

Vestre Plus One



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Vestre has been through a period of transition in 2021. From the building process started with the first tree being cut on the site to the finished carapace of The Plus standing tall at the end of 2021 it has been a wild ride. The fact that our former CEO went into service for his country as Minister of Trade didn't shake up things to a lesser extent. Building The Plus has been at once awe-inspiring, exciting, and terrifying. The finished product I daresay looks even better than the renders. To quote Bjarke Ingels: "it's seldom the architect can come to an opening and be 100% satisfied with the end product being true to idea". This was one of those, rare, occasions.

Vestre is growing rapidly in several markets, most prominently the US and Germany. With more business overseas it becomes paramount to ensure quality products leave the factory, and shipments are made in as effective as possible a manner to reduce the footprint of it all. Vestre aims to be the world's most sustainable furniture brand! There, I said it, now all that remains are the actions taken to ensure we get there. Among them are of course the building of The Plus, taking control over more than 90% of our value-chain to ensure the efficiency and focus on sustainability we pride ourselves on. The fact that we were able to calculate LCAs for our entire portfolio back in the fall of 2020 has also been well received by our stakeholders. Combining that with the Nordic Swan, a type 1 Ecolabel (ISO14020) makes for a standardised template that developers and public officials alike can utilise when constructing tenders. Our continual search for sustainable materials and the enormous portion of our total GHG emissions coming from scope 3 has sharpened our targets when it comes to emissions. Submitting and getting validated our targets with the Science Based Target Initiative as one of the first five companies in Norway and at the same time aiming for absolute abatement of emissions with an aggressive plan over the coming years. In short, we don't intend to rely on offsets to claim sustainability credentials.

The journey continues for us, with an emphasis on creating social meeting places where we can get together, no matter the background, no matter the situation and converse, perhaps even contemplate on the fact that we're all human – we have more in common than what separates us. The social aspect of sustainability, the refusal to let the ties that bind break, we see that as our very *raison d'être*; bringing quality design out to the masses. No, we're still a small company, but that doesn't mean we can't do some good. Like we always say here at Vestre: No one can do everything, but everyone can do something.

Gratitude, for your continued support.
Stefan Tjust, CEO



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Introduction

Vestre has had an intense year in 2021. From submitting to Science Based Target, through battling an immense raw material and shipping price surge to “losing” our CEO to the government. The structural changes of going from a business making products worth tens of million NOK to a company making products worth hundreds of million NOK have become apparent.

Whilst it was always a long-term goal to increase our output, the decision of making one of the largest investments in decades in the Norwegian furniture industry with The Plus was not an easy one. Our team worked tirelessly to keep production at full blast whilst the building that would house us in future was being raised. The increased demand for our products not only in the Nordics but perhaps particularly in the US, Central Europe and the UK is encouraging.

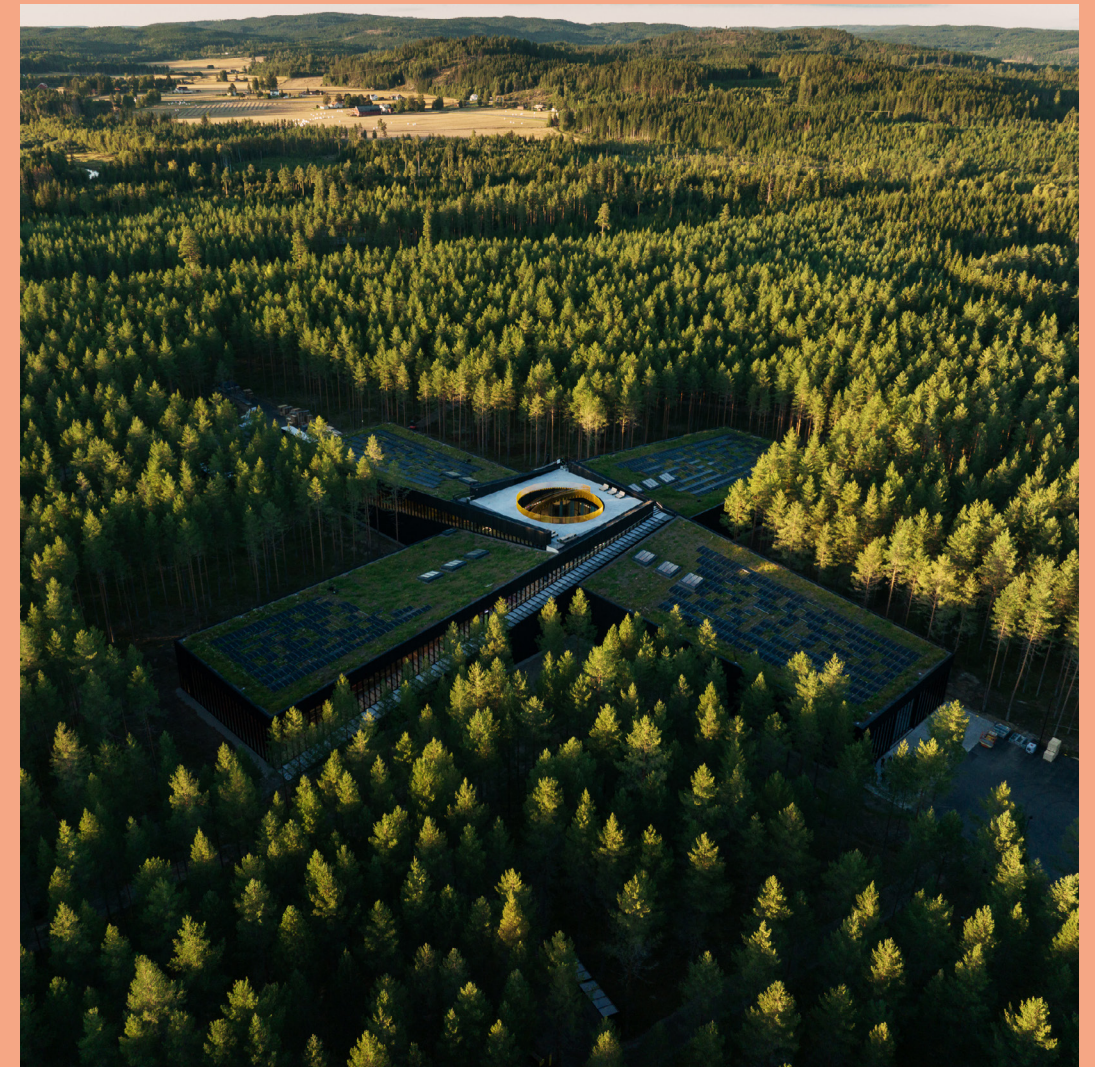
To a company that has an ethos of doing something more than profits, a goal of making Milton Friedman turn in his grave, this adds flames to the fire. Vestre’s incessant focus on quality has been embedded in the products since 1947, and in many ways sustainability as we see it is a derivative of that quality. There is a need to reduce use-and-throw solutions globally. Vestre continues to report in line with the GRI standard core option according to the 2016 reporting framework, although as an SME, we by no means have to. This year we’ve added some ~120 articles to our Nordic Swan certification. We’ve launched 4 new product

series, and 6 addons, all with Environmental Product Declaration (EPD) numbers to allow our patrons to make as informed and rational decisions as possible.

A major milestone for 2021 has been submitting and getting approved our Science Based Target with the Science Based Target Initiative in line with the 1.5-degree target as stipulated by the IPCC and the UN Sustainable Development Goals. We view this as an important part of our strategy to ensure that we don’t set ambitious targets without concretising the way of reaching them. Although Vestre was ready to put down its chips and commit to a full-fledged target, we were denied validation of scope 3 on account of Vestre being an SME. Thus, our targets approved by SBTi is restricted to cutting scopes 1 and 2 by 50% within 2030 from a 2019 base year, and to measure and reduce its scope 3 emissions. Naturally, we intend to do much more than that. Read more about it in our early outline of the SBT commitment later down in this report.

The Plus will be a beacon and an entirely new typology for factories globally. Gone are the times when factories were blockaded up by the fiercest barbed wire, and not a particle of light were allowed to escape. Transparency and the co-existence of industry and nature will be the way forward. Read more about it in the appendix disclosing core sustainability details on the subject; Plus One.

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Vestre materiality assessment

Vestre has in 2021 based its materiality assessment on the extensive work completed for the 2020 report. For our 2022 numbers a new impact assessment according to the 2021 GRI standard will be conducted.

Vestre uses a wide range of channels to communicate with stakeholders throughout the year, these are disclosed in table 1.

In 2020 Vestre conducted a materiality assessment to better understand our stakeholder's expectations of us, and how our stakeholders identify us as a sustainable furniture manufacturer. The materiality assessment was done in accordance with the GRI 2016 reporting framework and was conducted by third-party advisors.

Vestre's key stakeholders are shown in table 1. These stakeholders, both internal and external, are identified as those who are mostly impacted by and have the greatest impact on Vestre. As a part of the materiality assessment, Vestre organised in-depth interviews with key suppliers and customers. The in-depth interviews identified the stakeholder's perception of the sustainability work conducted by Vestre over the last years.



Introduction

Table 1 ▾

Stakeholder ↓	● Dialogue Channel ● Frequency ● Key topics and concerns ● Vestre's response
Citizens	● Digital communication (Social media, webpage) meeting places ● Continuous ● Liveable cities, avoid hostile design, encourage positive actions, transparency ● Build knowledge around informed choices, lifecycle cost, transparency
Community	● Digital communication (Social media, webpage) meeting places ● Continuous ● Shape public dialogue towards one of understanding and transparency, democracy ● Maintain position on long-term value when it contradicts short-term profit, voicing sustainability, transparency
Earth	● Parts per million (PPM) of Carbon, disasters, etc. ● Continuous ● Humans not overconsuming the available resources ● Build stuff that lasts forever and doesn't take an unnecessary toll on Mother Earth
Employees	● In-depth interviews*, e-mails, phone calls ● Continuous ● Circular economy, product quality, climate footprint, local products, social engagement, transparency, leadership, market for sustainable products, education and development for employees ● Transparency: GRI reporting from 2020, Circular economy: Focus on recycled materials from suppliers
Customers	● In-depth interviews*, e-mails, phone calls ● Continuous ● Premium products, social impacts on communities, chemicals, compliance, cradle-to-cradle, environmental toxic products, certification of products, transparency, design ● Salespeople out in the market, full transparency on product impact, creating products that last forever, open dialogue on challenges and solutions
Suppliers	● In-depth survey* ● Continuous ● Climate footprint, transportation, energy use, innovation, product quality, recycling of materials, transparency ● Full transparency on value chain, building partnerships that foster avantgarde position on sustainability

*During 2020 information was collected specifically to gather input for the sustainability work and the materiality analysis.

Following the interviews, we sent out a survey to our stakeholders. The survey identified material topics that, based on benchmarking analysis, is most important to the stakeholder groups within our industry. The stakeholders were asked to rank the relevance of different material topics. The in-depth interviews, the stakeholder survey and a dedicated workshop provided us with knowledge about our stakeholders that we have visualised in a materiality matrix, shown in table 2. The topics concluded to be most material are quality, climate footprint and inclusive society. The materiality matrix was approved by the management team.

Table 2 ↘

Most important	<ul style="list-style-type: none"> • Internal ESG • Incentives and goals • Climate risks 	<ul style="list-style-type: none"> • Chemicals • Biodiversity • Responsible marketing and labelling • Waste management 	<ul style="list-style-type: none"> • Quality • Climate footprint • Inclusive Society
More important	<ul style="list-style-type: none"> • Legal-compliance • Anti-Corruption • Anti-Competitive behaviour 	<ul style="list-style-type: none"> • Diversity and equality • Labour Standard in the supply chain • Health and Safety in the supply chain • Human rights in the supply chain • Supply chain management 	<ul style="list-style-type: none"> • Water management • Employee health and safety • Employee training and development • Transparency
Important		<ul style="list-style-type: none"> • Attractive employer 	
	Important	More important	Most important

● External ● Internal





Quality

Vestre continues its charge to maintain quality as a direct precursor and prerequisite for sustainability. In order to reach the goal of separating economic growth from material intensity the necessity of reducing our dependence on use-and-throw solutions is paramount. The ardent thrust Vestre puts in opting for quality over expedience sometimes hinders our short-term gains as procurement functions and customers at large sometimes view their purchases through an 'at-purchase' lens, rather than a 'total-cost-of-ownership' (TCO) lens. Whilst being beneficial economically from a TCO-perspective, quality goods are also superior from a sustainability perspective. The fact that Vestre's goods by and large can last for decades with very little maintenance opens up the possibility of that decoupling mentioned above.

Recycled materials and the understanding of where materials come from is becoming increasingly important. Whilst Vestre has success in some areas like aluminium, which is still a fairly small quantity for us overall, steel is proving more difficult. An interesting idea around recyclability also came to us in the shape of our collaboration with Empower, a Norwegian startup. Read more about that collaboration [here](#). In general, the idea of gaining total control of our materials in terms of where they come from, and where they go is one of the clear paths towards being a truly responsible company in future. Only by understanding our material streams from source, through processing to a high-quality product, the use-phase and finally end of life, can we understand how to minimise our long-term impact, whilst maintaining a healthy and thriving business. If we fail to extend the use-phase towards the potential lifetime of the products, they can have a negative impact on the environment as the materials have a significant cradle-to-gate footprint. In the end, there should be no companies that don't have a net-positive effect on society at large.



Products made of recycled and certified materials ↓

- 1. Vestre will only buy aluminium with at least 80% post-consumer recycled materials by 2030, and aim to increase that percentage**
- 2. Vestre will explore the use of fossil-free steel during the 2020s, and use only fossil-free steel by 2035**
- 3. Vestre will aim to increase the recycled content of steel, aiming for at least 25% post-consumer scrap by 2030. This will be achieved largely through takeback and circular programmes**
- 4. Vestre will follow the same rigorous trajectory in all of its materials, examples of which are concrete, some plastics and lesser items, aiming for 100% traceability and rapid reduction of absolute emissions and impact**
- 5. Vestre will only use 100% certified wood by 2030**

Transparently tracing materials

Quality

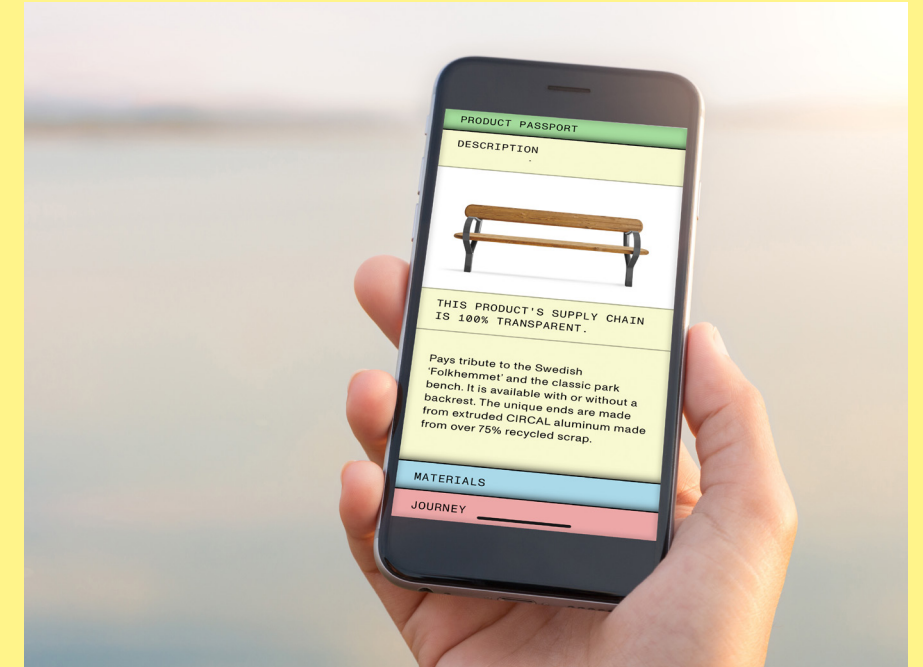
Vestre has over the past year piloted a highly interesting piece of innovation together with Norwegian start-up Empower and industrial giant Hydro. The collaboration came together as Hydro was opening up its second production line at the Husnes facility on the West Coast of Norway. Vestre's Folk bench is built with Hydro CIRCAL aluminium as the core component of the frame. Empower has a tracking system with blockchain technology which allows us to trace the materials from source to deployed project and beyond. The

team found the correct batch of material and did handshakes all along the value-chain. This turned into a digital twin, a unique product passport, which would accompany the products for their entire lifetime. The CIRCAL aluminium came from Wrexham in the UK, the wood came from sustainably managed FSC®* certified Swedish forests. There was a bit of processing to turn these materials into Vestre Folk products, and finally they were deployed at Hydro's Husnes facility. Empower CEO Wilhelm Myrer had this to say about the pilot:

«Vestre has been taking a big step towards a sustainable future already, and by making their supply chains fully transparent they prove that they are doing a good job while putting pressure on themselves to keep improving. As a technology provider it is a pleasure be working with companies that both want to and dare to be in the front of developments and that are truly passionate about making sustainable products.»



Wilhelm Myrer
CEO, Empower



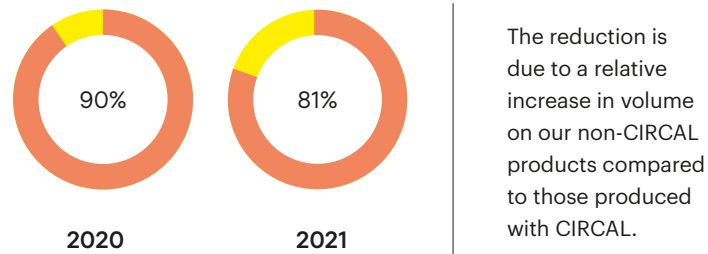
The digital twin shows how all the steps in the process from raw material to end customer, and beyond.

Materials

Aluminium

Vestre currently procures some 81% of its aluminium from Hydro's CIRCAL material, compared to 90% in 2020. CIRCAL guarantees a minimum of 75% post-consumer scrap that has about 8 times lower emission than virgin aluminium. This material forms the basis of some of our most iconic aluminium products, such as the VROOM bike rack and most of the products in the Folk series. We still have some products that aren't on the CIRCAL material, due to it still not being offered in sheet form. We keep pushing for this, but as a small player, *it ain't always easy*.

Proportion of aluminium from CIRCAL material ↓



Steel

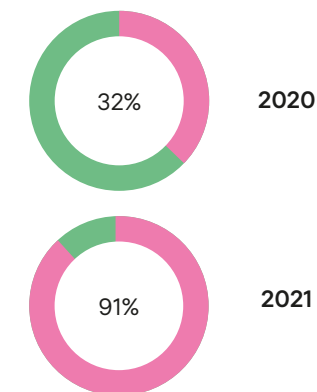
Recycled materials are always preferable to virgin materials, but Vestre has a challenge in providing recycled steel with a higher degree of post-consumer scrap. The reason for this is that the alloy required to achieve the C5-m corrosion class through hot dip galvanisation and powder coating is quite specific. Whilst testing higher degrees of post-consumer material in the alloy has provided some useful insight, it has yet to provide successful result. In other words, the road ahead in terms of steel appears to be twofold. The 1) first and highly interesting route is the potential of fossil-free steel through using hydrogen instead of coke to provide the raw material. Reducing the carbon footprint of our steel is the biggest single lever we can use to reduce our absolute emissions. The 2) second avenue within steel is perhaps even more avantgarde and interesting; the takeback of products for refurbishment and remanufacture along with the ideas of Vestre Visions Zero: all Vestre products shall have the potential of eternal life. Our efforts on this are still nascent, but every product we are able to take back and re-sell will be a product that can claim 100% recycled steel, plus we know the alloy is correct. In 2021 only a handful of products were taken back and refurbished at Vestre, but we aim to make this a key part of our business.

Quality

Wood

Vestre still aims to achieve 100% of our raw material certified with FSC. Our chain-of-custody certification SCS-COC-007089 accounted in 2021 for some 91% of the total products purchased, compared to 32% in 2020. Our Linax Nordic Pine product accounted for some 83% of total wood sales, of which 92% were FSC certified. Our Kebony-products are 100% FSC-certified and also certified in full with the Nordic Swan. Only the products we sell for indoor use, oak and ash, are yet to be certified with the FSC accreditation. Our aim is to utilise the accreditation and explore avenues to increase transparency and traceability on these precious value-chains. Wood is a live material and Vestre aims to explore and utilise the highest quality wood, continue building societies globally and maximise product lifecycle.

Proportion of FSC certified raw material ↓

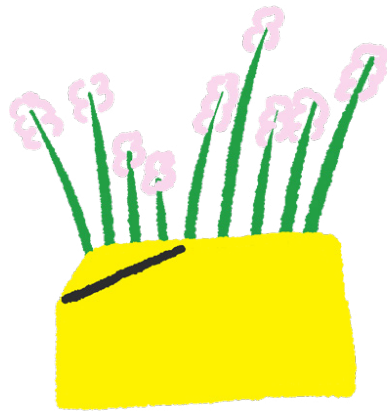


Materials

We aim to source with minimal impact and increase recycled content.

METAL	Tonnes	tCO ₂ e
Aluminum	30	87.0
Stainless steel, hot rolled	21	56.1
Steel	25	54.1
Steel, hot rolled	25	54.9
Steel, hot rolled plates (SE/FI)	538	1162.6
Steel, hot rolled sheets/coils (SE/FI)	509	1151.0
Steel, mechant bars	2	2.4
Steel, tube products (SE/FI)	97	239.8
WOOD	m3	tCO ₂ e
Plywood	18	14.3
Wood (hardwood)	4	0.3
Wood, glued beam (EPD)	256	20.3
Wood, laminated	357	161.0
Wood, oak	9	0.3
Wood, solid pine	76	2.3
OTHER	Tonnes	tCO ₂ e
Concrete	80	20.9
Powder coating	15	110.2
Zink	80	200.6

Quality



Transport

We aim to utilise carbon neutral fuels short term and achieve zero-emission on all transport medium-long term.

UPSTREAM	tCO ₂ e
Land	21.8
DOWNSTREAM	tCO ₂ e
Land	323.5
Sea	63.1
Air	8.0

Production

We aim to produce our own electricity and minimize wastage.

POWER BALANCE ELECTRICITY	MWh
Produced	129.0
Consumed	440.0
WASTE	Tonnes
Cardboard waste, recycled	6.3
EE waste, recycled	0.1
Metal waste, recycled	337.1
Plastic waste, recycled	2.0
Residual waste, incinerated	25.1
Wood waste, recycled	46.3

End of life

We aim to take back and give new life to products and take responsibility for all materials.

Vestre vision zero. Our goal is that all Vestre products shall have the possibility of eternal life. We will achieve this through reuse, refurbishments, remanufacturing and always having spare parts available. Watch this space.

Products with life-long quality, and the potential for eternal life

Vestre offers guarantees unchallenged in the outdoor infrastructure space. Our lifetime guarantee against rust coupled with a fifteen year guarantee on the adhesiveness of our powder coating and the same amount of time against rot on our woods allows our potential clients to make their choice with absolute confidence in the products. The fact that we've been around for some 75 years adds to that solidity. Vestre Vision Zero remains in place; for all products we ever placed at a social meeting place, we will provide spare parts to allow their life to continue. We are exploring how to make the logistics work on both 1) allowing at-site maintenance and refurbishment to extend life and 2) taking back products for full remanufacture. Whilst being logistically challenging, these remain some of the most exciting prospects for turning our current linear model into a circular model, with the added benefit of increasing our overall recycled content.

We provide spare parts for all products we ever placed at a social meeting place to allow their life to continue

Quality



Certifications – it's a jungle out there

In 2021 Vestre reaffirmed its commitment to type 1 ecolabels as a strong signal to procurement and potential clients globally that our furniture is indeed highly rated when it comes to environmental performance. This year some 76% of our revenue was certified with the accreditation compared to 58% last year. The Nordic Swan is equivalent to among others the EU Ecolabel and the Blaue Engel. For Vestre as is the case with many small and medium sized enterprises the number of certifications out there is daunting and challenging to process. The same is true for the procurement sections both in public and private operations. We urge authorities globally to standardise as much as possible and make equivalents on which companies can stake their scarce resources and on which procurement officers can fairly judge their tenders.

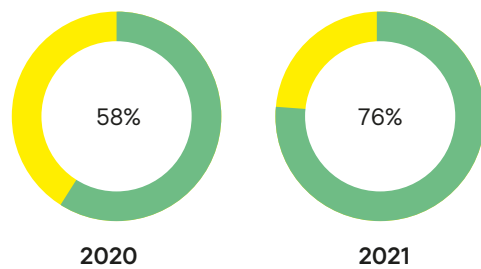
One such way we might see in the future is the coupling of a type 1 ecolabel as a license to play with an EPD for differentiation. That way you could have the certitude that the products offered are among the best from an environmental perspective in their industry from the type 1 ecolabel, whereas the EPDs could offer differentiation within that range of eligible products. Just a thought, what say ye?

We urge authorities globally to standardise as much as possible



Intertek

Proportion of revenue certified with the Nordic Swan Ecolabel ↓



Quality



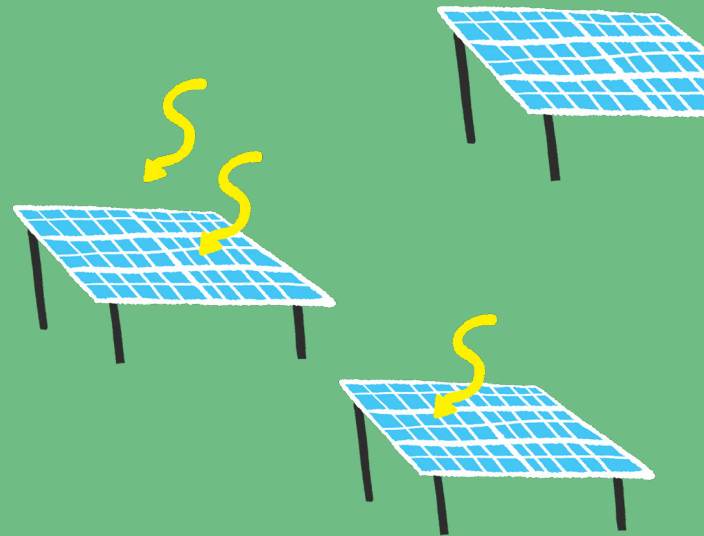
We



are



our



suppliers

Climate Footprint

Vestre's manufacturing of furniture and purchase of high-emitting materials are a potential negative impact. However, Vestre has several initiatives to manage this impact. Our climate footprint is an attempt at understanding the impact we have on this earth and try to account for some of those externalities that for so long have remained unaccounted for by business. Over the past few years Vestre has increased the granularity and detail of our carbon footprint, often resulting in a higher jump than initially expected by strictly looking at revenue growth.

This year, we continue that 'tradition' and have now accounted for spend down to the tune of 10k USD per supplier. Everything below this remains unclassified, and we do have a long tail of suppliers, but we've come a long way. Our new partner in crime here is called Variable, and you'll learn more about their platform as we progress. The short of it is that we're aiming to involve our suppliers to a much higher extent than before. Visions and sustainability-goals in some faraway future are easily made from the top, the challenge is to integrate the tools and sub-goals to get there not only into our own organisation, but throughout the value-chain. The reporting is done according to the GreenHouse Gas (GHG) Protocol. The source of emission factors are either specific data (EPDs) or DEFRA/Ecoinvent factors.

Our goals ↓

Vestre will cut emissions in Scope 1 and 2 as well as relevant scope 3 emissions with 50% by 2030 from a 2019 base year, and net zero by 2040

Vestre will produce 120% of its energy needs with renewable energy by 2025

Climate footprint

Scope 1, 2 & 3 yearly emissions ↓

43.6%

In 2021, the direct emissions from Scope 1 were 8 tCO₂e and included 0.2% of Vestre's total emissions. Scope 1 emissions have been reduced with 43.6% since 2019.

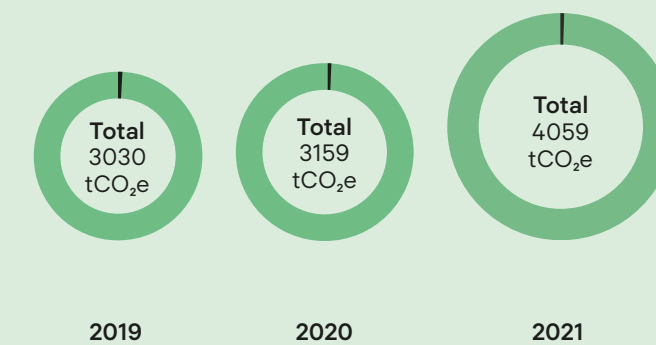
12.6%

In 2021, the indirect emissions from Scope 2 were 19.0 tCO₂e, and included 0.5% of Vestre's total emissions. The emissions from Scope 2 have increased with 12.6% in 2019.

34.5%

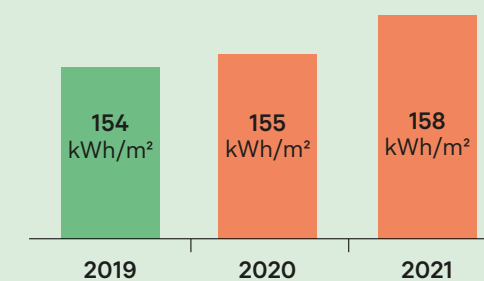
In 2021, the indirect emissions from Scope 3 were 4031.6 tCO₂e, and included 99.3% of Vestre's total emissions. The emissions from Scope 3 have increased with 34.5% in 2019.

● Scope 1 & 2 ● Scope 3



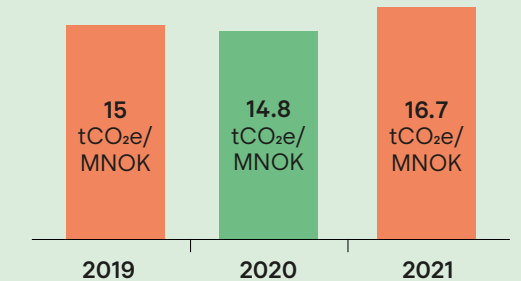
The base year for calculation is 2019, as data on materials and transportation were included in Scope 3 this year. The total emissions in 2019 was 3 030 tCO₂e and in 2021 total emissions was 4 059 tCO₂e. This led to an increase in total emissions of approximately 34%.

Energy intensity ↓



The energy intensity has increased in the reporting year. Electricity is included in the intensity ratio.

Carbon intensity ↓



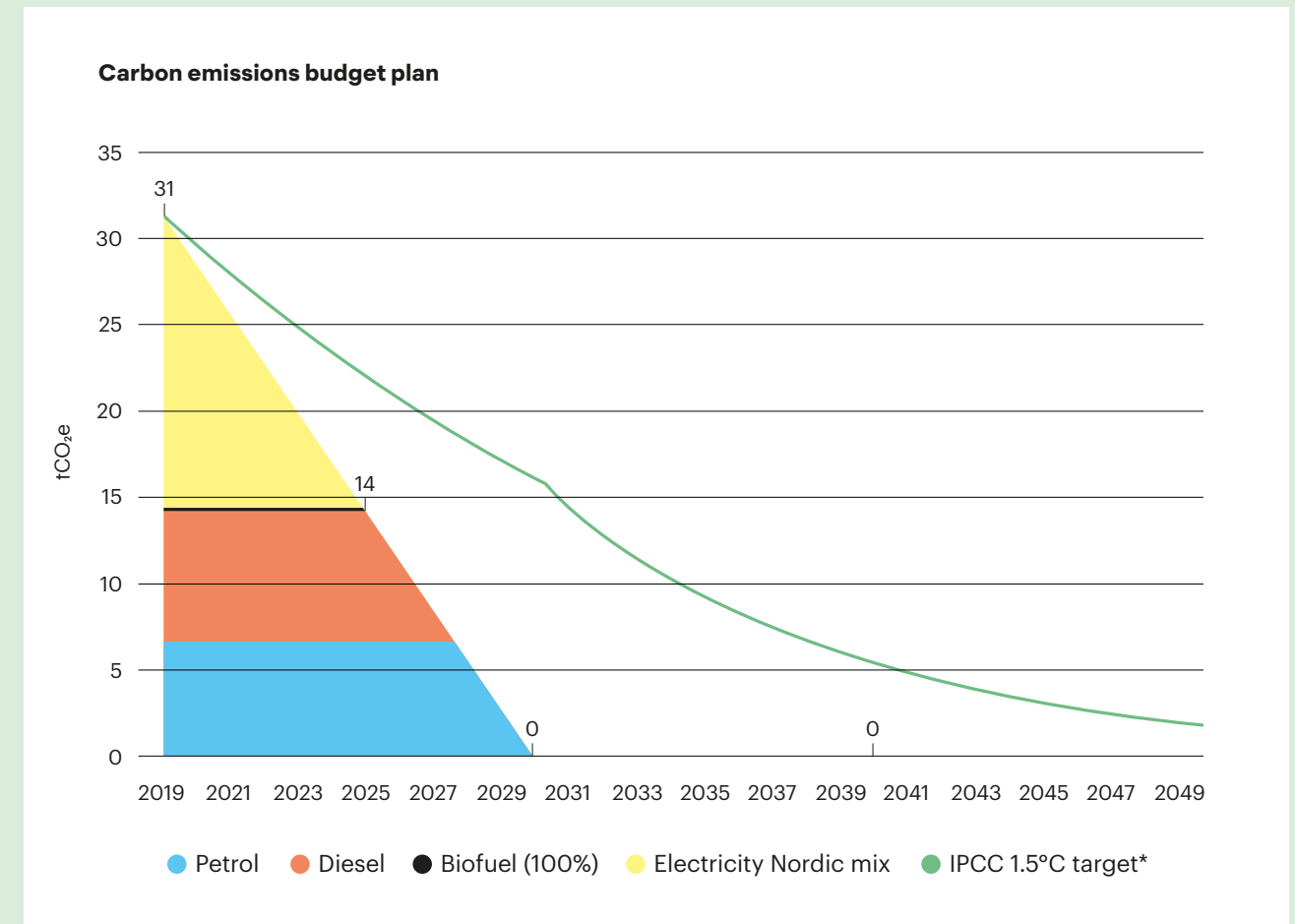
The intensity emissions target, total tCO₂e/MNOK, has increased during the reporting year. Intensity ratio is based on Scopes 1-3.

Among the first five, but too small to make a dent?

We have become much more granular and detailed in our knowledge

Vestre was happily among the five very first companies in Norway to have their Science Based Target approved officially. We opted for the 1.5-degree target (of course) and prepared our application together with long time partners from the sustainability tech provider CEMAsys. We were aiming for the full certification but got the message from the SBTi that as we were too small, we could only apply for the SME programme. This meant we'd only commit to concrete targets to cut emissions by 50% for scopes 1 and 2, not scope 3. 2019 would act as our base-year even though we've seen in the years hence that we have become much more granular and detailed in our knowledge in the area. That's one of the reasons why it has increased more than our revenue growth. We nevertheless will hold firm to the targets according to 2019 numbers, and also set a firm target on scope 3 within the short-medium term.

Climate footprint



Our targets for Scope 1 and 2 are well below the 1.5 degree target. We are currently working on aggressive targets for Scope 3 as well.



Emissions

For years we've known the origin of most of our emissions. A measly ~1% comprises the entirety of scopes 1 & 2 so needless to say it is with scope 3 we are most occupied.

While the maturity of our sustainability deftness has increased with the detail of our accounting, the shadows of solutions slowly crystallise on the whiteboards of our walls. The material challenges from a CO₂e perspective are being hammered out one by one and concrete plans are being made to tackle them. More to come on that in future re-

ports. Our total emissions grew from 3159 tCO₂e in 2020 to 4059 tCO₂e in 2021. The carbon intensity consequently grew by 13%. Carbon intensity is based on tCO₂e divided by revenue (MNOK). This increase in tCO₂e is mainly due to the following:

2/3 of the change in emissions comes from increased quantities:	1/3 of the change in emissions comes from increased coverage:
45% Steel	19% Surface treatment
12% Transport	9% Packaging
8% Wood	2% Concrete
4% Business Travel	1% Metalworks

Climate footprint

The different scopes ↓

Scope 1 All direct emissions from sources that are owned and controlled by the organisation

Scope 2 Indirect emissions from energy purchased and used by the organisation

Scope 3 All other emissions from upstream and downstream value chain activities

Scope 1 ↓

Direct emissions from scope 1 were 8.0 tCO₂e in 2021 and accounted for 0.2% of the total emissions. Scope 1 emissions have been reduced by 43.6% since 2019.

Vestre's scope 1 emissions are by and large comprised of two elements: 1) stationary combustion comprising 1.4 tCO₂e and 2) transportation in the form of fuel for trucks at our Torsby plant comprising 6.6 tCO₂e. Vestre aims to reduce this further by switching out the forklift for a zero emission one and attempt to influence the property owner to switch the fuel from stationary combustion to zero emission.

Reduced by 43.6%

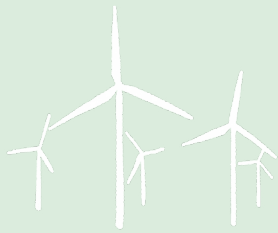
– Scope 1 emission reduction since 2019

Scope 2 ↓

Indirect emissions from scope 2 were 19.0 tCO₂e in 2021 and included 0.47% of the total emissions. Scope 2 emissions have increased by 12.6% since 2019, or 2 tCO₂e in absolute emissions due to higher consumption. Vestre's Steel Factory annually consumes some 550 MWh, i.e., purchasing approx. 400 MWh in 2021 on the grid. The consumption will increase in the coming years due to the new factory going online. Long term Vestre aims to reduce energy consumption, and The Plus is built with the aims of achieving a BREEAM Outstanding status. This means it will be exceptionally energy effective. Our own energy-use will increase, but that of our value-chain will be greatly reduced, considering the same output. The panels will also reduce emissions compared to purchasing from the grid. Vestre uses a location-based calculation method for energy. In 2021 building The Plus we proudly add to our capacity some 250 MWh annually making the total around 400 MWh with our factory in Torsby. The panels at The Plus won't start producing until 2022 though, so there's still some work to be done before we get there.

This change leads to an increase in energy usage during the reporting period.

Renewable energy ↓



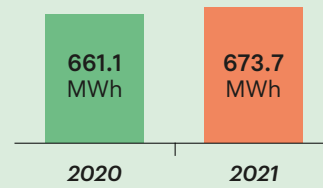
We have a goal of producing 120% of our total energy consumption in 2025

Vestre has installed solar power at our Torsby factory with an annual production of some ~150 MWh. With the erection of The Plus as our second facility another ~250 MWh of installed capacity annually will be added to this total. As mentioned, Vestre has a goal of producing some 120% of our total energy consumption in 2025, meaning we need another 2-2.5 GWh annually of installed capacity achieved through PPAs with proven additionality. Vestre remains firmly committed to the goal of producing 120% of our own electricity. Why, you may ask? Because we use a lot of energy, and purchasing that energy isn't necessarily accelerating the trans-

ition to a fully renewable grid. Sure, we purchase certificates to guarantee that it is 100% renewable electricity, but there is no guarantee coming with that indicating that the surplus profit gained from that energy is being utilised by the provider to invest in more renewable energy. The certificates are bought by industrials not only here in the far north, but also down on the continent, which means what the ordinary citizens of Norway and Sweden are plugging into might not be as clean as they think? This gets very technical, but the short of the story is that by investing in our own solar panels and power purchase agreements (PPAs) with proven additionality, we are ensuring that not only are we purchasing green power; the total renewable amount available also increases.

From 2020 to 2021 there was no change in the energy we produced ourselves, and we purchased green certificates for the entire consumption of electricity.

Total energy usage in scope 1 and 2 ↓



Scope 3 ↓

Indirect emissions have in 2021 grown by a whopping 34.5% since 2020. This is largely due to an increased in emissions from purchased goods and services and transportation. Further, new categories for purchased goods and services were includes such as metalworks, packaging. The increase in emissions from the category steel is due to higher quantity of purchased steel and a corresponding increase in the use of zinc, Vestre's largest emissions in scope 3 still come from materials (88%). Our second highest source of emissions remain downstream transportation to customers (10%).



Vestre's largest emissions in scope 3 come from materials.

Climate footprint

Materials ↓

The emissions from purchased goods and services increased during the reporting year. This is mainly due to two reasons. Firstly, there has been bought a larger amount of steel and zinc. Secondly, there has been an increase in coverage of the materials that have been included in the Scope 3 calculations.

The category materials are dominated by steel, which comprised a total of 69% of Scope 3. The steel industry globally accounts for some 7% of total emissions. The good news is that we are using steel with more than 20% lower emissions than the industry average. Another good aspect of this material is that it is the most recycled material in the world, with potential of eternal life, in keeping with our Vestre Vision Zero promises. The fact that our surface treatment requires a specific alloy doesn't denigrate this fact and potential of the material. Our goals of increasing recycled content through takeback solutions and reduce absolute emissions through utilising fossil-free steel remains as a firm part of our Science Based Target approved abatement strategy. We are also looking at increasing the aluminium-based product ranges as

69%

Steel represents 69% of Scope 3

Transport ↓

Transport is the other major factor here, another area where we as an SME don't have a whole lot of purchasing power, but we still try to wiggle our way towards a more equitable and sustainable future. The transport business has been harangued by low wages and poor working conditions for a long time, and investment in transitioning to a low-carbon future has been drudgingly slow. Together with our firm partner Västvarmlands LBC AB and Mats Pedersen Transport AB we have switched to biofuel on all internal transport back in 2017. This was coupled with a reservation on

the footprint on Hydro's CIRCAL aluminium is some 8 times lower than conventional aluminium. There is also a lot of potential in product development and streamlining to 1) reduce the footprint of our products whilst 2) maintaining the 100% Vestre quality.



We are using steel with more than 20% lower emissions than the industry average.

Tesla's Semi-truck as one of the first fully electric heavy-duty long-range trucks that would work in our supply-chain if the promised range of 800 kilometres was accurate. Elon still hasn't delivered on that truck though, so we are looking at other options for internal transport. The main part of our transport footprint is the downstream transportation to customer. Here we are working to push our (massive) transportation partners into avenues that yield a lower footprint. One concrete project in the works here is a potential electric corridor from The Plus to a logistics hub in Oslo.

Revelations on offsets

A path towards tackling our 'sins' head on.



Vestre has for over 10 years been what has commonly referred to as 'climate compensated'. This has been achieved through purchasing offsets from high quality carbon offset projects certified by either Gold Standard or Verra. This year however, Vestre has through thorough research and dialogue with key players within industry and climate organisations decided to stake out a new path. One of those uncharted paths that needs to be tread by pioneers in order for others to follow. A path which shall lead us towards not offsetting our emissions as one might purchase absolution from one's sins, but rather tackle those 'sins' head on. This will be possibly by utilising those very funds which would have been passively spent on an offset project, often with a certification but at best questionable bona fides of their longevity, and instead turning it inwards to concrete value-chain abatement measures. We call this: insets. The climate strategy of Vestre is closely aligned with Science Based Targets and there is a clear path towards net-zero, not some flimsy far-flung goal fifty years down the line.

Climate footprint

«Vestre's journey is an inspiring example of a climate leader continuously learning and raising their ambition. Variable is proud to enable Vestre to reduce emissions in their supply chain. Offsets won't solve climate change, rapid decarbonization of every product, every company and every value chain will.»

Adam Scheuring
Founder & CEO, Variable



Inclusive Society



At Vestre we're firmly committed to creating social meeting places

No citizen should have to endure the sorry task of up and leaving from a seating area intended to be her place of rest for the night due to antisocial spikes being put into that space. At Vestre we're firmly committed to creating social meeting places, which means refusing to do anti-social design and architecture. Sure, not every space can be a skate-park, but as a company devoted to this idea, we cannot stand for spikes or other measures intended to keep those at the very bottom echelons of society away. That problem is a political one, and it's not solved by chasing them away. Rather, the solution is outside of our reach as a company, but it surely revolves around the idea of creating an inclusive society, where it's possible to fail, only for to stumble to your feet again and unleash your potential. Each and every one of you.

Committed to education

Vestre remains firmly committed to the idea that in order to move past the SDGs and create a firmly inclusive society we are in need of an educated world. Every child should have the right to free high-quality education. Together with partners such as Gyaw Gyaw we aim to increase the availability of that through building schools and other necessary buildings in remote locations. It's amazing to see what a landscape architect and her small team can achieve with a very limited budget.

A voice for change

Vestre remains committed to the idea that a company should be more than a profit-maximising machine. We still work every day to counteract the false idea proclaimed by Milton Friedman some fifty years ago that this is the only true objective of a company. A company of the future should be a net positive contributor to society, all externalities included. This is not contradictory to a being a solid business with a healthy bottom line. Vestre aims to inspire and accelerate the shift towards a long-term regenerative business environment through keynotes and presentations. In 2021 alone we held more than 50 presentations reaching more than a 1000 people.

Accountability in the value-chain

Recognising that the social aspect of sustainability is both overlooked and under-communicated. We acknowledge that to achieve a sustainable future we need to have a society where all people have their basic needs met and opportunities to grow. This may sound like a daunting task, but everyone can do something. At Vestre we offer all our employees a decent living, and the opportunity to contribute creatively to our process on a running basis. We have a code of conduct that applies not only to ourselves, but to our suppliers as well. No solution if our employees are well-off, but those in our value-chain are hurting. We also maintain a tight wage-gap between highest and lowest earners, to ensure that we are all pulling in the same direction.

Contributing to local communities

Vestre is in the business of creating social meeting places. We are also in the business of creating habitable environments where people from all walks of life can get together and discuss ideas big and small. Only through discourse and discussions can we understand the differences setting us apart and come together on our shared human similarities which are certainly greater. By increasing the liveability and accessibility of public spaces to foster these interactions, Vestre can help communities by allowing everyone to enjoy high quality design. One such project that we'll tell you more about later is the big development we're taking part of in Coney Island, New York.

Nature: everyone's stakeholder

Carbon emissions are an apt proxy for viewing the total emissions of a company. All the various impacts a company incurs on its surroundings are converted by conversion factors into tonnes equivalent of carbon emissions. It's a useful metric, but like the saying goes; you get what you measure. There is a bigger picture here, which needs to be accounted. We have an obligation as a company to measure wider than a singular metric, and to include all aspects of what we could call sustainability. Let's consider the impact of extraction on biodiversity and land use as well as the social aspect of working conditions throughout the value chain, not to forget in the least the entire reason for our existence: creating those accidental and intentional interactions at the social meeting places we aim to deliver. We launched a new range in 2021, to put the spotlight on this; [Vestre Habitats](#). The series aims at increasing biodiversity in our cityscapes. We need to incorporate all the creatures and natural aspects of this world if we are to succeed in our vision of becoming the world's most sustainable furniture company.

Our contributions ↓

- 1. Vestre gives 10% of our net profits annually that in one way or another helps solving the UN SDGs, this has remained constant since 2018**
- 2. Vestre donates furniture and helps facilitate meeting places where the conditions are most dire, and communities are built around these public spaces of discourse**
- 3. Vestre aims to increase the world's education by working actively with partners under the 10% programme and our core business to achieve this**
- 4. Vestre aims to communicate and inspire others through keynotes and presentations for a host of audiences**
- 5. Vestre thoroughly vets our suppliers with code of conduct, and intend to work actively with them reporting on some of the following: CEO to lowest paid worker ratio, tracing of materials and worker well-being**

Our «10% for the goals» partners

Vestre Maintenance Team 8, 11, 12



Ongoing initiative with Oslo Church City Mission to alleviate job insecurity and include people that have fallen outside the workforce, aiming to bring them back in.

Doctors Without Borders (MFS) 10



Partnering with global organisations is sometimes the only way to reach out to people on the margins of society. Vestre is aiding MSF financially to provide field hospitals where hospital care is non-existent.

UNICEF 4, 10



Vestre partners with UNICEF to be able to provide education to children in parts of the world that don't have a school system in place. Especially in the difficult covid-year of 2021 this was important.

Empower 8, 9, 12, 15



A start-up whose mission of solving plastic pollution aims at putting a value on plastic and allowing real incomes for people living in areas that are struggling with bot pollution and employment. The same company is engaged in tracking materials for Vestre's products through their blockchain solution.

Norwegian Church Aid (NCA) 4, 8



The project of creating an up-to-date basic design thinking programme together with The Oslo School of Architecture and Design (AHO) continued through the year of 2021. Due to covid, we had to pivot to virtual and e-learning, as opposed to physical workshops.

Inclusive Society

Farm for the Future (FFF) 8, 15



Vestre continues its engagement with FFF and is happy to see young mothers being educated and the farm providing steady work for an increasing number of people in Tanzania.

Gyaw Gyaw 4, 8



Although 2021 has been an extremely difficult year in Myanmar, the Gyaw Gyaw team has continued their efforts to build and contribute to local communities.

Techbridge 7, 9, 13



Vestre has continued and increased its engagement with Techbridge, an incubator for startups operating out of Kenya. Vestre has also invested directly in SUNami Solar, the Techbridge subsidiary that provides complete solar-packages with appliances meant to increase local employment.

Chime 8, 11



Operating out of Norway, Chime has provided a steady income to young women in Africa, by the way of pig farming. Vestre has engaged with Chime to extend micro-loans of both pigs and crops which can be paid back and used again, to ensure economic growth and bottom-up building of fragile societies.

Appendix | Emissions

UNIT: tCO₂e

	CATEGORY	DESCRIPTION			
Scope 1	Stationary combustion		0.2	1.2	1.4
	Biofuel (100%)	Heater in Drammensveien 44	0.2	1.2	1.4
	Transportation		14	5.8	6.6
	Diesel	Leased cars, German office			6.6
	Diesel (SE)	Company car + Forklift	7.2	5.8	
	Petrol	Company car	6.8	0	
	Scope 1 Total		14.2	7	8.0
	Scope 2	Electricity		16.9	17.2
Electricity Grid mix			16.9	17.2	19.0
Electricity Green			0	0	0.0
Electricity Renewable onsite			0	0	0.0
Electric vehicles			0	0.2	
Electric car Nordic			0	0.2	
Scope 2 Total			16.9	17.4	19.0
Scope 3	Business travel		80.5	2.7	41.6
	Downstream transportation and distribution		4871	292.2	394.6
	Air		255.8	34.4	8.0
	Road		190.2	210.1	242.8
	Road (USA)				80.7
	Sea		41.1	47.7	63.1
	Purchased goods and services		2405.7	2811.5	3564.7
	Aluminium		99.1	85.3	87.0
		Aluminium	99.1	85.3	87.0
	Concrete		5.2	6.7	20.9
		Concrete	5.2	6.7	20.9
	Metalworks				7.9
		Electricity			5.2
		Transport			2.7
	Packaging				76.9
		Carboard			3.6
		Metal			0.0
		Paper			0.7
		Plastic			11.5
		Wood			61.0

Consolidation approach is operational control.

	CATEGORY	DESCRIPTION	2019	2020	2021	
Scope 3	Products				1.4	
		Electronics			0.1	
		Plastic			1.2	
		Steel			0.0	
	Steel		2168.7	2386.8	2788.5	
		Stainless steel, hot rolled		23.5	56.1	
		Steel	0		54.1	
		Steel, hot rolled		4.6	54.9	
		Steel, hot rolled plates (SE/FI)	170.7	246.5	1162.6	
		Steel, hot rolled sheets/coils (SE/FI)	1998	1823.7	1151.0	
		Steel, mechant bars			2.4	
		Steel, tube products (SE/FI)	0	288.5	239.8	
		Transport			67.5	
	Surface		132.7	199.2	374.5	
		Electricity			41.2	
		Natural gas			22.5	
		Powder coating	47.7	48.6	110.2	
		Zink	85	150.6	200.6	
	Wood		0	133.5	207.6	
		Electricity			9.2	
		Plywood	0	11.3	14.3	
		Wood (hardwood)	0	0.3	0.3	
		Wood, glued beam (EPD)	0	27.9	20.3	
		Wood, laminated	0	92	161.0	
		Wood, Oak	0	0.6	0.3	
		Wood, solid pine	0	1.4	2.3	
		Upstream transportation and distribution		10.3	12.1	21.8
	Road		10.3	12.1	21.8	
	Waste		14.9	15.9	8.9	
	Cardboard waste, recycled		0.1	0.1	0.1	
EE waste, recycled		0	0	0.0		
Hazardous waste, incinerated		0	0.1			
Hazardous waste, recycled		0	0			
Metal waste, recycled		5.6	6.4	7.2		
Paper waste, recycled		0	0	0.0		
Plastic waste, recycled		0	0	0.0		
Residual waste, incinerated		8.5	8.3	0.5		
Wood waste, recycled		0.7	1	1.0		
Scope 3 Total		2998.5	3134.4	4031.6		
Total		3029.6	3158.8	4058.6		

Energy

CATEGORY		DESCRIPTION	UNIT	2019	2020	2021
Scope 1	Stationary combustion		MWh	73.6	68.7	77.3
	Biofuel (100%)	Heater in Drammensveien 44	MWh	73.6	68.7	77.3
	Transportation		MWh	63.1	28.9	27.5
	Diesel	Leased cars, German office	MWh			27.5
	Diesel (SE)	Company car + Forklift	MWh	35	28.9	
	Petrol	Company car	MWh	28.1		
	Scope 1 Total		MWh	136.7	97.6	104.8
Scope 2	Electricity		MWh	433.9	418.4	440.0
	Electricity Grid mix		MWh	433.9	418.4	440.0
	Electricity Green		MWh	122.0	139.7	129.0
	Electricity Renewable onsite		MWh	122.0	139.7	129.0
	Electric vehicles		MWh		5.5	
	Electric car Nordic		MWh		5.5	
Scope 2 Total		MWh	555.9	563.6	568.9	
Total			MWh	692.6	661.2	673.7
			Gj	2493	2380	2425

Share of certified materials

WOOD TYPE (M³)	FSC		NON-FSC	
	2020	2021	2020	2021
Accoya	2.64	0.96	0.75	0.00
Ash		4.68	0.00	4.21
Oak		19.36	0.00	9.15
Kebony	47.74	1.11	75.08	0.00
Pine, massive	79.73	129.93	246.71	9.65
Pine, glulam	78.67	302.95	317.10	39.89
Pine, plywood	12.31	5.45	17.68	0.00
Sum total	221.09	464.44	657.31	62.90
Share (%) of total	32%	68%	91%	9%

10% Partnerships

UNIT: NOK

INITIATIVES		SDG	2018	2019	2020	2021	TOTAL
1	Vestre Maintenance Team	8, 11, 12	370 000	374 643	370 000	294 750	1 409 392
2	MSF	10	160 000	160 000	160 000	160 000	640 000
3	INTERBRIDGE	10	50 000				50 000
4	UNICEF	4,10	150 000	150 000		200 000	500 000
5	YSI	9, 11	150 000	150 000	150 000		450 000
6	CEMAsys	7, 9, 13					
7	EMPOWER	3, 9, 12, 15	138 375	280 000	135 000		553 375
8	NCA	4, 8		300 000	300 000	300 000	900 000
9	OPE/PLASTIC	9, 12	50 000	200 000			250 000
10	FFF	8, 15		185 000	200 000	350 000	735 000
11	Gyaw gyaw	4, 8			200 000	200 000	400 000
12	Techbridge	7, 9, 13				300 000	300 000
13	SUNami	7, 9, 13			250 000	200 000	450 000
14	Ingrid Aune's memorial fund	4, 10		50 000			50 000
15	The Oslo Center	4, 10		30 000			30 000
16	CARE (TV-campaign 2019)	10		50 000			50 000
17	Quaker Service Norway	10		50 000			50 000
18	BIEN Norge	10		10 000			10 000
19	XR	13			300 000		300 000
20	Chime	8, 11			300 000	300 000	600 000
21	Pathfinder	11, 13				125 000	125 000
22	Ocean Race	12				59 037	59 037
Total			1 068 375	1 989 642	2 365 000	2 488 787	7 911 804

GRI Content Index

STANDARD NUMBER	DISCLOSURE NUMBER	DISCLOSURE TITLE	DISCLOSURE REQUIREMENTS
Organizational profile			
GRI 102	102-1	Name of the organization	Vestre AS
	102-2	Activities, brands, products, and services	Development and marketing of public furniture (social meeting places for cities, parks and public outdoor spaces)
	102-3	Location of headquarters	https://vestre.com/no/kontakt-oss
	102-4	Location of operations	https://vestre.com/no/kontakt-oss
	102-5	Ownership and legal form	Form of organization: Limited Liability Company, Sector Code: Private Company
	102-6	Markets served	i. global; ii.,iii Public and private outdoor locations, some indoor locations; Municipalities, companies, private developers
	102-7	Scale of the organization	i. Approx. 75 employees; ii. 8 group companies; iii. net sales of approx. 243 MNOK (2021). proff.no
	102-8	Information on employees and other workers	https://vestresustainability.com/general-disclosures
	102-9	Supply chain	https://vestresustainability.com/general-disclosures
	102-10	Significant changes to the organization and its supply chain	i)New location - see appendix for the Plus. ii) No changes
	102-11	Precautionary Principle or approach	Vestre adheres to the UN Global Compact precautionary adheres to the precautionary principle (Principle 7).
	102-12	External initiatives	GRI, SDG (https://vestre.com/no/om-vestre), Etisk handel, FSC-sertifisert treverk, Svanemerket (https://vestre.com/no/last-ned-sertifikater-iso-godkjenninger-o-l), Kirkens Nødhjelp act alliance.
	102-13	Membership of associations	Etisk Handel, Norsk Industri
Strategy			
GRI 102	102-14	Statement from senior decision-maker	Impact report 2021, p. 3

STANDARD NUMBER	DISCLOSURE NUMBER	DISCLOSURE TITLE	DISCLOSURE REQUIREMENTS	
Ethics and integrity				
	102-16	Values, Principles, Standards, and norms of behavior	Code of conduct: https://vestre.com/uploads/documents/Code_of_conduct.pdf	
Governance				
GRI 102	102-18	Governance structure	https://vestresustainability.com/general-disclosures	
Stakeholder engagement				
GRI 102	102-40	List of stakeholder groups	Impact report 2021, p. 10	
	102-41	Collective bargaining agreements	https://vestresustainability.com/general-disclosures	
	102-42	Identifying and selecting stakeholders	Impact report 2021, p. 9	
	102-43	Approach to stakeholder engagement	Impact report 2021, p. 9-11	
	102-44	Key topics and concerns raised	Impact report 2021, p. 10-11	
Reporting practice				
GRI 102	102-45	Entities included in the consolidated financial statements	https://vestresustainability.com/general-disclosures	
	102-46	Defining report content and topic Boundaries	Impact report 2021, p. 8-10	
	102-47	List of material topics	Impact report 2021, p. 10	
	102-48	Restatements of information	Restatement on some of the text is done to release the 2021 report. All KPI's are updated. The 2022 report will be a more comprehensive analysis for a new impact assessment.	
	102-49	Changes in reporting	No materiality assessment was conducted for the 2021 report. New assessment will be done for 2022 with the GRI 2021 framework.	
	102-50	Reporting period	2021 calendar year	
	102-51	Date of most recent report	Dec-20	
	102-52	Reporting cycle	Annually reporting cycle	
	102-53	Contact point for questions regarding the report	Øyvind Bjørnstad: ob@vestre.com	
	102-54	Claims of reporting in accordance with the GRI Standards	Impact report 2021, p. 6	
	102-55	GRI content index	Impact report 2021, p. 48-50	
	102-56	External assurance	No external assurance	
	Material Topic: Quality			
	GRI 103	103-1	Explanation of the material topic and its Boundary	a.Impact report 2021, p. 10, b.,c. Impact report 2021, p. 10, 12-24

STANDARD NUMBER	DISCLOSURE NUMBER	DISCLOSURE TITLE	DISCLOSURE REQUIREMENTS
	103-2	The management approach and its components	a.,b.,c., Impact report 2021, p. 12-24
	103-3	Evaluation of the management approach	Impact report 2021, p. 12-24
	302-1	Recycled input materials used	Impact report 2021, p. 18
	Own GRI Indicator	Share of certified materials, wood	Impact report 2021, p. 19
Material Topic: Climate Footprint			
GRI 103	103-1	Explanation of the material topic and its Boundary	a.Impact report 2021, p. 17, b. Impact report 2021, p. 33-25
	103-2	The management approach and its components	a., b.,c. Impact report 2021, p. 30-31, p.36
	103-3	Evaluation of the management approach	a., b.,c. Impact report 2021, p. 30-31, p. 36
GRI 302	302-1	Energy consumption within the organization	a.,b., c., d.,e., Impact report 2021, p. 34, p.46
	302-3	Energy intensity	a.,b., Impact report 2021, p. 29 c. XX, d. Inside of the organization
	305-1	Direct (scope 1) GHG emissions	a., b.,, Impact report 2021, p. 44
	305-2	Energy indirect (Scope 2) GHG emissions	a., b.,c., Impact report 2021, p. 44
	305-3	Other indirect (Scope 3) GHG emissions	a., b., Impact report 2021, p. 44
	305-4	GHG emissions intensity	a.,b.,d Impact report 2021, p. 29
Material Topic: Inclusive Society			
GRI 103	103-1	Explanation of the material topic and its Boundary	a.,b., c., Impact report 2021 p. 39-40
	103-2	The management approach and its components	a.,b., c., Impact report 2021 p. 40-43
	103-3	Evaluation of the management approach	Nature is included assessment due to evaluation to what inclusive society means for Vestre
	Own GRI Indicator	Profit-giving to social initiatives	Impact report 2021 p. 41
	Own GRI Indicator	Partnerships for the goals	Impact report 2021 p. 42-43
Other GRI - Indicators (not a material topic)			
	306-3	Waste generated in metric tonnes (Included)	Impact report 2021 p. 42-45



**No one can do everything,
but everyone can do something**

**«If a man knows not
to which port he sails,
no wind is favourable.»**

Seneca



Plus One



Vestre set out to achieve five main goals

In general, there were both necessities and visions that birthed The Plus as an idea that could take Vestre to its next level as a furniture brand.

On the one hand, rapid growth had become business as usual over the past 5-10 years before The Plus saw the light of day, making capacity constraints both real and serious. On the other hand, increasing capacity at our sub-suppliers might be able to handle some of that extra business, but would they be able to handle the environmental and sustainability aspects? The second point was less likely to have a positive answer. The goal of showcasing that we could compete globally from Scandinavia had all but been proven already

over the past few years, but it was about to be taken to a whole other level with The Plus. A level which if we succeeded would certainly tick off goal number five; inspiring others to take part in the green shift and share of the knowledge we accumulated through the process. The final goals, creating a spot which tourists would like to come visit, and which proved an attractive workplace would be achieved through designing both the inside and outside to be as great, welcoming and exciting as possible.

Plus One

Our goals ↓

- 1. Create the world's most environmentally friendly furniture factory**
- 2. Prove that we can compete globally from Scandinavia**
- 3. Create attractive jobs, with room for everyone**
- 4. Bring visitors from all over the world to Magnor**
- 5. Inspire others to take part in the 'green shift'**

You can read more about these goals [here](#).

Quality

As in the other parts of our operation, the quality of materials has been paramount in the material selection for The Plus. Aspects like longevity and reduced carbon footprint have been the dominating factors. The goal for the building was to achieve the BREEAM outstanding accreditation. An analysis conducted by Norwegian energy consultants Erichsen & Horgen found the following conclusions:

BREEAM Mat 01. criteria 7 to 10 Life Cycle Impact of Building (LCA) ↓

The building fulfils more than 85% of the points in BREEAM International Mat 01-calculator and consequently achieves 3 credits (2 + “exemplary level”)

BREEAM Mat 01. criteria 11 to 14 Reduction of Green House Gas Emissions ↓

The building fulfils demands of 40% reduction of greenhouse gas emissions from new materials compared to a reference building and achieves 2 credits

Futurebuilt Zero ↓

The building fulfils the Futurebuilt ZERO criteria for low emission buildings. This means that the building can be said to be in line with Norway’s commitments to the Paris agreement

Systems boundaries are set as ‘cradle to grave’, but are slightly different for the two calculations, as shown on the right. A closer description of this can be provided upon request.

The emission calculations followed two different methods, following the principle of NS3720 – method for greenhouse gas emissions for buildings ↓

Calculations for BREEAM Mat 01 only materials are part of the scope, and the result is compared to the reference building.

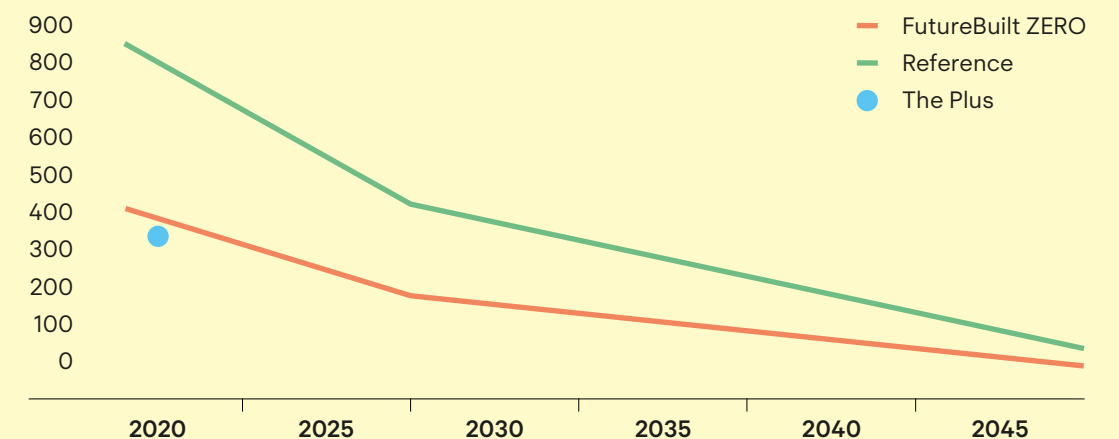
For FutureBuilt ZERO both materials and energy are part of the scope, as well as the introduction of a number of other emissions and calculation methods that yield a more precise representation of the actual emissions

Plus One

		BREEAM	FUTUREBUILT ZERO
Product Stage			
A1	Raw materials supply	Yes	Yes
A2	Transport	Yes	Yes
A3	Manufacturing	Yes	Yes
Construction Process Stage			
A4	Transport to building site	Yes	Yes
A5	Installation into building	Yes**	Yes
Use Stage			
B1	Use/application		
B2	Maintenance		
B3	Repair		
B4	Replacement	Yes	Yes
B5	Refurbishment	Yes	Yes
B6	Operational energy use		Yes
B7	Operational water use		
End-of-Life Stage			
C1	Deconstruction/demolition		
C2	Transport	Yes	Yes
C3	Waste processing	Yes	Yes
C4	Disposal	Yes	Yes
Benefits and loads beyond system boundary			
D*	Reuse		Yes
D	Recovery		Yes
D	Recycling		Yes

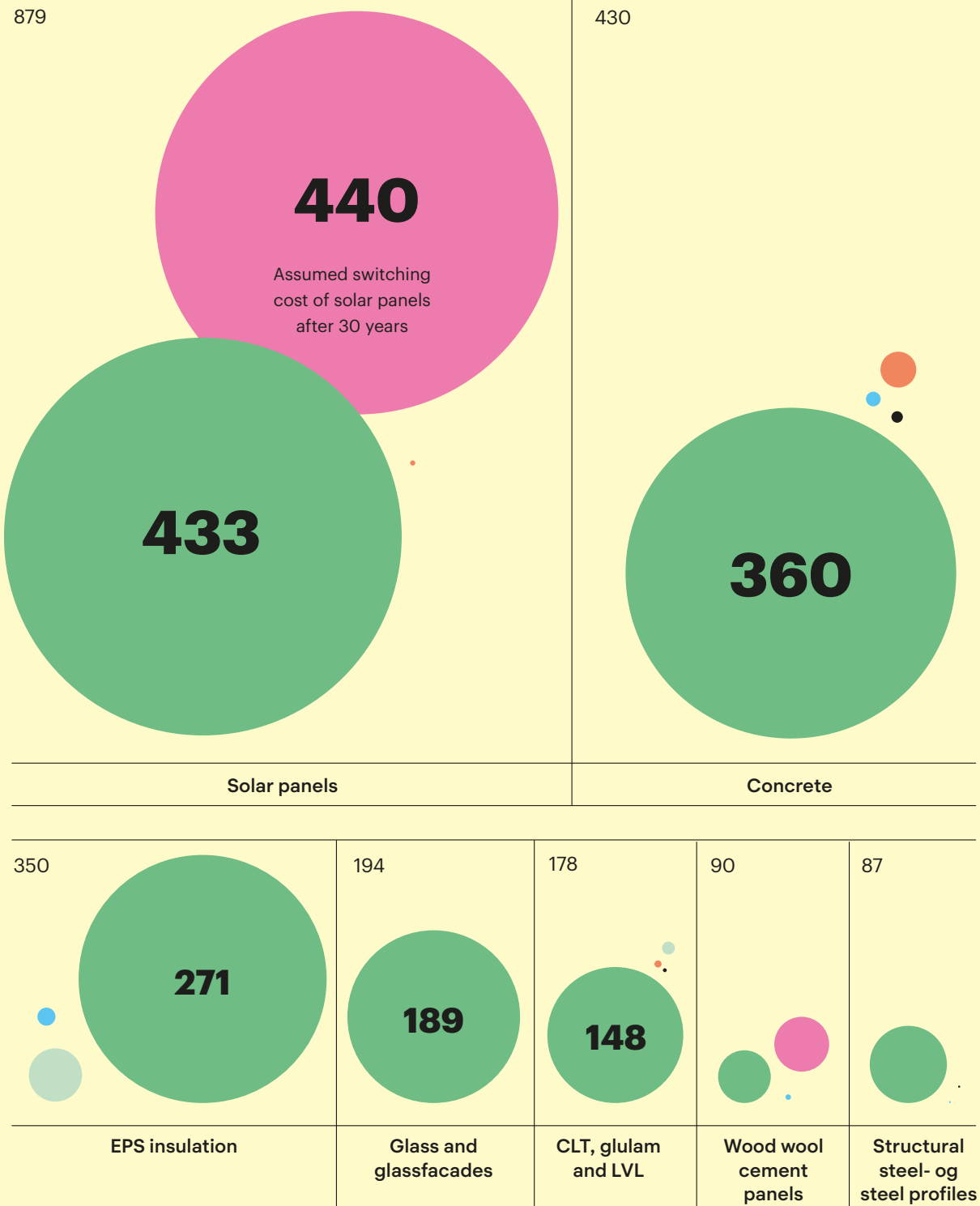
* Material & energy savings, re-use of materials and export of self-produced energy

** Does not include construction site operation





Emissions tCO₂e ↓



Plus One

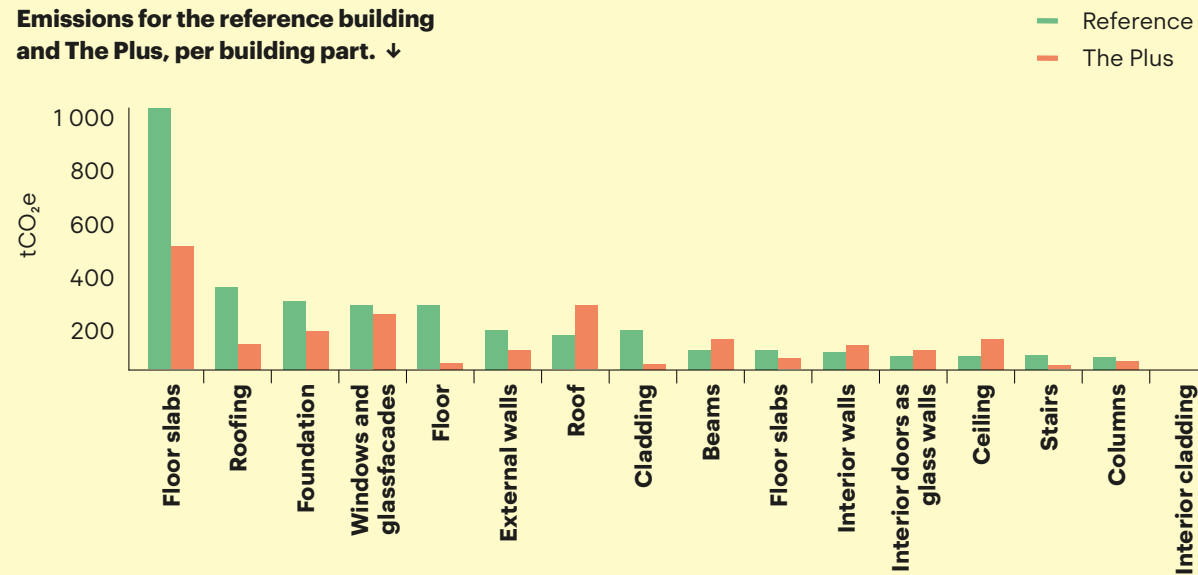
Choosing materials ↓

The core materials used in The Plus are wood and concrete. The solar panels and the concrete is by far the most carbon intensive of the materials in the building. Next comes the insulation and the glass façade. The materials and suppliers are chosen with the explicit aims of being both environmentally friendly and of a long-lasting quality.

Production of solar panels is emission intensive, and the estimated lifetime is only 30 years, but we hope to use them longer. With that said, the energy production of the solar panels will compensate for the high emissions during production.

70	69	42	41	28	15
Bitumen and other roofing	Reinforcement for concrete (rebar)	Plastic membranes	System walls (glass)	Rockwool insulation	Gypsum board
13	13	12	11	7	5
Wood and wood board doors	Metal and industrial doors	Organic insulation	Wooden cladding	Paints, coatings and lacquers	Plain wood/ timber
5	4	4	2	2	2
Fibre layer (Green roof)	Top soil (Green roof)	Windows	Special gypsum boards	Glass wool insulation	Glass doors

Emissions for the reference building and The Plus, per building part. ↓



Concrete

To reduce the emissions from concrete low-carbon class A is used. It represents some 430 tCO₂e, about 25% of the entire footprint from materials of the building. Most of the concrete is used in the ground slab. The concrete was sourced locally, from the Kongsvinger area.

Insulation

The EPS insulation needed in the slab and on the roof represents a total of ~350 tCO₂e. EPS from Norway is chosen to lower the emissions. Wood fibre insulation was chosen for the exterior walls to lower the emissions further. The insulation was provided by Hunton, with roof insulation provided by Icopal. It was sourced locally, from Gjøvik.

Glass & aluminium

The wide-stretched glass façade is almost 2000 m² and is made out of high-quality insulation glass with Hydro CIRCAL aluminium around the edges produced in Norway. The façade represents some 190 tCO₂e. The glass was sourced from Reflex in Slovenia. The aluminium was sourced from Hydro, and as CIRCAL has a post-consumer content of >75%, the material has 8 times lower emissions than conventional aluminium.

Wood

The chosen structural bearing system in massive wood decreased the emissions significantly. The massive wood is supplied by WoodCon and represents a total of ~180 tCO₂e. The walls are produced by Store Enso in Karlstad, the glulam by Moelven at Ringsaker.

Plus One

Steel

Steel profiles are produced by EMV and represent a total of ~90 tCO₂e.

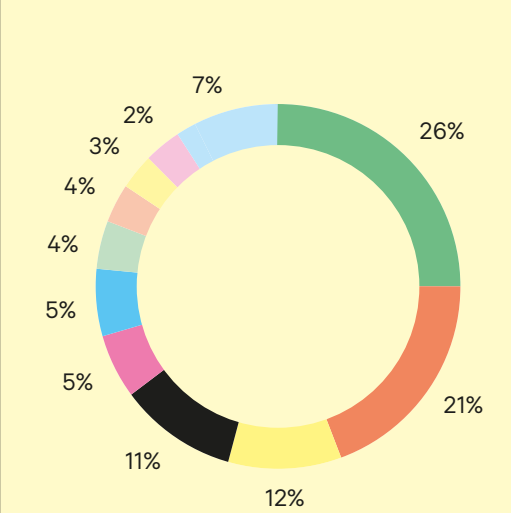
Façade cladding

The first planned metal cladding with high emissions, was replaced by a maintenance free burnt wood cladding with negligible emissions. The cladding was supplied by Ekwood in Estonia and consists of Siberian Larch.

- Concrete
- EPS insulation
- Glass and glassfacades
- CLT, glulam and LVL
- Wood wool cement panels
- Structural steel- and steelprofiles
- Bitumen and other roofing
- Reinforcements for concrete (rebar)
- Plastic membrans
- System walls (glass)
- Other*

* Rockwool insulation, Gypsum board, Wood and wood board doors, Metal and industrial doors, Organic insulation, Wooden cladding, Paints, coatings and laquers, Plain wood/timber, Fibre layer (Green roof), Top soil (Green roof)

The materials part of the greenhouse gas emission for the building (NS 3720- BREEAM-NOR)



Energy

The energy usage for the building which was estimated to be some 450 MWh annually achieves the requirements for passive house level according to Norwegian standard and energy performance certificate A. Additionally it also achieves full score in energy efficiency in BREEAM and the nZEB definition of FutureBuilt. The capacity of the solar deployment is estimated to be some 250 MWh annually.

The real energy usage including process is a lot higher, estimated to be some 2 GWh annually.

Climate Footprint

Buildings amount to more than 34% of the total carbon emissions globally. Vestre aimed to build something which could both 1) stand for a very long time (the average life-time of a building in most estimation tools is just 60 years) and 2) build it with a significantly lower footprint than a reference building of the same size and purpose.



Plus One

Inclusive Society

Allemannsretten (right to roam) is a core tenet of the Nordic way of life. The whole idea with The Plus revolves around our ability to melt together and align the aims of industrial production and society at large.

That's why the roof of the building is accessible for the general public 24/7, and one can look through glass windows standing directly outside the window, see what kind of magic is happening inside. The standard typology of a factory is usually somewhat of a black box, with barbed wire in a wide fence around it. The Plus is the exact opposite, it invites you in and wants

you to ask questions to find out what's going on inside. We're even organising some activities and have set up a Forest Park where people can enjoy allemannsretten and The Plus from the outside whenever they want, read about it [here](#). Vestre's commitment to brutal transparency shines through in every part of our operation.

Worker's equity ↓

The Oslo-model was applied during the building process, and it's laid out in detail [here](#) (in Norwegian). As mentioned in the impact report, Vestre remains firmly committed to the idea that the social aspect of sustainability is a core component in order to create a future where everyone has the opportunity to do well. Our employees are compensated fairly and given tasks that are not only challenging but fulfilling.

The idea that a complete division of labour would produce the most product might be true, but as humans we have an inherent need to see our creativity come to fruition in the finished product. At Vestre we certainly have some division of labour, but the coherent whole, the quality embedded in every single piece, and the fairness distributed equally all along the production line helps each of us understand her role in the bigger picture.

Generational glue ↓

This factory is a new typology of factories, as Bjarke Ingels said. We hope it's one that will take root and spread globally. Not necessarily how it looks, or the way it functions even, but the underlying ideas behind it. How do we get Greta Thunberg style gen Z activists to break bread with industrialists who are firmly committed to fossil fuel? How do we break down the false walls propped up by propaganda to unlock discourse and understanding, focusing on the fact that we all have more in common than what our differences may be? These bigger questions are what

drives Vestre's push for a more sustainable, a more equitable future. It might sound a bit pompous for a simple furniture brand from the North, but what was that ol' proverb again? "No one can do everything, but everyone can do something" We believe in discourse and openness to foster understanding. If we could create a building that 1) can compete with the best of them in terms of efficiency meanwhile being 2) in line with the Paris agreement for a maximum warming of 1,5 degrees? Well then anything is possible.

