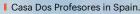


Sustainability report 2022







Content

01	Foreword	4
02	A true story	6
	We comply with the UN sustainable development goals Scope 1 and 2 at Lunawood Mills Materiality Analysis: feedback from stakeholders	8 11 12
03	Certified Nordic raw material	14
	Rigorous with raw material	16
04	Responsible production	18
	Renewing energy production at the lisalmi Mill: the largest investment in its history Resources optimized to meet client needs Sustainable logistics partnership	20 22 23
05	World-class sustainable company	24
	Safety remains our priority	26
	A well-organized working environment is safe	28
	Finnish working culture	30
	NPS 48: What lies behind it?	32
	Conquering new markets Efficiency through digitization of operations	32 33
06	High quality products with a long lifecycle	34
	Updated EPD: remarkable improvement in carbon binding	36
	Low maintenance with long lifespan	38
	Endorsing sustainable architecture and construction	39
	Award-winning projects featuring Lunawood Thermowood	40
07	ESG metrics	42

01 Foreword



Foreword

At the turn of the year, I would not have believed what the year 2022 had in store for us. The beginning of the year looked promising: the order books were full, and in March we delivered a new monthly record of 15,247 m³ of timber. Russia began its war of aggression in Ukraine in February, which aroused uncertainty among our clients. Later in the summer, the rise in inflation and interest rates as well as the energy crisis negatively affected consumer confidence and the market situation weakened even more. We were forced to make adjustments in production, forcing us to resort to short-term layoffs, which is an exception in the company's history. They ended in January 2023.

Despite of the short-term challenges, that may change our one-year business plan, our sustainability targets have not changed. We do our part to mitigate climate change throughout the entire value chain of our business — from forest to client. We recognize our role in combating climate change, and in 2022 focused particularly on ensuring sustainability in all our operations. We believe that everyone is responsible for sustainability, and for this reason report addresses both major and minor actions that will propel our operations towards carbon neutrality in 2035. It is also important to us that our partners and stakeholders share the same values and want to act responsibly together with us.

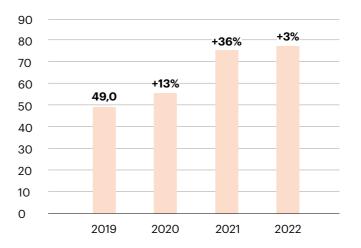
Our improved occupational safety is a good example of our commitment to sustainability. Ensuring safety, cleanliness and order have improved, thanks to the 5S operating method. Another good example is the investment we made in our lisalmi Mill, which increases energy production capacity and improves energy efficiency by 15%. CO₂ emissions have decreased significantly and the cleaning capacity for VOC emissions has more than doubled.

We look to the future with confidence. We believe that the demand for sustainable wood products will continue to grow, and Lunawood will continue to play a leading role as a trendsetter for ThermoWood[®] products. We also believe that Lunawood will continue to be chosen as a partner due to our overall corporate responsibility and the added value we create.

Arto Halonen

CEO, Oy Lunawood Ltd

Revenue and revenue growth (M€)



Lunawood

Revenue 2022 Personnel Production capacity Share of export Deliveries to over 77 M€ 140 160 000 m³ 93% 40 countries

Our values

Results together Brave innovator Forerunner in sustainability

We participate in the mitigation against climate change in the entire value chain of our business, from the forest to the customer.

O_2

A true story



A true story

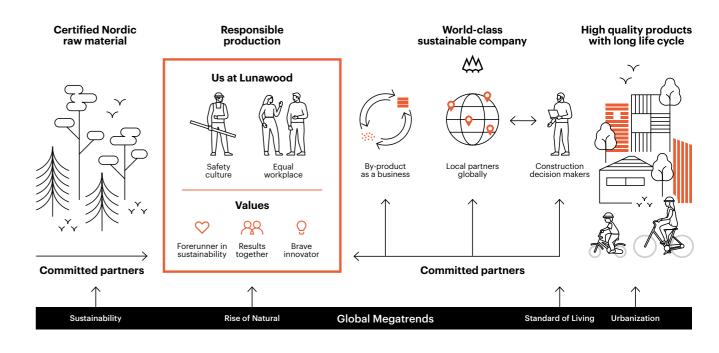
At Lunawood, sustainability is at the heart of our corporate strategy. In 2022, we sharpened our sustainability goals and monthly monitoring of our sustainability key performance indicators. It is important to us that our sustainability work is transparent throughout our value chain. We have integrated the UN's sustainable development goals more closely in our sustainability work in each of our operational areas.

We want to continually develop and deepen our knowledge in our sustainability work and openly work together with our stakeholders. We performed a materiality analysis on our sustainability activities based on feedback from our stakeholders. The analysis revealed that we have performed well in our sustainability work. Internally, we worked on how to create value for our stakeholders through sustainability, and in 2022 we deepened our sustainability co-operation with our stakeholders. Extending our values and principles to our stakeholders and selecting our partners carefully ensure that our global operations are responsible, reliable, and transparent. We published our ethical guidelines for third parties and began implementation with our raw materials suppliers. We held sustainability and third-party Code of Conduct training with each of our partner sawmills.

Lunawood's brand is based on sustainability. We have comprehensively emphasized various sustainability themes in marketing and communication during the past year and started sending newsletters to stakeholders. We will continue to emphasize sustainable development themes even more in our events and strive to collaborate with responsible architects and construction companies.

Sustainability is at the heart of our story, and that story is a true one.

Reconnecting nature with people in urban environments



Sustainability is at the heart of our story, and that story is a true one.

We comply with the **UN** sustainable development goals

We are involved in the UN Global Compact. We develop our operations in accordance with the UN's sustainable development goals. We have closely integrated the UN sustainable development goals we have chosen for our operational activities. We ensure our operations mitigate and/or adapt to climate change. We support the promotion of biodiversity. Lunawood works fairly, transparently and with

respect for others. Our growth is planned. We relentlessly follow the changes in world trends and want to act in a globally sustainable manner. In 2022, we tangibly integrated the selected UN sustainable development goals more robustly in our operations. We are constantly taking actions that help us achieve carbon neutrality in our operations by 2035.





Safety at work Accounting Brand awareness

Bike benefit

SDG 11

SDG 8



Product development Installation guide



SDG 12

efficiency Development of

Improve energy

13 CLIMATE ACTION

Increasing usage of renewable energy

Act for biodiversity

Third-party Code of Conduct training

Nordic raw material from sustainable forests

Long-lasting products

waste management

SDG 13

SDG 15

Carbon road map





Actions in 2022 following SDGs

Decent work and economic growth
Safety Management System implementation
Observance of laws and regulations
Lunawood brand is associated with the attributes Nordic roots, naturally sustainable, reliable*
20

	Sustainable cities and communications
nt	7 ongoing projects
	Completed to ensure the long lifecycle and correct installation of our products
	Responsible consumption and production
	Investment at Iisalmi Mill
	Implementation of improvements at Kaskinen Mill
	Planning phase done
	Climate action
	< ε 5 million in investments at lisalmi Mill
	Done
	Life on land
	< 700 insect hotels all over the world and
	awareness-raising campaigns at two schools
	Biodiversity training for Lunawood employees organized by sawn timber supplier
	Training with all sawn timber suppliers: 100%
	100%
ts	99% of the carbon bound to the raw material is still stored in the product after processing

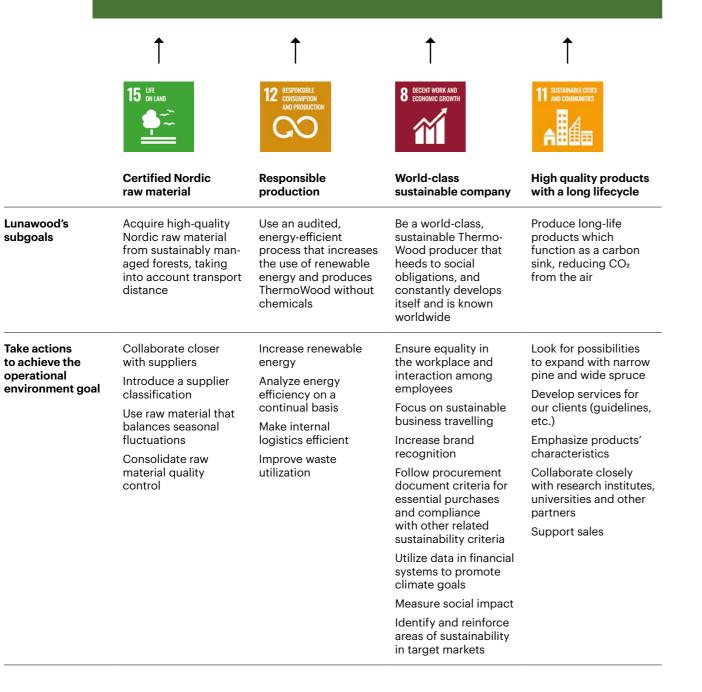
Climate action



Lunawood's main goal

To Achieve Carbon Neutrality 2035

To implement our low carbon road map and commit to the Science-based Target initiative (SBTi)





Scope 1 and 2 at Lunawood Mills

The company's emissions are calculated according to the Greenhouse Gas (GHG) Protocol, the most internationally known and used standard. The GHG Protocol specifies that the calculation must take into account at least the company's direct emissions (Scope 1), as well as emissions from the production of purchased energy (Scope 2).

The basis for the Scope 1 calculation is fuel consumption and emission statistics available at the national statistics agency, Statistics Finland. The quantity of fuel consumed in production is quantified with the best method available, be it a guaging device or truckload delivered. The quantity of fuel is then multiplied by a fuel-specific emission factor to obtain total GHG emissions, given as carbon dioxide equivalents (CO₂eq). This is compared to Lunawood's production, resulting in specific emissions for

Lunawood Thermowood® production in kilograms of CO₂eg per cubic meter of Lunawood ThermoWood® product. Lunawood's Scope 1 emissions constitute heat production at the mills and in internal logistics. In 2022, Lunawood Mills' Scope 1 was 3940 t. Scope 2 constitutes purchased usable energy, electricity, district heating and cooling, and process steam. Lunawood purchases electricity only. It comes from our supplier's multiple energy sources for which the supplier calculates the emission factors and proportion of emissions-free electricity. As with Scope 1, the purchased quantity is multiplied by a specific emission factor to get the total emissions, which is then compared to Lunawood's production. The company's emission figures are updated annually, but the data are not ready until Q3 the following year. Therefore, the figures are due to change for last year, and this year will be updated next year. In 2022, Scope 2 was 1798 t; this will be updated

within the year.

Scope 1

3940t

Scope 1 emissions include the emissions caused by Kaskinen mill's fuel oil, Soinlahti LPG and fuel oil

Scope 2

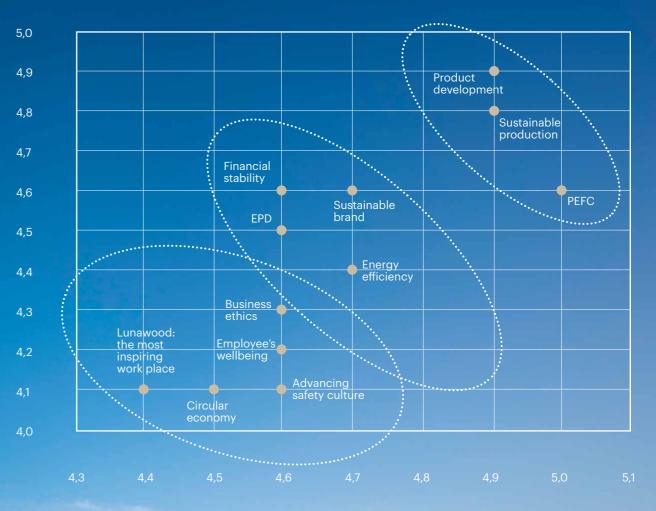


Scope 2 includes emissions of purchased electricity

Materiality Analysis: feedback from stakeholders

Involving our stakeholders in our sustainability strategy is a key part of our continual development. For this reason, we sent a survey to our stakeholders, other than our purchasing customer or personnel, inquiring about their views and experiences concerning Lunawood's sustainability processes. We wanted to ascertain the importance of sustainability activities and the relevance of measures from a business perspective. This type of survey and the analysis based on it is called a Materiality Analysis. The results of the analysis revealed that our stakeholders considered product development, sustainable production and PEFC certification to be the most important areas in Lunawood's sustainability work. Others included financial stability, brand and energy efficiency. Circular economy, Lunawood as an inspiring workplace and advancing safety culture came close behind.

At the end of the year, we updated our sustainability strategy, incorporating our stakeholders' views pertaining to the issues that are important to them. This gave us the opportunity to emphasize the company's sustainability work on the themes and measures that are perceived as the most relevant by everyone, and to assign the necessary resources to succeed in it. Involving our stakeholders in our sustainability strategy is a key part of continuous improvement. Materiality matrix (prioritisation of sustainability aspects) The Materiality Analysis indicated that Lunawood's sustainability work has been considered very important and it has an impact on Lunawood's business. Our measures were evaluated on a scale of 1–5, and all actions and their impact on our business were rated more than 4.





41

O3 Certified Nordic raw materials



Certified Nordic raw materials



The Nordic pine and spruce we use as raw materials grow in sustainably managed forests. Lunawood obtains 100% of its raw materials from Finnish sawmills certified by the Programme for the Endorsement of Forest Certification (PEFC). Only the middle part of the log is used, i.e., centre-cut sections. Sawmills sell the other parts of the log for other uses.

The best raw materials for Lunawood ThermoWood® products are obtained from Nordic forests. The short summers, with their long bright nights, and the harsh conditions of the long winter affect the growth of the trees. They make the softwood structure just right for the patented thermal modification. Thanks to a slow and steady increase in thickness, Nordic softwood trunks have more annual rings and a larger number of centre-cut sections than other tree species. The annual rings indicate the sections of summer and spring wood that are ideal for conifers in terms of wood strength. Only the centre-cut sections of the softwood, which is the most durable part of the log, is suitable for making Lunawood ThermoWood®. Its durability is due to the resin and resin content, which increases the wood's resistance to rot and damage by insects.

At the same time, the slow growth of the Nordic forests requires attention to sustainable forest management, which is an essential part of what we and our suppliers of PEFC-certified raw materials do. The PEFC-certified wood origin tracking system (Chain of Custody) ensures that our products are made from wood that comes from legal sources and sustainably managed forests.

Every year, an independent body audits how we at Lunawood have monitored the origin of the wood chain. An independent body also audits the PEFC wood origin tracking system of the entire supply chain, so we can be sure that the movement of the wood we use has been properly and accurately monitored. We check our operations every year to ensure that we have implemented the requirements for PEFC certification. Issues related to the origin of PEFC-certified wood are handled all the way up to the management team level. We are truly committed to operating in the manner prescribed by the certification throughout the company. After this year's audit, we renewed our PEFC Chain of Custody certification.

By sustainably taking care of our forests, we also take care of biodiversity: decaying trees and groups of trees have been left in the forests for replenishment and natural habitats have been protected. In addition, we safeguard water bodies and overall biodiversity in many ways. The biodiversity of the forests is long-term work with positive effects that will last far more than a century. In terms of sustainable forest management and natural biodiversity, we collaborate with the raw material suppliers who supply us. Through open collaboration, we can really be sure that our raw materials come from well-managed forests, PEFC-certified Finnish commercial forests, which are managed according to high ecological, social, and economic expectations.



The biodiversity of the forests is long-term work with positive effects that will last far more than a century.







Rigorous with raw material

We purchase raw materials from certified Finnish sawmills only. Managing over thirty supply sawmills and maintaining relationships is a time-consuming but pleasant task. We work in close collaboration with Arttu Rantakoski. Arttu is located in Kaskinen where he makes raw material calls to both factories and calculates the PEFC certification percentages. Raw material procurement was challenging last year due to fluctuations in demand for our end products. However, we were able to keep transport distances short, an average of 240 km.

We use only Nordic pine and spruce centre-cut logs as raw materials, because they are the only type of logs that can withstand thermal modification. That's why we need to be careful with the quality of the raw material. We carry out continuous checks with the incoming batches and communicate with the suppliers about quality. Thanks to this active communication, only a few loads were returned back to the sawmills last year for re-grading. It says a lot about the depth of the collaboration we have with our raw materials suppliers, as well as the understanding we have of each

other's operations and needs. Quality means continual monitoring and being readily responsive. In 2022, we updated the internal raw material quality requirements and related documentation to support our work. The next step in 2023 will be to go through the requirements with all the supplier sawmills. In terms of quality, we slightly fine-tuned the dimensions of certain timber.

To reduce accumulated plastic waste, our aim is to have our raw materials delivered uncovered. The proportion of uncovered deliveries has increased in recent years. This requires ensuring a good circulation of raw materials, so that the timber is not at the mercy of the weather for too long. We buy kiln-dried goods in lisalmi, while in Kaskinen we also use fresh sawn timber, which we dry for the thermal modification process. When drying fresh sawn timber, we utilize the waste energy generated during the heat treatment to heat other areas in the plant.

Last year, we made it a goal to review with all our supplier sawmills what sustainability means at Lunawood and what importance raw materials have in our sustainable business. We then introduced our ethical guidelines, the Third-party Code of Conduct. It was easy for our suppliers to commit to our guidelines, and at the same time we agreed on updating them.

Mika Kokkonen

Sourcing Manager, sawn timber

Lunawood's ethical operating principles: Third-party Code of Conduct

At the beginning of 2022, we published Lunawood's Third-party Code of Conduct. The purpose of the document is to make our values and expectations known to our stakeholders. Our Third-party Code of Conduct describes the measures we take in different situations. We want to be a reliable, open, responsible and transparent partner. We do not accept any form of discrimination or inappropriate treatment in any part of our value chain. We want to promote human rights everywhere.

We have about twenty raw material suppliers, with whom we have expanded our collaboration over the past year. We discussed Lunawood's Third-party Code of Conduct with each of our raw material suppliers. At the same time, we also discussed Lunawood's sustainability measures. The Third-party CoC training and discussion on sustainability initiated by Lunawood were considered a starting point to make our ethical guidance and responsibility issues known to everyone.

100%

All our raw material suppliers approved Lunawood's Third-party Code of Conduct.

240 km

average distance of raw material to our Mills

100%

PEFC-certified raw material suppliers



04

Responsible production



Responsible production

Lunawood is a pioneer and expert in modern Thermowood modification achieved by enhancing the wood's natural properties while respecting and preserving the environment in the thermal modification process. Lunawood ThermoWood® is a natural material produced with heat and steam only – and without chemicals. We produce trademarked ThermoWood® products by means of a patented process that is subject to annual audits. The International Thermowood Association (ITWA), of which we are a founding member, owns the patent and trademark. The ITWA supervises its member companies' production and quality-control processes. This supervision is conducted by Finotrol Oy as an independent third party. It is on the basis of Finotrol Oy's audits that Lunawood has the right to use the ThermoWood® trademark.

The cornerstones of sustainable production are staff safety and well-being, energy and resource efficiency, client-oriented production planning and a quality approach across all operations.

At both our mills, we have continued to focus on safety and implemented the 5S methodology to improve the organization of the working environment and standardize working methods. We have also worked to improve safety at our factories by increasing the number of perimeter fencing and gate controls.

To improve energy efficiency, a major investment was launched at our lisalmi Mill in early 2022 to renew the, mill's energy production. The investment will improve the mill's energy efficiency by about 15% and reduce CO_2 emissions by about 40%. The investment will help Lunawood move towards carbon neutrality in our operations.

The commissioning and optimization of improvements to the biopower plant at the Kaskinen Mill have been key measures in the energy efficiency drive. We have also increased the use of wood chips from nearby forests and also worked to enable the use of ash from our thermal plant as forest fertilizer.

Production planning is one of the key activities at the plant, helping us to optimize our raw material and finished product transfer routes, production efficiency and the manufacture of the right stock products. These all contribute to our resource efficiency, waste reduction and energy efficiency improvements, as well as our ability to guarantee excellent service to our clients.

We are already looking to the future. In 2022, we worked to make more efficient use of our side streams and to be even more resource-efficient in the following year.

Lunawood is a pioneer and expert in modern Thermowood modification.



Renewing energy production at the lisalmi Mill: the largest investment in its history

Lunawood continues a major series of investments at its lisalmi Mill. The company has made the largest investment in its history to significantly increase the mill's energy production capacity and energy efficiency. The investment will reduce CO₂ emissions by up to 40% from heat production, improves energy efficiency by almost 15% and more than double the treatment capacity for VOC emissions. In addition, the investment will enable an increase in thermal modification production. The total value of the investment is over €5 million.

The renovations started in April 2022 and will be finalized during Q1, 2023. After the renovations, Lunawood lisalmi Mill will produce a combination of LPG and electrical energy controlled by a modern automation system.

In the same context, a decision was made to change the supplier of LPG gas to domestic Neste. Its sustainability policy is very much in line with Lunawoood's sustainability goals. Changing the gas supplier and the related permit processes, documenting compliance with regulations and technical implementation were a big effort for the lisalmi Mill organization.

The investment will increase Lunawood's total energy production capacity. At the same time, the investments significantly reduce the CO_2 emissions from production and notably improve energy efficiency. The waste heat from flue gases will be utilized more efficiently, both in the process and in property heating.

Investments in the Iisalmi Mill in recent years have focused on increasing production capacity and safety at work. The investments now being made will lead to more resource-efficient production and thus a reduction in the carbon footprint of Lunawood ThermoWood[®] products. We are convinced that these investments will strengthen the position of Lunawood Thermowood in sustainable architecture and serve our clients, as well.

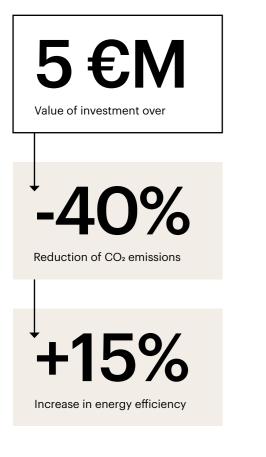
The company has made the largest investment in its history to significantly increase the mill's energy production capacity and energy efficiency.

Noise barriers at the lisalmi Mill supporting biodiversity

The energy investments at the lisalmi Mill required a redesign of the mill area. Fencing the area and relocating and extending noise barriers as well as building new storage areas entailed extensive earthmoving. Most of the necessary soil was already available on the plot.

Promoting biodiversity, in addition to functionality, was the starting point for the earthmoving and building noise barriers. The material choices made sustainable landscaping that promotes biodiversity possible. Butterflies and other insects, as well as various molluscs, will soon be able to settle in the shelters of the ramparts.

Moreover, almost a hectare of new asphalted storage area, about 220 m of new noise barriers, and a general clean-up of the mill area were achieved with the sustainably implemented measures. Utilizing existing soil materials was recycling at its best, and at the same time we significantly reduced CO₂ emissions from moving soil.







On the road to continual improvement

A significant investment was made in a biopower plant at the Kaskinen Mill at the end of 2021. The power plant was modernized, and its total capacity was increased. The implementation has spurred many other smaller-scale but important environmental measures. The ash generated in the thermal modification process is now used as forest fertilizer by our co-operative partner. We have been able to increase the operating time of the biopower plant by renewing the acoustic cleaners.

We also invested in public safety by renewing the surveillance systems in the mill area, investing in LED lighting in the plant area, and enhancing internal logistics with the help of warehouse specifications.



Increase of kiln loads by

2.6%

Resources optimized to meet client needs

Production planning is a central part of raw material procurement, sales budgeting and in creating client experience. Solid production planning improves resource efficiency while meeting the needs of internal and external clients. Raw material sourcing is part of production planning, which allows us to react quickly to the needs of sales. Our production planning team consists of five people and is assisted by production supervisors who ensure implementation, i.e., production from thermal modification to planning and further processing.

One important task in production planning is guaranteeing good service ability. Dialogue between sales and production in both the short and long term is invaluable. Manufacturing the right stock items with an even load on production and the rotation of finished stock affect both costs and delivery times. This ensures a better client experience. In terms of quality, stock turnover should also be kept at a good level, so that there are no old packages left to be handled. Optimal production also requires the timely availability of raw material in the right dimensions.

With good planning, you can influence the transport distances

of raw materials and the meaningfulness and efficiency of manufacturing different products, in particular. The aim is to produce the goods close to the client, transporting them as few kilometres as possible. whether the transport involves raw material deliveries, Lunawood Thermotimber or planed products. Our goal is efficiency, which means we manufacture our products in our own plant. This improves the filling and energy efficiency of the thermal modification kiln and optimizes logistics. For example, short lengths of raw material are more suitable for production in lisalmiwith regard to sticking and stacking and the kilns' loadingcapacity. In 2022, the average kiln load in Iisalmi was 70.8 m³, increasing by 2.6% from the previous year.

By maximizing production batches, we have been able to reduce the number of defective packages and increase the average package size. This has helped us save packaging materials per cube.

Janne Heikkinen

Production Planning Manager







Long-term partnership and development together have been at the heart of our business from the beginning. It is important to us that we can rely on our partners and that they feel the same way. This also applies to logistics, where our main partners are Küehne + Nagel and DHL. They are both pioneers in promoting sustainable and zero-emission transport, with science-based goals.

and pine, are close to our factories. The average transport distance was only 240 km in 2022. However, the market for our end-products, Lunawood Thermotimber and planed products, is mainly abroad, in southern and central Europe. In total, our products have already been delivered to more than 60 countries. This sets requirements on both the packaging and the transport process itself: we want our deliveries to run smoothly and sustainably. Sustainability is both the consideration of ecology in logistics and the perfect condition of our valuable products at the destination. The lightness of the Thermowood is a positive feature when calculating the weight-based CO₂ footprint.



Solid production planning improves resource efficiency while meeting the needs of internal and external clients.

> Our raw materials, domestic spruce and pine, are close to our factories.

Sustainable logistics partnership

Our raw materials, domestic spruce

Thermowood across the oceans

For almost ten years now, we have relied on Küehne + Nagel's expertise in sea freight and forwarding. With their expertise, containers and routings are optimized in a sustainable way. KotkaHamina is the main port of departure. Our task is to make sure that the containers are full, thus minimizing CO₂ emissions. Thanks to Kühne+Nagel' professional staff and the international network, they were able to meet the challenging shortage of container availability and thus supported the growth of Lunawood's business overseas.

Road transport plays a significant role

The majority of our Lunawood Thermowood volume is directed to a large area in Europe, where products are transferred in full trailers. Trailers mainly cross the Baltic Sea without a cap. Vuosaari in Helsinki is the port of departure. DHL is our long-term partner in truck traffic. We are committed to offsetting our shipments through DHL to support Gold Standard projects run by the UN Global Compact.

Eila Härkin

SCM Manager

05

World-class sustainable company



World-class sustainable company

Sustainability is the core of Lunawood's brand. This is easy to understand when one thinks about the raw material and thermal modification process, but it is true also from the social and economic perspectives. Lunawood is a wellmanaged Finnish company with a transparent ethical foundation. We cherish the image of reliability and loyalty that is generally associated with the Nordic countries. All these aspects go into every piece of Lunawood ThermoWood® used anywhere on the earth.

Keeping the story of sustainability true demands that all Lunawood missionaries, our personnel, share the same values. However, we also want to share our values with our partners and clients. It is important to us that our partners know our product and its features. We are committed to technical support; we provide our clients with guidelines and instructions to ensure our products' long lifecycle.

We made our operations more efficient through digitalization in 2022. We optimized the subprocesses in the Enterprise Resource Planning (ERP)program to benefit more from the collected data. Improved information availability,

sharing information within the organization and actively training both sales and sales support have ensured that our clients receive high-quality service. We are grateful that our clients value our work; our Net Promoter Score (NPS) was 48 in 2022.

Our employees are our most important resource. We want our employees to return home safe and healthy after a working day. For us, safety and related measures, such as fire safety, reporting of safety findings and the construction and implementation of a safety management system, are high-priority activities at Lunawood. We also ensure the safety of our partners when they visit our mills.

We genuinely and transparently create value for our products through sustainability. We are members of initiatives and networks that promote sustainability, such as the UN's Global Compact initiative and Finnish Business and Society (FIBS), the largest corporate sustainability network in the Nordics. We share the principles and values of these operators. This is why participation in promoting sustainability among our stakeholders and expanding our own expertise is easy for us at Lunawood. Our sustainability work is not finished, nor should it be. We are moving forward towards carbon neutrality in our own operations, and we are developing our partnerships to support our goal of reaching net zero emissions in our entire supply chain.



Keeping the story of sustainability true demands that all Lunawood missionaries, our personnel, share the same values.

Safety remains our priority

Lunawood has invested significantly in safety in recent years. We value our employees and partners, and we want everyone to return home safely from our facilities after the working day. In 2022, we made significant investments in improving work and fire safety at both of our mills and continued our development work to better manage safety risks. Our goal is to be the safest company in our industry in Finland, and we are committed to the goal of zero work-related accidents.

All employees are encouraged to report their safety-related observations: the number of reported safety issues doubled compared to the previous year. More than 90% of the corrective safety measures had been implemented by the end of the year.

We did not reach our goal of zero accidents in 2022: we had four workrelated accidents. Two of them were involved snow and slippery surfaces, two others happened when working in high places. All the accidents were carefully investigated and corrective actions were thoroughly taken.

In 2022, safety training focused on fire safety, investigation of near-miss situations and chemical safety. Our project to build a safety management system, which began in 2021, was completed at the end of 2022. In small groups, the entire personnel was trained in how to use it and the processes it involves.

We value our employees and partners, and we want everyone to return home safe from our facilities after the working day.

Safety goals 2023

We have yearly goals for improving safety at work. Zero accidents remains our target and we measure preventive actions monthly.



3. Tidiness and o (level > 90%)

1. Work-related

2. Fires: 0

accidents: 0



>500 Safety observations

+90% of corrective measures taken

55

	4. Safety observations: (quantity > 500)
	5. Personal assessment of work hazards: (quantity > 365)
rder:	6. Regular safety training for all personnel: (1 hour per quarter per person)



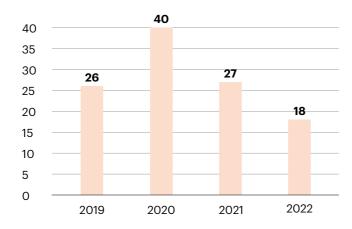
A well-organized working environment is safe

One key part of the safety management system was the development of tidiness and order. The information obtained from the safety observations supported the notion that proactive work in terms of order significantly improves safety. The goals and means for developing fire safety also emphasized the importance to keep working facilities tidy.

The 5S principles were used as a tool to improve tidiness and order in all production teams and offices, and together we determined the target level of order for each site. The monitoring and maintenance of order in the 5S method, are key. Regular inspections, where goals were also specified, were made right from the beginning. Improvements were also made to the work environment of the production departments, which made it easier to maintain order. To evaluate the level of order and tidiness, the teams were provided with a standard check list of questions, which could be filled in on a mobile device. A photo was visible at each workstation, 5S following the principles, which indicated the target level of tidiness and order.

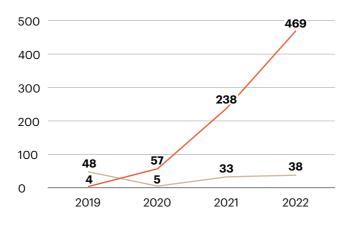
Now, more than a year has passed since the start of the project, and we are nearing the end. The plants still have some exterior painting to be done, but the order evaluations, as per the 5S principles, were in use almost all of last year. The changes are clearly visible in our plants and offices, and the project has received praise from our own personnel. Collaborators and visitors have also noticed the change.

LTA Development (Target 0)





Preventive safety actions





The changes are clearly visible in our factories and offices, and the personnel is committed to maintain the results.



The sticking-stacking building at the Kaskinen Mill was the site for the 5S pilot, the work started by disposing of unnecessary tools, agreeing on storage locations and marking them. Production employee *Tom Häggblom* says a benefit of the 5S method he noticed during the pilot was that time was no longer wasted on trying to find the tools he needed. Everything needed is on display and the team is very committed to maintaining order.

Finnish working culture

Sustainability is deeply rooted in our Nordic DNA, to promote fairness and equality within our company and the world around us. We want to be known for our role in building a more sustainable future, for integrity and long-term partnerships, for creating inclusive growth opportunities for our people, and for honouring our Nordic heritage that survives the test of time. Lunawood is a well-managed Nordic company with a transparent, ethical foundation. The Nordic model is a combination of social welfare

and sound economic systems, social benefits, and equal income distribution. This reflects the mindset in which the common good often comes before individual needs.

The Nordic welfare model is based on non-corrupt administration, democracy, equal value and opportunities for all people, respect for human rights, justice, and health and wellbeing. Another characteristic is that we do not want to leave anybody behind.

Lunawood is a well-managed Nordic company with a transparent, ethical foundation.



Terms of employment in writing

All Lunawood employees have written employment contracts, and the vast majority of contracts are valid until further notice. In 2022, we 10–20 temporary employees, typically during the busy summer season, in project-based tasks or as part-time employees who are also studying.

Training for entire personnel and individuals

Lunawood organizes training with external training partners and with our own experts. The topics in 2022 have covered, e.g., safety, new machines and our manufacturing process, new products and promotion. The company encourages employees in specialist roles to take off time for self-directed training or external training on topics that are relevant in their specific roles.

Occupational Safety and Health Committee develops working conditions and safety

Finnish companies must establish an Occupational Health and Safety Committee comprising personnel representatives and other members, depending on the issues to be discussed. The purpose is to develop together the working conditions, safety and other issues related to work ability. Lunawood's committee is active and meets regularly every few months. Solutions for improving safety are discussed, safety outcomes are reviewed, and related projects are planned in the meetings.

Family leave for both parents

In Finland, both parents of a child have a statutory right to parental leave until the child is at least 8-9 months old. Lunawood's parental leave agreement allows one parent full pay for the first three months of the child's life and the other parent full pay for the subsequent three months. After that, both parents receive partial salary-based compensation for family leave from the State.

Although in general, mothers still take the majority of the parental leave, fathers at Lunawood also took parental leave in 2022.

We want to promote an equal working life and practices that make balancing work and family life easier for both parents.

We want to promote an equal working life and practices that make balancing work and family life easier for both parents.

Daily work-place culture

The break rooms at Lunawood are the places to relax, share news, and just get together! We spend the daily coffee and lunch breaks together whenever possible. We want to keep the company hierarchy low and office doors open.

From time to time, we celebrate birthdays or achievements in business together with a layer cake at the mills and offices , a very Finnish custom! Since we work in several different locations in Finland and abroad, tools that ease working remotely, such as Teams, are widely used in daily communication.

Sports and culture benefits

We support work-life balance with sports and culture benefits. Employees get a yearly benefit to use for sport or culture activities, e.g. gym, sports events, theatre or the cinema.

Bike benefit to encourage exercise

Lunawood introduced the bicycle benefit in 2022: 20 employees have already acquired a new bike with the benefit. The price of the bike is deducted monthly from the employees' salary. The fee is taxfree part of the salary. Cycling adds exercise to your everyday life and promotes not only your own wellbeing but also the well-being of the environment.

Employees can choose any type of bike for urban and off-road conditions or forest trails from a range of different shops. The bike can be used during free time and/or for trips between work and home.



Matias Laaksonen acquired a bicycle suitable for all climatic conditions in December 2022.



NPS 48: What lies behind it?

At Lunawood, compliance with laws and regulations is important. Our sales team includes industry professionals who know both our products and the requirements of the export trade, starting with delivery conditions and export documents. We make sure that clients receive their contractrelated documents on time, and that we respond to any questions they may have in a timely manner. In Finland, we have sales support teams that support sales managers. The teams' experienced sales assistants ensure that, for example, export documents for shipments are handled in accordance with each country's regulations and the client's wishes. We have promoters around the world who also support our sales, e.g.,

through architectural collaboration and utilizing their product expertise throughout a project. We want to ensure that our clients receive highquality service, whether dealing with a salesperson, a sales assistant, or a promoter. To do this, we share information within the organization and actively train both the sales team and sales support. Our goal is to offer clients several contact channels and we want to make sure they know that they are getting expert service from all channels. We are grateful that our clients value our work and awarded us a Net Promoter Score (NPS) of 48 in 2022.

Marjaana Hotokka Customer Service Manager

Conquering new markets

With the 'Know your customer' -process, we ensure that the new partnership has a solid foundation on which to build a long-term partnership. Before choosing a partner, we do a comprehensive market survey to assess the opportunities and risks as well as the market situation. This is also how we started conquering the US market.

Our market research project in the US was launched in June 2021. Because the US presents a huge market, we decided to select suitable states and areas to break new ground in a controlled manner. In the study, the North-East, the West coast and the Pacific North-West emerged as the most interesting regions that offered the most potential for our products. Sustainable development is emphasised more in these areas than elsewhere in the US. In addition, these regions are wealthy and have long traditions in wood construction.

Thanks to the positive feedback we received from the market and the welldone groundwork, we were ready in 2022 to move to the fourth phase of the US project, where we look for and profile potential dealer candidates. After mutual negotiations, Lunawood products are available in seven states through two different partners.





Efficiency through digitization of operations

Sustainable measures are a part of every function at Lunawood, and back office functions such as financial administration and IT are a perfect example of this. In fact, it is precisely the development measures implemented in these functions that serve and increase the performance of other functions. Up-to-date and easily accessible information is a prerequisite for an agile way of working.

Enterprise Resource Planning (ERP) has supported our main processes for many years. Last year, many development projects concerning sub-processes were implemented with ERP, which enabled us to get new information to monitor and analyze, such as the inventory levels and sales of traded products and documentation of purchases. With better inventory management, we were able to improve both internal logistics and lower inventory levels.

At the client interface, the harmonization of client and product information, in particular, has increased



efficiency and enabled better client management. The implementation of Sharepoint makes it possible to find and preserve documents in a completely new way. Up-todate information and accessibility to it increase transparency, but at the same time create the need to maintain information security expertise throughout the organization. We trained the entire staff in information security issues several times during the year.

We also report on Scope 3 CO₂ emissions. For that purpose, we monitor, e.g., emissions from travelling, which is mainly done manually. Switching to the new travel and expense claim system enables more comprehensive reporting with less work.

Juha-Matti Tölli

Business Controller

Ilkka Riihijärvi IT Manager

06 High quality products with a long lifecycle



High quality products with a long lifecycle

Lunawood ThermoWood[®] is the ideal foundation for ecofriendly, healthy living. It is a perfect material for it. The Thermowood[®] trademark is a guarantee of certified quality of our products and operations. This trademark stands for continuous development and a solid qualitycontrol process, as well.

The international KOMO certificate is a guarantee that the LunaThermo class D materials meet the biological durability and production quality requirements set for similar products. The quality of Lunawood exterior cladding products is guaranteed with the CE label. According to Building Research Establishment Limited (BRE), the expected lifespan of LunaThermo-D used as exterior cladding and terrace board is 30 years, when the manufacturer's instructions and best construction practices are followed. Our clients have the support of numerous guides and installation instructions. This way, our products remain visually and technically functional, durable and long-lasting. Lunawood products do not require surface treatment or separate maintenance measures to withstand time and different climatic conditions. Thus, they are a sustainable choice from both a cost and sustainable development point of view.

Our raw materials come from Finnish PEFC-certified forests, which means they originate from well-managed, sustainable and legal sources. Our products act as carbon storage from one generation to the next. Last year, we updated the Environmental Product Declaration (EPD) of our products to correspond to the latest update of the standard (ISO EN 15804 + A2). Our carbon footprint is significantly smaller than most other building materials.

We will continue to develop our products together with our clients. We also continue to cooperate with numerous education and research institutes. It is important to us that our products are well tested and piloted before they are introduced to the market.

In July 2022, we organized the first international Lunawood architects' day. We were able to comprehensively communicate about our ThermoWood® products' characteristics and the journey of Finnish wood from the forest to the sawmill and from there to the Lunawood mills and all the way to the end user. We want to thoroughly highlight how responsible our operations are in our entire supply chain.

5:1

One m^3 of Lunawood stores over five times the amount of CO_2 from air compared to the emissions from the production.

99%

of the carbon bound to the raw material is still stored in the product after processing.



Updated EPD: remarkable improvement in carbon binding

The Environmental Product Declaration, EPD, is a verified and registered document that communicates transparent and comparable information about the lifecycle environmental impact of products. The information is used to calculate the carbon footprint of a building.

EPD of Lunawood Thermowood The environmental efficiency of Lunawood Thermowood is remarkably positive. Ninety-nine per cent of the carbon bound in the raw material is still stored in the product after processing. This means that Lunawood Thermowood binds five times more carbon compared to the CO₂ emissions from our production. Lunawood's EPD is calculated according to the ISO EN 15804 + A2, and it is approved by RTS, the Finnish EPD authority.

117 kg

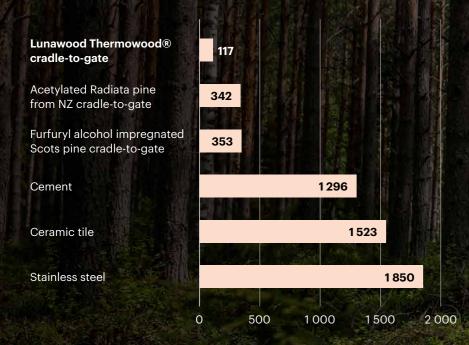
CO₂eq/m³

51

Long term CO2 storage

The carbon footprint of Lunawood Thermowood is 117 kg CO₂ eq/m³. Compared to nonrenewable construction materials, tropical hardwoods and chemically modified woods, Lunawood's carbon footprint (from cradle to gate) is notably smaller.

Carbon footprint of Lunawood Thermowood® (kg CO2eq/m3)



The carbon footprint of Lunawood Thermowood is noticeably smaller compared to chemically modified wood and non-renewable materials.



Low maintenance and long lifespan

The patented thermal modification process gives Lunawood a distinctive brown colouring and natural weather resistance for all climatic conditions without harmful chemicals. However, weathering fades the brown colour over time. As the colour fades, the wood gradually turns grey. The colour may vary from a platinum silver to a lighter rustic tone, depending on the construction and the climate conditions it has been exposed to.

The thermal modification alone makes separate surface treatment and maintenance unnecessary, with the correct installation. This entails sufficient ventilation behind the Lunawood cladding, appropriate

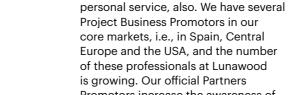
distance from the ground and choice of an optimal surface treatment strategy.

In 2022, we published a comprehensive handbook for installing Lunawood façades, containing an abundance of useful technical information for both architects and engineers, as well as carpenters and installation companies. The handbook brings together all aspects of the construction process - from the orientation of the building in different climate zones to fixing the panels with screws and selecting the right maintenance strategy. And everything in between: structures and many important design details and tips for

designing wooden façades that will last longer.

Lunawood Collection products have an expected service life of 30 years* in exterior cladding when official installation guidelines have been followed during construction. This long service life enables our products to act as a carbon storage from one generation to the next. Lunawood products offer a more sustainable base for architecture, construction and design compared to non-renewable materials and tropical hardwoods.

* Study: Building Research Establishment Limited (BRE)



Endorsing sustainable

construction

architecture and

We provide architects and designers

support for their design process, as a

Promotors increase the awareness of the sustainable Lunawood brand and our products in the selected markets, provide technical support, follow the projects all the way from the design table to the reference stage and obtain important market insight from the frontline. This promotional work is supported through newsletters and sample services.

In addition to the mundane, but necessary promotional work, we expanded our understanding of the



questions in the minds of architects when creating sustainable architecture and making related material choices. We invited eleven architects from different parts of the world to the Lunawood Architects' Days and introduced them to renewable Finnish forests and the secrets of sustainable Lunawood Thermowood.

Architects at the source of renewable Nordic wood

Organized for the first time, Lunawood Architects' Days gathered eleven architects from Europe, Brazil and South Africa to the small town of Kaskinen on the west coast of Finland at the end of June 2022.

The origin of Lunawood Thermowood was at the heart of the event: the journey of PEFCcertified wood from the forest to the patented Thermowood process, which uses only heat and steam, and finally to the premium end

products. During their visits to the forest, the participants delved into topics such as sustainable forest management and PEFC certification. At the Lunawood Mill in Kaskinen, the architects were able to see how and why the chemical-free thermal modification process is implemented, as well as the strict quality measures that are carried out to ensure the best possible outcome.

During their week in Finland, the architects also had the opportunity to take in the gems of Finnish architecture and together outlined new visions of future architecture.





Promoters

Newsletters



We provide architects and designers support for their design process, as a personal service, also.



Award-winning projects featuring Lunawood Thermowood

Projects designed by visionary architects and designers bring wood back to life.

For twenty years, Lunawood Thermowood has been selected as a wood material for various projects around the world. Each creation is unique, but what unites these sites is the desire to build ecologically with the most sustainable wood material. Using renewable wood is also increasingly a statement against and a supporting act for climate change. Many of these beautiful Lunawood projects have also received worldwide recognition through architectural competitions and awards. Here are some of the most beautiful award-winning Lunawood Thermowood projects from the past years.



Het Epos, The Netherlands Architect: SeArch, Bjarne Mastenbroek Photo: Ossip van Duivenbode

Het Epos is the winner of the national Houtbouwprijs 2021 in the Netherlands in the category for best modular timber construction.



Aurum, Finland Architect: **ARGO** Architects Photo: Wellu Hämäläinen

Aurum is the winner of Good Design® 2022 in the 'Environments' category.

Project Ö Architect: Aleksi Hautamäki Photo: Archmospheres

One of the most loved projects, Project Ö, was awarded in the Green Good Design 2021 in the 'Green Architecture' category.



Ferrer, Spain Photo: Marià

Architecture Buildings' category.





Bosc d'en Pep Architect: Maria Castelló Martinez Castelló Martínez

This modern villa was awarded the MasterPrize 2022 in the 'Residential

Product of the year: Luna Triple 32x140

Luna Triple's global success continues. The product was awarded as an ecological and sustainable product for the second time by a jury of architects. It was first awarded the 2021 Sustainable Product in Architecture MasterPrize and in 2022 the MaterialPREIS in Germany.

Casa A, Portugal Architect: REM'A arquitectos Photo: Ivo Tavares Studio

Casa A was the winner of the Building of the Year 2020 Award in ArchDaily in 'Best Applied Product' category.

O7ESG metrics

In 2022, we began monitoring key performance indicators (KPIs) for sustainability, set for each operational area, on a monthly basis. We exceeded the targets set for 2022 in almost all KPIs. During the year, we reported our sustainability measures and activities using the Ekokompassi environmental system, though annual reporting to our main owner Accent Equity, and at the request of some of our clients, through the CDP Disclosure Insight Action platform.

We also reported KPIs according to the EU taxonomy in our annual report. We also collected data on our Scope 1 and Scope 2 carbon dioxide emissions, which we have used in the preparation of our carbon road map. To monitor Scope 3 emissions, we have developed our systems, to obtain better information about Scope 3 CO₂ emissions, such as emissions caused by business trips, logistics and purchasing services.

ESG intiative	Target	Key metrics	Unit	Measuring frequence	2018	2019	2020	2021	2022
Environment and climate	1. Increasing the share of renewable	1. Production carbon intensity	kg CO₂ /m³	annual	62.47 **	49.77 **	49.65 **	51.91	52.73
	energy	2. Footprint	ton CO ₂	annual	6 771 **	5 648	5 850 **	6 597 *	5 826 **
	2. Committing to source certified raw material from	3. Energy intensity (production heat and electricity)	MWh/m³	monthly	0.49	0.45	0.44	0.41	0.47
	the Nordics 3. Searching for circular economy solutions: considering new uses for by-products	4. Ash from Kaskinen	kg/ renewable MWh heat	annual	10.0 **	10.3 **	14.2 **	0 ****	0 ****
		5. Amount of hazardous waste *	ton	annual	70	103	77	62	94
		6. Normal waste	ton	annual	81 **	80 **	71 **	71	58
		7. Water usage	l/m³	annual	328 **	303 **	295 **	256	263
		8. Share of TW fibre to TWPC instead of energy use	%	annual	25.0	21.1	26.7	15.1	11.7
		9. Share of certified raw material	%	continuous	93.0	90.1	88.7	89.8	91.04
		10. Percentage of energy from renewable sources	%	annual	48.9 **	54.9	53.7	48.2	53.9 **

* Share of hazardous waste that is reused, recycled or composed under investigation. ** Low precision data *** Company total **** The ash was not disposed of in a landfill, the method of utilization is being investigated.

ESG intiative	Target	Key metrics	Unit	Measuring frequence	2018	2019	2020	2021	2022
Non- discrimination and Equality	1. Equality in the workplace	1. Split of gender in the management team	absolute	annual	men 4 women 1	men 4 women 1	men 4 women 2	men 4 women 2	men 4 women 2
	2. Create an embracing work environment	2. Split of gender on the board	absolute	annual	men 4 women 1	men 4 women 1	men 4 women 1	men 4 women 1	men 3 women 2
	3. Zero discrimination or harassment	3. Split of gender in Lunaholder group, clerical	%	annual	men 66 women 34	men 60 women 40	men 65 women 35	men 67 women 33	men 67 women 33
		4. Split of gender in Lunaholder group, shop floor	%	annual	men 97 women 3	men 97 women 3	men 97 women 3	men 96 women 4	men 97 women 3
		5. Incidents of discrimination and corrective actions taken	absolute	annual	0	0	0	0	0
		6. Use of family leave *	persons / year	annual	-	-	men 1 women 2	men 4 women 1	men 10 women 0
		7. Salary development, shop floor **	%	annual	-	3.6	2.3	3.1	2.2
		8. Salary development, men, clerical	%	annual	6.6	4.4	4.3	3.2	4.0
		9. Salary development, women, clerical	%	annual	2.6	8.7	6.4	2.8	4.1

Salary development: employees at the end of the year, incl .position changes, excl . seasonal workers. * During the year. No earlier data available. ** Women less than 3 pers.



ESG intiative	Target	Key metrics	Unit	Measuring frequence	2018	2019	2020	2021	2022
Safe and sustainable work place	1. No accidents: monitoring the safety of working areas	1. LTA	acci- dents/ million working hours	monthly	46.1	26.0	40.0	27.0	18.0
	2. Needed actions without delay 3. Improved fire safety	2. Number of workplace accidents with at least one day of absence	%	monthly	8	4	7	6	4
	4. Good working ability in the long	3. Safety hazard reports	No.	monthly	0	4	57	238	469
	run, healthy and safe from work to	4. Near-miss reports	No.	monthly	8	48	5	33	38
	home	5. Absence rate	%	monthly	3.6	4.0	3.7	3.7	4.1
		6. Sick leaves of over 30 days	No. of people	annual	- *	3	6	6	6
		7. Employee satisfaction	NPS	annual	3.8/5 **	-	22	32	34
		8. Employee turnover ****	%	annual	21	4	8	7	5
		9 . Change in the number of personnel ***	absolute	annual	+6	+10	+12	+16	+4

ESG intiative	Target	Key metrics	Unit	Measuring frequence	2018	2019	2020	2021	2022
Anti- corruption & conflicts of interest	1. Code of Conduct in use (internal & 3rd party)	1. Policies in place	whistle- blowing in use	annual	not yet	not yet	yes	yes	yes
	2. External audits successfully	2. Basic training and commitment to Code of Conduct (%)	%	monthly	-	-	-	100	100
	passed and corrective actions done on time	3. Confirmed incidents of corruption	yes/no	annual	no	no	no	no	no
		4. Occupational health and safety audits have been conducted	on time	annual	done	done	done	done	done
		5. Environmental audits have been conducted	on time	annual	yes	yes	yes	yes	yes

ESG intiative	Target	Key metrics	Unit	Measuring frequence	2018	2019	2020	2021	2022
Sustainable and responsible growth	1. Committing to sustainable and responsible growth	1. Profit development, EBITDA €M	meets expecta- tions	monthly	5.6	5.6	7.2	16.8	12.8
	2. Committing to the promises to our customers	2. Successful financial audit	clean audit report	annual	yes	yes	yes	yes	yes
		3. Governance policies in place	yes/no	annual	yes	yes	yes	yes	yes
		4. Client satisfaction	NPS	annual	43	-	58	22	48

* No information available ** Employee satisfaction 2018 , scale 1–5 *** Year average **** Net turnover (excl. short-term employees)

Photocredits

Cover	Lunawood
Page 2	Casa Dos Profesores. Architect: Arqxé Arquitectos. Photo: Iván Casal Nieto
Page 4	Lunawood
Page 6	Lunawood
Page 8	Loft Green Apartments. Architect: Maxim Calujac. Photo: TMC Video Production
Page 11	Lunawood
Page 12	Casa en Perillo. Architect: Seara Peleteiro Arquitectos. Photo: Héctor Santos Díez
Page 14	Lunawood
Page 17	Lunawood
Page 18	Lunawood
Page 21	Lunawood
Page 22	Lunawood
Page 23	Lunawood
Page 24	Lunawood
Page 25	OTP Residence, reconversion of a private house.
	Architect: Rucsandra Popescu, wde sign. Photo: wde sign
Page 26	Lunawood
Page 27	Lunawood
Page 29	Lunawood
Page 31	Lunawood
Page 32	The Golf Village. Architect: Studio Mariana Crego. Photo: Mariana Crego
Page 33	Lunawood
Page 34	Lunawood
Page 35	The Golf Village. Architect: Studio Mariana Crego. Photo: Mariana Crego
Page 36	Lunawood
Page 38	Private Cabin in Lofoten. Architect: VÅG LOFOTEN AS,
	Project team: Tora Arctander and Markus Schwarz. Photo: Stephen Citrone.
Page 39	Lunawood
Page 42	Lunawood
Page 47	Lunawood
Page 48	Lunawood





Reconnecting nature with urban people

Lunawood is a pioneer and global market leader of decorative wood solutions. We love the forest, its untamed freedom, and its incomparable strength. Our mission is to reconnect nature with people in urban environments. We make the soothing effect of the forest available to all.

Our mills in Finland transform the very best Nordic pine and spruce into beautiful and long-lasting Thermowood. It is the ideal foundation and the perfect material for an ecological and healthy way of designing, building, and living.

Lunawood was founded in year 2001. Today, we employ 140 professionals in Finland, at our production units in Iisalmi, Kaskinen and Joensuu, as well as at our head office in Lahti and in main export markets. Our turnover in 2022 was EUR 77 million.













