

A scenic landscape photograph of a lake at sunset or sunrise. The sky is a mix of deep blue and orange, with scattered clouds. The water is calm, reflecting the sky and the silhouettes of evergreen trees on the shore. The overall mood is serene and natural.

# NORSKE SKOG SUSTAINABILITY REPORT

Performance and ambitions

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# Key financial figures

NOK MILLION	2015	2016	2017	2018	H1 2019
<b>INCOME STATEMENT</b>					
Total operating income	11 130	11 852	11 527	12 641	6 154
EBITDA	818	1 097	702	1 031	873
Operating earnings	19	-947	-1 702	926	1 403
Profit/loss for the period	-1 318	-972	-3 551	1 525	1 184
<b>CASH FLOW</b>					
Net cash flow from operating activities	146	514	404	881	531
Net cash flow from investing activities	-174	-105	-279	-188	-180
<b>OPERATING MARGIN AND PROFITABILITY (%)</b>					
EBITDA margin	7.3	9.3	6.1	8.2	13.6
Return on capital employed (annualised)	13.0	9.1	6.6	14.1	26.6
<b>PRODUCTION / DELIVERIES / CAPACITY UTILISATION</b>					
Production (1 000 tonnes)	2 366	2 506	2 494	2 492	1 173
Deliveries (1 000 tonnes)	2 356	2 520	2 491	2 485	1 140
Production / capacity (%)	84	93	93	95	89
	<b>31.12.2015</b>	<b>31.12.2016</b>	<b>31.12.2017</b>	<b>31.12.2018</b>	<b>30.6.2019</b>
<b>BALANCE SHEET</b>					
Non-current assets	9 620	7 184	4 939	4 789	5 512
Current assets	3 512	3 313	3 170	3 776	3 859
Total assets	13 133	10 497	8 109	8 565	9 372
Equity	4 729	2 090	-1 427	2 365	4 560
Net interest-bearing debt	4 528	5 038	5 717	2 268	941



# About Norske Skog's operations

The Group is a global producer of both newsprint publication paper and magazine publication paper. The Group has a total production capacity of 2,625,000 tonnes split between the Group's seven mills in Europe and Australasia. In Europe, the Group operates four mills, two in Norway, one in France and one in Austria, with a combined 1,925,000 tonnes of publication paper production capacity. The Group estimates that it is the third largest European producer of publication paper. In Australasia (which includes Australia, New Zealand, New Guinea and the neighbouring islands), the Group operates two mills in Australia and one mill in New Zealand with a combined 700,000 tonnes of publication paper

production capacity. The Group is the sole producer of newsprint and magazine publication paper in the region.

The Group's newsprint paper products include standard and improved grades, while the Group's magazine paper products comprise uncoated super-calendared paper ("SC") and lightweight coated paper ("LWC"). The end uses of the Group's products are mainly newspapers and magazines, but also include catalogues, inserts/flyers, supplements, free-sheets, directories, direct mail, brochures and book paper. The Group sells its products under well-known brands, including Nornews, Norbright, NorX, Norstar,

Norcote, NorSC, Norbook, Vantage and Tasman Directory. The Group's customers include publishers of leading newspapers and magazines in Europe, Australasia and the rest of the world. The Group has longstanding relationships with several of its largest customers.

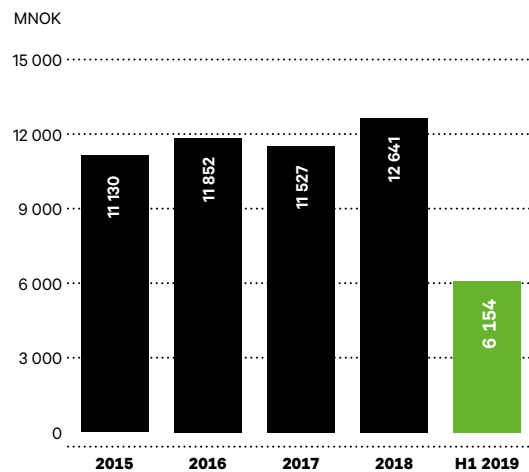
In Europe, the Group serves a diversified customer base including internationally recognised publishers, retailers and commercial printers, with the top 15 customers representing approximately 30 % of revenue.

The Group's market shares based on production

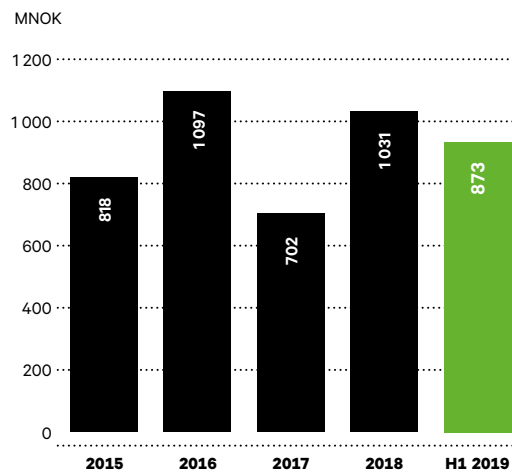
capacity for newsprint, SC magazine paper and LWC magazine paper in Western Europe are approximately 22 %, 12 % and 4 % respectively, according to PPPC. In Australasia the Group is the sole producer of publication paper, but the Group estimates a market share in terms of publication paper delivery of approximately 80 % for newsprint and 30 % for magazine paper.

The Group is engaged in a wide range of different growth initiatives at various stages of the development cycle, covering everything from waste-to-energy boilers to petrochemical substitutes.

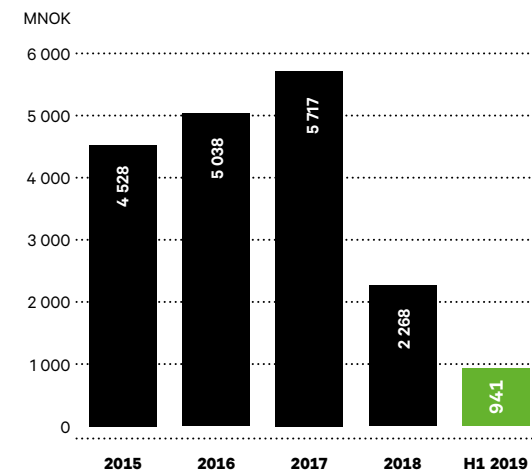
**TOTAL OPERATING INCOME**



**EBITDA**



**NET INTEREST-BEARING DEBT**



# 7

## PAPER MILLS IN 5 COUNTRIES

Skogn, Norway  
Saugbrugs, Norway  
Golbey, France  
Bruck, Austria  
Albury, Australia  
Boyer, Australia  
Tasman, New Zealand

Employees

# 2 444

**11%** female employees

# 88 %

certified fibres

# 32 %

recycled fibres

# 0.93

Lost time injuries per  
million working hours

# Norske Skog 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 supports all 17 SDGs, but realize that some are more relevant to our business. This report aims to demonstrate how Norske Skog relates to the UN Sustainable Development Goals (SDGs). It shows which of these 17 goals that we consider the most relevant ones. The most relevant ones are those where we believe we can make a difference and contribute positively.

## We have asked ourselves the questions:

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

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

The report is based on information and performance data presented in the Norske Skog – 2018 In Brief report published on our homepages [www.norskeskog.com](http://www.norskeskog.com).

The report is prepared and approved by the Corporate Management of Norske Skog.



# Being profitable is a prerequisite for sustainable business

Our 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 guide our business activities and sustainability work across regions and are, together with our leadership principles, the fundament to ensure an ethical and competitive business conduct within and on behalf of Norske Skog. To further demonstrate our commitment, we have prepared this report aligned with the UN Sustainable Development Goals (SDGs). Some of the goals express the challenges we meet in our daily operations. Others have less direct relevance to our business, but they still constitute important goals for the communities we are part of. Norske Skog is committed to contribute to the fulfilment of the SDGs we may impact to the best of our competence.

Norske Skog contributes to sustainable development. This means creating value for people and society in a responsible way while maintaining a sustainable environment and use of natural resources. Customers, suppliers and the world at large can rely on us. We have a serious intention to produce and deliver products in a sustainable manner in collaboration with customers, suppliers and local communities. Our business units are often cornerstones of local communities. These facilities work closely with their local communities to assist with other needs. Social responsibility involves remaining sensitive to the needs of local communities and be aware of

the impact our operations have upon them. It means maintaining an open dialogue and responding with local measures. It also means showing respect for, and build upon, local cultures and traditions. This report reveals both our attained performance so far and outlines our future challenges as continue to be a sustainable company.

We are optimistic about our future. We will thrive as a publication paper company because we believe in our products. We will demonstrate our ability to launch new paper products in line with customer expectation. Going forward we will pay strong attention to operational efficiency, capacity utilisation and customer satisfaction to offset some headwind from rising input costs and volatile market conditions. We strongly believe that our flexibility, delivery precision and product quality will largely benefit our customers' competitive profile in the future. We are committed to closely collaborating with our loyal customers to bring their final products and their reputation to an even higher level.

Although our employees are committed to deliver quality publication paper every day, Norske Skog is actively developing new revenue streams in synergy with existing production. Our biogas facilities contribute positively to our EBITDA, but more importantly, we have reduced our carbon footprint substantially.

The new bio products, all being suited for a world-wide consumer introduction, may be produced at the site with the highest degree of comparative advantages being for example wood and energy access cost, end user market position and sustainable political framework conditions. We have a number of exciting investment possibilities for the long-term shift to a bio-based economy.

To satisfy demand for renewable energy, we are looking at energy investments using various materials to produce energy at several of our mills, including a major investment in a waste-to-energy boiler at our mill in Austria. We will also work with partners to convert some of our paper machines to renewable packaging solutions. To finance these projects, we expect to enter the capital markets in 2019.

Finally, I would like to thank Norske Skog's employees for their continuous contributions, firstly, in the ongoing quest for efficiency in a competitive market and secondly, for their ideas and contributions to the future business of Norske Skog. Let us join forces together, I believe we can make a difference.

**SVEN OMBUDSTVEDT**  
*President and CEO  
of Norske Skog*



# THE SUSTAINABLE DEVELOPMENT GOALS

## Strategic priorities

Norske Skog's long-term strategy remains:

- to improve the core business,
- to convert certain of the Group's paper machines and
- to diversify the business within the bioenergy, fibre and biochemical markets.

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, gives us a well-defined starting point for identifying the prioritized SDGs for Norske Skog.

Based on our assessment of the extent the SDGs affect our operations and business strategies and

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

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**Creating value for people and society in a responsible way**



To be a profitable business is fundamental for creating jobs and value for society through our operations and products. Profit must be created in a sustainable and responsible way. This means that, besides being a financially profitable business, we must have a strong governance practice, the way we operate must be safe for our employees, and we need to continuously improve through innovation.

**While maintaining a sustainable environment and use of natural resources**



Our operations must be based on sustainable sourcing, e.g. using certified wood and chips documented through Chain of Custody. We must be resource and energy effective in all our operations. Environmental impacts from our supply chain and our mills must be minimized.

Further, we identify and develop levers for growth in bio-sourced products and the bio-economy.



# Norske Skog's prioritized SDGs

In the overview below, 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, with references to more in-depth information in the Corporate Social Responsibility part of the report or on our homepages.

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

# Creating value for people and society in a responsible way

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



### Business themes that Norske Skog focuses on:

- Occupational health and safety

sickness absence rates and to increase focus on job attendance for all employees.

### Performance:

We are not satisfied with the health and safety performance in 2018. Unfortunately, we experienced two fatalities in one incident at the Albury Mill.

The TRI- (Total recordable injuries) rate was 7.4 (number of injuries per million working hours). However, lost-time injuries per million working hours was 0.9 in 2018. Norske Skog had an absence rate due to sickness of 3.8 % in 2018.

See more on pages 20 - 21.

### Ambition:

Norske Skog is committed to provide a safe working environment for our employees, contractors and visitors. Health and safety considerations are integrated into the day-to-day business of Norske Skog and applies to every organisation within Norske Skog and every activity carried out by its employees and contractors. One of the key elements of the management system is training and competence. Norske Skog aims to have zero injuries, reduce

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



**Business themes that Norske Skog focuses on:**

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

Norske Skog 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 2018, unions represented 84 % of our employees for collective bargaining purposes.

**Ambition:**

Norske Skog 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 are expected to conduct business in an ethical manner and must comply with applicable laws and regulations at all times.

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

The turnover of people, including retirement, was close to 11 %. Our employment levels are not subject to seasonal variations, and the share of temporary employments is around 3 % of the total workforce.

There has been no reported incidents of child labour, forced or compulsory labour during the reporting period. 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.

See more on pages 18 - 22.

**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 focuses on:**

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

according to internally developed Steering Guidelines, Power of Attorney structure and Operating Model. These provide the basic framework for our mandates and activities.

Norske Skog's business units have a high degree of independence and accountability. Local managers are responsible and accountable for decisions and results within their unit. Norske Skog has common standards of conduct for all business units and employees through our Steering Guidelines. We 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 Norske Skog and our stakeholders.

**Ambition:**

Norske Skog's goal is to create competitive shareholder values within our strategic goals. Important instruments for achieving this objective include good principles for corporate governance and a clearly defined division of responsibilities and roles between Norske Skog's governing bodies. Norske Skog adheres to the Norwegian Code of Practice for Corporate Governance (the "Code", see [www.nues.no](http://www.nues.no)).

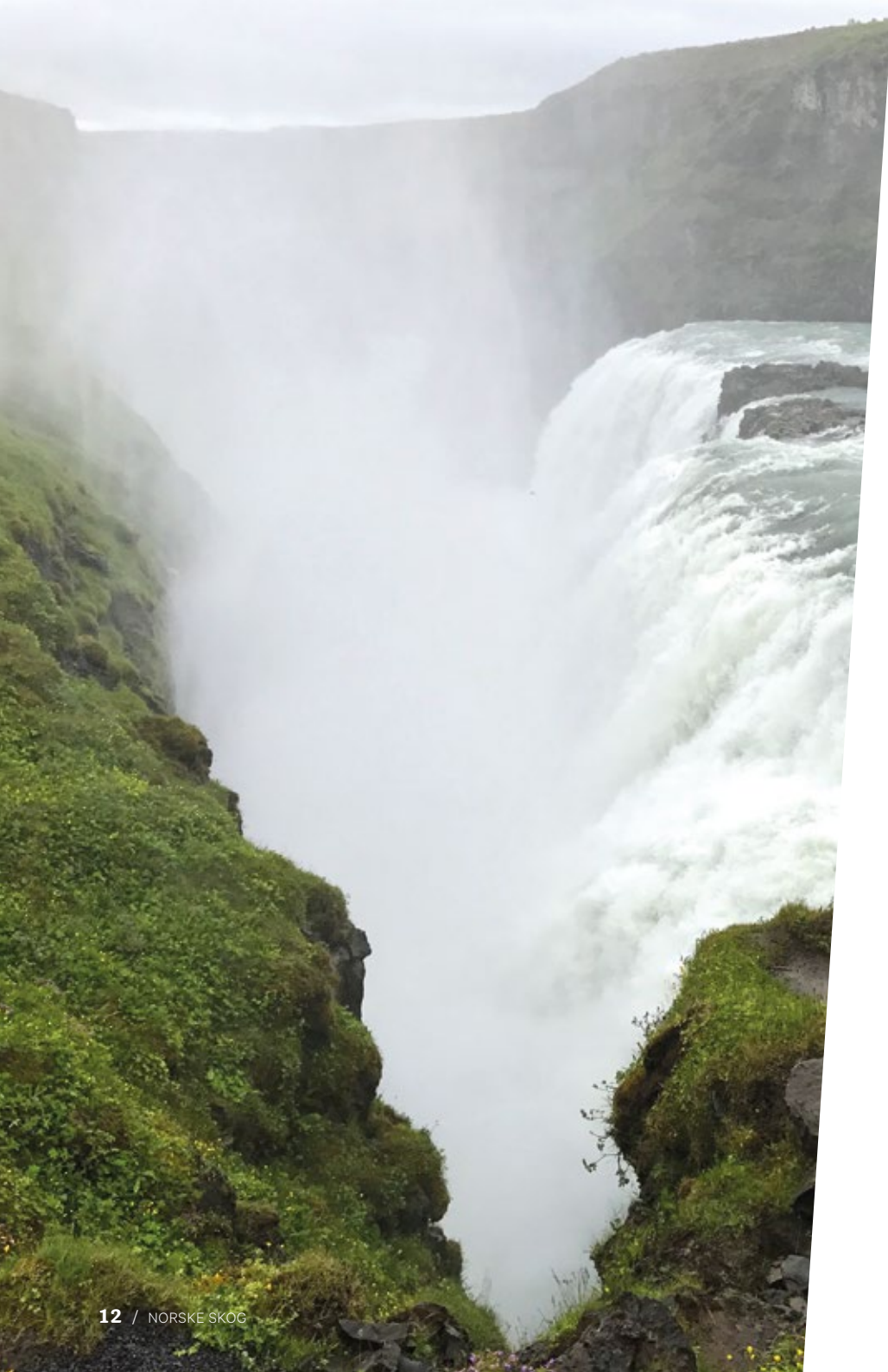
All employees and others acting on behalf of Norske Skog must act in compliance with applicable laws and regulations and ethical guidelines at all times. Norske Skog has a zero tolerance-policy for non-compliant behaviour and will take necessary actions in order to respond to any breaches that may occur.

Norske Skog 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.

**Performance:**

To meet future sustainability expectations, we conduct our business mandates and activities

See more on pages 18 - 22.



# Maintaining a sustainable environment

## Ensure availability and sustainable management of water and sanitation for all



### Business themes that Norske Skog focuses on:

- Improved water quality through effluent treatment
- Improved water efficiency through reduction, reusing, recovering, recycling and replenishing of water.

98 % of the water taken into the mills is returned to the waterways after treatment to fulfil the local quality requirements for water discharges. Norske Skog does not use bleaching chemicals containing chlorine in any mills.

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

### Ambition:

Norske Skog is committed to maintain a sustainable environment and responsible use of natural resources. We are committed to foster innovation and implement continuous improvement activities in order to have no or only minimal adverse impact on the environment.

See more on pages 29 - 30.

### Performance:

Water is generally used and recovered multiple times through the pulp and papermaking processes.

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



### Business themes that Norske Skog focuses on:

- Energy efficiency
- Renewable energy

### Ambition:

Norske Skog is committed to continuously reduce energy consumption and to become more environmentally friendly by changing the sources of energy and to optimise the use of process chemicals and transport.

### Performance:

Thermal energy, mostly heat recovery from the thermo mechanical pulping (TMP) or effluent treatment processes or from combustion of mill residues (bio-fuel), is used for the heating and drying of paper. This accounts for about 26 %, whereas electricity covers about 53 % and fossil 16 % of the total energy consumption in 2018.

Norske Skog is a large producer of bio-energy. Norske Skog is utilising the mill effluent to produce biogas with own biogas plants. These biogas plants will deliver biogas equivalent to 57 million litre of diesel fuel.

Investments into projects for alternative use of fibre and development of bio-chemicals are being done in the form of pilot plants that, if successful, can contribute to growth when commercialised. Norske Skog will continue to explore projects within bioenergy that support and develop the business.

Minimization of transport distances and costs make up important economic and environmental considerations.

See more on page 27.

## Ensure sustainable consumption and production patterns



### Business themes that Norske Skog focuses on:

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

### Ambition:

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

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

Key objectives in all our production units are efficient production processes with high yield on raw material and energy utilisation.

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

### Performance:

Norske Skog has systems and processes to

make sure that all wood used in Norske Skog's products comes from sustainably managed forests. All Norske Skog mills utilising fresh fibre have third-party verified Chain of Custody (CoC) certification systems in place. The average share of certified fresh fibre in 2018 was 88 %, up 1 % point compared to 2017.

Please refer to SDG 15 to read more about sustainably managed forest.

In 2018, Norske Skog consumed 1.55 million tonnes of fresh fibre and 0.87 million tonnes of recovered paper.

All of Norske Skog's business units are certified in accordance with ISO 14001.

80 % of the production related waste generated at the site is used to generate thermal energy. Please refer to SDG 7 and 13 to read about energy utilisation and transportation.

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

See more on page pages 24-26.

## Take urgent action to combat climate change and its impacts



### Business themes that Norske Skog focuses on:

- Energy efficiency
- GHG emissions
- Climate risk

### Ambition:

Norske Skog has integrated reduction of greenhouse gas emissions as a key part of our business strategy. The 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.

Norske Skog set a target reduction of 20 % by 2020 compared to the 2006 level.

### Performance:

We are working hard to reduce our carbon footprint and in 2018 we reached a level of 632 kg CO<sub>2</sub>/tonne of paper – a reduction of 1.4 %

from 2017. Our greenhouse gas emissions was reduced with 6.5 % from 2017. By 2018, we have achieved a reduction of 31 % since 2006.

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

Some of our mills are located in areas where drought/access to water and/or flooding might become a risk with changed climate.

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

See more on page pages 28-29.

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



### Business themes that Norske Skog focuses on:

- Deforestation and forest degradation
- Landscapes forest management and fiber sourcing

### 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. Norske Skog has systems and processes to make sure that all wood used in Norske Skog's products comes from sustainably managed forests. Our goal is to have 100 % certified wood in our products.

The main global forest challenges are related to deforestation in developing countries and forest biodiversity degradation through the logging of high-conservation areas in many parts of the

world. In order to meet these challenges, we need to ensure that more of the world's forest areas are managed on a sustainable basis. Forest certification is an important tool in this context.

### Performance:

Norske Skog is not a significant forest owner. A very small proportion of the wood consumed comes from our own forests in Australia. The ability to increase the share of certified wood therefore depends largely on decisions made by forest owners.

The roundwood component of our fresh fibre came from both forests (66 %) and plantations (34 %). In all countries where Norske Skog sources wood, forest areas are increasing.

Please refer to SDG 12 to read about sustainable sourcing.

See more on page pages 24-26.

# How Norske Skog relates to the other SDGs



## End poverty in all its forms everywhere

*Earnings, wages and benefits*

### **Ambition:**

We aim to maximize the group's value through reliable, responsible and sustainable conduct throughout our operations.

### **Performance:**

We achieved a great increase in profits since last year and safeguarded employment for our workers. Our mills are producing profitably at full capacity.

Our business units are often cornerstones of local communities. These facilities work closely with the local communities through open dialogue.

See more on page 3 and 7.



## 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.



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

*We do not have a significant impact on educational systems nor are we operating in societies with a high degree of illiteracy or poor quality of education.*

Norske Skog's people and organisation strategy is to maintain a business-oriented, international organisation that attracts and retains highly competent and motivated employees on all levels around the world. We strive to give people the opportunity to grow personally and professionally in a stimulating working environment.



## Achieve gender equality and empower all women and girls

*Diversity and equal opportunity*

### **Ambition:**

Norske Skog shall promote diversity and inclusion by providing equal employment opportunities and treat all employees fairly and with respect.

### **Performance:**

The paper industry has traditionally had few female employees. At Norske Skog the share of female employees has been around 10 % for many years. In 2018 the female share of total workforce was 11 %, in management positions 10 %.

See more on page 22.



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

**Research and development**

We do not have a significant impact on infrastructure systems such as transportation, technological structures, telecom structures, electricity, public services, etc.

We are a producer of bio-energy. Please read more about this under SDG 7, and our research and innovation initiatives under SDG 17.



**Reduce inequality within and among countries**

**Diversity and equal opportunity**

**Ambition:**

Norske Skog 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 is working to encourage the Norwegian Discrimination Act's objective within our business. This include 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:**

Our Norwegian business units have signed a letter of intent regarding a more inclusive workplace ("IA Agreement") (with supplementary agreements). Although the IA Agreement is a distinctly Norwegian concept, it is fair to say that our other business units operate under similar conditions 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 Norske Skog. This cooperation ensures the participation of all parties involved.

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

See more on pages 20- 22.



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

Please refer to SDG 6 about treatment of water discharge.



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

**Water discharge to oceans**

Please refer to SDG 6 about treatment of water discharge.



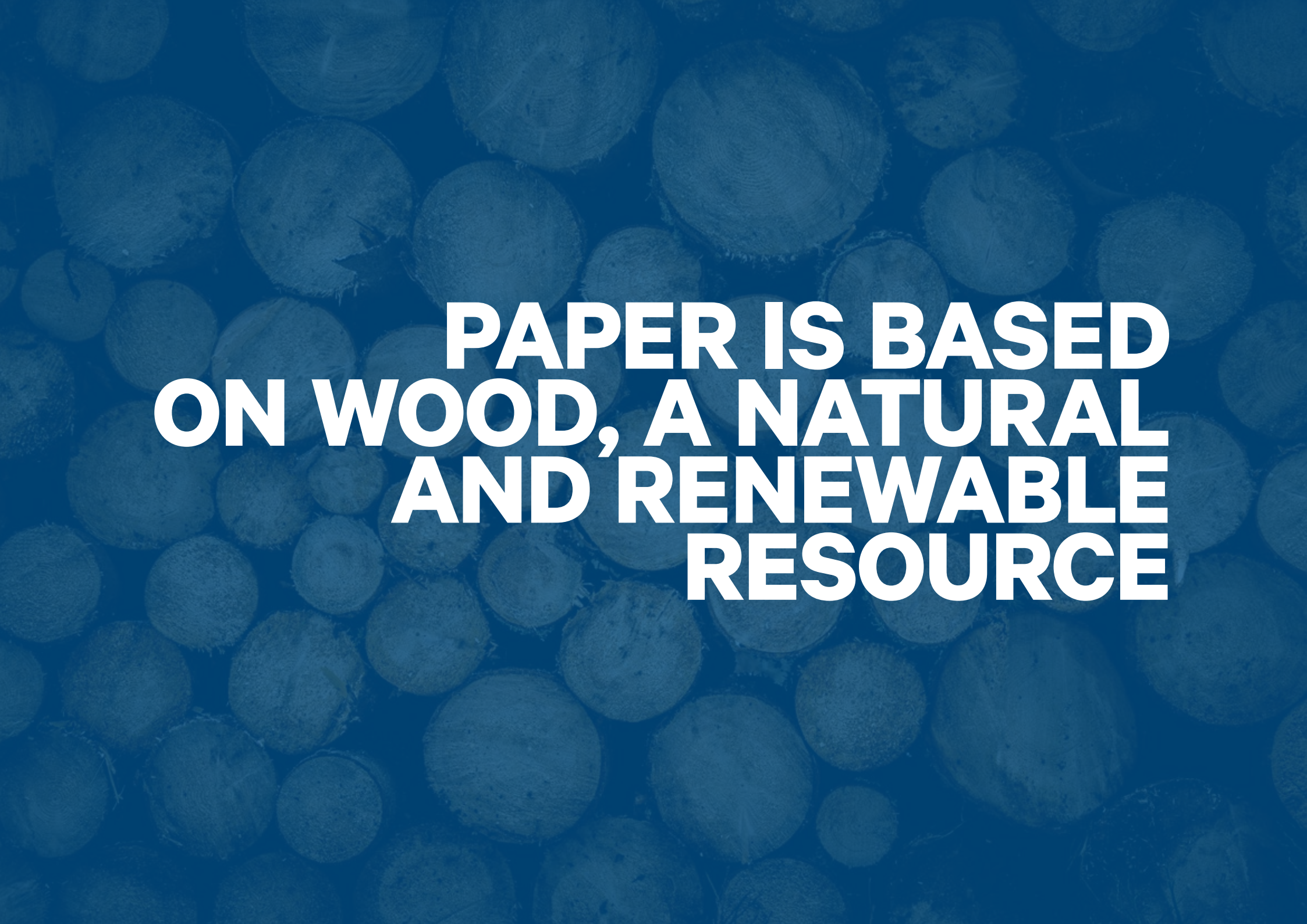
**Strengthen the means of implementation and revitalize the global partnership for sustainable development**

We were 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.

We were also an early adopter of the 10 principles in the UN Global Compact.

Norske Skog'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 evolution of paper products and new innovative green alternatives to existing resources.



The background of the image consists of a dense, repeating pattern of wood logs stacked horizontally. The logs are shown in cross-section, revealing their natural grain and circular shapes. The entire image is overlaid with a semi-transparent blue filter, which makes the wood appear in shades of blue and grey. The text is centered and rendered in a bold, white, sans-serif font.

**PAPER IS BASED  
ON WOOD, A NATURAL  
AND RENEWABLE  
RESOURCE**



# Doing the right thing – the right way

We are a progressive and viable group with belief in Norske Skog, the products and the future.

## **OUR BUSINESS GOALS AND RESPONSIBILITY**

Our attitude and ability to be entrepreneurial, empower each other and behave consistently, define our results in changing and challenging markets. Through reliable, responsible and sustainable conduct, we will win the trust and confidence of our stakeholders, both within and outside of Norske Skog. We monitor activities in order to achieve sustainable products and processes throughout the entire value chain. We continuously strive to maintain our status as the most attractive industry partner for suppliers and customers.

Our group has been a pioneer in setting a global standard for social responsibility and worker-management relations. We were 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. We were also an early adopter of the 10 principles in the UN Global Compact

To meet the future sustainability expectations, we conduct our business mandates and activities according to internally developed Steering Guidelines, Power of Attorney structure and Operating Model. These provide the basic framework for our mandates and activities. The Steering Guidelines describe in general how Norske Skog employees are expected to carry out activities and operations. The Power of Attorney structure, as set out by the Board of Directors to the CEO and further delegated through the organisation, describes financial empowerment to individual positions. The Operating Model establishes the functional roles, responsibilities and dependencies for organisational bodies and top management positions in Norske Skog.

Norske Skog's business units have a high degree of independence and accountability. Local managers are responsible and accountable for decisions and results within their unit. However, we 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 Norske Skog and our stakeholders.

## STAKEHOLDER AND MATERIALITY ANALYSIS

The stakeholders affect Norske Skog's decisions, activities and performance in many ways. We have assessed to what extent different stakeholder groups are affected by our activities and/ or to what extent they are affecting our sustainability work and performance. In our opinion, our most important stakeholders are our own management and employees, local communities where we operate, investors and owners, customers, our key suppliers, and regulatory authorities.

The materiality analysis highlights areas of opportunity and risk that will be fundamental to the group's strategy and integrated in daily operational activities. The environmental issues have been a concern to a great number of stakeholders since the start-up of Norske Skog in 1962. The aspects of the environmental category have undergone a substantial quality improvement. The group has achieved significant results in collaboration with stakeholders, governmental authorities and employee initiatives.

The outcome of the materiality review shows that economic performance, water, effluent and waste, anti-corruption and occupational health and safety have the most vital impact for Norske Skog and our stakeholders. Further, the aspects of human rights have high impact to the stakeholders. For Norske Skog, both raw materials, emissions and anti-competitive behavior will have serious impact on daily and long-term business performance, whereas aspects such as market presence, employment, security practices, marketing communications, customer privacy and compliance have the least impact for both stakeholders and Norske Skog.

Norske Skog has through the year been nationally recognized for its labour practices and decent work environment, and the outstanding health and safety performance compared to the industry average. The commercial organization in Norske Skog regularly performs customer surveys. The most important customers are followed up closely for each delivery.

## COMPLIANCE

The risk of non-compliance and unethical conduct may entail legal and financial consequences, and may affect our reputation negatively. Norske Skog emphasizes that the line organisation has the responsibility to comply with the Steering Guidelines. Compliance must take place where the risk lies, primarily in the production and commercial operations and their associated activities.

Norske Skog has common standards of conduct for all business units and all employees. This strengthens the quality of our operations and promotes our predictability and credibility with customers, suppliers and other partners. In this manner, the compliance work strengthens Norske Skog's commercial position. Norske Skog has established a system where a compliance officer for the group ensures that that the Steering Guidelines are up to date and ensures that adequate internal control systems exist globally and locally.

Norske Skog has for a number of years maintained a whistle-blowing channel, where employees can report irregular conditions or matters he/ she finds difficult to confront with superiors. Norske Skog considers it important that each employee is ensured confidential and serious treatment of reported issues. Whistle blowing can be reported to: [compliance@norskeskog.com](mailto:compliance@norskeskog.com)





# Health and safety

Health and safety has the highest priority for Norske Skog, twenty-four hours a day, seven days a week. Norske Skog's health and safety programme at the business units called "Take Care 24 hours" is adapted to our different cultures and local requirements where we operate, but shall always meet the requirements of our health and safety standards for international activities. Our goal is a safe working environment where health and safety receive equal attention in planning and in the daily operations.

All employees in Norske Skog must take responsibility for improving the working environment for themselves, their colleagues, visitors and subcontractors. Internal cooperation, involving sharing of experience and best practice, enables us to adapt preventive activities to all our business units. Through the activities in "Take Care 24 hours", the group stimulates and encourages the same attitudes and behaviour at work and during our spare time for our own employees and their families. At Norske Skog, we believe that issues relating to health, safety and the environment must be fully integrated into all our activities at every level and not managed as a separate and distinct function. That is why everyone working in Norske Skog – whether an employee or contractor – is accountable for the Group's health, environmental and safety performance.

The Process for Safety Excellence (PSE) is an ongoing, structured process integrated into the day-to-day business of Norske Skog. Its aim is to achieve the highest level of health, safety and environmental performance. It applies to every organisation within

Norske Skog and every activity carried out by its employees and contractors. PSE focuses on three management components: people, assets and systems. Each component includes ten standards, which provide the framework for health, safety and loss prevention efforts.

## OUR IDENTIFIED TEN KEY STANDARDS ARE:

- Leadership commitment
- Employee participation and safe behavior
- Training and competence
- Hazard and risk management
- Management systems, reviews, audits, inspections
- Performance measurement and reporting
- Emergency preparations and response
- Health
- Contractors
- Personal Protective Equipment ("PPE")

These Standards are applicable to all operations throughout Norske Skog which have the potential to adversely affect the health and safety of people, including employees, contractors, visitors and the public.

## THE OBJECTIVES OF THESE STANDARDS ARE AS FOLLOWS:

- To define the minimum requirements for the health and safety systems at all levels of operation,
- To provide a framework for health and safety systems measurement,
- To encourage a consistent approach to health and safety systems,
- To assist with the identification and sharing of

current best practice between mills/units,

- To provide the mills with the opportunity to assess themselves against the standards and continually improve their systems,
- To enable inter-mill reviews to provide an external perspective and recommendations for improvement.

Where Norske Skog has no operational responsibility, but has an equity stake, or where significant Norske Skog assets are involved in a subcontracting site, arrangements shall be made to ensure that comparable standards of safety are maintained. We strongly believe in behavioral based safety observations and audits. These are observations of people's workplace behaviour that enables positive feedback for safe behavior, recognition and correction of unsafe acts.

Norske Skog had an absence rate due to sickness of 3.8 % in 2018. We achieved an H1 level, lost time injuries per million working hours, of 0,9.

Our Norwegian business units have signed a letter of intent regarding a more inclusive workplace ("IA -agreement") (with supplementary agreements). Although the IA-agreement is a distinctly Norwegian concept, it is fair to say that our other business units operate under similar conditions 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 Norske Skog. This cooperation ensures the participation of all parties involved.

The IA-agreement and Norske Skog's operational objective is to develop targets for our work to prevent sickness and absence and to establish verifiable activity targets to achieve a professional attitude to both preventive and reactive health care in Norske Skog.

**THE IA AGREEMENT HAS BEEN RENEWED IN 2018 AND CONTINUES THE OPERATIONAL OBJECTIVES FOR THE COOPERATION:**

- Reduction of sick leave
- Lower employee dropout rates and increase employment of people with functional impairments
- Increase the retirement age

Our work with the IA-agreement has been extended to apply to all of Norske Skog's local business units and is intended to be an integral part of our targeted HESQ work.

All our business units also have local HESQ forums where Norske Skog and trade unions have regular meetings to address local HESQ issues. At these meetings, there should be an equal number of representatives from Norske Skog and the employees, with as many different groups as possible from the organisation represented. If the organisation has Occupational health services, it should also be represented on the committee. Occupational health services should be an advisory and independent body, and represent the interests of both the employer and the employees.

Norske Skog has used Synergi Life for many years. Synergi Life is an operational risk management tool from DNV GL. We have a monthly Management Focus Report (MFR), which is distributed to all business units for internal distribution and includes type of injury and rates of injury, occupational disease rate, lost work days accidents, absenteeism, total number of work-related personal injuries and fatalities, per region, gender and business unit.

All business units report this information in Synergi Life, which is also a source for the transfer of experience and sharing of best practices. Reports from Synergi are analysed and form the basis for our internal HESQ audits conducted by our HESQ staff at the group level.

On the early afternoon of 24 May 2018, an incident occurred at the Albury mill in which two operators died tragically.

The incident occurred on the top of the warm white water tank which is located in the wet and basement of the paper machine. The operators were overcome by hydrogen sulphide gas.

Safety is of the utmost importance to Norske Skog, and it is taking steps to ensure that similar incidents do not occur in the future and to contribute to improved HESQ performance across the Norske Skog Group.

SUBJECT	RESULT 2018	COMMENTS
<b>Health &amp; Safety</b>		
H1 <sup>1)</sup>	0.93	Including the fatalities from 24th of May 2018
H2 <sup>2)</sup>	7.4	
Absence due to illness <sup>3)</sup>	3.8	
<b>Environment</b>		
Percentage certified fibre (%)	88	Increase of 1 % compared to 2017
Environmental index	1.18	Behind target of 1.10
Greenhouse gas reduction (%)	31	Compared to 2006 level

<sup>1)</sup> Lost time injuries per million working hours

<sup>2)</sup> Total number of injuries with and without lost time per million working hours

<sup>3)</sup> The target is for no business unit to have a higher absence due to sickness than 3.6 %



# People and organisation

As of 31 December 2018, Norske Skog employed 2 444 people in Europe and Australasia. This is an increase of thirty employees from one year ago. The turnover of people, including retirement, was close to 11 %. Our employment levels are not subject to seasonal variations, and the share of temporary employments is around 3 % of the total.

Female share of total workforce	11 %
Females in management positions	10 %
Females in top management positions	14 %

Norske Skog fully complies with all laws regulating collective bargaining and recognises freedom of association. In 2018, unions represented 84 % of our employees for collective bargaining purposes. Our commitment to respecting the freedom of association is embodied in the Global Framework Agreement on the Development of Good Working Relations, concluded by Norske Skog and the IndustriALL Global Union.

Further, Norske Skog respects fundamental human rights and subscribes to the United Nations Global Compact principles. There has been no reported incidents of child labour, forced or compulsory labour during the reporting period. Nor has there been any reported incidents of discrimination in respect of employment or occupation. 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.

# Key figures employees

BUSINESS UNIT	NUMBER OF EMPLOYEES (FTE) END OF DECEMBER 2018			AVERAGE AGE OF ORDINARY EMPLOYEES	AVERAGE SENIORITY OF ORDINARY EMPLOYEES	% FEMALE
	Ordinary	Other employees	Total	End 2018	End 2018	End 2018
Norske Skog Albury	160	12	172	47.3	15.5	4.1
Norske Skog Boyer	244	20	264	51.4	25.6	3.3
Norske Skog Tasman	152	11	163	52.8	19.8	9.0
Nature's Flame	13	-	13	50.3	7.3	15.0
Australasia Shared Services	58	1	59	44.7	12.0	42.9
<b>Australasia total</b>	<b>627</b>	<b>44</b>	<b>671</b>	<b>50.1</b>	<b>20.0</b>	<b>8.8</b>
Norske Skog Saugbrugs	452	57	509	44.0	20.0	7.0
Norske Skog Skogn	349	43	392	48.0	23.0	7.7
Corporate Headquarter	31	-	31	49.9	12.9	26.0
<b>Norway total</b>	<b>832</b>	<b>100</b>	<b>932</b>	<b>45.9</b>	<b>21.0</b>	<b>8.0</b>
Norske Skog Bruck	360	44	404	45.5	22.5	6.6
Norske Skog Paper Recycling	30	-	30	44.5	8.5	13.3
Norske Skog Golbey	327	23	350	48.0	20.0	16.2
Sales offices in Europe	54	3	57	45.7	11.2	61.2
<b>Europe total (without Norway)</b>	<b>771</b>	<b>70</b>	<b>841</b>	<b>46.5</b>	<b>20.1</b>	<b>14.8</b>
<b>Norske Skog Group total</b>	<b>2 230</b>	<b>214</b>	<b>2 444</b>	<b>47.3</b>	<b>20.4</b>	<b>10.6</b>

# Production capacity

31 December 2018

BUSINESS UNIT	Capacity, tonnes/year			TOTAL CAPACITY BUSINESS UNIT
	NEWSPRINT (INCLUDING IMPROVED NP)	SC (MAGAZINE PAPER)	LWC (MAGAZINE PAPER)	
Skogn	510 000	0	0	510 000
Saugbrugs	0	460 000	0	460 000
Golbey	565 000	0	0	565 000
Bruck	125 000	0	265 000	390 000
<b>Total Europe</b>	<b>1 200 000</b>	<b>460 000</b>	<b>265 000</b>	<b>1 925 000</b>
Tasman	150 000	0	0	150 000
Albury	265 000	0	0	265 000
Boyer	150 000	0	135 000	285 000
<b>Total Australasia</b>	<b>565 000</b>	<b>0</b>	<b>135 000</b>	<b>700 000</b>
<b>Total Norske Skog Group</b>	<b>1 765 000</b>	<b>460 000</b>	<b>400 000</b>	<b>2 625 000</b>



# Key figure operations

## Consumption of raw materials

Roundwood	m <sup>3</sup>	2 785 000
Sawmill chips	m <sup>3</sup>	1 031 000
Recovered paper	tonnes	871 000
Purchased pulp	tonnes	43 000
Inorganic fillers	tonnes	308 000

## Energy

Electricity	GWh	5 526
Heat	GWh	4 161

## Discharges to water

Discharged process water	mill m <sup>3</sup>	48
Organic material (COD)	tonnes	10 623
Suspended Solid (SS)	tonnes	1 529
Phosphorus (Tot-P)	tonnes	31

## Emission to air

CO <sub>2</sub> -equivalents (direct)	tonnes	500 000
SO <sub>2</sub>	tonnes	175
NOX	tonnes	772

## Production waste

Sludge (dry)	tonnes	249 000
Bark	tonnes	128 000
Other	tonnes	25 500

## Products

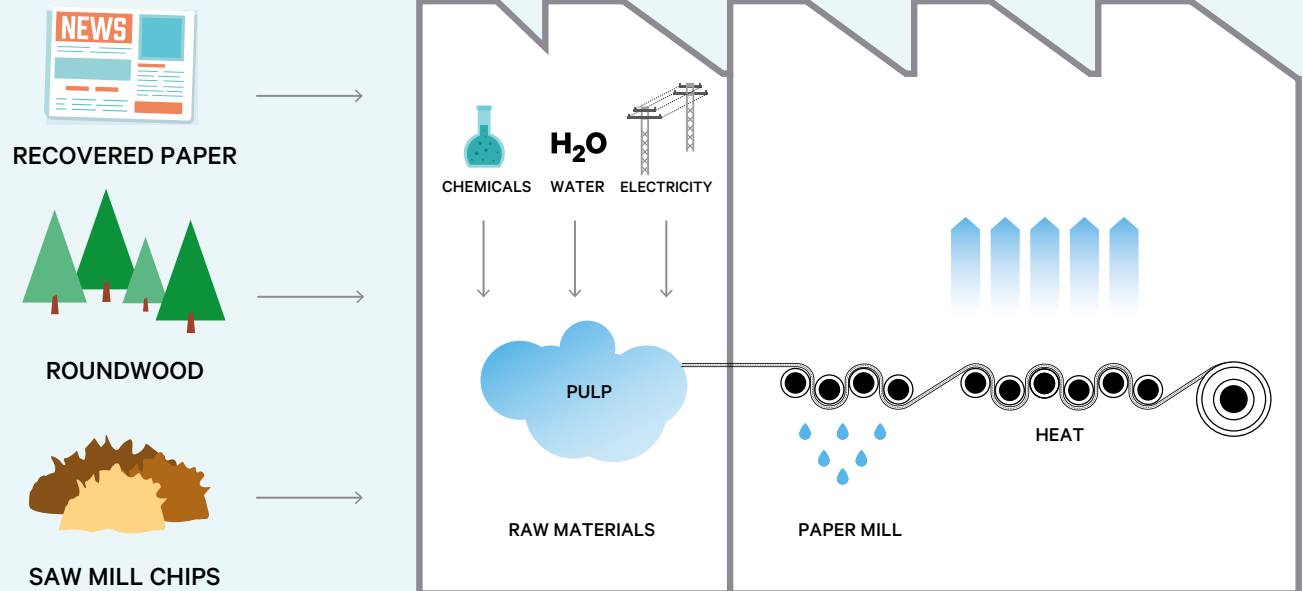
Newsprint	tonnes	1 673 000
Magazine paper	tonnes	819 000
Total	tonnes	2 492 000

# Raw materials

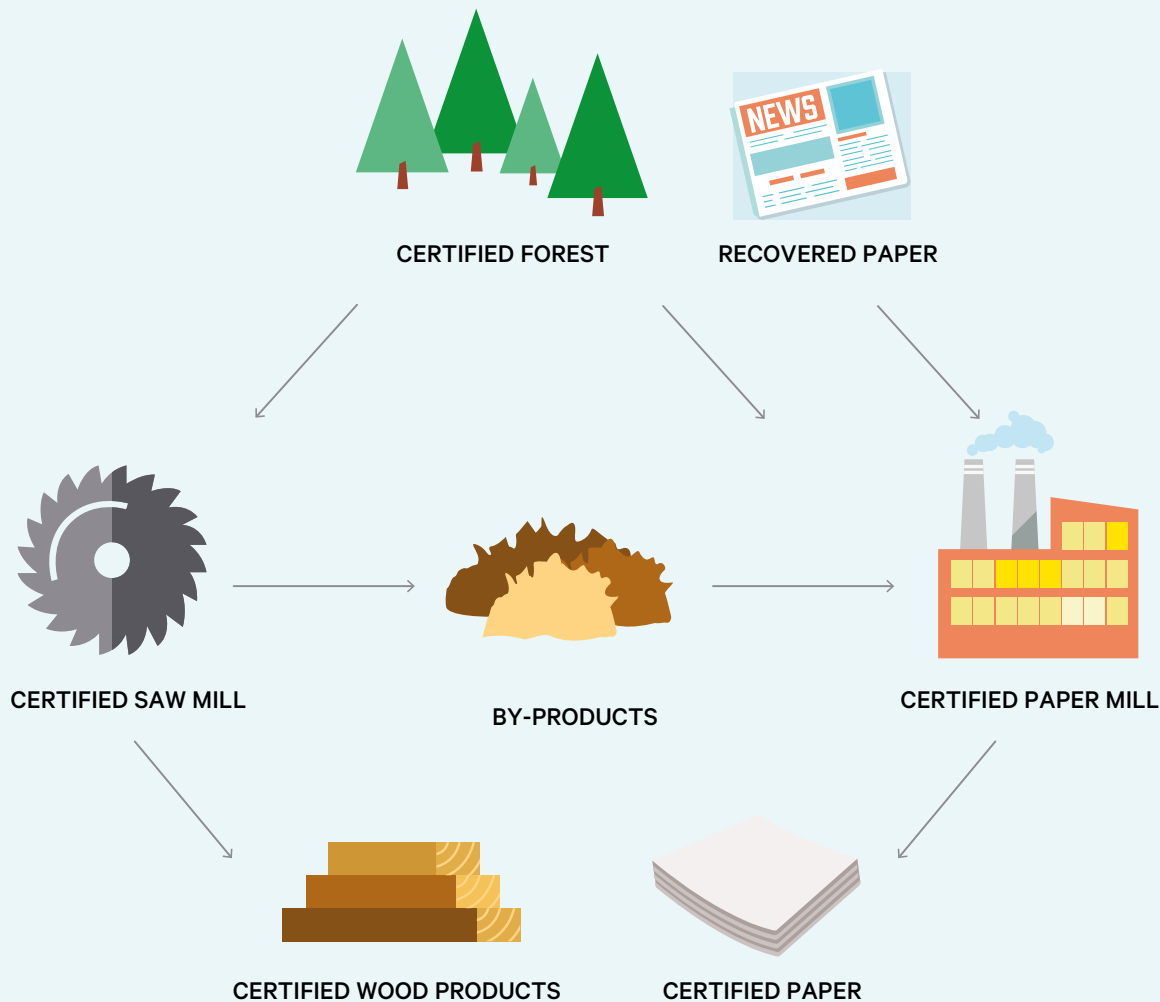
The highly simplified diagram to the right illustrates the paper production process. Main input materials are wood and/or recovered paper, as well as electricity and chemicals. Wood and recovered fibres are separated during pulp production in two different processes.

Pulp production based on recovered paper consumes less energy than production from fresh fibre because the fibres in recovered paper are more easily separated than those within wood. In the paper machine, the pulp passes along a web, firstly through a wet section, then a press section and finally through a drying section. The paper is finally rolled up on reels and then cut to the sizes ordered by the customer. During this process, more than 90 % of the wood fibres in trees are converted to paper products.

## RAW MATERIALS







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. Norske Skog has systems and processes to make sure that all wood used in Norske Skog's products comes from sustainably managed forests. All Norske Skog mills utilising fresh fibre have third-party verified Chain of Custody (CoC) certification systems in place.

Our goal is to have 100 % certified wood in our products.

The main global forest challenges are related to deforestation in developing countries and forest biodiversity degradation through the logging of high-conservation areas in many parts of the world. In order to meet these challenges, we need to ensure that more of the world's forest areas are managed on a sustainable basis. Forest certification is an important tool in this context.

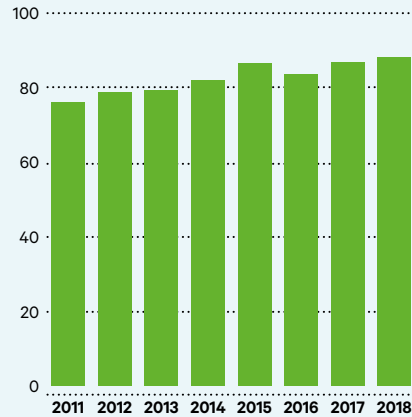
Norske Skog is not a significant forest owner. A very small proportion of the wood consumed comes from our own forests in Australia. The ability to increase the share of certified wood therefore depends largely on decisions made by forest owners.

The average share of certified fresh fibre in 2018 was 88 %, up 1 percentage point compared to 2017.

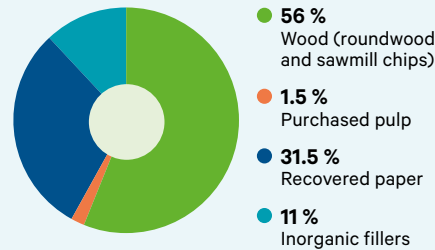


**CERTIFIED PROPORTION OF FRESH FIBRE (%)**

(Roundwood and chips)



**CONSUMPTION OF RAW MATERIAL**



**RECOVERED PAPER IN NEWSPRINT PRODUCTION**

Norske Skog Albury, Australia	33 %
Norske Skog Bruck, Austria	79 %
Norske Skog Golbey, France	53 %
Norske Skog Skogn, Norway	26 %

In 2018, Norske Skog consumed 1.55 million tonnes of fresh fibre and 0.87 million tonnes of recovered paper.

Roundwood accounted for 73 % of our consumption of fresh fibres in 2018. Sawmill chips, a byproduct from the sawmill industry, accounted for the remaining 27 %. The roundwood component of our fresh fibre came from both forests (66 %) and plantations (34 %). In all countries where Norske Skog sources wood, forest areas are increasing.

Some customers want paper based entirely on recovered paper. However, a value chain based only on recovered paper is not sustainable. About one third of the paper is lost in the recovered paper cycle. Factors such as consumer awareness, waste disposal and collection systems and alternative uses for used paper influence its collection rate. The structure and strength of the fibres of paper degrade with successive use. Recovered paper fibres that are no longer suitable for papermaking are rejected in our mill pulping processes and are generally used as a source of renewable energy. To make the recovered paper value chain sustainable, fresh fibre from forests, plantations or sawmill by-products must be added.

On a tonnage basis, our largest consumption of recovered paper takes place in continental Europe. The fibre source used at the different Norske Skog mills depends upon availability and economic considerations. The minimization of transport distances and costs is an increasingly important economic and environmental consideration.

# Energy - efficiency

Norske Skog has comprehensive programmes in place to continuously reduce energy consumption and to become more environmentally friendly. We are already a large producer of bio-energy.

The production of paper is an energy intensive process. Energy is consumed mainly for two purposes:

- To separate, process and transport fibre and water (electrical energy)
- To provide process heat and to dry the paper (thermal energy)

The major use of electrical energy in mills which process fresh fibre is the process which mechanically converts wood chips into fibres. This process is called the thermo mechanical pulping (TMP) process. Paper production based on recovered paper consumes less energy because the fibres from recovered paper are more easily separated than those within wood.

Thermal energy is used for the heating and drying of paper. In contrast with electrical energy, thermal energy is mostly generated within the mill. The sources of this energy include recovered heat from the thermo mechanical pulping or effluent treatment processes, combustion of mill residues, purchased bio-fuel, oil, gas or coal. In some cases, the thermal energy is supplied by third parties located externally to the mill or in the form of geothermal energy.

Bio-fuel and internal heat recovery supplies 26.5 % of the total energy demand. Electricity covers 53.5 % of the demand and only 16% comes from fossil fuel.

80 % of the production related waste generated at the site is used to generate thermal energy.

## BIOGAS

Norske Skog is utilising the mill effluent to produce biogas with own biogas plants at Saugbrugs and Golbey. Effluent from Skogn is delivered to a new build external biogas plant adjacent to the mill.

These biogas plants will deliver biogas equivalent to 57 million litre of diesel fuel.

## BIO-PELLETS

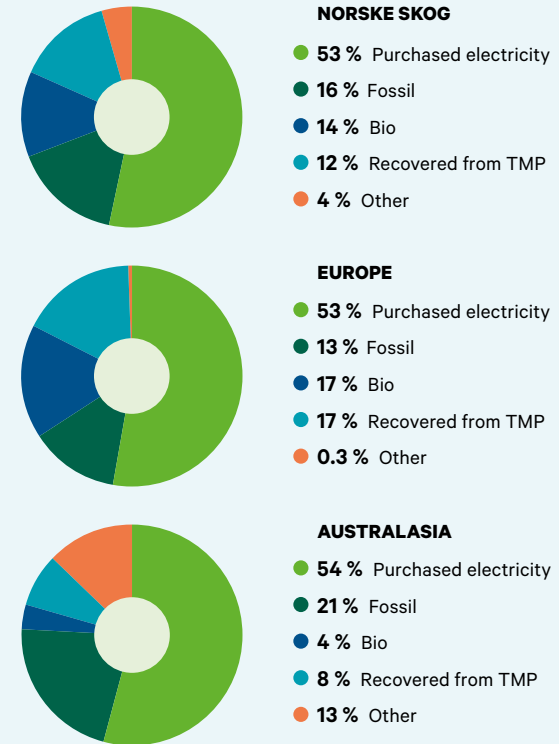
The bio- pellets plant in New Zealand has an annual capacity of approximately 40 000 tonnes.

## DISTRICT HEATING

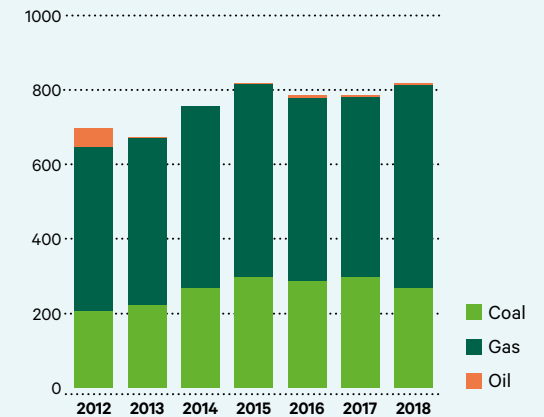
Bruck delivers enough heat to the local district heating system to supply 1500 households (30 GWh).

## NORSKE SKOG ENERGY CONSUMPTION (TOTAL AND BY REGION)

Total 9831 GWh, 3,92 MWh/tonne of paper



## CONSUMPTION OF FOSSIL FUEL (KWH/TONNE OF PAPER)



# Emissions

Norske Skog has integrated reduction of greenhouse gas emissions as a key part of our business strategy. The goal is to reduce energy consumption, change the sources of energy and to optimise the use of process chemicals and transport.

## CARBON FOOTPRINT

We are working hard to reduce our carbon footprint and in 2018 we reached a level of 632 kg CO<sub>2</sub>/tonne of paper – a reduction of 1.4 % from 2017.

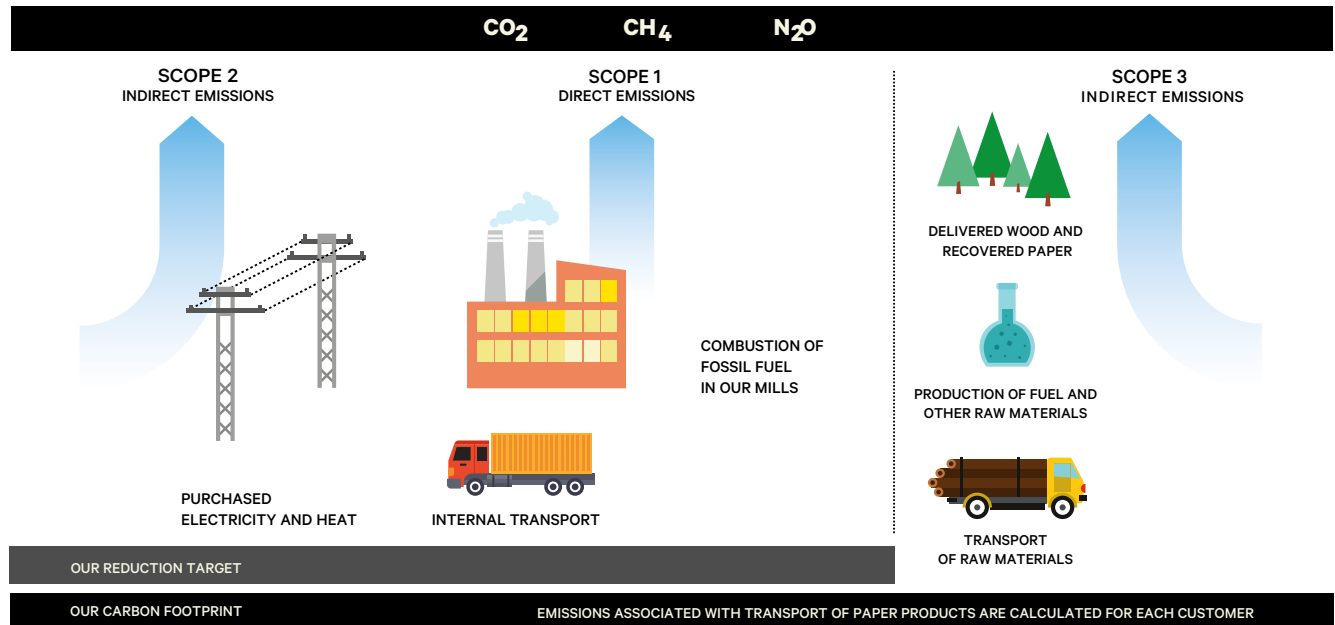
## GREENHOUSE GAS CO<sub>2</sub>

Our greenhouse gas emissions was reduced with 6.5 % from 2017.

Norske Skog set a target reduction of 20 % by 2020 compared to the 2006 level. By 2018, we have achieved a reduction of 31 %.

NORSKE SKOG GREENHOUSE GAS EMISSIONS	CO <sub>2</sub> 1 000	CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub> -equiv 1 000
<b>Direct (Scope 1) Emissions</b>	<b>Tonnes</b>	<b>Tonnes</b>	<b>Tonnes</b>	<b>Tonnes</b>
Direct emissions from stationary fuel combustion	493	20	3	495
Direct emissions from transportation and mobile sources	5	0	1	5
<b>Total direct emissions</b>	<b>499</b>	<b>21</b>	<b>3</b>	<b>500</b>
<b>Indirect (Scope 2) Emissions</b>				
Indirect emissions from steam and power imports	730	0	0	730
<b>Total Fossil Fuel Based Emissions (Direct &amp; Indirect)</b>				
Direct & Indirect	1 228	21	3	1 230
CO <sub>2</sub> emissions from combustion of biomass *	556	0	0	0

\* Wood and bark residues only



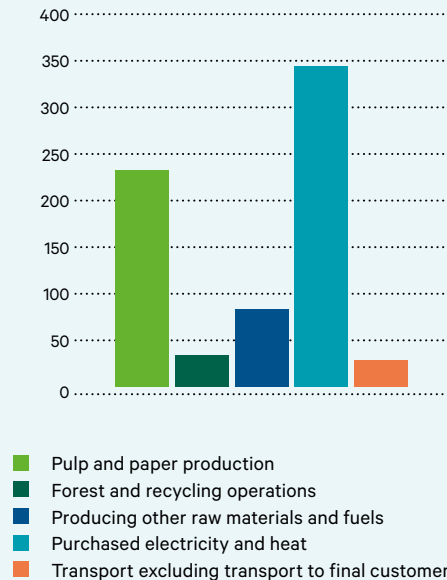
# Carbon footprint

Based on the CEPI carbon footprint tool, our carbon footprint covers emissions from the following 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
- Carbon stored in forest products (biogenic carbon) is reported separately.

## NORSKE SKOG CARBON FOOTPRINT

KG CO<sub>2</sub>/TONNE OF PAPER



# Solid residues and water discharge

Emissions to air occur primarily from energy generation processes, and the majority of solid wastes occur from the processing of fibre inputs (wood or recovered paper) and from the treatment of effluent (fibre and biological solids). Most of our mills have their own boilers or incinerators for producing thermal energy from these solid residues. Fossil fuels in the form of natural gas, oil and coal may also be used. The main emissions associated with these activities include carbon dioxide, particulates, sulphur dioxide and nitrogen oxides. A number of technologies are used to reduce and control these discharges. Ash residues result from combustion processes involving solid fuels.

The total quantity of production waste generated by the group in 2018 was 402 800 dry tonnes.

In 2018, 147 500 tonnes of ash were generated from combustion.

The residues from the production processes are reused or disposed of in a number of ways as shown in the figure. Where possible, process residues are used to generate energy for the pulp and paper manufacturing process. In 2018, 80 % of the waste was used as bio-fuel. Other residues, for example ash, are used in concrete or brick making, or in road construction. Agricultural re-use is also an option for some ash and organic materials. Part of the production residues are deposited in landfills. Many

of our mills participate in projects to find alternative or additional methods of reusing the by-products from the production processes. Hazardous waste amounted to 489 tonnes in 2018. Hazardous waste is disposed through authorized collection systems in accordance with national regulations.

## WATER DISCHARGES

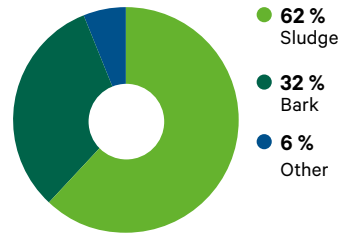
Water is generally used and recovered multiple times through the pulp and papermaking processes before finally being discharged to a number of treatment stages. These treatments remove solid particles as well as dissolved organic material, making the water suitable for safe return to the natural environment. In 2018, water discharge from the production process per tonne of paper was up 4 % compared to 2017. The discharges of dissolved organic material and suspended matters per tonne of paper were down by 17 % and 31 % compared to 2017. The discharge of nitrogen decreased by 7 % and discharge of phosphorus decreased by 23 % compared to 2017. The difference in results from one year to the next is the result of many factors, including process improvements, utilization of equipment, production issues and product changes.

Norske Skog does not use bleaching chemicals containing chlorine in any mills. Chlorinated organic compounds are therefore not created and AOX is not included in our emission reporting.

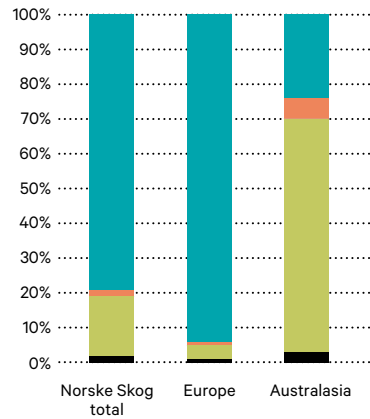


### PRODUCTION WASTE

Total 390 844 tonnes



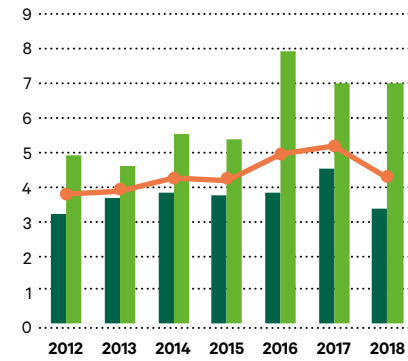
### DISPOSAL OF MILL PRODUCTION WASTE



- Energy Recovery
- Landfill
- Agriculture
- Sale/Delivered

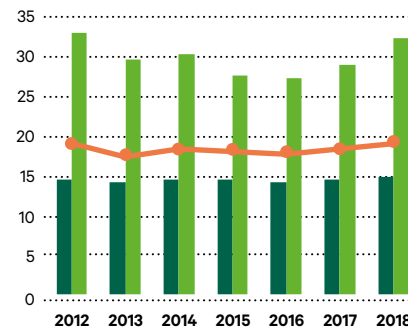
### TRENDS IN DISCHARGES OF ORGANIC SUBSTANCES (COD)

kg per tonne of paper



### TRENDS IN DISCHARGES OF WASTEWATER

m<sup>3</sup> per tonne of paper



- Europe
- Australasia
- Total



**PAPER IS ONE OF THE  
MOST RECYCLED  
PRODUCTS IN  
THE WORLD**