

The future is built with wood

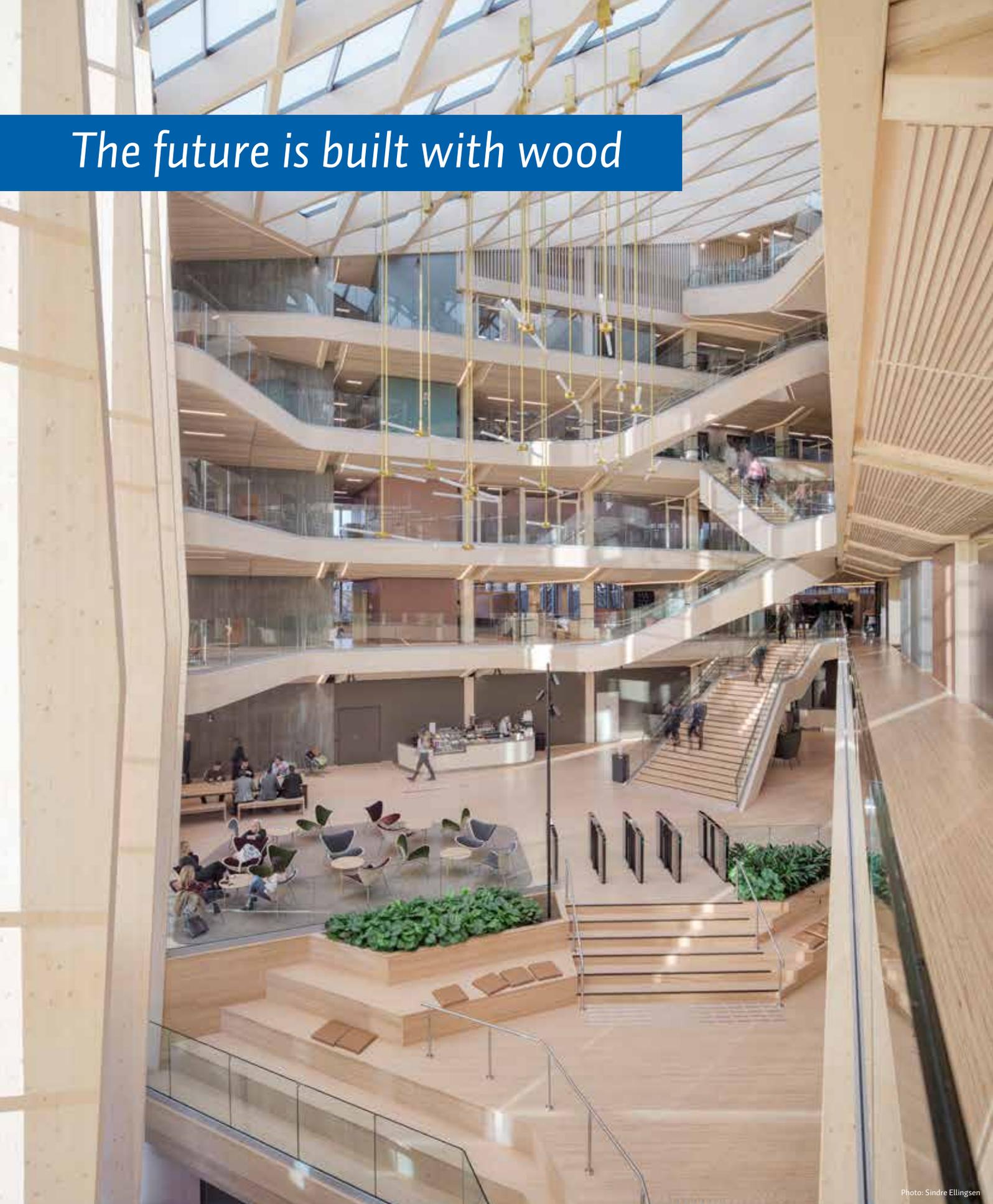


Photo: Sindre Ellingsen

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In pursuit of greener operations

It all starts in the forest, where we source the raw materials for most of the Group's operations. From the wood we produce climate-smart solutions and products that are in demand in the global market.

THE FORESTS WE HARVEST wood from are a result of planting that took place 60-80 years ago, where the generations that came before us practised a well-ingrained principle of sustainability: leave the forest to the next generation in a better state than it was in when you took it over. On average, every tree felled is replaced by two new ones and it is this renewable resource we transform into value creation, both locally and globally. Dividing logs into planks may be one of the world's oldest industries, but seldom has there been a greater focus on the extra value these products and solutions carry with them.

The floor you walk on at home, your cabin, your window frames and your wall panelling all store CO₂. Who would believe that such everyday things are part of the solution to the greatest challenge of our time: climate change. However, sustainability in Moelven is about more than renewable natural resources and CO₂ storage. Many of our solutions contribute to healthier indoor climates, better working environments and health. Our activities create local assets and jobs, and help our employees develop. They are also sustainable.

This report is a useful tool for all of us in Moelven. It shows what we have done and what we must work on going forward. Because even though we work in an industrial group that stretches from the forest to the creation of circular office fittings, there is plenty we can



improve on in our sustainability work. We are painfully aware of this and, therefore, hope that next year we have even more to report with regards to plastic consumption, energy consumption, transport and waste management. Because while our climate accounts are impressive, no one can afford to say that they are "sustainable enough". That is why we will continue to build a sustainable future using wood. ●

CEO
Morten Kristiansen

This is Moelven

Our vision

***The natural
choice for people
building and
living the
Scandinavian
way.***

Our mission

***Create quality
rooms.***

Our personnel concept

***Moelven
creates
opportunities
to people who
seek them.***

Our values

Sustainable

Moelven respects people and the environment. Our activities are based on renewable resources and turning sustainability and long-term thinking into competitive advantages.

We are determined to take responsibility for our environment.

Reliable

You can rely on Moelven. We deliver at the agreed time and with the right quality. We focus heavily on transparency and honesty – being able to admit to weaknesses and mistakes provides a basis for progress and credibility.

Taking advantage of opportunities

Moelven seeks solutions. The Group has the capabilities and resources to be leading in product development and innovation. We have always been a company at the forefront and use the opportunities that shifting times provide.

Sustainability in Moelven

Sustainable development is about taking care of the needs of people living today without harming future generations' opportunities to meet their needs. For Moelven, sustainability is about making the right choices for the world, as well as about making choices that help to create long-term value for the company. Sustainability is therefore a common thread in Moelven from its vision to its strategy.

Raw materials from forests are our primary resource, but sustainability means far more than this to Moelven. It is about the climate, people, local communities, nature and local environments. Sustainability is therefore about creating long-term value by properly managing resources and opportunities to improve environmental impact in a life cycle perspective. Our goal is to continuously improve our projects, products and services. We also strive to achieve sustainable social development, as well as to constantly improve our impact on the internal and external environment.

In the materiality analysis and stakeholder analysis in 2017, analyses were conducted to identify the stakeholder groups that are most affected by Moelven's operations, as well as which areas are most important both for Moelven and these stakeholder groups. Moelven's priority areas and long-term ambitions for its sustainability work have been determined on the basis of these analyses. This is how we intend to ensure that we meet our stakeholders' expectations and are prepared for future requirements and demand, and that we can thereby contribute to sustainable development, both for society in general and for Moelven as a group.

Systematic prioritisation

Moelven's sustainability strategy is based on the four main priority areas that can be found on page 8.

The four main priority areas have several sub-topics. As a further aid in prioritising this work, the topics are categorised as follows:



Connection to UN Sustainable Development Goals

In order to provide our sustainability work with direction and put it into a global context, Moelven has linked our priority areas to the UN Sustainable Development Goals. Moelven has identified the five Sustainable Development Goals that are most important for both the company and our surroundings, and where we can also make a difference.

Climate action

“Take urgent action to combat climate change and its impacts.”



Climate action through reducing climate impact and contributing to renewable bioenergy production. Moelven's wood products also store carbon and can help to increase the absorption of carbon from the atmosphere by forests.

Quality education

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



Training and education are important means of achieving this, while also being necessary for the sustainable further development of the Group.

Life on land

“Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests...”



As a customer of the forestry industry, Moelven has a responsibility to promote sustainable forestry. Moelven achieves this through communication with the forest owners, as well as certification schemes such as PEFC™ and FSC® (1).

Good health and well-being

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



Moelven has a responsibility to contribute to the safety and security of everyone affected by the Group's activities and products.

Decent work and economic growth

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



Moelven helps to create economic growth and jobs through its operations. Moelven particularly contributes to local value creation through taxes, paying wages and buying from suppliers.

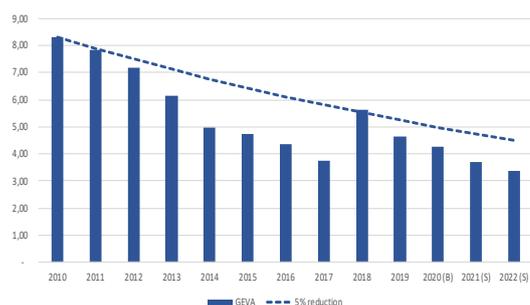
(1) FSC-C092806, FSC-C113012, FSC-C115128, FSC-C107974

The big picture

Internationally, the countries of the world have agreed in the Paris Agreement to limit the rise in temperature between 1850 and 2100 to 2 degrees Celsius. The agreement also states that they will try and limit the temperature rise even further, to 1.5 degrees Celsius. To achieve this, greenhouse gas emissions will have to be halved by 2030 and be net negative by 2050. In other words, more carbon must be removed from the atmosphere than is being emitted. In addition to the commitments in the Paris Agreement, an ever increasing number of countries are issuing national targets and statutory regulations. In June 2017, Norway passed the Climate Act, whose key objective is to reduce greenhouse gas emissions by at least 40 per cent by 2030 from the benchmark year of 1990. Norway also aims to be a low-emission society in 2050 with a reduction in greenhouse gas emissions of 80-95 per cent. The Swedish parliament also passed a climate act for Sweden in 2017, which came into effect on 1 January 2018. It has been decided that Sweden will achieve net zero greenhouse gas emissions by no later than 2045, while intermediate targets were set for 2030 and 2040.

Among other things, the EU has proposed a new framework, the European Green Deal, which proposes adopting an ambition that the whole of EU should become carbon neutral by 2050.

Climate laws and plans for reducing greenhouse gas emissions apply to the country as a whole and therefore do not directly target individual companies like Moelven. However, both as a responsible social actor and through the strategic link the Group has to the Sustainable Development Goals in the Paris Agreement, Moelven has a clear duty to strive to reduce greenhouse gas emissions. In the short term, the Group has set specific targets for what must be achieved. These are described in more detail under each topic in this report. The same period applies to the targets that applies to the current strategy plan, i.e. up to and including 2022. One of the means Moelven uses to monitor developments in the longer term, up to 2030 and beyond, is greenhouse gas emissions per value added (GEVA). GEVA expresses the relationship between greenhouse gas emissions and the value added. Calculations show an annual reduction of 5 per cent, i.e. that the greenhouse gas emissions shrink compared with value added, is required to make



Realised GEVA for the period 2010-2019
Budget and strategy 2020-2022

it possible to achieve the goals of the Paris Agreement. The development of Moelven's GEVA is shown in the figure below.

GEVA measured for a single year provides little value in terms of information, as it is the long-term development that is important. There will always be individual years in which particular circumstances mean that the development deviates from the target trend, such as 2018 in the figure above. The increase in GEVA in 2018 was due to a fire in a bioenergy plant that supplied thermal energy to one of the group companies. A backup solution involving an oil-based heating system was established to ensure energy supplies and the CO₂ emissions increased substantially compared with those from the biomass boiler.

Besides continually working to reduce the carbon footprint from our activities, Moelven wants to help ensure that society as a whole becomes more sustainable.

The UN Climate Panel has highlighted three important prerequisites for limiting the temperature rise to 1.5 degrees Celsius and these are a very good fit with Moelven's value chain and business operations:

- 1. The energy sector must become sustainable.** This does not just mean that the use of fossil energy must be significantly reduced in favour of renewable energy like hydro, wind, solar and bioenergy. Moelven delivers significant volumes of biomass to the bioenergy industry every year. The energy produced can replace energy from fossil energy sources. Sustainability in the energy sector also means that we must use energy more efficiently. Even though most of Moelven's energy needs are met through self-produced bioenergy, we are constantly working to reduce our consumption and increase efficiency.

- 2. Cities must be built in a climate-friendly manner.** More than half of the world's population lives in cities, and the proportion is rising. Urban development must therefore facilitate low emissions, while ensuring that buildings and infrastructure do not have to rely on fossil energy sources. Moelven contributes to this by delivering sustainable, wood-based construction materials, as well as industrialised, climate-smart construction methods. We are thus helping to reduce emissions from construction activities and exploiting the carbon sink property of trees.

- 3. People's consumption and lifestyles must be sustainable.** Individuals can also help to cut greenhouse gas emissions. The choices we make in everyday life are very important when it comes to our carbon footprint. Through certification schemes, product tests and transparent sustainability reporting, Moelven wishes to focus on what else we can do, besides making it easy for our customers to choose high-quality, sustainably-produced products.

UN Sustainable Development Goals

- The UN Sustainable Development Goals consist of 17 goals and 169 targets adopted by UN member states in the autumn of 2015.

- The goals are the world's joint plan to eradicate poverty, combat inequality and stop climate change by 2030.

- The Sustainable Development Goals reflect the three dimensions of sustainable development: climate and the environment, the economy and social factors.



GLOBAL REPORTING INITIATIVE

The analyses that form the basis for our choice of focus areas and important topics related to the priority areas were conducted in accordance with the Global Reporting Initiative's guidelines.



Climate-smart products and services

AMBITION:

We and the materials we produce shall be climate positive



Safeguarding natural resources

AMBITION:

We shall use renewable resources and utilise the entire resource



Focus on people

AMBITION:

We shall be an attractive and safe workplace



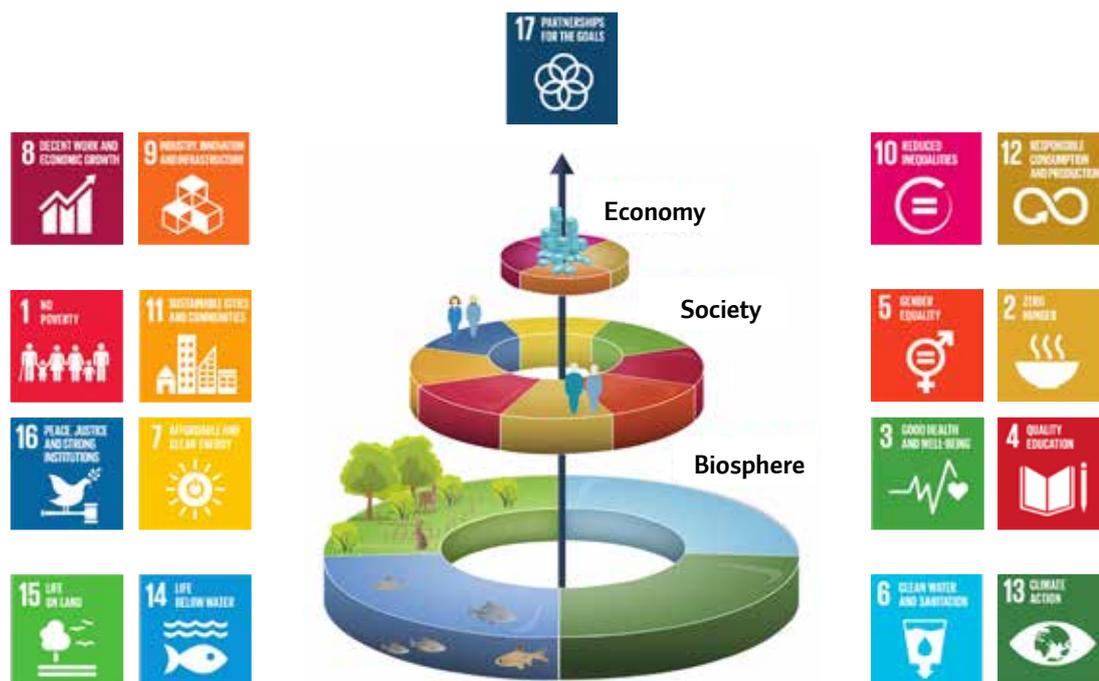
Local assets

AMBITION:

We shall create green workplaces



We are a reliable partner



The Sustainable Development Goals target ecosystems (biospheres), society and the economy. Moelven’s activities are heavily linked to the climate (goal 13) and life on land (goal 15), but at the same time they depend on healthy, well-educated people (goals 3 and 4) in order to be able to contribute to promoting lasting, inclusive and sustainable economic growth, full employment and decent work for all (goal 8).

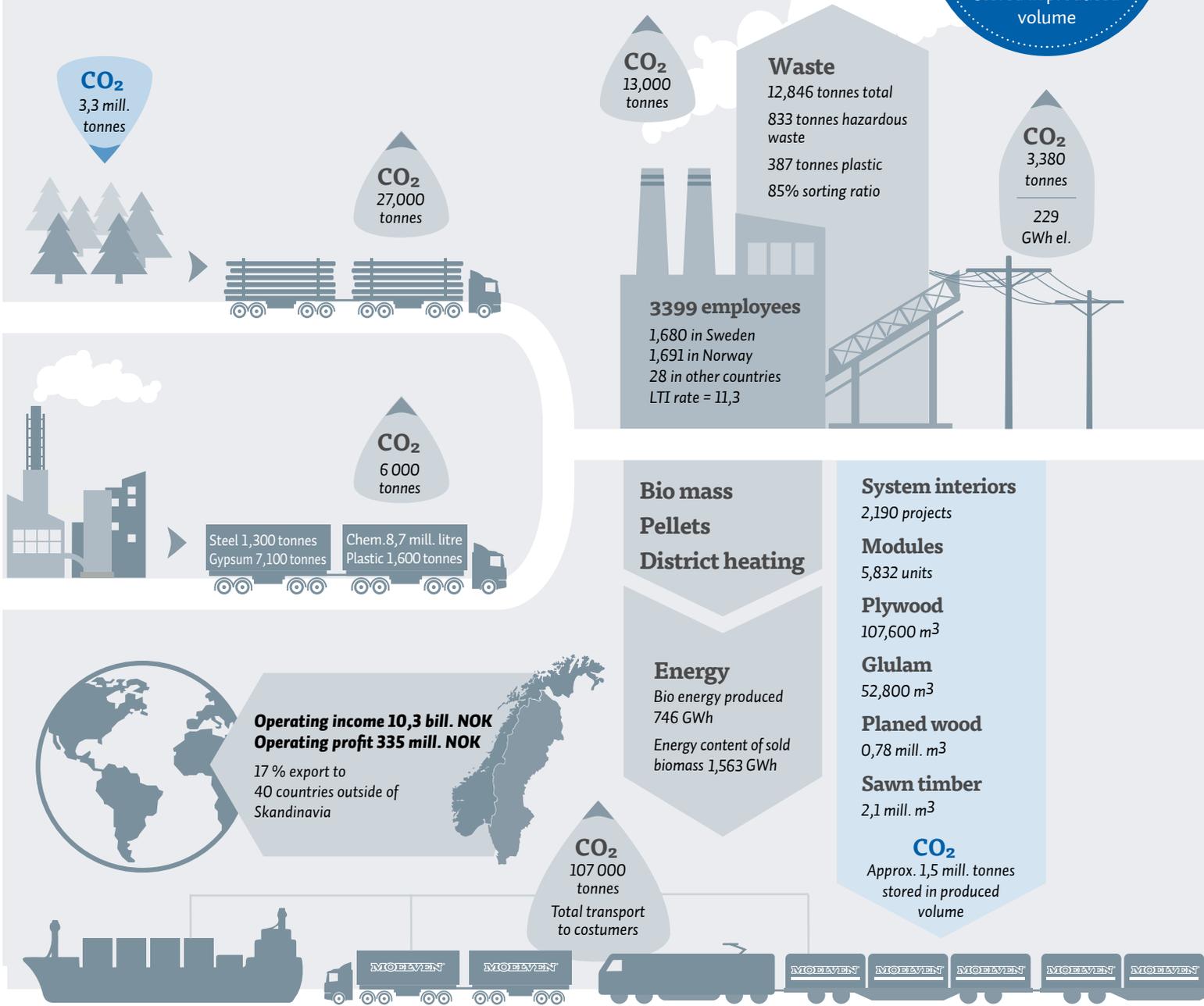
Stakeholder engagement and expectations

Moelven’s sustainability strategy is based on a materiality analysis and a stakeholder analysis. The table shows the groups that have been identified as Moelven’s stakeholders, what they are interested in and how we communicate with them.

Stakeholder group	What do they care about?	How we communicate with them?
Customers	<ul style="list-style-type: none"> Price and quality Certification Sustainable forestry Climate Waste 	<ul style="list-style-type: none"> Sales and marketing Digital media Customer surveys Meetings and conversations Quarterly and annual reporting
The employees of the future and today	<ul style="list-style-type: none"> Working conditions Vision Corporate social responsibility Environment Personal development 	<ul style="list-style-type: none"> Meetings and conversations Digital media Trade fairs Advertising
Authorities	<ul style="list-style-type: none"> Innovation Cooperation Climate Forestry Reporting 	<ul style="list-style-type: none"> Meetings and conversations Cluster collaborations Quarterly and annual reporting
Local community	<ul style="list-style-type: none"> Environment Jobs Local value creation Transparency 	<ul style="list-style-type: none"> Marketing Digital media Meetings and conversations Quarterly and annual reporting
Owners	<ul style="list-style-type: none"> Long-term strategy Resource optimisation Climate and the environment 	<ul style="list-style-type: none"> Meetings and conversations Quarterly and annual reporting
Suppliers (incl. forest owners)	<ul style="list-style-type: none"> Sustainable financial operations Resource optimisation Sustainable forestry 	<ul style="list-style-type: none"> Meetings and conversations Cluster collaborations Digital media Marketing
Special interest organisations	<ul style="list-style-type: none"> Resource optimisation Biofuel Certification Biodiversity 	<ul style="list-style-type: none"> Meetings and conversations Conferences Cluster collaborations Digital media
Capital markets	<ul style="list-style-type: none"> Long-term strategy Risk and opportunities Transparency 	<ul style="list-style-type: none"> Meetings and conversations Quarterly and annual reporting

OUR CARBON FOOTPRINT:
 157,519 ton CO₂ emissions from operation
 1.469.283 ton CO₂ stored in produced volume

Climate-smart and sustainable value creation



Five sustainable development goals – four focus areas



Focus areas, goals and priorities

Four focus areas	Important topics	Results in 2019	Goals and priorities
<p>We and the materials we produce shall be climate positive</p> 	<ol style="list-style-type: none"> 1. Energy consumption in own production 2. Goods transport 3. Production of bioenergy 4. Climate benefits from forests 5. Climate-smart design 6. Waste management 	<ul style="list-style-type: none"> • 229 GWh electricity consumption • 157,519 tonnes of CO₂ emissions • 1,469,283 tonnes of CO₂ stored in finished goods 	<ul style="list-style-type: none"> • 10 % reduction in electricity consumption by 2022 • 208 Gwh el. consumption • Minimum Euro 6 lorries by 2022 • Streamline logistics • 10% reduction in scope 3 emissions by end of 2022
<p>We shall use renewable resources and utilise the entire resource</p> 	<ol style="list-style-type: none"> 1. Sustainable materials 2. Resource optimisation 3. Resource-efficient design and packaging 4. Waste management in production 	<ul style="list-style-type: none"> • 100 % of timber controlled • 387 tonnes of plastic recovered • 1,651 tonnes of plastic consumed • 85% sorting ratio 	<ul style="list-style-type: none"> • 90 % waste sorting ratio at all facilities by end of 2021 • Increase share of bioplastic an recycled plastic as much as possible • Work for introduction of environmentally-friendly alternatives to plastic
<p>We shall be an attractive and safe workplace</p>  	<ol style="list-style-type: none"> 1. HSE 2. Engaged and competent employees 3. Safe chemical use 	<ul style="list-style-type: none"> • 11.3 LTI rate • 34.8 TRI rate • 207.5 absence due to injury rate • 3,208 risk reports • 5.4 % absence due to illness • 3,399 employees 	<ul style="list-style-type: none"> • LTI < 5, TRI < 20, absence due to illness < 4% innen utgangen av 2022 • Risk reports >3500
<p>We shall create green workplaces</p> 	<ol style="list-style-type: none"> 1. Economic value creation in local communities 2. Local environment 	<ul style="list-style-type: none"> • 828 MNOK in total value creation in Norway and Sweden • 4,235 MNOK estimated contribution to society • 3,399 direct jobs • No violations of the Pollution Control Act or similar legislation that have led to fines 	<ul style="list-style-type: none"> • No violations of the Pollution Control Act or similar legislation in 2020



Basic premise – We are a reliable partner

In Jutland in Denmark, Casa Ry blends right into its rural surroundings. The house, with its cedar wood facade from Moelven, won the German Iconic Award in the innovative architecture category in 2019.



Climate-smart products and solutions





Wooden windmills power a greener planet

“Building wind towers in wood means we are using renewable materials to produce renewable energy,” says Johan Åhlén of Moelven Töreboda AB.

IT IS MORE IMPORTANT THAN EVER to produce power from renewable sources in order to reduce CO₂ emissions. Wind power does not contribute to carbon dioxide emissions and may in the future become one of our most important sources of renewable energy. Climate-smart energy solutions should of course be built using climate-smart materials and, together with the innovation company Modvion, Moelven is now in full swing with a pilot project in wood-based wind power.

“The goal is to develop a concept that enables the construction of 150-metre tall glulam wind towers,” says Johan Åhlén, the CEO of Moelven Töreboda AB..

Easier to transport

Wind power generally becomes more profitable the taller you build the windmills. Winds are stronger and more stable higher up, and larger rotor blades can power a larger generator. This means we can extract more energy from the wind towers.

The challenge presented by ordinary steel wind

towers is that as their height increases they become very expensive to both produce and transport. Building modular towers in glulam lowers both the costs and greenhouse gas emissions.

“The advantage of building in wood is that you can transport wind towers to places that used to be unreachable with steel structures. We produce large wooden elements that can be stacked on top of each other. These are easier to transport and can be assembled at the construction site,” says Åhlén.

Prototype ready

The first prototype of a glulam wind tower is 30 metres tall and will be assembled on Björkö in the Gothenburg archipelago in the spring of 2020.

Åhlén says that a wooden wind tower is as stable as a steel tower, and that it can be delivered at the same cost. Because wood binds carbon and wooden tower production emits less CO₂ than steel tower production, they can also contribute to huge environmental gains. ●

In the spring of 2020, a 30-metre tall prototype glulam wind tower will be installed on Björkö in the Gothenburg archipelago.



Stacking the wooden elements on top of each other means you can efficiently transport wind towers to places that used to be unreachable with steel structures.

All photos: Modvion

Here, at Moelven Töreboda AB, climate-smart energy solutions are produced from a climate-smart material.



Climate accounts

Moelven's climate accounts are prepared in line with the GHG Protocol, which is the most recognised method for greenhouse gas reporting.

(Tonnes CO ₂ equivalents)	Change %	2019	2018
Scope 1 (Emissions in the company)	-25.6%	13,053	17,555
Fuel oil		1,299	6,151
Diesel		10,845	10,628
Biodiesel		13	11
Petrol		28	20
LPG (gas)		862	695
Moelven-owned goods transport (from supplier)		5	50
Direct biobased emissions (outside scope)	-1.3%	349,964	354,620
Bark		220,715	188,151
Sawdust		20,911	64,966
Chopping chips		62,132	61,748
Wood shavings		6,476	6,560
Cellulose chips		1,524	4,477
Pellets		163	228
Wood		37,697	27,339
BROT		333	383
Biodiesel		13	767
Scope 2 (Emissions related to electricity consumption)			
Location-based calculation	-8.9%	3,880	3,105
Market-based calculation	2.9%	119,141	115,784
Scope 3 (Non-company emissions) (Tonnes CO₂ equivalents)	-1.1%	141,087	142,611
Goods transport to customers performed by third parties		106,977	99,060
Third-party goods transport (from supplier to Moelven)		32,779	41,649
Air travel		345	483
Work-related car transport		985	1,419
TOTAL EMISSIONS (scope 1, scope 2 location-based, scope 3)	-3.5%	157,519	163,271
TOTAL EMISSIONS (scope 1, scope 2 market-based, scope 3)	-1.0%	273,280	275,951

The climate accounts are based on emissions of CO₂, as no emissions of other greenhouse gases have been identified or quantified, such as CH₄, N₂O, HFC, PFC, SF₆ or NF₃. Since 2017 was the first year of reporting in accordance with the GHG Protocol, 2017 has been set as the base year for future comparisons.

Emission factors have largely been obtained from Defra (Department for Environment, Food & Rural Affairs, UK). Emission factors for electricity are based on NVE's factors in Norway, while the 2015 factors from the Swedish Energy Markets Inspectorate and Reddis et al. have been used for Sweden.

For calculations of biobased emissions, EN 16449 has been used, based on values from the Norwegian Institute of Wood Technology and Erik Eid Hohle (Bioenergi).

The ownership principle, where Moelven is the invoice recipient for the activity, has been used for system delimitation.

We have climate-smart products and solutions

Many of Moelven's operations impact the climate.

FORESTS ABSORB CO₂ from the atmosphere through photosynthesis and store it as carbon in trees. Moelven process the logs into high-quality products and materials with long service lives. Moelven either uses the residual raw materials from production, such as bark and chips, to produce bioenergy or sells them on to the bioenergy and pulp industry.

More than half of the log is turned into sawn timber at a sawmill. This is then processed and can in many cases replace competing materials that have a greater impact on the climate than wood-based products and solutions.

At the same time, storing carbon in wood products helps to keep CO₂ out of the carbon cycle in the atmosphere. The production and long-term use of wood products can thus have a positive climate impact.

The half of the log that is turned into bark and chips, often referred to as biomass, is used in industrial processes as bioenergy raw materials or for paper and cardboard production. Bioenergy produced using biomass from forests is defined as renewable energy, as it is part of the natural carbon cycle. Moelven produces bioenergy that we use ourselves in production, or sell to external customers. Moelven also sells a large proportion of its biomass, which is used for energy production, for example in district heating plants.

Moelven also has a negative impact in the climate through the use of energy based on fossil fuels. Our industrial operations consume electricity and fuel to power their activities. Moelven also contributes to suppliers' greenhouse gas emissions through its purchases. It is transport in particular that has a negative climate impact.

Results

Moelven is constantly striving to improve the quality of its climate reporting. A special reporting manual has been produced to clarify expectations, requirements and definitions relating to the information that must be included in the reporting. The same system that is used for reporting financial data is used.

Some errors and inconsistencies from previous

years were identified in the reporting of sustainability data for 2019. However, the fact that the frequency and number of identified errors are falling indicates that the quality of the reporting is improving.

Scope 1 emissions were significantly lower in 2019. The main reason for this was that in 2018 substantial quantities of fuel oil had to be used in an oil-based boiler as a backup solution following a fire in a biomass boiler that supplied Moelven Valåsen AB with thermal energy. A new bioenergy facility was put in place in the summer of 2019. Apart from this, there was little change in the consumption of fossil energy sources that come under scope 1. There are plans to phase out further oil-based boilers. Meanwhile, the greatest potential for reductions lies within internal transport, where electrification or transitioning to more machinery that can run on biodiesel are measures under consideration. Besides the changes that came about due to the new boiler at Moelven Valåsen AB, there were no major changes to operations directly linked to bio-based emissions either.

Electricity consumption was cut to 229 GWh in 2019, from 230 GWh in 2018. This does, however, include a new source of consumption due to the commissioning of the new energy plant and pellet factory in Sokna in the autumn of 2019. Seen in isolation, this resulted in an increase in energy consumption, although overall it produced a reduction in the Group's carbon footprint due to reduced need for transport. While total electricity consumption fell slightly, scope 2 emissions increased due to changes made to the emission factors from 2018 to 2019. ●

Demolition will not save the climate

Realising the potential that lies in the buildings we already have means we can save money while sparing the environment and society.

EVERY YEAR, MORE than 22,000 buildings are demolished in Norway according to the Norwegian Green Building Council. This results in massive greenhouse gas emissions and resource consumption. Preserving existing buildings and instead meeting new needs by altering or extending them means we can use fewer materials, save time and have less impact on local communities. This is positive for people, the climate and budgets.

“At least 80 per cent of the buildings we will have in Scandinavia in 2050 have already been built, and 60 per cent of these will be screaming out for renovation,” says Aasmund Bunkholt, CEO of Trefokus AS.

Advantages of wooden extensions

Bunkholt is sure that there will be an even greater focus on preserving existing buildings in the years to come. There is actually a lot one can do with an old building that no longer meets today’s standards. One common argument for tearing down and building anew is the need for more space or the ability to utilise space one already has in a better manner,” according to the Norwegian Green Building Council. Floor layouts can be changed by moving or eliminating walls. Another possibility is to add another storey or more. The load-bearing capacity of the existing structure may be a challenge, but using wood for extensions can provide several advantages.

“Wood is light, strong and easy to adapt to different needs. Existing buildings can probably withstand the addition of one to three storeys in wood. It is a material that offers great opportunities,” says Bunkholt.

The low specific weight of wood in relation to its strength makes it easier to densify urban areas by building extensions. Less ground reinforcement is also required than for other materials, which saves time and costs.

Wood on Top

The construction industry uses 40 per cent of the material resources in society, according to the Norwegian Green Building Council. We can save material resources by preserving existing buildings. The

production of new ground structures and foundations also results in huge emissions of greenhouse gases and we can spare the climate from a lot by preserving and rehabilitating structures we already have. Both Moelven Byggmodul AB and Moelven Töreboda AB are part of the “Timber on Top” collaboration project. The project brings together actors from the entire construction industry value chain and its goal is to extend the service life of existing buildings with the aid of reusable and prefabricated construction systems.

“Being sustainable is one of Moelven’s values and this means that we have to use our resources in a smart and efficient manner. By developing existing buildings, we can help to meet the demand for new homes and premises in a climate-smart manner,” says Johan Samuelsson, CEO of Moelven Byggmodul AB. ●

Myths about demolition and renovation

It costs more to renovate than demolish and build anew.

Numerous calculations show that today it is more financially profitable to demolish and build anew, but this depends on what is included in the calculation. As our understanding of sustainability grows, the factors included in calculations will change.

Only new buildings can be green and environmentally certified.

New and environmentally certified buildings are often highlighted as the greenest buildings. But even though a new building can be made more energy efficient, it is difficult to get climate and resource accounts

to justify demolishing and building anew instead of renovating.

It is difficult to satisfy modern indoor climate requirements in existing buildings.

One common argument for demolishing older buildings is that it is impossible to achieve good ventilation and cooling solutions. People often think that ceilings are too low for the envisaged ventilation ducts and that technical rooms are too small for the planned equipment. However, there are many alternative ways of achieving good air quality and a good indoor climate.

Source: Norwegian Green Building Council



Energy consumption in own production

Where and why is it important?

Moelven consumes a considerable amount of energy in its production. Together with transport, this is the largest driver of greenhouse gas emissions. It is therefore of major importance with respect to the Group's ability to deliver climate-smart products and services. Energy consumption in own production is important both to Moelven and its stakeholders since it represents both an environmental challenge and a major expense. Moelven meets a large proportion of its own energy needs by incinerating biomass.

Policy and approach

Moelven's goal is to reduce energy consumption at its facilities. This will be done by actively participating in technology and market development of the bioenergy sector, and by investigating alternative energy use at those plants that currently use fossil fuels.

To achieve this, Moelven has, therefore, itself set a target of supplying at least 95 per cent of the energy needed for heating premises and drying from self-produced bioenergy in the timber industry.

Innovation and actively using new technologies are important when it comes to being able to reduce energy consumption. The "Smart Digital Sawmill" project at Moelven Valåsen AB's sawmill in Karlskoga in Sweden has provided Moelven with knowledge and experience that are providing the basis for energy efficiency measures across the Group. A detailed energy survey has also been carried out of all of the Group's operations in Swe-

den. The results from these projects provide the basis for the Group's updated target of cutting electricity consumption to 208 GWh by the end of 2022.

Evaluation of results

Moelven's total energy consumption fell slightly in 2019 compared with 2018. This was partly due to less activity at some facilities. Moelven is constantly striving to quality assure routines for measuring and reporting energy consumption, and some areas where the reporting has not been consistent over time were also identified in 2019. This internal control work will continue in 2020.

Fossil energy consumption was reduced by around 36 per cent. This was due to abnormally high consumption in 2018 when oil heating had to be used as a backup solution for a period of time at Moelven Valåsen AB following a fire in the bioenergy system.

Moelven has set itself an overarching goal of reducing electricity consumption by 10 per cent from the level in 2017 by the end of 2022. Energy consumption was only reduced by around 0.5 per cent in 2019. Even though the new pellet factory was included in 2019 and thus increased total consumption, substantial work remains to be done to achieve this target. One important element of this work is establishing a "Moelven standard" for implementing energy efficiency measures based on the lessons learned in the "Smart Digital Sawmill" project and the energy survey that were conducted in Sweden. ●

Category – Volume (GWh)	2019	2018
Total fossil energy consumption (fuel)	39	61
Total bioenergy production in the Group (lower calorific value)	746	723
Lost bioenergy	72	145
Total electricity consumption, purchased	229	230
Purchase of district heating	90	164
Total sales of bioenergy	73	70
Total energy consumption in the company	885	893
Consumed bioenergy (GWh)	601	508

AMBITIONS

- ▶ We shall be climate-positive
- ▶ Energy consumption will be reduced
- ▶ 95% of the energy needed for heating premises and drying comes from self-produced bioenergy in the timber industry

RESULTS

- ▶ 39 GWh fossil energy consumption
- ▶ 746 GWh bioenergy production
- ▶ 229 GWh electricity consumption
- ▶ The energy survey in Sweden has been completed

MEASURES

- ▶ Reduce electricity consumption to 208 GWh by the end of 2022
- ▶ Establish more activity-specific KPIs for analysing energy use and energy efficiency
- ▶ Roll out energy efficiency measures based on the "Smart Digital Sawmill" project and the energy survey in Sweden.
- ▶ Continue existing targets

A power thief in the basement

At Moelven Langmoen AS, CEO Sven Egil Holmsen went in pursuit of energy thieves and the results were saved electricity and less heating needed.

FAR INSIDE THE BASEMENT at Moelven Langmoen AS stands an old chip fan. The chip fan uses the same amount of energy as 30 detached houses use in a year. Hidden away, it has not just been an electricity thief, it has also blown heated air straight out of the factory.

In the hunt for more sustainable production, CEO Sven Egil Holmsen went in pursuit of energy thieves. He found a massive one in the basement, and it is not even needed.

“Worst of all is the fact that we do not need the fan. It was built to transport chopping chips from the planing mill and away to the boiler house, but this type of chip is not used for heating anymore. Instead, the chips are transported by vehicle to Braskereidfoss and other places to be used there,” says Holmsen.

Heating for the birds

The air that blows the chips to the boiler house is also heated indoor air, which results in a greater need for heating the premises at Langmoen.

“One immediate measure will be to rearrange the pipes so that we are not using outdoor air to blow the chips. This will considerably reduce our heating needs. In the long term, we will work on building a chips bin right outside the wall so that chopping chips can go straight out of the building on a conveyor belt,” says Holmsen.

Cutting out the fan will have as great an effect as cutting the electricity consumed by 30 detached houses in one year, or the equivalent effect of the entire solar panel roof on Power House in Trondheim. ●



The CEO of Moelven Langmoen AS, Sven Egil Holmsen, believe it is important for everyone to assess energy consumption in their workplace so they can save energy wherever possible.



Goods transport

Where and why is it important?

The timber and construction industries are transport sensitive. Large volumes of materials and products are transported over longer distances. This includes the transport of raw materials to Moelven's facilities, internal transport and the transport of finished goods to market.

Transport is therefore a very important area for the Group, in terms of both the environment and finance. A number of stakeholder groups are affected by the environmental impacts of transport. These may be greenhouse gas emissions, airborne dust, noise, traffic safety and so on. Efficient and environmentally conscious logistics solutions are a prerequisite when it comes to being able to offer customers fast, accurate deliveries with as little environmental impact as possible.

Policy and approach

Moelven is a co-owner and member of several transport cooperatives that perform a large proportion of the transport jobs for the Group, and has significant influence on how the transporters run their operations. The variation in transport needs of the other participants in the transport cooperatives help to increase the opportunities for improving efficiency by setting up transport routes that minimise journeys with no loads. Moelven also uses rail and sea transport to ensure the reliability of timber supply, as well as market opportunities for wood chip and energy products. E.g., rail is normally used for biomass deliveries in Norway and Sweden.

Moelven's sustainability policy sets targets and guidelines for transport in Moelven. The environmental impact of transport must be minimised through coordination and optimisation of the product flow. The environment must be taken into account when choosing transport methods, and environmental requirements must be stipulated when choosing partners. The require-

ment for road transport in 2019 was a minimum of Euro 5. When new vehicles are acquired these must be at least Euro 6. The goal is for all road transport to be performed using Euro 6 or better vehicles from 2022. These targets and guidelines have been implemented in cooperation agreements with road transporters in both Norway and Sweden.

Moelven closely monitors developments in alternative fuels, such as electricity and biogas. Together with the transport company LBC Logistik, Moelven has taken the initiative to buy the first biogas lorry in the Swedish forestry industry. Biogas is produced locally from waste, fertiliser and plant remains, and is fossil-free and climate-friendly. Moelven also actively works on the framework conditions for transport. Better roads that allow higher maximum axel loads limits and longer vehicles are important. This would make it possible to significantly streamline transport in terms of both environmental footprint and costs.

Evaluation of results

Transport of products to customer (where Moelven is the invoice recipient) (tkm)	2019	2018
Road transport	866,926,399	887,018,524
Rail transport	88,146,362	79,891,661
Sea transport	495,968,075	359,836,730
Transport of timber to the company (Moelven) (tkm)	2019	2018
Road transport	268,565,628	297,316,339
Rail transport	1,340,328	2,831,074
Sea transport	1,183,557	0
Transport of other goods to the company (Moelven) (tkm)	2019	2018
Road transport	53,597,971	97,891,247

Rail transport is another alternative that helps to reduce transporters' environmental footprint and is a highly efficient means of transport where conditions permit. Moelven participates in the "Godspakke Innlandet" initiative.

The transport of goods to customers by road decreased in 2019, partly due to reduced delivery volumes in the Building Systems division and partly due to volumes being moved back to rail transport. In 2018, railway line repairs resulted in rail transport not being an available option at times. The increase in sea transport to customers was due to increased deliveries to China. ●

AMBITIONS

- ▶ The environmental impact of transport must be minimised by coordinating and optimising product flow
- ▶ Minimum Euro 5 environmental class for road transport

- ▶ Minimum Euro 6 when acquiring new vehicles
- ▶ The environment must be taken into account when choosing transport methods

RESULTS

- ▶ KPIs have been established for transport at company and division levels

MEASURES

- ▶ Improve reporting of transport, including transport of products to customers



Climate benefits from the forest

Where and why is it important?

A large proportion of Moelven’s climate-smart products and materials are based on using timber as a raw material. Forests are a part of the natural carbon cycle, and store large amounts of CO₂ absorbed from the atmosphere through photosynthesis. By contributing to efficient and sustainable forestry, as well as ensuring that timber is used efficiently, Moelven can help to increase the ability of forests to absorb CO₂ from the atmosphere and store it in products. The climate impact is thus positive.

Policy and approach

In Sweden, most of the timber is bought directly from the forest owner. Moelven Skog AB is responsible for purchasing timber in Sweden and is one of the companies in the Group with the greatest opportunity to influence forestry operations. Moelven Skog AB’s vision, “More TIMBER in forests”, is about how the company can help maximise the potential of forests by working with forest owners. This provides Moelven with access to more and better raw materials, while also providing forest owners with good returns.

Moelven Virke AS is responsible for purchasing the timber in Norway. The purchases are mainly made through forest owners’ associations. Moelven Virke AS is thus not directly involved in harvesting or managing forests like Moelven Skog AB. Nevertheless, as a Group, Moelven has a responsibility to its suppliers to treat and process the products in a sustainable manner and, irrespective of national borders, Moelven believes certification and traceability are very important when purchasing raw materials.

Description	2019	2018
Total consumed timber (m ³ fub)	4,673,122	4,558,998
CO ₂ equivalents stored in consumed timber	3,309,090	3,228,311
Produced sawn timber and plywood (m ³)	2,074,512	2,223,838
CO₂ equivalents stored in produced volume (tonnes)	1,469,283	1,572,217
Biomass sold for renewable energy production (lm ³)	919,559	1,022,222
Energy content of sold biomass (GWh)	1,638	1,821
Total CO₂- emissions(CO₂te, location-based)	157,519	163,271
Total CO₂- emissions(CO₂te, market-based)	273,280	275,950

Evaluation of results

The CO₂ that forests absorb from the atmosphere in large quantities as they grow, is stored in the trees until they rot or are burnt. Wood products therefore act as natural carbon sinks. By contributing to sustainable and efficient forestry and by producing products with long service lives, Moelven is contributing to both the capture and storage of CO₂. Moelven’s activities generate far lower CO₂ emissions than those stored in the products, even if one assumes that a proportion of the products are burned and thus release the stored CO₂ within a relatively short space of time after production. The overall value chain, therefore, contributes to reducing the concentration of CO₂ in the atmosphere when compared with leaving the forest untouched. It is important to be aware that there are several uncertainty factors that affect the overall picture, such as, for example, greenhouse gas emissions from the soil after deforestation.

Both forestry and the timber processing industry provide residual raw materials that can be used for the production of bioenergy. Moelven sells significant quantities of pulpwood, biomass and chip products to the bioenergy industry. The Group also produces a significant amount of thermal bioenergy itself, both for its own consumption and for sale as district heating. Using bioenergy as a substitute for fossil energy sources is an important means of reducing society’s climate impact. ●

Calculation basis:

The source used for calculating CO₂ is EN 16449. The source used for density is Bramming et al. (2006). Physical and mechanical properties in Norwegian spruce and pine. An activity in the SSFF project. Treteknisk Rapport 65, 2006.

It is estimated that a cubic metre saw timber of spruce has a basic density of 363 kg/m³ and that pine has a basic density of 418 kg/m³. Basic density is dry weight of wet volume (>30% wood humidity). The carbon content is assumed at 50 per cent of the dry weight. Equal proportions of spruce and pine are assumed.

Spruce: 363 x 0.5 x 4/12 = 665.5 kg CO₂/m³ saw timber

Pine: 418 x 0.5 x 4/12 = 766.3 kg CO₂/m³ saw timber

AMBITIONS

- ▶ We and the materials we produce shall be climate positive

RESULTS

- ▶ 3.3 million tonnes of CO₂ stored in consumed timber
- ▶ 1.5 million tonnes of CO₂ stored in sawn timber and plywood
- ▶ 1,638 GWh of potential energy in biomass for external bioenergy producers

MEASURES

- ▶ Improve the understanding of Moelven’s role in the carbon cycle and document that Moelven is climate positive



Sustainable transport measures

Road transport

Moelven is aiming to reduce its carbon footprint from transport by 10 per cent by the end of 2022. Achieving this goal will take more than just focusing on optimising logistics through efficient transport routes, maximising loads and minimising driving without loads. It will also be crucial to require the use of modern vehicles with the lowest possible emissions and to increase the use of means of transport that are completely or partially fossil-free, such as vehicles that run on biofuels or electricity. Unfortunately, the technology has still not advanced far enough for it to be introduced on a large scale in those areas where Moelven has the largest transport volumes, in timber transport and goods transport. However, advances are being made quickly and Moelven will in the spring of 2020 introduce a new biogas lorry so it can learn more about both the technology and how the network of filling stations works in everyday life. The lorry will operate in the Värmland – Stockholm – Gothenburg region. Load-carrying capacity and range are both challenges for electric lorries, although these are constantly being improved. Large, heavy batteries reduce load-carrying capacity and

thus result in a need for more transport journeys. Regardless of the energy source, the limitations regarding axle loads, vehicle length and similar, are constant limiting factors, especially in the Norwegian road network. With modular vehicle combinations, which can be up to 25.25 metres long and weigh up to 60 tonnes, there is space for more cargo per vehicle and one achieves both environmental and cost-related benefits by being able to transport the same volume with fewer journeys. For Moelven, it is important that not just the main road network but that also smaller roads into sites can be adapted and regulated for such vehicles.

Rail transport

The “Godspakke Innlandet” initiative is part of the technical agencies’ input to the national transport plan aimed at improving goods transport by rail. It is calculated that given the plans contained in “Godspakke Innlandet”, it will be possible to reduce the forestry and timber processing industry’s transport costs by up to NOK 57 million per year. The industry is becoming more competitive through improved finances, faster deliveries and reduced greenhouse gas emissions. Among other

things, the package proposes electrifying the Kongsvinger - Elverum - Hamar railway line, new connecting tracks in Kongsvinger, Elverum and Hamar, and new multi-purpose terminals in the Interior Region. Norway makes extensive use of rail transport within raw material supply and fibre sales for its industrial timber processing business. This transport method is used for both raw materials for Moelven’s industrial processes, as well as for pulpwood and fibre products for customers. Depending on the contract with the customer, Moelven is sometimes responsible for transport, while in other cases the customer is responsible for transport. The latter transport is not included in Moelven’s climate accounts, but is included below to illustrate its scope. The total annual rail transport associated with timber supply and fibre sales amounted to 261,883,255 tonne kilometres (tkm) and involved 441 train journeys in 2019. Transporting all or parts of this volume by road would not be sustainable, either in terms of environmental impact or financially. In addition to this, come the positive environmental effects of the products being transported.

Sustainable timber transport

Transport is one of the major drivers behind CO₂ emissions in Moelven. One attempt to make timber transport more sustainable is the 74-tonne timber vehicle.

In Sweden, 74-tonne timber vehicles can legally drive on parts of the road network and Norway has started a trial project in Innlandet County. When a lorry can be loaded with more timber, each journey becomes more sustainable.

One important principle in Moelven is that as much of the transport as possible must take place by rail and the transport that must take place by road must be as sustainable as possible. A 74-tonne timber vehicle can carry eight tonnes more timber than traditional timber lorries.

In Sweden, the scheme functions when we get a dispensation to drive on more roads than the regulations indicate such that the timber can be driven with a 74-tonne lorry straight from the forest to rail transport or the sawmill.

To ensure that timber transport is more sustainable, it is important that the road network on which 74-tonne timber vehicles are allowed to drive is large enough to avoid having to reload the timber onto smaller lorries.



Stepping on the gas towards a sustainable future

Moelven is leading the way in the forestry industry and focusing on climate-friendly biogas for transporting timber and wood products.

Together with the transport company LBC Logistik, Moelven has taken the initiative to introduce the first biogas lorry into the Swedish forestry industry. Biogas is produced locally from waste, fertiliser and plant remains, and is fossil-free and climate-friendly.

“Transport is a very important, but challenging, area for Moelven. We cannot expect others to come up with solutions. We must take the initiative to minimise

our CO₂ emissions ourselves,” says Staffan Vilhelmsson, CEO of Vänerbränsle AB and a driving force behind Moelven’s first biogas lorry.

A third of greenhouse gas emissions

In order to be able to contribute to a sustainable future using wood, Moelven must often transport large quantities of materials and products over long distances. Much is transported by rail and sea, but the majority of the company’s transport takes place via road.

Transport is one of the major sources of greenhouse gas emissions in Sweden and Norway, and represents a third of the emissions, according to Naturvårdsverket in Sweden and the Norwegian Environment Agency. Road traffic contributes the most. Thus, stepping on the gas towards greener transport is very important for the climate and the 2 degree Celsius target in the Paris Agreement.

Innovative transport

Moelven’s first biogas lorry will be ready in the spring of 2020 and will be visible in the Värmland – Stockholm – Gothenburg area.

“Both the lorry technology and network of biogas filling stations are now well enough developed to make fossil-free driving possible. I am convinced that there will be even greater demand from our customers for climate-friendly transport in the future. Using biogas for transport is very future-oriented,” says Vilhelmsson.

The Group CEO of Moelven, Morten Kristiansen, believes that the biogas lorry proves that Moelven is seeking solutions.

“Innovation is in Moelven’s DNA. This means we must continually be on the look out for how we can develop our processes and products in day-to-day activities – in large things and in small. This transport measure is a good example of this,” says Kristiansen.



The Modus method

The construction industry uses 40 per cent of the material resources in society, according to the Norwegian Green Building Council. By building office solutions that can be efficiently modified and adapted to meet new needs without having to throw away and buy new ones, we spare people, the climate and budgets. We call this the Modus method.

Easy to rebuild



System walls can be dismantled and rebuilt on new sites, again and again and again. This makes it easy to modify and achieve a new office. The rebuilding causes little nuisance for people and makes it possible to use the premises during the alterations. The system walls are timeless and flexible and can therefore be used for a long time.

Environmentally-friendly



The environmental impact of an on-site built wall and a prefabricated system wall is similar when the wall is built for the first time. However, when a system wall is relocated due to modifications, it does not contribute more greenhouse gas emissions. The more space changes made during the building's life cycle, the greater the saving.

Economic



Moelven Modus's working method is based on prefabricated wall systems. This means that the wall elements arrive fully finished and ready for assembly by our installers. An industrial building method has many advantages in terms of time, money and the environment. The prefabricated Uni Wall system halves construction times and lowers costs by 57 per cent compared with traditional construction methods.

50%



halved construction time compared with traditional construction methods

57%



lower costs compared with traditional construction methods

5%



CO₂ footprint compared with traditional building methods

About Moelven Modus

- The company has built flexible rooms with the aid of system walls since 1960.
- The system solutions can be compared with a Lego building: they are easy to construct, create, modify and extend.
- The newly developed Multi Room takes the concept one step further. Multi Room is a flexible and sustainable solution for a standalone room.
- All of the building systems are life cycle adapted and environmentally certified.

“From an environmental perspective, we cannot afford a use and throw away mindset,”

Peder Welander,
Marketing Manager at Moelven Modus



Climate-smart design

Where and why is it important?

Moelven produces climate-smart products and materials with a lower climate impact than many competing materials. The products may have a climate impact during production, use and disposal. It is therefore important to consider the product's entire life cycle.

Certification is important, both as part of quality assurance routines and when it comes to providing our customers with enough information to make sustainable product and material choices. Many of the certification schemes cover more than just the climate. This chapter therefore also includes other environmental impacts.

The building and the construction industry accounts for around 40 per cent of the world's energy consumption and 33 per cent of the world's greenhouse gas emissions. Moelven therefore plays an important role in producing and developing climate-smart products and solutions. Customers and consumers are also becoming increasingly interested in environmental impact.

Policy and approach

Approvals, certifications and product documentation allow customers and consumers to make informed choices and compare different products and materials. Moelven is also subject to a number of regulatory requirements with which it must comply. A number of requirements and expectations are also defined by other stakeholder groups.

For example, these could be certifications and product documentation that end customers require for their own purposes. They may also include documentation required by customers who use Moelven's products as an input factor in their own projects or products, and who must prepare good documentation themselves or

Moelven has delivered products for, and taken part in the design and construction of, several buildings with BREEAM certification. Moelven actively strives to tailor its products and materials in order to simplify the process for customers when developing BREEAM projects. Documentation is continuously being developed in relation to the BREEAM regulations. Important areas where Moelven products can help score points to achieve the best possible BREEAM certification are Mat 01 Environmental impacts from construction products – Building life cycle assessment, Mat 03 Responsible sourcing of construction products, and Hea 02 Indoor air quality. Bjergsted Financial Park in Stavanger opened in 2019. It is one of Europe's largest wooden business buildings with load-bearing structures, ceilings and interior solutions delivered by Moelven. The building is set to be certified as a BREEAM Outstanding building, the sixth one in Norway so far. Five levels of BREEAM-NOR certificates are issued: Pass, Good, Very Good, Excellent and Outstanding.

obtain certification for their end product.

Among the regulatory requirements for certification there is generally one EU directive that is relevant for Moelven's products, the Construction Products Regulation (CPR), which deals with various CE certifications. Directives such as Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) and the Biocidal Products Regulation (BPR) are also relevant, but in significantly fewer areas.

The raw material certification schemes PEFC™ and FSC® are key certifications that document that the wood material comes from responsible forestry. Read more about these certification schemes in the chapter "Sustainable materials".

Moelven is also a key player in promoting wood as a climate-smart construction material. The Group has both a responsibility and an opportunity to influence society to make climate-smart choices by choosing Moelven's products.

Evaluation of results

A large proportion of Moelven's products and materials are certified and documented with, among other things, EPDs. The next page includes a summary of relevant environmental certifications and tools that are relevant for Moelven's products and materials. ●



Photo: Sindre Ellingsen

Finansparken Bjergsted

AMBITIONS

- ▶ Moelven's products and materials must be climate positive.

RESULTS

- ▶ The spruce and pine products Moelven produces come with environmental assessments and product certification, and

can be sold as certified.

- ▶ The spruce and pine products produced by Moelven are covered by EPDs.

MEASURES

- ▶ Continue the work on surveying and preparing environmental assessments and

product certifications in the Group.

- ▶ All interior products must undergo emissions testing and be documented with a certificate where relevant.
- ▶ All input chemicals in Moelven's products must be documented.

A complete list of certification and approvals can be found on moelven.com/certificates

Environmental certifications and tools

There are a number of different bodies with their own certification and documentation schemes related to environment and health. These tools and certification schemes can either cover a single product on its own, an entire building or a project. A large proportion of Moelven's products and materials are covered by one or more of these.

Hea 02

In the case of interior products, the focus is on documentation with respect to air quality. Hea 02 is the BREEAM standard's way of documenting indoor air quality. The documentation is prepared on the basis of emission tests, self-declarations and certificates like M1.

Environmental Product Declaration (EPD):

An EPD is a brief, independently verified and registered document that communicates transparent and comparable information about the life cycle environmental impact of products. Both the underlying life-cycle assessment (LCA) and the EPD are always based on international standards. Independently verified environmental declarations ensure that environmental information is provided in accordance with the four requirements: objectivity, comparability, credibility and addability.

HSE and HFE

HSE (health, safety and the environment) documentation is mainly used for chemical products. HFE (health, safety factsheets and the environment) documentation is used for non-chemical products. HFE describes the working environment, indoor environment, environmental impacts and waste management.

OAM

OAM documentation is legally required documentation for a building that contains products that must be administered, operated or maintained during the building's service life.

BREEAM

BREEAM (Building Research Establishment Environmental Assessment Method) is the construction industry's own environmental certification system for buildings. The system has existed since 1990 and is the most widely used system for environmental certification in Europe. Its purpose is to encourage sustainable design and construction throughout the entire construction project, from the early phases to the finished and delivered building. The national versions of BREEAM in Norway and Sweden are BREEAM-NOR and BREEAM-SE, respectively. BREEAM is an effective tool for coordinating the various parties in a construction project and integrating a sustainable mindset in all links of the chain. BREEAM sets requirements for, among other things, material selection, such as deliveries of certified products in PEFC™ Chain of Custody or FSC® Chain of Custody, Environmental Product Declarations (EPDs), Eco-products and emission tests on interior products (Hea 02 with M1 certificate or Agbb). Five levels of BREEAM certificate can be issued: Pass, Good, Very Good, Excellent and Outstanding.

Construction product declarations (CPDs)

A construction product declaration is a standardised way of describing a product. It contains information concerning the material's origin, chemical content, environmental impact, and certifications, as well as a description of the product's installation, use and how to handle it after use.

Byggarbedömningen (BVB)

BVB is a Swedish association that has developed a system for assessing construction materials based on sustainability. The assessments are based on the life cycle environmental impact and chemical content of the construction materials. BVB is also working on establishing an assessment system for social factors in the value chain.

BASTA Bedömningar

BASTA is a Swedish product certification scheme for chemical content in products. The EU requirements in the REACH Directive lie at the core of BASTA's product certification.

SundaHus

SundaHus Miljödata is a tool that assesses the environmental properties of different products in the construction industry. This tool allows Moelven's customers to compare different products based on a standardised assessment model.

Nordic Swan Ecolabel

The Nordic Swan Ecolabel is the Nordic region's official ecolabel, which is independent of industry interests or financial interests. The purpose of the ecolabel is to encourage more environmentally suitable product development and minimise consumption that impacts the environment. This will be achieved by developing criteria for the environmental labelling of goods and services, approving products and guiding consumers and buyers.

The CE Mark

The CE mark (CE = Communauté Européenne) is a declaration that the manufacturer, or its representative, guarantees that all of the requirements stipulated for the product in the applicable directive/regulation are regarded as having been met. A product with correct the CE marking has free access to the market in the European Economic Area (EEA).



Production of bioenergy

Where and why is it important?

Bioenergy is energy that is produced from materials formed in ongoing biological processes. Unlike fossil energy, bioenergy emissions are considered climate neutral emissions since the decomposition of biomass and release of the CO₂ stored in it is part of the natural carbon cycle. Bioenergy can also replace fossil energy sources and therefore makes a positive contribution to the zero emission society. At Moelven the energy is both utilised as heat and sold externally as district heating. Biomass is also sold to external customers who use it to produce bioenergy in the form of heat for their own production, district heating or electricity. Moelven needs to exploit the entire log in order to ensure profitable operations, and bioenergy is thus an important resource for creating value from wood chip and bark products.

Policy and approach

The energy potential of the Group's chip and bark products, including cellulose chips, amounts to around 2.5 TWh. Therefore, considerable potential exists in terms of both increased own production and a larger market for bioenergy in general. The new pellet factory that was opened in October 2019 represents a major step towards harnessing this potential. Besides significantly increasing the processing rate of the residual raw materials, the integration with a new bioenergy plant and new drying technology reduces the energy used in pellet production by up to 37 per cent.

Moelven's sustainability policy contains the following goals and guidelines:

- ▶ Moelven must reduce energy consumption at its facilities and obtain at least 95 per cent of the energy needed for heating premises and drying from self-produced bioenergy (timber industry).
- ▶ Moelven shall actively participate in technology and market developments in the bioenergy sector, and by investigating alternative energy use at those plants who use fossil fuel for heating.

Evaluation of results

Moelven has conducted a survey of internal bioenergy consumption, sales of bioenergy and sales of chips to the rest of the bioenergy industry. The results show that Moelven consumed 601 GWh of bioenergy in the form of heat in 2019. As described in the chapter "Energy consumption in own production", this is mainly used for drying.

Moelven also purchases significant amounts of bioenergy from external companies. This is because the relationships between owners, operators and suppliers of biomass for combustion boilers often differ. ●

Description	2019	2018
Chips for external bioenergy industry (GWh) (lower calorific value)	1,563	1,510
Bioenergy produced in Moelven (GWh) (lower calorific value)	746	723
Consumed bioenergy (GWh)	601	508
Bioenergy sold to companies outside the Group (GWh)	73	70
Calculated average efficiency in combustion boiler (%)	90%	80%



Board member of Moelven Industrier ASA, Gudmund Nordtun, and chair of the Corporate Assembly, Rolf Th. Holm, take a close look at the new bioenergy plant.

BIOENERGY PLANT IN SOKNA

The new 2 x 12 MW bioenergy plant came online in the autumn of 2019 and supplies Moelven Soknabruket AS and Moelven Pellets AS's pellet factory with environmentally friendly thermal energy. This is the first time in Norway that a bioenergy plant has been fully integrated into a sawmill.

An innovative drying technology concept with heat recovery in the pellet production has also been adopted.



DID YOU KNOW THAT...

This is a measure of output and is measured per second. 1 watt is the power required, for example, to hoist approximately 102 grams 1 metre up in one second at ground level. However, we are more accustomed to looking at this on an hourly basis, and the abbreviation therefore has a "h" at the end, as in kWh or MWh.

AMBITIONS

- ▶ Energy consumption will be reduced

RESULTS

- ▶ 1,563 GWh (lower calorific value) of energy raw mate-

rials sold to the rest of the bioenergy industry

- ▶ 746 GWh of biomass consumed in own bioenergy plant

- ▶ 601 GWh of bioenergy used in own operations

MEASURES

- ▶ Improve measurement and reporting of bioenergy production and consumption



Moelven makes its living from renewable natural resources and one of our sustainability goals is to safeguard these. Among other things, this means we use the entire log and that the timber we buy is certified.



**Safeguarding our
natural resources**

Producing renewable energy from residual raw materials

Moelven's new pellet factory and bioenergy plant at Sokna are now complete.

On 15 October 2019, 30 tonnes of pellets were shipped from the brand new factory in Sokna outside Hønefoss to Norefjell Ski og Spa. The hotel can thus heat the entire facility using local, climate-friendly fuel, and this was the starting gun firing for Moelven's new pellet adventure.

"It is important for Moelven to make full use of the timber, and the production of pellets means we can manage our residual raw materials in a sustainable and profitable way. This is a memorable day," said Ole Frantzen, the factory manager at MoelvenPellets AS after the first pellet delivery was made.

Half is left over

In 2018, Moelven decided to invest NOK 270 million in a new pellet factory and a new bioenergy plant in Sokna outside Hønefoss. The new facility has been fully integrated into the sawmill operations at Moelven Soknabruket AS. The bioenergy plant supplies both the sawmill and the pellet factory with energy, which means that energy from the sawmill that would otherwise go to waste is now used in the production of pellets.

By starting pellet production, Moelven has taken steps in-house to increase the value of the residual raw

materials from sawmill operations. Only half of the log is turned into sawn timber. The other half becomes wood chips, and to ensure profitable operations Moelven needs to exploit the entire log. By using the wood chips as a raw material for pellet production, the company can harness the forest's resources to the fullest and manage the residual raw materials in a sustainable and profitable manner. The initiative has created seven new jobs so far.

Norwegian pellet production doubled

The Sokna pellet factory is the first in Norway to be fully integrated into a sawmill and when its capacity is fully utilised it will double annual pellet production in Norway. In April 2019, it was announced that the Swedish SCA Group had secured a long-term and exclusive delivery contract for the entire production volume of around 80,000 tonnes per year.

"This is a massive agreement for newly started Moelven Pellets, and we are proud to be a supplier to as experienced an actor within renewable energy as SCA. The agreement is proof that our energy-efficient and innovative focus on the pellet market came at the right time," stated Lars Storslett, director of Moelven Pellets AS. ●



MOELVEN PELLETS AS

Moelven Pellets AS produces white wood pellets from raw materials from certified Norwegian timber. The finished pellets are certified in accordance with EnPlus A1 and the Sustainable Biomass Programme.

The majority of the pellets are exported to the European market.

A new bioenergy plant and an innovative energy concept will reduce the energy used in pellet production by up to 37 per cent.



Moelven Pellets' factory manager, Ole Frantzen, presses the button that loads 30,000 tonnes of pellets for Norefjell Ski og Spa.



The starting gun fires for the start of Moelven's new pellet adventure.



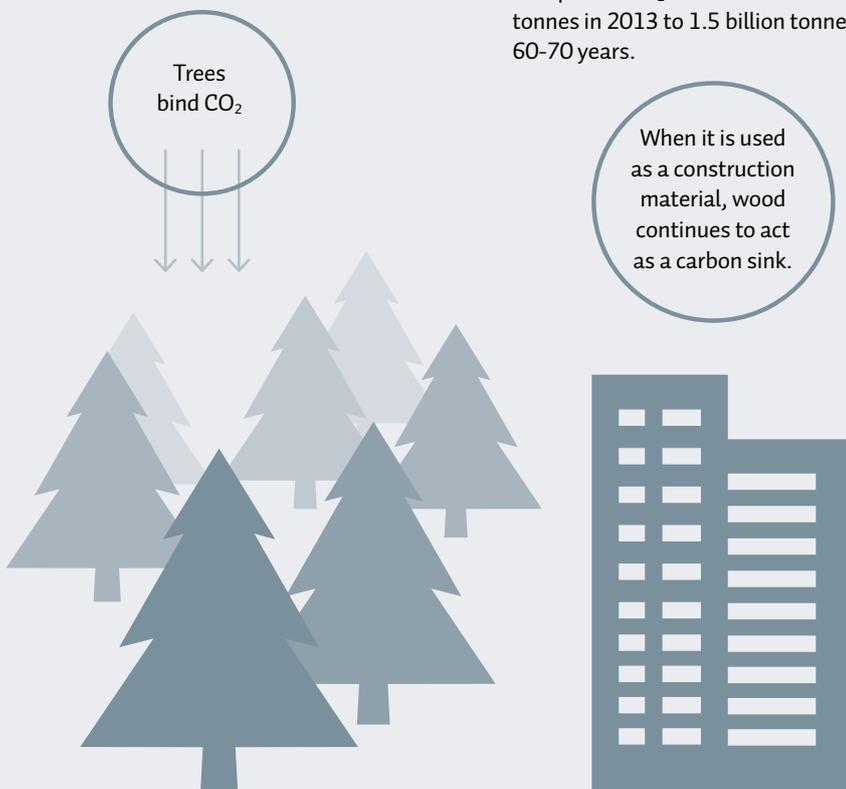
By starting pellet production, Moelven has taken steps to increase the value of the residual raw materials from sawmill operations.



Why do we fell trees?

Scandinavian forests bind around 55 per cent of our man-made CO₂ emissions. So why then is it a good thing to fell trees to produce wooden buildings and other wood products?

One important reason for this is the ability of trees to act as natural carbon sinks. As with most plants, photosynthesis enables trees to absorb carbon dioxide (CO₂). Trees use the most CO₂ as they are growing and absorb less CO₂ once they are mature. When a tree rots or is burned, the carbon dioxide is released again, but if the tree is felled and used as, for example, construction materials, it continues to act as a carbon sink. An ordinary wooden house/building will, for example, bind around 16 tonnes of CO₂ in the wood.



Why build in wood?

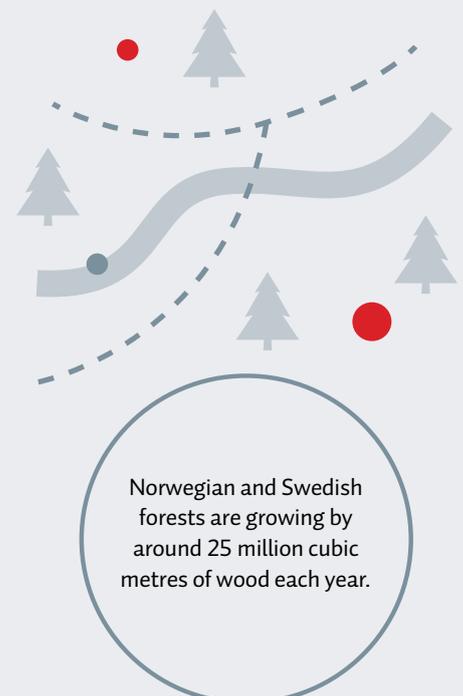
Environmental organisations say we must stop deforestation, so why is using more wood in construction a good thing?

The world's forests are gigantic carbon sinks and to avoid emissions from these sinks, deforestation must be reduced. However, there is big difference between chopping down rainforest, which is often not replaced by new forest, and the forests here in Scandinavia. For each tree that is felled in Scandinavia, two new trees are planted, which when growing consume more CO₂ than grown trees. This means that active forestry helps to bind more CO₂ than would be the case were the forest to be allowed to gradually die naturally. According to Trefokus, increased forest production would enable us to increase the amount of captured CO₂ from around 1.2 billion tonnes in 2013 to 1.5 billion tonnes in 60-70 years.



What happens to the wildlife when forest is felled?

A number of measures are implemented to ensure that forestry does not reduce a forest's biodiversity, but instead safeguards all the species that live there. Among other things, one preserves important habits for rare and endangered species where forestry takes place and requirements have been produced that regulate how much forest must be managed for the sake of diversity of species, as well as the times of year when the wildlife and bird species cannot be disturbed.



Sources: Skog – en viktig del av klimatløsningen, Skog.no, Svenskt Trä, Regjeringen.no.



What happens to felled areas after the trees have been felled?

In Scandinavian forests, a lot of carbon is stored in the root systems and in the soil, and during felling CO₂ emissions from the soil increase for a period of 10-30 years before the new vegetation again ensures the net absorption of CO₂. After felling, forest owners must ensure that new forest is established within three years. This can be done by planting, sowing or natural regeneration due to seeds. Mineral soil can be exposed in these areas in order to ensure that the new forest is established faster, grows better and has higher survival rates. Preparing the land like this disturbs the soil and can thus result in some carbon loss, but at the same time the new forest will be able to bind CO₂ again faster.



Will there be too little forest in Scandinavia if we use more wood in construction?

Forests cover around 38 per cent of the Norwegian mainland and these areas are home to almost eleven billion trees with a diameter of 5 cm or more. In Sweden, forests cover 70 per cent of the land area. Scandinavian forest owners have a good, long history of sustainable management. Swedish forest resources have doubled in less than 100 years. In fact, Norwegian and Swedish forests are growing by around 25-30 million cubic metres of wood each year. Moelven is a major buyer of wood and to ensure that the raw materials we use come from responsible forestry, we buy certified wood.

Does forestry produce greenhouse gas emissions?

Although the raw materials from forestry are climate-friendly, forestry does produce greenhouse gas emissions. The emissions come from sources such as the fuel consumed by forestry machinery and logging lorries that carry the wood from the forest to industrial facilities. These emissions are included when calculating the effects of replacing other construction materials with wood. The effects can be further increased by substituting biofuel for fossil fuel, and using electric forestry machinery and logging lorries when these become available.



Sustainable materials

Where and why is it important?

Moelven's sustainability policy describes how Moelven should, insofar as it is possible, use natural raw materials from forests. Moelven buys certified and controlled timber to ensure that these raw materials come from responsible forestry.

Moelven is a major purchaser of timber, and thus has a responsibility to contribute to responsible forestry. Responsible forestry helps to ensure forest management takes account of the sustained use of the forest, which includes taking into account the forest's biodiversity and the conditions for outdoor recreation.

Policy and approach

Moelven's sustainability policy states the following:

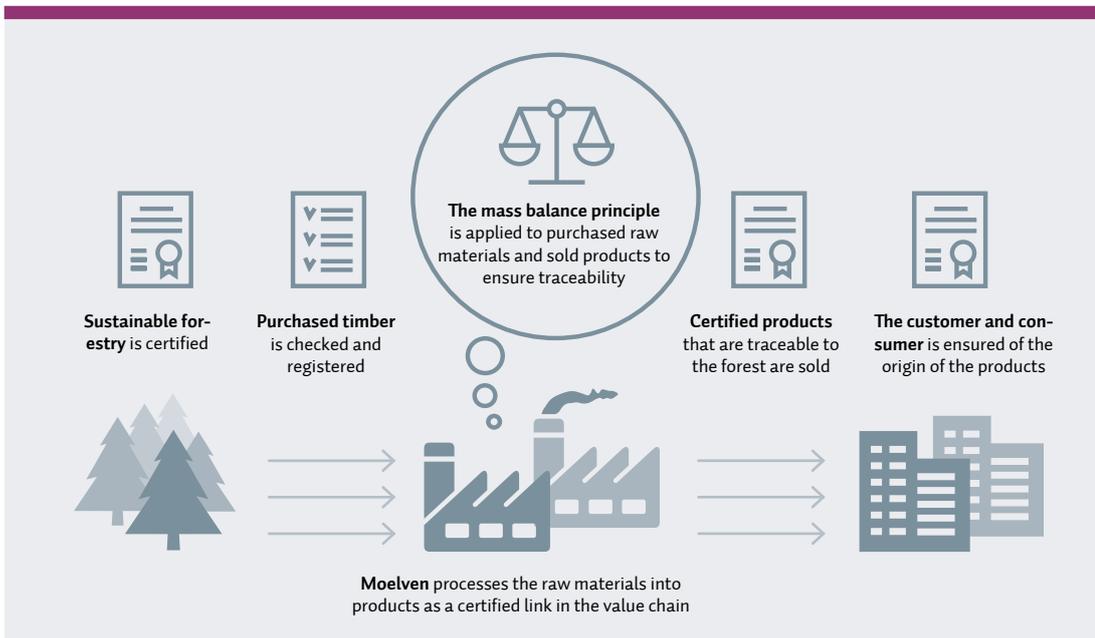
- ▶ Moelven must maintain and develop its systems for certified sourcing, and maximise purchases and utilisation of environmentally certified raw materials from certified forestry

- ▶ Moelven must maximise the exploitation of raw materials by optimising production and utilising the residual products
- ▶ Moelven must not buy raw materials from:
 - Illegal harvests
 - Forests with a high preservation value
 - Forests where time-honoured or social rights are violated
 - Forests with genetically manipulated trees
 - Natural forests that have been harvested with the intention of using the area for plantations or non-forestry applications

All of the companies in the Group's timber processing operations are organised and strive to meet applicable requirements for controlled wood, as well as the traceability standards of PEFC™ (Programme for the Endorsement of Forest Certification) or FSC®⁽¹⁾ certification (Forest Stewardship Council).

PEFC™ is an international NGO (non-governmental organisation) that works for responsible forestry, and issues certificates to actors who meet the criteria they have defined. The organisation promotes responsible forestry through third-party certification. Moelven is a link in the timber processing value chain, and thus has a responsibility to ensure traceability in order to label its products as PEFC™ Chain of Custody certified.

Like PEFC™, FSC® is also an international NGO that works for responsible forestry, and issues certificates to actors who meet their requirements for responsible forestry. The difference between these two certifications lies mainly in the story of how they were developed. FSC® includes several different standards, including FSC® Chain of Custody (CoC) and current



⁽¹⁾ FSC-C092806, FSC-C113012, FSC-C115128, FSC-C107974



requirements for controlled wood. As a minimum, all of the raw materials handled by Moelven satisfy the standard for controlled wood.

In the certification, Moelven operates as a link in the value chain, and the company is thus responsible for ensuring traceability. Since traceability throughout the entire production process is not feasible at an individual level, Moelven practices the mass balance principle to ensure that all of the products it sells are correctly certified. This means that Moelven cannot sell larger volumes of finished products than can be produced based on the purchased quantity of the corresponding raw material.

It is not the suppliers that are certified, it is specified product groups from the supplier.

The certification is checked at the invoice level per product line. Moelven's customers can find the certification status of the purchased products on the packing slip and invoice.

Evaluation of results

100 per cent of all of timber that Moelven sources is checked in accordance with the applicable requirements for controlled wood. In Norway, all felling is in practice PEFC™ CoC certified, and a proportion of it is certified twice in accordance with both PEFC™ CoC and FSC® CoC. In these circumstances, the customer must choose which certification should be entered into the account for the given volume. The principles for certified forestry are different in Sweden to those in Norway. Nevertheless, around 65 per cent of total forestry land is certified in accordance with PEFC™ or FSC®, and the proportion is increasing each year.

Moelven's systems for buying timber ensure that it comes from responsible forestry. Moelven also purchases processed wood products that are part of our product range. These products are purchased from several different actors who operate in different countries. Moelven is constantly working to ensure that the products come from responsible forestry. ●

AMBITIONS

- ▶ Moelven must contribute to sustainable forestry, and not purchase raw materials from controversial sources

RESULTS

- ▶ 100 per cent of the timber is checked in accordance with the applicable requirements for controlled wood and a high proportion is PEFC™ certified or FSC® certified

MEASURES

- ▶ Increase the proportion of certified timber from Swedish forests for our Swedish sawmills. Continue checks and increase the proportion of certified retail products.



Resource optimisation

Where and why is it important?

Moelven is a resource-intensive industrial company. For example, the industrial wood processing part of the Group has an annual raw material requirement of just under 4.5 million m³ of sawlogs. Resource rationalisation and optimisation thus represent huge potential, even with minor production changes.

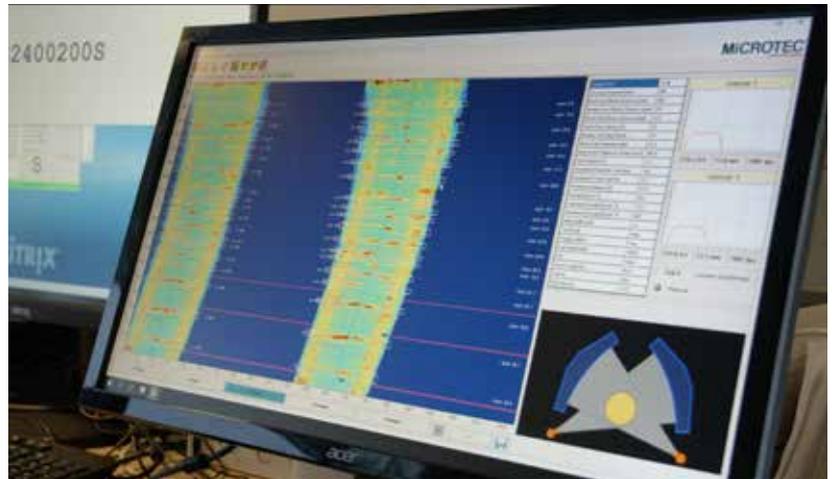
In order to ensure profitable operations, Moelven therefore depends on the optimum exploitation of resources and on ensuring that no raw materials go to waste. This is an important topic for Moelven since it affects profitability. It is an important topic for our surroundings since it involves avoiding wasting valuable natural resources.

Policy and approach

Moelven focuses on resource optimisation throughout the value chain. This applies not only to raw materials, but also to transport and among employees. See more about this in the chapters “Goods transport” and “Engaged and competent employees”.

At the sawmills, the logs are analysed to ensure the optimum extraction of materials. This means that the saw is set to ensure that what is put in as a whole log comes out divided into planks, sideboards, chips and fibre products in a mix that overall results in the highest value utilisation of the raw material. To achieve this, each log is analysed with respect to things like size, tapering, twisting and twigs. The most advanced facilities use both external 3D scanning and X-ray scanning for this. The technology enables full traceability throughout the processing from log to the finished sawn timber.

Moelven is continuously working to optimise the utili-



sation of raw materials. There are significant opportunities for improvement and development in advanced data analysis, which may improve extraction on the basis of historical measurements and results.

Operations at several of Moelven’s units are also based on the LEAN principles, and the aim is to reduce waste and increase efficiency. One of the priority areas is displaying real-time production data to the operators involved so that they have an opportunity to improve the work processes directly.

LEAN is also important with regard to safety at the facilities. Experience shows that many workplace accidents happen in abnormal operating situations, and it has been proven that order and tidiness are important risk mitigation measures. Read more about this in the chapter “Health, safety and the environment”.

Evaluation of results

Resource optimisation through log selection is not only based on maximising the recovery factor, it is also based on maximising product value. This is because the market value of certain extracted materials can vary in relation to the volume of the materials extracted.

Exploiting the whole log is an important principle for Moelven. Regardless of how the extraction is carried out, Moelven therefore ensures that all residual raw materials, including chips and bark, are used internally or sold. ●

A new log sorting line with both X-ray scanning and a 3D frame were invested in at Moelven Våler AS in 2018. The sawmill thus became Norway’s first to introduce X-ray scanning. X-ray scanning provides the sawmill with information on the location and size of knots, the proportion of heartwood and the density of the log. This information is used to sort the logs, such that the timber can be exploited in the best possible manner in the subsequent processing.

AMBITIONS

- ▶ We will make optimum use of the raw materials

RESULTS

- ▶ Recovery factor > 51%

MEASURES

- ▶ Following up LEAN projects and principles in the Group
- ▶ Implement relevant KPIs in order to optimise the use of residual raw materials



Resource-efficient design and packaging

Where and why is it important?

Moelven impacts the environment both through its own industrial operations and the use of our products. Material use is optimised and waste quantities reduced through resource-efficient design and industrialised production in controlled environments in the factory, on the construction site and during the usage phase. For practical reasons, many products must be stored and transported exposed to the elements. The correct packaging is important in order to preserve quality, although this often also presents environmental challenges. Moelven uses a lot of plastic for packaging. Plastic takes a long time to break down in nature, and unnecessary packaging can potentially affect a customer's certification of a construction project.

Policy and approach

Moelven's sustainability policy states the following:

- ▶ The utilisation of raw materials must be optimised to improve resource efficiency and to maximise the value of the raw materials.
- ▶ Products must be designed with a focus on resource efficiency. Unnecessary packaging must be minimised.
- ▶ The use of plastic must be minimised. Alternative materials to plastic must be actively sought.

At its own facilities, Moelven can utilise a waste management system that ensures the highest possible degree of recycling and reuse. However, Moelven has little influence on what happens to the packaging of its products that are distributed in the market. It is therefore important to make sure that as little and as environmentally friendly packaging as possible is used. Surveying the plastic consumption to identify opportunities for reducing it and at the same time cut costs has a high priority. The products from the timber processing industry must in most cases

be protected against the elements. Direct deliveries from the manufacturer to the customer with no intermediate storage where the products may be exposed to precipitation, dirt or sunlight are rarely possible. In order to preserve quality and thus value, the packaging must meet specific requirements for waterproofing, UV protection and tearing strength. Moelven currently uses a polythene film made from 95 per cent recycled plastic as cover packaging. Work is also being done to find alternative and more sustainable solutions. There are working products on the market that are made from reinforced paper laminated with a layer of polyethylene and polypropylene. However, the products are costly and difficult to recycle due to their complex composition. Trials are taking place at Moelven Valåsen AB involving PE laminated liquid carton, where the sides are treated with wax as protection against humidity. The packaging is recyclable when fibre is separated from the PE component. The trials are promising, but much development remains before this solution can replace current plastic packaging based on recycled plastic.

Evaluation of results

Tonnes	2019	2018
Plastic packaging consumed	431	262
Recycled plastic packaging	1,178	1,158
Bioplastic packaging consumed	28	24
Polyurethane consumed	13	24
Total plastic consumed	1,651	1,467
Plastic recovered	387	318
Cardboard packaging used	91	77

The main reason for the increase in plastic consumption from 2018 is the variation in the product mix and production volumes. Moelven's module concept and system interiors are examples of resource-efficient design. Efficient mass production with good planning streamlines both resource usage in the factories and waste quantities, and the actual waste management becomes easier as well. Both time spent and waste quantities are reduced on the construction site. Opportunities for recycling and reuse are also important. Moelven Modus has developed office solutions that can be changed and adapted to new needs by reusing materials and components. Read more about the Modus method on page 26. ●

AMBITIONS

- ▶ Climate-smart products and materials
- ▶ Raw materials utilisation must be optimised
- ▶ Actively strive to minimise the use of plastic and find alternative materials

RESULTS

- ▶ 1,651 tonnes of plastic consumed
- ▶ 387 tonnes of plastic recovered

MEASURES

- ▶ Identify resource-efficient products in the Group
- ▶ Systematically identify opportunities for reducing waste and alternative packaging materials



Waste management

Where and why is it important?

As an industrial group, Moelven produces large quantities of waste. A large proportion of this waste can either be reused, recycled or used in energy recovery.

Waste management is an important topic for both Moelven and our stakeholders. In addition to its negative environmental impact, the quantity of waste is an indication of inefficient production that impacts the operating result and the prices of finished products.

Policy and approach

Moelven’s sustainability policy states the following guidelines and goals for waste:

- ▶ Moelven shall design products that focus on resource efficiency, and assess the need for and environmental impact of packaging.
- ▶ Moelven shall actively work to reduce waste and achieve a minimum sorting ratio of 90 per cent for residual waste.
- ▶ Moelven shall actively work to minimise the use of plastic, and strive to find alternative and sustainable alternatives to plastic.

Complying with all of the laws and regulations that apply to the Group is a fundamental prerequisite for all operations in Moelven. The sustainability policy approved by the Group’s corporate management in 2020 focuses on activities and initiatives that go further than what the legislation requires.

The various units in the Moelven Group are responsible for their own waste management. This is carried out in cooperation with local waste management

companies, who have various options for dealing with waste.

Several of Moelven’s location apply LEAN production methods. These are based on continuous improvement and a reduction of wasting in the organization. Waste impacts production costs and must therefore be reduced to a minimum.

Evaluation of results

Waste management is becoming an ever greater priority in the Group. Good waste management with precise sorting into as many waste fractions as possible is

Category	2019	2018
Total waste volume (tonnes)	12,846	12,627
Total hazardous waste volume (tonnes)	833	905
Total volume other waste (tonnes)	12,014	11,722

Waste management (tonnes)	2019	2018
Total quantity of hazardous waste sent to material recovery	120	49
Total quantity of hazardous waste sent to incineration	426	128
Total quantity of hazardous waste sent for reuse (external)	20	2
Total quantity of hazardous waste sent to landfill sites (external)	255	214
Total quantity of hazardous waste sent to landfill sites (internal, e.g. bark landfill sites)	0	0
Total quantity of waste sent to material recovery	3,985	2,420
Total quantity of waste sent to incineration	4,346	5,247
Total quantity of waste sent to composting	172	7
Total quantity of waste sent for reuse (external)	17	8
Total quantity of waste sent to landfill sites (external)	2,001	1,647
Total quantity of waste sent to landfill sites (internal, e.g. bark landfill sites)	40	227
Mixed waste (not sorted locally)	1,484	1,472
Waste sorted as normal wood	3,144	4,837
Waste sorted as impregnated wood	537	346
Waste sorted as plastic	387	318
Other sorted waste (sorted locally)	4,323	2,394
Sorting ratio (%)	85.0	84.3

AMBITIONS

- ▶ Sorting and recycling waste as far as technically possible

RESULTS

- ▶ 12,846 tonnes of waste included
- ▶ 833 tonnes of hazardous waste
- ▶ 387 tonnes of waste sorted as plastic
- ▶ 85.0% sorting ratio

MEASURES

- ▶ Continue surveying waste
- ▶ Continue working to increase the sorting ratio to a minimum of 90%

an important prerequisite in the trend towards a more circular economy. In 2018, Moelven increased the level of detail in its reporting, including with respect to waste management. Besides increased control over how waste is managed in the Group, this has resulted in increased attention and engagement with respect to waste management at the units.

The quantity of reported waste did not increase significantly in 2019, although there was some displacement between the categories. The main reason for this is the increased focus on and control over reporting, and thus greater precision. This provides a good starting point for assessing the areas with the greatest potential for further improvement. The details in the reporting show that the significant changes in waste quantities were linked to renovation and investment projects. This is also an important cause of the fluctuations in waste categories. The proportion of waste reported as being sent to material recovery increased in 2019. This was primarily due to inadequate reporting in 2018.

The Group's goal is to achieve a sorting rate of at least 90 per cent. This is an ambitious target. The sorting rate significantly improved between 2017 and 2018 thanks to improved reporting routines and other simple improvement measures. The improvement in 2019 was marginal, although the trends observed in both the reporting and the individual units were positive.

Measuring the sorting ratio across several regions is challenging since the definition of sorting will depend on the waste management methods that are available locally. For example, mixed waste could be defined as sorted if all of the mixed waste goes to incineration anyway. Therefore, a calculated sorting ratio is reported that is based on the proportion sorted by the company based on the total quantity of waste.

In 2020, the work from the previous years will continue and there will be a heavy focus on higher sorting rates. Each Moelven unit will be encouraged to continue the dialogue with local waste management companies and implement measures that reduce the quantity of waste, with a particular focus on waste that ends up in landfill sites. ●

Moelven Byggmodul AB ensures as much waste as possible can be sorted in a transparent manner.



Photo: Moelven



Focus on people



Moelven provides opportunities for those who want them. Thea Helene Slotnæs, Elisabeth Davis and Maren Wilson are three of our approximately 3,400 employees who strive to provide you with great products and services every day.

These words saved Fredric's life

Looking out for one another can mean all the difference between life and death.

"If Lars Kristen hadn't reminded me to put my helmet on, I probably wouldn't be here today," says company driver Fredric Liöggård.

On 19 February 2019, a father of four, Fredric, was visiting Moelven Vänerply in Otterbäcken in Sweden to pick up and transport some sheets. After loading up the goods he climbed up onto his lorry to strap down the sheets. As he was doing so, Lars Kristen Holst, a business developer at Moelven, walked past.

"He looked at me and told me in a friendly manner that I had forgotten my helmet. So I climbed down and went to get it, before climbing back up again," says Fredric.

Just after that the unexpected happened. Fredric lost his balance and fell four to five metres down onto the tarmac, headfirst.

Destroyed helmet

"Both of his wrists were pointing the wrong way, so we knew that they were broken. We understood that

it was extremely painful, but apart from that we were most concerned about what had happened to his neck and back," says Lars Kristen, who was the first one at the scene of the accident.

In addition to breaking his wrists, it turned out that Fredric has punctured both lungs, broken seven ribs and suffered a blow to his head. His helmet was destroyed.

Means more than we think

"Colleagues who care are the most effective safety equipment we have. Stopping and daring to say something can mean more than we might think. Lars Kristen's friendly reminder is proof of that," says Anne Cathrine Amdahl, the HSE Manager at Moelven.

Today Fredric is now back at work fulltime and is full of praise for what Lars Kristen did.

"I am incredibly grateful to him for reminding me to put my helmet on, otherwise I wouldn't have done it." ●



THE SAFETY COMMITTEE

Consists of the CEO, heads of divisions for Timber, Wood and Building Systems, the HR Director and two employee representatives.

Meets six times a year and is the governing body for HSE work at Moelven.

TECHNICAL HSE FORUM

Comprises the HSE resources from the Timber, Wood and Building Systems divisions, and HR.

Workgroup that forwards recommendations to the safety committee.



Moelven introduced stricter requirements concerning the use of helmets on 1 May 2019. These include helmets having to have a chinstrap and be marked with the company logo and person's last name.

It was a moving reunion when Fredric and Lars Kristen met again six months after the accident.



Watch the gripping film on moelven.no/ordredderliv.



The fact that someone cares can mean the difference between life and death. The fact that he wore his helmet may have saved Fredric's life.

The helmet that Fredric was wearing cracked when he fell off the lorry.





Moelven supports Save the Children Norway

Moelven has extended its partnership with Save the Children Norway and, as in 2018, donated NOK 500,000 in 2019 to help children and young people with their schooling and education in some of the world's poorest countries.



Photo: Save the Children Norway



Health, safety and the environment

Where and why is it important?

Health, safety and environment (HSE) is a collective term for work on health protection, environmental protection, the working environment, safety and security. This chapter mainly deals with those parts of HSE that concern people, while the environment is covered in the chapters “We have climate-smart products and solutions,” “Safe chemical use” and “Local environment”.

Health and safety are essential for sustainable value creation. This does not just apply to employees and contracted personnel, it also applies to customers, suppliers and others affected by Moelven’s operations. This is of course one of the most important areas for both Moelven and our stakeholders.

Policy and approach

Through Moelven’s framework we have focused on our most important resource, people. Moelven wants to help ensure that all of our employees come home in one piece. We also want to focus on a healthy working environment through active employee participation, good tools for monitoring employees and providing opportunities to anyone who wants them. We actively focus on training and awareness campaigns in order to create a safety culture in every part of the organisation.

In 2019, the Group also introduced stricter requirements for the use of safety goggles and helmets in order to increase the focus on safety. In addition to this, the requirements for reporting and assessing incidents were collated and clarified in a single document. The document is intended to help managers make the right assessments when reporting matters and be a reference source for all employees.

Targets

Targets have been set in four areas within HSE. LTI rate, TRI rate, number of reported incidents and absence due to illness are areas in which the goals are to make clear improvements. The goals are also described in our strategic framework.

The target for the LTI rate, which is an expression of the number of injuries resulting in absence per million hours worked, was set as <7 in 2019. In 2019, we increased our focus on injuries, including injuries that did not result in absences. The TRI rate states the number

of injuries (with and without absence) per million hours worked and the target for 2019 was <33. Although Moelven’s goal is zero injuries, this target is on the path to an injury-free workday.

Our goal is to increase the number of near accidents and hazardous situations that are registered. We know that increasing the number reported will increase the focus on them, which provides an opportunity to do something about situations before accidents occur. In 2019, the target for the number of reported incidents was one per employee per year.

A target was also set for absence due to illness in Moelven. The target for 2019 was 4.4 per cent. A good, safe working environment is essential for reducing absence due to illness, and systematic efforts are being made through various types of healthy activities to prevent absence due to illness among our employees. In the event of absence due to illness, employees are closely followed up through dialogue and assessments of their residual capacity for work. In those cases where it is needed, Moelven has health insurance for its employees. This helps to ensure that those who need it receive quicker treatment and thereby return to work faster.

Meeting forums

HSE is now an integral factor throughout Moelven. HSE is the first item on the agenda in board meetings, divisional meetings in the companies and in group management team meetings. Moelven also has two meeting forums that focus on HSE: the safety committee and the technical HSE forum. The safety committee consists of the group management team, the head of HSE and employee representatives. The technical HSE forum comprises representatives from all of the divisions, the HSE director and the HR director in Sweden. Both forums work on relevant issues and groupwide HSE issues.

Incident investigation

Moelven’s overall goal in safety work is that no one should be harmed at work. Active efforts are made to disseminate lessons that have been learned to the different companies. In 2019, investigations were introduced as a method for incidents of some severity. The purpose of the investigations is to ensure a thorough and unbiased examination or investigation of the incident, and to ensure follow up of HSE incidents to prevent recurrences. Following an investigation, the incident is described on a learning sheet. The learning sheet is intended to provide the reader with information about the incident, its root causes and preventive measures. The investigations must ensure learning and the transfer of experience in all companies in Moelven.

New management system

In 2018, work began on further structuring the systematic HSE work in Moelven. The goal was to collate all of the HSE work in a common system. Collating resour-



WE MEASURE

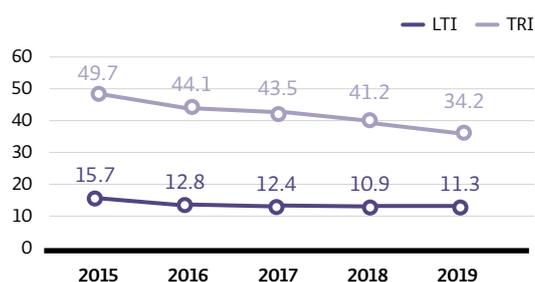
LTI rate (number of injuries with absence per million worked hours)

TRI rate (number of injuries with and without absence per million worked hours)

Number of registered incidents

Absence due to illness

Development of number of injuries, 2015-2019



ces and documents in one place would save individual employees time and make it easier for each company to identify, implement and follow up improvement measures. Following a thorough process, in September 2019 an agreement was signed for the procurement of a new management system for HSE, quality and the external environment. The supplier Landax provides a comprehensive tool that addresses all of the HSE work in Moelven. A common way of working will reinforce the way in which we follow up and implement preventive work. A course of implementation has been planned where different modules are introduced in phases. In the years ahead training and new ways of working will characterise much of the HSE work at Moelven.

Evaluation of results

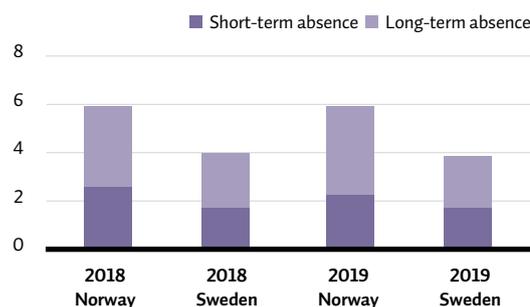
Injuries

Moelven’s overall goal in safety work is that no one should be harmed at work. Unfortunately, we have not achieved this goal yet and 63 employees were injured seriously enough to require absence from work in 2019. This results in an LTI rate (number of injuries with absence per million worked hours) of 11.3.

We have increased our focus on all injuries and in 2019 we also set a target for TRI (number of injuries with and without absence per million hours worked). Our target in 2019 was an TRI rate of <33. We did not quite achieve this and the TRI rate was 34.8 at the end of 2019. This corresponds to a total of 194 injuries. We have reduced the number of injuries from 241 (2018) to 194 (2019) and this is a good trend.

Unfortunately, it appears that the improvement in the LTI rate has stalled. We have implemented a number of different measures and are following up injuries and the companies more closely. Among other things, we hope to see the effects of learning sheets and sharing experience across the companies in the years ahead, and that these will prevent and reduce the number of injuries.

Absence due to illness at Moelven by country



There has been a pleasing trend in relation to the number of dangerous situations that are reported. We know that increasing the number reported will increase the focus on them, which provides an opportunity to do something about situations before accidents occur. Our target was one report per employee per year in 2019. The number of reported near accidents and dangerous situations increased from 2,844 in 2018 to 3,478 in 2019. This enables us to do more to prevent incidents arising. Our reporting system can also provide us with overviews of trends, who was affected, possible causes and injury types. The most adverse incidents and dangerous situations were reported in the following areas in 2019:

Absence due to illness

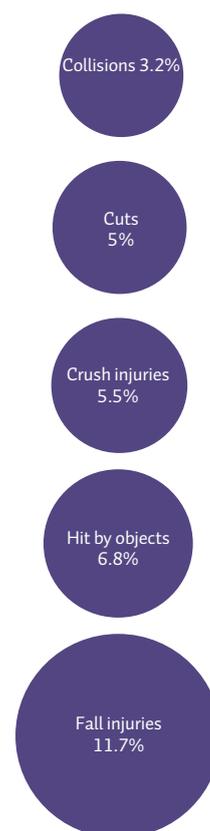
The long-term trend for sickness absence developments is falling, and many of Moelven’s businesses have sickness absence levels lower than the maximum target of 4.4 per cent in 2019. The long-term goal for the strategy period is an absence due to illness rate in 2021 of <4.0 per cent and we are actively working on, among other things, measures aimed at companies with the highest absence due to illness rates, cooperation with the occupational health service and employee surveys.

The results for Norway and Sweden differed somewhat, where Norway had both higher long-term and short-term absence rates in both 2018 and 2019.

Improving skills

The most important skill in Moelven is knowing how to perform your work safely so that everyone gets home in one piece. All employees and contracted labour have to complete an HSE course to ensure that they have good basic knowledge about health, safety and the environment. In addition, all managers, safety representatives and members of working environment committees are required to learn more about working environments. This is addressed in Moelven through the “Better

Causes of injury



AMBITIONS

- ▶ LTI < 7 in 2019
- ▶ TRI < 33 in 2019
- ▶ Absence due to illness: < 4.4% in 2019
- ▶ 3,400 risk reports

RESULTS IN 2019

- ▶ LTI: 11.3
- ▶ TRI: 34.8
- ▶ Absence due to illness: 5.4%
- ▶ 3,478 risk reports

MEASURES

- ▶ Clear requirements
- ▶ Cross-learning
- ▶ Good safety culture
- ▶ Focus on active leadership and active employee participation



Involved and competent employees

Where and why is it important?

Moelven is a major employer with 3,399 employees, and it is important that each employee has a workplace where they are happy and have an opportunity to develop. This is of course important for the individual employee, but it is also important for Moelven, since there is a clear correlation between employee satisfaction and Moelven's results.

Moelven also relies on being an attractive workplace for the talented employees of tomorrow. This is critical in ensuring long-term value creation in an industry undergoing constant change due to streamlining, product development and innovation in manufacturing processes, new products and solutions, and, not least, new climate-smart areas of use for wood.

Policy and approach

The Group's personnel concept involves supporting employees who want to develop their careers. Moelven provides opportunities for those who want them! Therefore, we have to do our best to develop and nurture our employees by mobilising and developing our business critical skills. Our goal is also to ensure that we have a safe working environment from which everyone returns home in one piece.

Moelven's ambition is to build a corporate culture based on our strengths and develop it in those places where it is important for us to change. This should be the hallmark of our ambition to focus on people – through dedicated and competent employees.

- ▶ We are building a culture of performance in which together we can create international competitiveness. A culture in which we push boundaries, in which we all focus on the future and feel a great sense of responsibility, commitment, and drive to help create Moelven's future. A culture in which it is natural to act

as an ambassador for Moelven.

- ▶ We know where we want to get to together, and each one of us knows, clearly and strongly, that we are part of a larger whole. We work together across boundaries and maintain a good balance between the independence of our companies and what it is important for us to do the same.
- ▶ Thinking innovatively is part of our DNA, about the large things and about the small ones. We are solution-oriented and building a culture that has plenty of space for working on continuous improvements. We celebrate our progress and take note of why we were successful. We have the courage to try, we dare to fail, and we learn from our mistakes.
- ▶ Our starting point is that all employees want to improve their skills, participate, and get involved. We call this active employee participation.
- ▶ Our energy and ability to realise ideas are our strengths. These are awoken by employees being given responsibility and room to act, and through a tolerant climate that engenders courage. We strive to involve all of our employees. We are clear about what we expect and the task, and make it possible for employees to succeed.
- ▶ Our approach is based on compassion and respect, and has human values at its centre. We have a sense of community and warmth that is tangible, with a closeness and openness between different levels and parts of the organisation. We want to help each other succeed and are pleased when others do. We are striving to build a team characterised by diversity.

A platform for leadership and employee participation in Moelven was developed during 2019. This is our **active leadership** and **active employee participation** platform. Given our decentralised organisation, it is important to develop Moelven's culture through our managers and employees. This was rolled out to all employees throughout Moelven in 2019 and new systems for following up both leadership and employee participation were implemented during the year.

Moelven participates in two regional trainee programmes in order to ensure it can recruit recent graduates: "Higher Ambition", in Värmland in Sweden, and "Trainee Innlandet", with its catchment area in Norway's Interior Region. These programmes recruit candidates with master's degrees and trainees often have administrative duties. Moelven also has a trainee



Recruitment in Moelven in 2019

135 adverts
166 jobs
2,558 applications
2,120 new CVs in Webcruiter

Active employee participation

Developing the business, myself and others

Taking personal responsibility

Contributing commitment



AMBITIONS

- ▶ Engaged and competent employees

RESULTS

- ▶ Internal and external trainee schemes established in both Norway and Sweden

MEASURES

- ▶ Start-up of the work on active leadership and active employee participation

programme that recruits candidates with qualifications from university college (bachelor's degree) or tertiary vocational education.

It is also important to recruit good, development-oriented, young people as operators. More units in Norway are using the apprentice scheme. This upper secondary school model, in which young people spend a year or two (in some cases three) at school before their training continues for two-three years in a company, provides us with fantastically capable and versatile employees after they pass their craft certificate.

Evaluation of results

Nine new trainees were recruited to Moelven's trainee programme in 2019. This was the first year we had two groups of trainees in Moelven's trainee programme. We also have a trainee in the Higher Ambition Programme in Sweden and a trainee in Trainee

Innlandet in Norway who works in a Moelven unit.

Moelven's foreman development course was arranged twice (spring/autumn) in Sweden with a total of 17 participants and once in Norway with 13 participants.

It is very important for Moelven that employees have the competence to perform their work safely so that all employees come home in one piece. Management skills are key to this work and, therefore, every division arranged an HSE course in 2019 that focused on consistent leadership for all managers with personnel responsibilities.

In 2019, Moelven reinforced its focus on technical forums across national boundaries within a number of disciplines. In these, employees from different companies and disciplines meet to share expertise, experience and good examples from their everyday work. In some forums, external professionals also contribute their expertise and inspiration. ●

As a trainee at Moelven Valåsen, Ahmed Nasrullah gets to work with knowledgeable people within digitalisation and industry 4.0.

The trainee who became the project manager for Moelven's digital ears

This newly qualified 24-year-old has been given a unique opportunity. He is going to help Moelven further its efforts to digitalise sawmills and make them more profitable and sustainable.



"Being newly qualified and having the opportunity to take part in developing the sawmill of tomorrow is fantastic," says Ahmed Nasrullah.

As a trainee in Moelven he will have the chance to try various parts of the company and a range of jobs. After nine months at Moelven's largest sawmill, Moelven Valåsen AB in Karlskoga, where he focused on the "Smart Digital Sawmill" pilot project, he will continue to work with digitalisation at Moelven Industrier AB.

"It is an incredibly exciting area to work in. Digitalisation is making us more sustainable. We are gaining a greater insight and information from production, and this means we can save a lot of energy. It is very meaningful to work with something that makes the world a bit better place," he says.

Early responsibility

The 24-year old was given responsibility in Moelven early on and is now heading up a project that is a continuation of the "Smart Digital Sawmill" project. The aim is

to digitalise sawmills and make them more profitable and sustainable.

By installing microphones in the machinery that processes the logs and sawn timber, we can hear which sounds and vibrations stand out and teach the computer system to listen for defects. In this way, Moelven hopes to catch production errors before something goes wrong. This will allow the company to reduce the number of production stoppages and thus save energy and cut costs.

"This is an effective tool and it is very rewarding to work with," says Ahmed about the project.

Valuable opportunity

In September 2018, Moelven started its own trainee programme which runs over 18 months. Anyone who has recently graduated at bachelor's or tertiary vocational level can apply. Trainees become well acquainted with the company's value chain, the industry they belong to and the job they have to do. They also form valuable networks.

"Moelven is an open workplace in which everyone who wants opportunities gets them, and everyone is very helpful. Trying out many different jobs at the start of your career, which you have the chance to do as a trainee, is very educational," says Ahmed.

Sustainable digitalisation

The 24-year old, who graduated in mechanical engineering from Kungliga Tekniska Högskolan (KTH), thinks working with digitalisation is exciting.

"This is the future and I believe everyone will have to focus on it in some way or other. Moelven does a lot of work in this area and I think we are far ahead."

Moelven's trainee programmes

- Lasts for 18 months.
- Anyone who has recently graduated at bachelor's or tertiary vocational level can apply.
- Trainees get to experience two different jobs during the trainee period, while taking part in a skills programme.



Safe chemical use

Where and why is it important?

Moelven uses chemicals in its production to increase the service life of the individual products and materials, and to create good spaces. Some of these chemicals may have a potential impact on health and the environment, but they should not pose any risks when used properly.

This is an important topic for Moelven, since the chemicals may entail a risk during production in the event of improper handling. It is also a topic many customers and consumers are interested in, and it is therefore important for Moelven to provide comprehensive and clear information about the use of these chemicals in order to gain the trust of end-users and ensure the products are used properly.

Policy and approach

All relevant of the laws and regulations associated with the use of chemicals must of course be complied with at all times. Moelven also has the following goals:

- ▶ Moelven shall minimise the impact on soil and water by using environmentally-friendly chemicals, oils and adhesives wherever possible
- ▶ Moelven must only handle of chemicals, oils and adhesives in designated places with approved enclosures or similar installations to reduce the impact of any spills.

Moelven is also subject to a number of regulatory requirements related to chemical use. One EU Directive in particular applies to Moelven's products, the Construction Products Regulation (CPR), although Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) and the Biocidal Products Regulation (BPR) are also relevant. These regulatory requirements are integrated into Moelven's procedures, and all of the products that Moelven produces must comply with the requirements that follow from these directives.

Evaluation of results

The chemicals and treatment products covered by the sustainability reporting were chosen based on consumption, potential health impacts and the stakeholder and materiality analysis. In 2019, the work done on standardising and quality assuring the reporting identified some errors in previous years' reporting. These have been corrected in this year's report.

Besides this, the changes in the consumption of chemicals were mainly due to changes in the product mix and production volumes. ●

Impregnation

Creosote

Moelven Limtre has for more than 20 years developed, produced and assembled large, load-bearing glulam structures. Glulam for bridges is largely produced using impregnated pine. In some cases the bridges are also impregnated with creosote after all the processing has been completed. This is done at the customer's request, and is carried out by subcontractors. Creosote is a distillation product of coal tar, and glulam impregnated with creosote will therefore smell of tar. The treatment provides excellent durability and satisfies the Norwegian Public Road Administration's requirement that bridges must have a 100-year service life with a minimum of maintenance. Creosote can be harmful to health. The risk mainly exists during the actual application of the substance, since the

risk increases upon exposure through skin contact in combination with sunlight. Moelven therefore recommends that everyone who works with, and near, creosote uses sunscreen to reduce the health risk. There are also other health and environmental risks linked to creosote, but given the volumes and applications the substance is used for in connection with glulam bridges, these risks are negligible.

Cu-impregnated products

The impregnation fluid Moelven uses for Cu-impregnation contains copper (CU). Copper is an element that is naturally found in soil. Copper is a vital trace element for humans, higher animals and many plants. Contact with oxygen is what gives copper pressure impregnated materials their characteristic green colour. In the form of soluble salts, even small quantities

of copper act as a toxin for lower organisms such as algae, fungi and bacteria, which provides the materials with very good resistance to rot.

Small quantities of copper salts in pressure impregnated wood will leach out during use. However, they will bind to the upper soil layer where the structure stands and remain there. This makes them largely inaccessible to plants, animals and people. Surface treatment with a terrace stain or oil will reduce such leaching out.

To preserve human safety in structures, durability and the environment, Moelven is keen to ensure the proper use of wood in the right place. This will allow the chemicals that are used all the time to be minimised.

Waste Cu-impregnated wood must be delivered to authorised collection points, for example a municipality's recycling station.

Name	Description	All figures in litres	
		2019	2018
Impregnation fluid	<p>Area of application: Provides resistance to moisture, rot and fungus attacks and increases the product's service life.</p> <p>Potential health impacts: Moelven's Cu-impregnated products contain the element copper (Cu). Besides this, the products contain no heavy metals.</p> <p>Moelven also supplies some glulam based on TMF-impregnated materials. The impregnation fluid used does not contain heavy metals and consists of biodegradable anti-fungicides. No negative health impacts have been identified when the pressure impregnated products supplied by Moelven are used properly.</p>	840,489	809,282
	<p>Area of application: Paint, primer and stain are aesthetically pleasing, provide resistance to moisture, rot and fungus attacks, and increase a product's service life.</p> <p>Potential health impacts: Moelven can paint, prime and stain products more efficiently and in a safer environment than is the case if products are treated after installation. The assessment therefore is that the industrial application of paint, primer and stain reduces health impacts when compared with on-site application.</p>	1,340,558	1,442,315
Fire impregnation	<p>Area of application: Moelven's unique Fireguard impregnation provides resistance and passive protection against fire. Used for both indoor and outdoor products.</p> <p>Potential health impacts: The product has been shown to be an environmentally-friendly impregnation agent and meets the requirements of the EU Construction Products Directive, and waste can be handled as ordinary wood. The Fireguard fluid contains no bromine compounds or boric acid, which are on the priority list under REACH. No hazardous chemicals are emitted during use or in the event of fire.</p>	41,286	100,300
Adhesive	<p>Area of application: Adhesives are used as a binding agent in many products, for example glulam. Moelven mainly uses MUF (melamine-urea-formaldehyde) and some PRF (phenol-resorcinol-formaldehyde) in glulam. All glulam is labelled in accordance with which type of adhesive has been used.</p> <p>Potential health impacts: Moelven generally uses adhesives produced from oil that does not originate from fossil sources, and thus has a low environmental impact. Glulam has no health impacts for the user when used properly.</p>	6,456,498	5,215,990
Osmo	<p>Area of application: Osmo is a wood treatment product based on natural oil and waxes. The oil penetrates the wood and protects it from within. The wax creates an elastic, microporous surface that protects the wood from external impacts, and the wood thus retains its natural appearance and is protected.</p> <p>Potential health impacts: There are no known potential health impacts from using Osmo. It consists of sunflower, soya, lentil and thistle oil, and is approved for use in contact with foodstuffs.</p>	9,370	10,040

AMBITIONS

- ▶ Moelven shall, wherever possible, use safe, environmentally-friendly chemicals

RESULTS

- ▶ The main groups of chemicals have been surveyed

MEASURES

- ▶ Continue and improve the monitoring of chemical use and continuously work to minimise their use, and explore alternatives

The effects of wood on your health

We spend about 90 per cent of our lives indoors. You should make sure you surround yourself with materials that provide the best possible conditions for you.

“Indoor climate is very important for us humans. It affects our well-being and is not something to be scorned,” says Anders Q. Nyrud.

He is a professor at the Faculty of Environmental Sciences and Natural Resource Management at the Norwegian University of Life Sciences (NMBU) and has studied how using wood affects people and the indoor climate. Our surroundings affect us throughout the day and by surrounding ourselves with natural elements such as plants and material made of wood, as well as natural light and views of nature, we can improve our lives.

Wood can help you recuperate faster

When you build and decorate with wood, you gain a number of health benefits with your purchase. Wood is a renewable and vibrant material that can affect both the physical indoor environment and how we experience it.

Studies show that when we surround ourselves with nature, or natural elements, we can feel a sense of well-being, our blood pressure lowers and we destress. Stress is not just viewed as negative in itself, it is also a contributory factor to many other health outcomes such as depression, a weakened immune system and poor general health.

Your surroundings can also affect how much pain

you feel when you are sick and how long it takes you to recuperate.

“It is not only medical treatment that can affect your recovery when you are admitted to hospital or another health institution. The physical and psychosocial environment can also be of great importance,” says Stefan Lundin, architect and doctoral candidate.

Why we are affected

We spend about 90 per cent of our lives indoors. We can experience a number of health benefits by bringing some nature inside. But why does nature have this effect on us?

“We humans lived in nature for a long time and are predisposed to both liking it and being able to interpret it. Wood can help create a more natural environment around us,” says Nyrud.

He says that materials of wood can be a source of positive distraction.

“The pattern in the structure of the wood is complex enough for us to spend time studying it, but not so challenging that we wear ourselves out mentally. It gives us an opportunity to disconnect from pain or forget that we are feeling stressed. In addition, we often perceive the colours of wooden surfaces as being warm and positive.” ●



WOOD CAN AFFECT:

- Indoor temperature
- Humidity
- Acoustics
- Recovery
- Stress
- Well-being



Both photos: iStock

The indoor climate affects our well-being and is very important for us humans.



Your home can provide you with a good indoor environment – completely naturally

Its ability to function as a natural ventilation system means that wood can regulate both humidity and your indoor temperature in line with your surroundings, thereby conserving energy.

“Trees are designed to transport moisture. When we fell them, the timber retains the same moisture transporting properties the tree had when it was in the forest,” explains Nyrud.

This means that when we build or decorate with wood, the material will help to regulate humidity and thus also the indoor temperature. The indoor climate in your home varies with the changing seasons and weather conditions. When wood absorbs moisture, energy is released, thereby increasing the indoor temperature, while when moisture evaporates from the wood, the temperature drops.

“We expend a lot of energy transporting

moisture out of buildings. Utilising the inherent properties of wood that make it a natural ventilation system means you can save energy,” says Nyrud.

He also points out that wood feels warm to the touch. Wood does not conduct heat in the same way as, for example, metal does. When we touch metal, the material will quickly transport away the heat from your hand, while the same process takes more time when we touch wood.

“When we surround ourselves with wood surfaces, we can tolerate slightly lower indoor temperatures than we can with other materials,” says Nyrud.

Local assets





In 2019, the Moelven family was joined by a completely new member in the form of the newly-established Moelven Pellets AS at Sokna. This represents the Group's largest investment ever, with a budget of NOK 270 million.



Rural value creation

Moelven companies are often found outside the major cities and urban areas. Many of our operations are important cornerstone companies in smaller locations, both in Norway and in Sweden.

The reason for our presence in rural areas is historic. Ever since the olden days, sawmills have usually been located near large waterways and as close to the forest as possible to achieve as efficient processing of the timber as possible. This presence has major ripple

effects to this day and provides a basis for vibrant local communities with public services, private commerce and volunteering.

Below you can get to know some of our companies that are creating local assets.

1

Moelven Soknabruket AS and Moelven Pellets AS

Norway's largest sawmill and planing mill, in terms of turnover, is located not far from Hønefoss. At Moelven's facility in Sokna, 107 employees turn local logs into products that become, among other things, construction timber, interior products, decking and sawn timber for export customers. Moelven Pellets AS, Moelven's largest ever investment (NOK 270 million), is located in the same area. The residual raw materials from the sawmill are converted into pellets and a shared energy plant ensures climate-friendly production and increased value creation from the entire log.

3

Moelven Våler AS

Braskereidfoss (242 residents in 2019) is home to Moelven's largest sawmill in terms of volume. On an average day, 50 lorries arrive at Moelven Våler AS with deliveries of logs. The sawmill, which celebrated its 100th anniversary in 2019, also has Norway's most modern log sorting system with X-ray and 3D scanning, which in simple terms analyse what the log is best suited for.

2

Moelven Töreboda AB

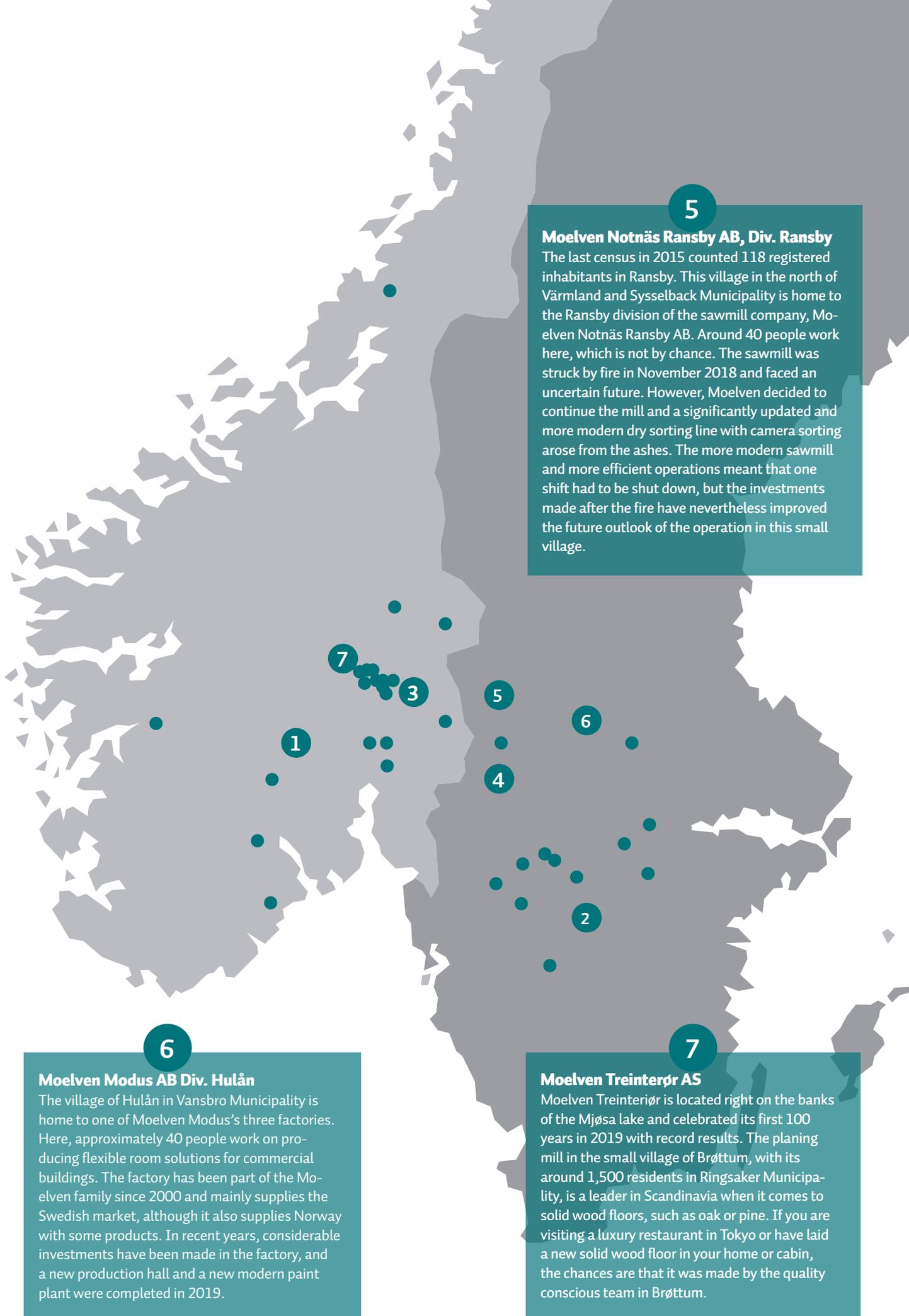
Sweden's oldest glulam factory is located in the village of Töreboda. The walls of the factory that celebrated its 100th anniversary in 2019 literally sit on the edge of the Göta Canal. The factory has been part of the Moelven family since 1982 and has made its mark with a number of innovation and development projects – ranging from a new wooden deck for use in tall wooden buildings (Trä8) to an ongoing pilot project building wooden wind towers.

4

Moelven Edanesågen AB

Around every one in every eight residents of Edane works at Moelven Edanesågen. The village, which belongs to Arvika Municipality, has 800 residents. 102 people work at the Edane sawmill. This cornerstone company has been part of the Moelven family since 2004. The sawmill is located in Sweden but enjoys a unique position in Norway. The main purpose of the sawmill is to supply the Norwegian market with wood products, and those that are not shipped to Norway are often exported internationally.

Moelven has 46 production locations.



5

Moelven Notnäs Ransby AB, Div. Ransby

The last census in 2015 counted 118 registered inhabitants in Ransby. This village in the north of Värmland and Sysseback Municipality is home to the Ransby division of the sawmill company, Moelven Notnäs Ransby AB. Around 40 people work here, which is not by chance. The sawmill was struck by fire in November 2018 and faced an uncertain future. However, Moelven decided to continue the mill and a significantly updated and more modern dry sorting line with camera sorting arose from the ashes. The more modern sawmill and more efficient operations meant that one shift had to be shut down, but the investments made after the fire have nevertheless improved the future outlook of the operation in this small village.

6

Moelven Modus AB Div. Hulån

The village of Hulån in Vansbro Municipality is home to one of Moelven Modus’s three factories. Here, approximately 40 people work on producing flexible room solutions for commercial buildings. The factory has been part of the Moelven family since 2000 and mainly supplies the Swedish market, although it also supplies Norway with some products. In recent years, considerable investments have been made in the factory, and a new production hall and a new modern paint plant were completed in 2019.

7

Moelven Treinterør AS

Moelven Treinterør is located right on the banks of the Mjøsa lake and celebrated its first 100 years in 2019 with record results. The planing mill in the small village of Brøttum, with its around 1,500 residents in Ringsaker Municipality, is a leader in Scandinavia when it comes to solid wood floors, such as oak or pine. If you are visiting a luxury restaurant in Tokyo or have laid a new solid wood floor in your home or cabin, the chances are that it was made by the quality conscious team in Brøttum.



Economic value creation in local communities

Where and why is it important?

Moelven operates in numerous small communities in Norway and Sweden where we are often a key employer and contributor in the local economy. How we choose to organise and operate our activities will have direct ripple effects on the local communities, and we also rely on good relationships with local communities to attract the right people and work with our surroundings. It is important that we have a conscious attitude to recruitment, economic contributions and local purchases and contracts. This aspect is particularly important where we are a major contributor in the local community.

Policy and approach

Moelven consists of 37 production companies across 46 production locations in Norway and Sweden. Most of the production companies have in common that they are located in geographically rural areas in close proximity to forest and historical timber ports. The companies are often important cornerstone companies in their areas. Moelven's activities create ripple effects for subcontractors and the rest of the economy in the form of turnover, value creation and tax payments. Moelven pays corporation tax and employer's national insurance contributions, and the employees pay income tax. So do our subcontractors. Together these constitute the companies' and the Group's social contributions.

Evaluation of results

The Confederation of Norwegian Enterprise's social contributions calculator allows you to estimate a company's direct contributions of tax. Calculations show that the total value created by Moelven's Nor-

wegian companies in 2019 was NOK 2,145 million, and NOK 2,060 million for the Swedish companies. The Norwegian companies contributed NOK 386 million in tax, after deductions for government grants. The equivalent figure for the Swedish companies was NOK 441 million.

The figures on the right were calculated using the Confederation of Norwegian Enterprise's social contributions calculator. The calculations were performed by totalling Moelven's total turnover, product inputs, tax on ordinary income, paid employer's national insurance contributions, and total paid income tax deducted from employees' salaries, less government grants.

The figures were obtained from Moelven's Norwegian and Swedish companies, and in the case of the Swedish companies converted to NOK (as at 31 December 2019). Because the two countries have different tax systems, and access to different markets, some uncertainty naturally exists regarding the figures. The calculation only shows the direct tax the Group contributes. The model does not include the secondary and tertiary effects (ripple effects) that Moelven contributes. The multiplier effect is significant for Moelven since the Group's individual companies, particularly in the Timber and Wood division, mainly belong to smaller communities in rural areas. Employees spend their income on purchasing goods and services, and subcontractors and their employees also represent substantial value creation and tax payments. Moelven emphasises, among other things, buying locally wherever possible and creating local job opportunities. Several of Moelven's companies are important "cornerstone companies" that make a significant contribution to jobs and business in these areas. This reinforces the significance of the ripple effects, since it is difficult to find alternative local value creation. ●



WHAT COULD MOELVEN'S TAX CONTRIBUTIONS PAY FOR?

1,607
teachers

20,703
hospital days

8,717
metres of two-lane carriageway

TOTAL TAX CONTRIBUTION IN 2019

894
million NOK

Country	Norway	Sweden	Others*	Total
Operating revenue	8,968	8,249	186	17,403
Corporation tax	43	28	0	71
Total paid AGA	125	232	-	357
Tax paid on wages	255	213	-	468
Public grants	-2	-1	-	-3
Tax contribution	421	473	0	894
Number of employees	1,691	1,680	28	3,399

* Denmark, Germany and England

AMBITIONS

- ▶ Create more local jobs

RESULTS

- ▶ Estimated tax contribution of NOK 894 in 2019.

MEASURES

- ▶ Creating and safeguarding secure jobs that make a positive contribution to the local community and to build a sustainable future using wood.



Local environment

Where and why is it important?

Moelven has almost 30 incineration plants that produce thermal bioenergy for its own industrial production and for resale to external customers. Energy produced by burning wood and chips is part of a far shorter carbon cycle than energy from fossil energy sources, and is therefore defined as renewable energy. However, bioenergy production does impact the local environment through, among other things, emissions of particulate matter, NOx and CO.

Moelven also impacts the local environment through transport and water consumption. Water is used for sprinkling over timber to prevent it from drying out and becoming damaged during storage.

Policy and approach

Moelven also impacts the local environment through many of our activities, such as energy production in incinerator plants, transport, waste management and water consumption.

Moelven’s sustainability policy states the following:

- ▶ Moelven shall be a natural part of the local community and contribute to economic value creation
- ▶ Moelven shall actively work to reduce its local environmental impact by focusing on continuous improvement
- ▶ Moelven must not violate the Pollution Act or similar legislation

Evaluation of results

Moelven owns 29 combustion boilers that vary in size from 1 MW to 15 MW, with an average of just over 7 MW. These incinerator plants mainly use biomass to produce bioenergy.

Concentrations of significant fumes and dust are surveyed on an annual basis. At some facilities this is

done through continuous measurement and at other facilities measurements are taken at different points during the year. Naturally, there will, therefore, be some variation in these and analysing the figures as a whole is of little value. Follow-up takes place based on local data. High CO values may indicate that a combustion process is not optimal, and therefore any reduction will be considered to be a very positive thing from both an environmental and a financial perspective.

Incinerator plants	2019	2018
Incinerator plants - total installed capacity (MW)	176	192
Average capacity per plant (boiler 1 + boiler 2) (MW)	7	8
Number of boilers reported	29	28

Moelven experienced no breaches of the Pollution Control Act or similar legislation in either 2018 or 2019 that resulted in fines. ●



AMBITIONS

- ▶ Reduce emissions of NOx, SOx and CO

RESULTS

- ▶ No breaches of the Pollution Control Act or similar legislation in 2019 that resulted in fines

MEASURES

- ▶ Expand the surveying of local environmental impacts



We are a reliable partner

Where and why is it important?

Reliability is one of our core values and Moelven must be a company people can trust. The importance of Moelven being a reliable partner has therefore been established as a fundamental prerequisite in the sustainability strategy and all of our activities must be based on this.

Moelven must have a conscious attitude towards anti-corruption and competition law in all contexts and at all levels of the Group.

Moelven views anti-corruption work and compliance with competition legislation as important parts of the work aimed at achieving long-term sustainable development. This minimises the risk of ending up in situations that have a negative effect on our reputation or finances.

Policy and approach

Anti-corruption and ethics are key components of Moelven's corporate strategy. A good, reliable reputation is vital for our business activities and must ensure our credibility with customers, suppliers and other stakeholders, and contribute to us being perceived as an attractive employer.

Moelven dissociates itself from all forms of corruption and improper actions that impede free competition and market balance. In the Group's business activities we must always maintain a healthy ethical and moral profile in relation to associates, customers, suppliers and other business associates. This means that employees must neither accept nor offer bribes or other benefits for business or personal gain.

In the work on underpinning a comprehensive approach to anti-corruption at Moelven, a code of conduct and a description of procedures that must be followed in the event of undesired incidents have been developed at the corporate level, which must be complied with. The code of conduct and Moelven's attitude towards competition law have been communicated to company executives, the sales and marketing organisation and financial managers in physical meetings, and have also been communicated to other employees.

Moelven has internal privacy policies and procedures to ensure compliance with the requirements of the

ONE OF OUR CORE VALUES

Reliable
Moelven can be trusted. We deliver at the agreed time and with the right quality. We focus heavily on transparency and honesty – being able to admit to weaknesses and mistakes provides a basis for progress and credibility.

Excerpts from the Group's whistleblowing procedures

Transparent corporate culture

The general rule in Moelven is that one should raise issues one is concerned about with the person it concerns. If this fails to resolve the issue, or when one believes that the issue needs to be raised with someone who can do something about the wrongdoing, the Group's whistleblowing procedures should be followed. The procedures have several important functions:

- They are intended to ensure there is a safe, functioning channel for whistleblowing such that the processing of any reports does not stall.
- They are intended to ensure anonymity and confidentiality.
- They are intended to ensure that situations are followed up in a proper, good and fair manner from the perspective of both the whistleblower and the subject of a report.

Anonymity and confidentiality

The whistleblower must be completely confident that they will be protected from retaliation due to the report. Transparency is encouraged, but reports

may be submitted anonymously. The identity of both the whistleblower and the subject of a report is confidential information and must be treated in strict confidence by the person who receives the report. Information in reports must be treated as personal data in accordance with applicable privacy laws.

Whistleblowing ombudsman

The case and situation determines how you should submit a report. One is always entitled to notify the authorities, although in most cases it would be better to bring up the issue internally first. As a general rule, if wrongdoing is discovered, you should report it to your immediate supervisor. Alternatively, the matter can be raised with the safety representative or employee representative or the body responsible for the matter in question. If no response or feedback is forthcoming, the matter may be brought up with the general manager or chairman of the relevant Moelven company. Any reports may also be raised directly with the Group's whistleblowing ombudsman via email at varsling@moelven.com or via whistleblowing.moelven.com

General Data Protection Regulation (GDPR).

In the Moelven Group, there must be no discrimination based on gender, ethnic origin, language, sexual orientation, religion or philosophy. Job descriptions, areas of responsibility, expertise and work effort form the basis for determining pay, promotion and recruitment. Good competence is the only thing that counts. Moelven will also adapt conditions for people with reduced functional abilities.

Moelven does not accept conditions in suppliers' or customers' operations that constitute breaches of the Universal Declaration of Human Rights or other unethical conditions such as for example child labour or social dumping. In 2020, a groupwide method for checking the entire supply chain's compliance with Moelven's requirements will be implemented.

The code of conduct has been included as a part of new employees' employment contracts since 2016. This ensures that new employees familiarize themselves with the code of conduct from the first day. As a supplement to the work on establishing a common platform for ethics among the employees, some companies in the group have also established their own guidelines with local adjustments. Moelven

Modus has for example developed its own e-learning programme with accompanying tests.

Moelven has also established guidelines and procedures for whistleblowing. Moelven wants to make it clear to all employees that the Group's corporate culture is based on transparency. It must be acceptable to report concerns and wrongdoing, and these must be discussed and resolved. The guidelines also give the right to anonymity and describe how reports should be submitted if the whistleblower wishes to remain anonymous.

Evaluation of results

In 2019, there were no reported occurrences of corruption or price fixing in the Moelven Group. This is of course a satisfactory result, but a constant focus on the topic is necessary and the current work must continue.

Two cases of sexual harassment were reported in the Group in 2019. Both cases were followed up with the people concerned, responsible managers and safety representatives.

No need has been observed to implement special measures in addition to the established routines to ensure compliance with the code of conduct. ●



In connection with the introduction of the EU General Data Protection Regulation (GDPR) in 2018, privacy procedures and policies related were revised and adapted to comply with the new regulation.

The routines are common to the entire Group and apply to all processing in Moelven of the personal data of employees and others who perform work or services for Moelven. Anyone who is employed or handles personal data at Moelven has an individual responsibility and obligation to ensure that the data is processed in accordance with the applicable routines and regulations. The regulations are relatively comprehensive, so guides have been produced for selected areas. Data protection officers have also been appointed at corporate, divisional, and company levels, as has a corporate-level expert privacy group.



Photo: Natasa Adzic

AMBITIONS

- ▶ No instances of corruption or price fixing

RESULTS

- ▶ No reported instances of corruption or price fixing in 2019

MEASURES

- ▶ Pursue existing work on anti-corruption an ethics
- ▶ Increase checks of the supply chain's compliance with the UN Declaration of Human Rights and Moelven's code of conduct

Moelven GRI Index - 2019

The Global Reporting Initiative (GRI) is a network-based organisation that is behind the development of the world's most widely used sustainability reporting framework. The GRI framework contains principles, themes and indicators that can be used by organisations to measure and report economic, environmental and social performance.

Moelven reports in accordance with the GRI Standards: Core option. The table below represents Moelven's reporting in accordance with the guidelines in the GRI Standards. For more information about GRI, see www.globalreporting.org.

GRI 102 – General disclosures

GRI no.	Description	Source (page in annual report or website)
Description		
102-1	Name of the organisation	Group's annual report, Note 1 (p. 50)
102-2	Activities, brands, products, and services	Group's annual report, Report of the Board of Directors (pp. 19-36)
102-3	Location of headquarters	Group's annual report, Report of the Board of Directors (p. 22)
102-4	Location of operations	Group's annual report, Report of the Board of Directors (pp. 22-23)
102-5	Ownership and legal form	Group's annual report, Report of the Board of Directors (pp. 21-22)
102-6	Markets served	Group's annual report, Report of the Board of Directors (pp. 22-23)
102-7	Scale of the organisation	Group's annual report, Key figures (p. 18)
102-8	Information on employees and other workers	Group's annual report, Report of the Board of Directors (p. 18) Focus on people (pp. 46-56), Note 11, p. 74
102-9	Supply chain	Climate benefits from the forest (p. 24), Safeguarding our natural resources (pp. 34-43)
102-10	Significant changes to the organisation and its supply chain	Group's annual report, Report of the Board of Directors (pp. 19-23)
102-11	Precautionary principle or approach	"Moelven practises the precautionary principle", also see the Group's Sustainability Report 2017
102-12	External initiatives	Report of the Board of Directors – Innovation (pp. 32-34), Group's Sustainability Report 2018: Moelven and the UN Sustainable Development Goals (p. 7), We are a reliable partner (p. 64)
102-13	Membership of associations and/or national/internal special interest organisations	Group's annual report: Report of the Board of Directors – Innovation (pp. 32-34)
Strategy		
102-14	Statement from senior decision-maker	We are building a sustainable future using wood (p. 3)
102-16	Values, principles, standards, and norms of behaviour	Group's annual report (p. 23), Sustainability – the common thread from vision to strategy (p. 4), We are a reliable partner (p.64)
Governance		
102-18	Governance structure	Group's annual report: Report of the Board of Directors – Corporate governance (pp. 21-22)
Stakeholder engagement		
102-40	List of stakeholder groups	We listen to our stakeholders (p. 11)
102-41	Collective bargaining agreements, Group's annual report:	Group's annual report: Note 3.25 (p. 59)
102-42	Identifying and selecting stakeholders	We listen to our stakeholders (p. 11)
102-43	Approach to stakeholder engagement	We listen to our stakeholders (p. 11)
102-44	Key topics and concerns raised	We listen to our stakeholders (p. 11)
Reporting practice		
102-45	Entities included in the consolidated financial statements	Group's annual report: Note 21 (p. 80)
102-46	Defining report content and topic boundaries	Our focus areas for sustainability (p. 8)
102-47	List of material topics	Our strategy (p. 13)
102-48	Restatements of information	pp. 16, 21, 22, 39, 53
102-49	Changes in reporting	We create good spaces has been eliminated as a separate important topic.
102-50	Reporting period	01.01.18-31.12.18
102-51	Date of most recent report	2017
102-52	Reporting cycle	Annual
102-53	Contact point for questions regarding the report	Rune F. Andersen - rune-f.andersen@moelven.com
102-54	Claims of reporting in accordance with the GRI Standards	Moelven GRI Index - 2018
102-55	GRI Index	Moelven GRI Index - 2018

Important topics

GRI no.	Description	Source (page in sustainability report)	Omission	Reasons for omission	Description of omission
Climate-smart products and solution – Energy consumption in own production					
<i>GRI 103 – Management approach</i>					
103-1	Explanation of the material topic and its boundary	pp. 21-22			
103-2	The management approach and its components	pp. 21-22			
103-3	Evaluation of the management approach	pp. 21-22			
<i>GRI 302 – Energy</i>					
302-1	Energy consumption within the organisation	pp. 21, 24, 31			
302-4	Reduction of energy consumption	p. 21			
<i>GRI 305 – Emissions</i>					
305-1	Direct (Scope 1) GHG emissions	p. 18			
305-2	Energy indirect (Scope 2) GHG emissions	p. 18			
305-3	Other indirect (Scope 3) GHG emissions	p. 18			
305-5	Reduction of GHG emissions	p. 18			
Climate-smart products and solutions – Goods transport					
<i>GRI 103 – Management approach</i>					
103-1	Explanation of the material topic and its boundary	p. 23			
103-2	The management approach and its components	p. 23			
103-3	Evaluation of the management approach	p. 23			
<i>Moelven indicator</i>					
Transport accounts		p. 23			
Climate-smart products and solutions – Climate benefits from forests					
<i>GRI 103 – Management approach</i>					
103-1	Explanation of the material topic and its boundary	p. 24			
103-2	The management approach and its components	p. 24			
103-3	Evaluation of the management approach	p. 24			
<i>Moelven indicator</i>					
Under development		NA	Not reported	Information not available	Work on establishing the indicator is ongoing.
Climate-smart products and solutions – Climate-smart design					
<i>GRI 103 – Management approach</i>					
103-1	Explanation of the material topic and its boundary	pp. 29-30			
103-2	The management approach and its components	pp. 29-30			
103-3	Evaluation of the management approach	pp. 29-30			
<i>Moelven indicator</i>					
Under development		NA	Not reported	Information not available	Work on establishing the indicator is ongoing.
Climate-smart products and solutions – Production of bioenergy					
<i>GRI 103 – Management approach</i>					
103-1	Explanation of the material topic and its boundary	p. 31			
103-2	The management approach and its components	p. 31			
103-3	Evaluation of the management approach	p. 31			
<i>GRI 302 – Energy</i>					
302-1	Energy consumption within the organisation	pp. 21, 24, 31			
Safeguarding our natural resources – Sustainable materials					
<i>GRI 103 – Management approach</i>					
103-1	Explanation of the material topic and its boundary	pp. 37-38			
103-2	The management approach and its components	pp. 37-38			
103-3	Evaluation of the management approach	pp. 37-38			
<i>Moelven indicator</i>					
PEFC™ and FSC® certification		pp. 37-38	Distribution by certification type is not presented	Information not available	Reporting routines will be developed in 2019

GRI no.	Description	Source (page in sustainability report)	Omission	Reasons for omission	Description of omission
Safeguarding our natural resources – Resource optimisation					
<i>GRI 103 – Management approach</i>					
103-1	Explanation of the material topic and its boundary	p. 40			
103-2	The management approach and its components	p. 40			
103-3	Evaluation of the management approach	p. 40			
<i>Moelven indicator</i>					
Recovery factor		p. 40			
Safeguarding our natural resources – Resource-efficient design and packaging					
<i>GRI 103 – Management approach</i>					
103-1	Explanation of the material topic and its boundary	p. 41			
103-2	The management approach and its components	p. 41			
103-3	Evaluation of the management approach	p. 41			
<i>GRI 301 – Materials</i>					
301-1	Materials used by weight or volume	pp. 41, 12, 40			
<i>Moelven indicator</i>					
Under development		NA	Not reported	Information not available	Work on establishing the indicator is ongoing.
Safeguarding our natural resources – Waste management					
<i>GRI 103 – Management approach</i>					
103-1	Explanation of the material topic and its boundary	pp. 42-43			
103-2	The management approach and its components	pp. 42-43			
103-3	Evaluation of the management approach	pp. 42-43			
<i>GRI 306 – Effluents and waste</i>					
306-2	Waste by type and disposal method	pp. 42-43			
Focus on people – Health, safety and the environment					
<i>GRI 103 – Management approach</i>					
103-1	Explanation of the material topic and its boundary	pp. 50-51			
103-2	The management approach and its components	pp. 50-51			
103-3	Evaluation of the management approach	pp. 50-51			
<i>GRI 403 – Occupational health and safety</i>					
403-2	Hazard identification, risk assessment, and incident investigation	pp. 50-51	Occupational illnesses, lost working days and statistics are not reported by gender. Moelven only reports injury statistics for its employees.	Information not available	Consideration will be given to developing reporting routines in 2019.
Focus on people – Engaged and competent employees					
<i>GRI 103 – Management approach</i>					
103-1	Explanation of the material topic and its boundary	pp. 52-53			
103-2	The management approach and its components	pp. 52-53			
103-3	Evaluation of the management approach	pp. 52-53			
<i>Moelven indicator</i>					
Under development		NA	Not reported	Information not available	Work on establishing the indicator is ongoing.
Focus on People – Safe chemical use					
<i>GRI 103 – Management approach</i>					
103-1	Explanation of the material topic and its boundary	pp. 54-55			
103-2	The management approach and its components	pp. 54-55			
103-3	Evaluation of the management approach	pp. 54-55			
<i>Moelven indicator</i>					
Consumption of chemicals		p. 55			

GRI no.	Description	Source (page in sustainability report)	Omission	Reasons for omission	Description of omission
Safeguarding local assets – Economic value creation in local communities					
<i>GRI 103 – Management approach</i>					
103-1	Explanation of the material topic and its boundary	p. 62			
103-2	The management approach and its components	p. 62			
103-3	Evaluation of the management approach	p. 62			
<i>Moelven indicator</i>					
	Tax contribution	p. 62			
Safeguarding local assets – Local environment					
<i>GRI 103 – Management approach</i>					
103-1	Explanation of the material topic and its boundary	p. 63			
103-2	The management approach and its components	p. 63			
103-3	Evaluation of the management approach	p. 63			
<i>GRI 307 – Environmental compliance</i>					
307-1	Non-compliance with environmental laws and regulations	p. 63			
<i>Moelven indicator</i>					
	Average concentration of significant exhaust gases	p. 63			
We are a reliable partner – Anti-corruption and ethics					
<i>GRI 103 – Management approach</i>					
103-1	Explanation of the material topic and its boundary	pp. 64-65			
103-2	The management approach and its components	pp. 64-65			
103-3	Evaluation of the management approach	pp. 64-65			
<i>GRI 205 – Anti-corruption</i>					
205-3	Confirmed incidents of corruption and actions taken	p. 65			
<i>GRI 206 – Anti-competitive behaviour</i>					
206-1	Legal actions for anti-competitive behaviour, anti-trust, and monopoly practices	p. 65			

KEY FIGURES FOR LAST 5 YEARS

Amounts in NOK millions	2019	2018	2017	2016	2015
THE GROUP					
Operating revenue	10,297.5	11,020.8	10,768.4	10,309.7	9,690.4
EBITDA	629.8	932.7	716.1	601.6	553.9
Depreciation	296.2	280.4	278.1	290.1	289.6
Impairment	-1.8	66.1	17.6	16.5	49.5
Operating profit	335.4	586.2	420.4	295.0	214.8
Financial items	-95.8	-8.0	-46.8	-42.5	-56.3
Result before tax	239.7	578.2	373.6	252.5	158.5
Total capital	5,518.0	5,302.3	5,044.6	4,766.8	4,778.1
Equity in per cent	42.9	45.9	41.5	38.0	36.8
Operating margin in per cent	3.3	5.3	3.9	2.9	2.2
Investments	478.7	497.4	357.0	275.2	215.8
Number of employees	3,399	3,524	3,546	3,492	3,426
TIMBER					
Operating revenue	3,118.9	3,263.3	3,118.2	3,020.6	3,010.1
EBITDA	243.1	449.4	266.9	181.1	145.1
Depreciation	97.4	98.7	102.7	111.1	119.5
Impairment	-	7.4	17.6	16.5	49.5
Operating profit	145.8	343.3	146.7	53.5	-23.9
Financial items	-5.1	-4.1	-17.4	-13.1	-9.0
Result before tax	140.6	339.2	129.3	40.4	-32.9
Total capital	1,513.1	1,663.4	1,545.5	1,567.1	1,664.5
Operating margin in per cent	4.7	10.5	4.7	1.8	-0.8
Investments	115.8	136.7	99.2	64.2	75.9
Number of employees	629	620	650	674	679
WOOD					
Operating revenue	4,018.1	3,977.3	3,805.6	3,529.9	3,275.7
EBITDA	265.4	318.5	265.7	274.5	237.4
Depreciation	102.1	108.0	110.9	113.8	113.7
Impairment	-1.8	58.6	0.0	0.0	0.0
Operating profit	165.1	151.9	154.8	160.6	123.7
Financial items	-29.2	-15.6	-24.8	-24.4	-27.1
Result before tax	135.9	136.2	129.9	136.2	96.6
Total capital	2,514.4	2,466.9	2,413.9	2,151.6	2,146.7
Operating margin in per cent	4.1	3.8	4.1	4.5	3.8
Investments	117.2	198.1	119.9	114.7	96.8
Number of employees	1,114	1,108	1,079	1,039	1,009
BUILDING SYSTEMS					
Operating revenue	3,002.7	3,743.0	3,856.4	3,616.8	3,375.2
EBITDA	135.0	189.0	206.7	166.3	185.2
Depreciation and impairment	78.1	60.6	52.8	51.2	44.4
Operating profit	56.8	128.3	153.9	115.1	140.8
Financial items	-3.9	-1.0	-1.6	-1.7	-0.1
Result before tax	52.9	127.4	152.3	113.4	140.7
Total capital	1,751.0	1,751.4	1,808.9	1,653.2	1,616.8
Operating margin in per cent	1.9	3.4	4.0	3.2	4.2
Investments	55.9	93.5	118.9	84.5	40.2
Number of employees	1,494	1,647	1,687	1,647	1,607
OTHER ACTIVITIES					
Operating revenue	3,728.0	3,547.6	3,414.6	3,388.9	3,003.8
EBITDA	-13.7	-24.1	-23.2	-20.3	-13.9
Depreciation and impairment	18.6	13.1	11.7	13.9	12.0
Operating profit	-32.3	-37.2	-34.9	-34.2	-25.9
Financial items	-57.5	12.7	-2.9	-3.4	-20.1
Result before tax	-89.8	-24.5	-37.8	-37.6	-45.9
Investments	189.8	69.2	19.1	11.8	3.0
Number of employees	162	149	130	132	131



Photo: Sindre Ellingsen

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