut down of oil boiler in 2021
To improve our biogas production by 8 % in 2021 compared to 2020 result	Continue utilising waste waters to produce biogas. The shut down of paper machine 5 by January 2021 will increase biogas production.
To report the total number and percentage of operations assessed for risks related to corruption, and the significant risks related to corruption identified through the risk assessment. To report the total number and nature of confirmed incidents of corruption: in which employees were dismissed or disciplined, when contracts with business partners were terminated or not renewed, public legal cases against the organization or its employees.	In accordance with the Steering Guidelines perform mandatory compliance review and training for relevant personell and business partners and other relevant to our business periodically or when needed.
"To report operations and suppliers considered to have significant risk for incidents of: - child labor and young workers exposed to hazardous work, - child labor either in terms of type of operation (such as manufacturing plant) and supplier; or - countries or geographic areas with operations and suppliers considered at risk."	In accordance with the Steering Guidelines perform mandatory compliance review and training for relevant personell and business partners and other relevant to our business periodically or when needed.
Sale of 90 000 tonn from new paper products	Continuously develope the portfolio of paper products to match the paper market. Continue the introduction of our newest paper products.
To achieve 50 % of EBITDA from new business areas by 2030	Continue cooperation with companies within the epoxy, glue and paint industry. Expand production capacity in line with increased demand.
To achieve 50 % of EBITDA from new business areas by 2030	To industrialise the production of a new type of biocomposite, which can be included in furniture, packaging and car interiors. Build and start-up of CEBICO demonstration plant in 2021
Continuously perform at least 3 internal research and development projects Continuously participate in at least 3 external research and development programs	Internal: Setting up a new pilot plant for developing and demonstrate new fibre-composite products. Running the R&D projects "Nanoheft" and "Lignano" developing Cebina product applications. Applied for new public funding in Green Platform announcement – NFR External: Partner in the Bio4fuel program under Environment-friendly energy research (FME). Partner in Borg CO2 CCS project running a pre-feed study of a 50 000 tons CCS plant at Saugbrugs Partner in Berry Alloc project, developing new bio-composite system for floors.
Report the significant social, environmental, safety and economic impacts our operations have on the local communities.	Cooperating with local community organization and being open and honest about environment, safety and economic issues with relevant community bodies. Distribute the Sustainability Report to the local community across multiple platforms.
To report examples of significant identified indirect economic impacts of the organization also in the context of external benchmarks and stakeholder priorities, such as national and international standards, protocols, and policy agendas.	Cooperating and communicating openly with the local community about company strategy and investment plans as early as possible.
To maintain 99,5 % yield on the incoming wood	Continous activities to maintain high yield on incoming wood
To have no ash delivered to landfill in 2025	To continue our partnership with a large European cement producer with a common goal of bringing all the fly ash from Norske Skog Saugbrugs into their production. Full scale trials will be performed during 2021.
To ensure that contracts with large suppliers cover social responsibility, energy and environmental targets.	Maturing sustainable sourcing practices by updating Code of Conduct, introduce procurement check list also covering SDG-topics to suppliers and routines for audit of suppliers.
To reduce CO2 emission (EU ETS regime) by 20 % vs 2020.	Shut down of oil boiler in 2021
To reduce CO2 emission on inbound pulp wood and saw mill chips transport by 25 % vs H1 2020 through 2021	Establish terminals and move transport from road to rail.
To have net zero CO2 emission kg/ton paper in 2030	Participating in industrial cluster Carbon Capture Storage pre-feed in 2021.
To review the annual climate risk plan and business opportunity analysis.	Establish system for performing an annual climate risk and opportunity analysis
To be compliant to emission permits and regulations	Performing mill improvement activities related to emissions of suspended solids and COD.
To ensure sustainable impacts on marine and coastal ecosystems	Perform action-oriented monitoring according to the Water Frame Directive in 2021-2022. Initiate actions based on these results.
To maintain 100% certification of all wood used for our products.	External audits to verify sustainable control routines to measure and maintain the certification target.
To be compliant to emission permits and regulations. No use of sulphurous bleaching chemicals Avoid increase of NOX emissions caused by start-up of Next project	Performing mill improvement activities related to emissions of SO2 and NOX. Maintain no use of sulphurous bleaching chemicals. Finalise and start up of the TerminatorII project in H1 2021. "
To report which political topics and influence channel the group has used.	Involving in political tasks through the Norwegian Federation of Trade and Industry, the Norwegian Pulp and Ppaer organization, CEPI, and through other relevant partnerships.
To report percentage of significant product and service categories for which health and safety impacts are assessed for improvement.	Performing reviews of relevant health and safety hazards our products expose to our customers.
To report the number of legal actions pending or completed during the reporting period regarding anti-competitive behavior and violations of anti-trust and monopoly legislation in which the organization has been identified as a participant. To report the main outcomes of completed legal actions, including any decisions or judgments.	Performing annual reviews with relevant personell and agents on relevant anti-competitive legislation and Norske Skog Steering Guidelines.
To report the total number of incidents of discrimination during the reporting period.	Identifying through formal process(es) instance(s) of non-compliance to relevant non-dicriminatory Steering Document procedures, including management system audits, formal monitoring programs or grievance mechanisms (whistleblower channels).



Norske Skog
Saugbrugs

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