



2022

Sustainability report

Gudbrandsdalens
Uldvarefabrik

www.gu.no



MESSAGE FROM OUR CEO

At Gudbrandsdalens Uldvarefabrik, we have been practicing our craft since our mill's beginnings, back in 1887. That is four generations of knowledge. Our mill is vertically integrated. That means we control and are intimate with every step of the textile process.

In addition, we work continuously and actively to learn and improve. This includes working and cooperating with research institutes.

As the world demands low-carbon, non-plastic, durable, recyclable, and biodegradable solutions, we are confident that our contribution is to apply our knowledge to create the highest quality fabrics.

Jan Skrefsrud

CEO of Gudbrandsdalens Uldvarefabrik



OUR CLIMATE COMMITMENT

We are committed to produce with the least possible harmful impact on the environment. We continuously invest in technology, development and people. We live and breathe to create high quality, long-lasting, sustainably designed and produced wool-based textiles. Our textiles come from nature and last as nature intended, for generations.

Contact person: Jan Skrefsrud
Email: jan.skrefsrud@gu.no

BASELINE YEAR: 2021

TARGET YEAR: 2025

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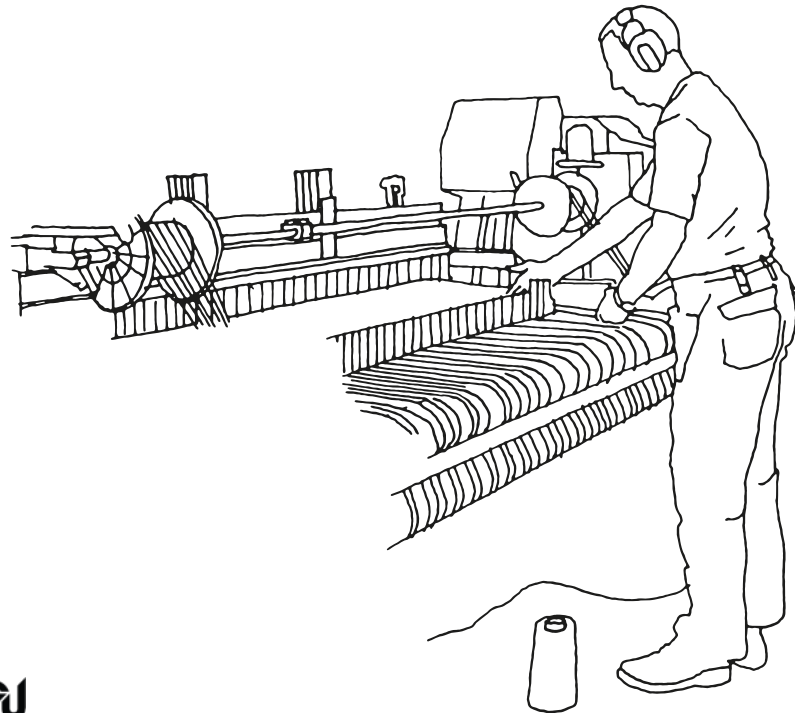
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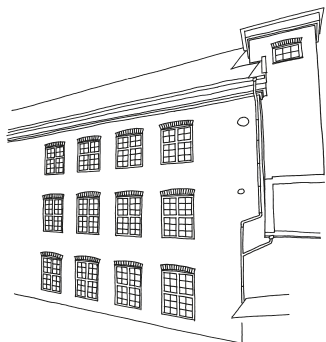


ABOUT THIS REPORT

Sustainability has for 136 years had an important strategic focus in our company, and we are proud to look back and be able to say; Responsible production since 1887. This report gives a summary of our sustainability work today, and the goals we have set to reduce our companys climate footprint.

This sustainability report has been prepared in accordance with the Nordic Sustainability Reporting Standard – NSRS Level 1. All rights reserved.

OUR KEY STAKEHOLDERS



External

- Government
- Collaboration partners
- Customers
- Trade associations (Industry associations)

Internal

- Owners
- Board
- Managers
- Employees
- Working Environment Committee



1.0 WHO WE ARE

At Gudbrandsdalens Uldvarefabrik we have been practicing responsible production since 1887. We are a textile mill situated in Lillehammer that produce wool fabrics for upholstery and Norwegian national costumes. We welcome you to get to know our organisation. Here you will find key information about us.

WHAT WE DO

In contrast to many other textile manufacturers, Gudbrandsdalens Uldvarefabrik has the entire production process, from freshly shorn and scoured wool to finished fabrics, gathered under one roof in Lillehammer. We know how the slightest of adjustments can improve quality throughout our production line.

For us, the future of wool-based textiles, inspired by our raw material's sustainable qualities, lies in our focus on research and development. The team consists of wool experts from all stages of the production. This gives us great control over the process, and opportunities for customer adaptations. We always design with sustainability, superior quality and longevity as main pillars; Wool for generations.

CERTIFICATIONS

- ISO 9001 - Quality Management
- ISO 14001 - Environmental Management
- EU Ecolabel
- DNV MED certificates

OUR MARKET SEGMENTS

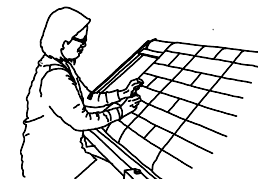
- Wool based fabrics for:
- National Costumes
 - Contract Furniture
 - Home Furniture
 - Cruise Ships & Ferries
 - Trains & Busses

NACE CODE

1320 - Textile weaving

LEGAL FORM

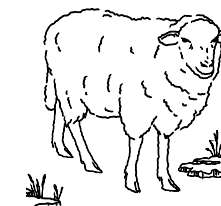
Gudbrandsdalens Uldvarefabrik AS
NO996 131 491 MVA



NUMBER OF EMPLOYEES

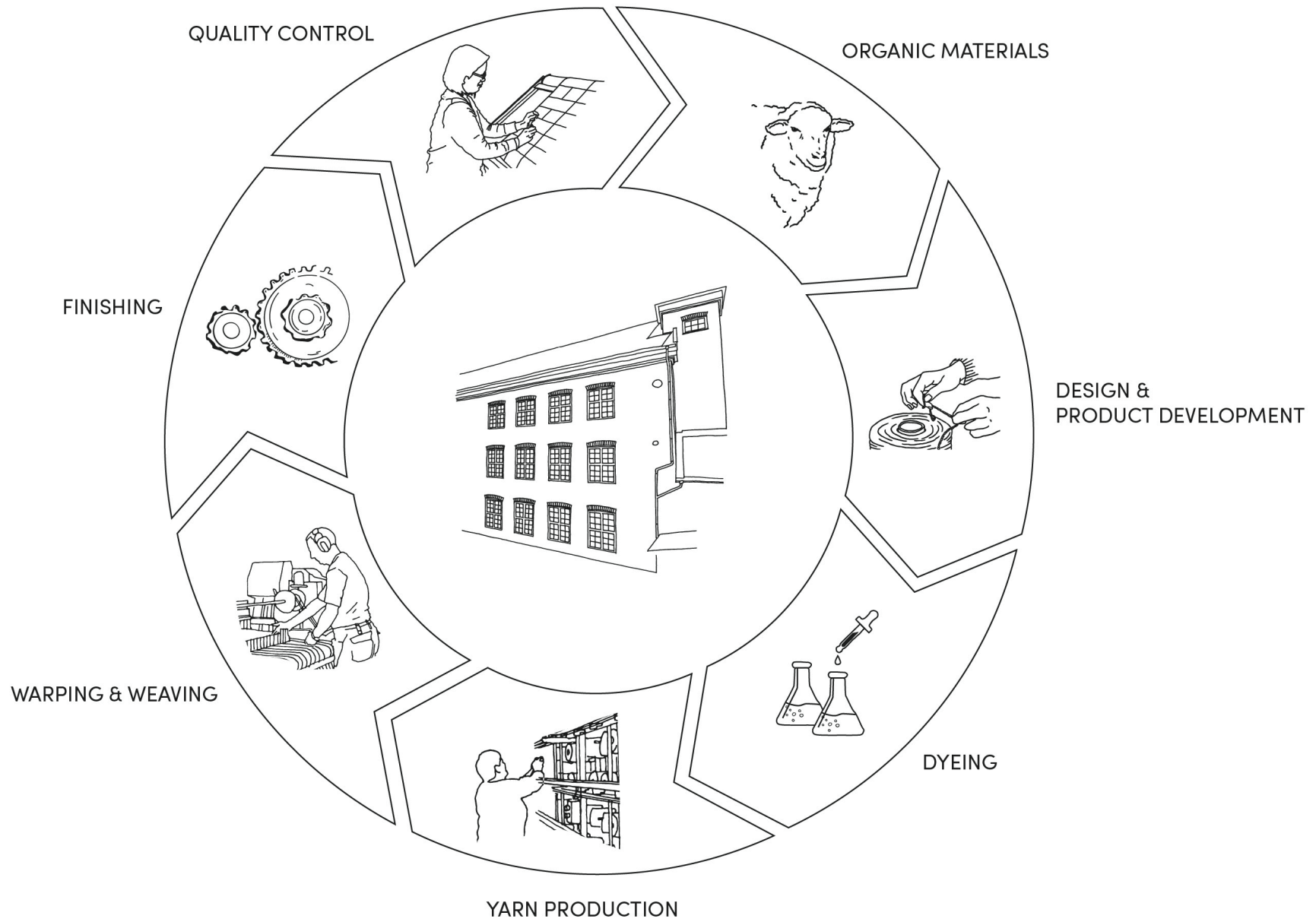
72

41 MEN / 31 WOMEN



KEY SUPPLIERS

- Norilia (Wool NO)
- Bloch & Behrens (Wool NZ)
- Wagenfelder / Vlnap (Yarn)
- Filatura C4 (Yarn)
- Bodo Møller / Huntsmann (Dye stuff & chemicals)



2.0 HOW WE OPERATE

Transparency is the foundation of sustainability reporting. We here invite our stakeholders to understand how we run our organisation by providing insight into our core values, internal management structure and level of sustainability integration.

HOW WE GOVERN SUSTAINABILITY

Sustainability Committee:

- Textile & Sustainability Manager
- CEO
- Quality Manager
- Senior Designer & Product Developer
- Sales- and Marketing Manager

Textile & Sustainability Manager:

Martje Benöhr
martje.benoehr@gu.no

OUR CORE VALUES

VISION

Market-leading manufacturer in sustainable production of quality fabrics.

MISSION

Wool for generations

VALUES

- Quality
- Knowledge & Expertise
- Responsibility
- People First

CUSTOMER PROMISE

"Our weave is our word".





CIRCULAR BUSINESS MODELL



MINIMAL WASTE

At GU we are continuously working towards reshaping our future through circular economy.

A circular economy reduces material use, redesigns materials and products to be less resource intensive, and recaptures "waste" as a resource.

We already use natural fibers – wool – that are bio-degradable and renewable. Wool is actually one of the natural fibers that is renewable.

Our products are of the highest quality in the industry, and are known to have a long life, often lasting through generations.

When we work with circular business models, it is important for us to constantly evaluate whether recycled material in new products reduces quality and durability.

We are currently testing and evaluating precisely this scenario.



3.0 OUR CLIMATE IMPACT

We aim to play our part in the green and sustainable transition. That means steering our efforts towards the areas where we can contribute the most – that is, where our climate impact is greatest.



HOW TO CALCULATE EMISSIONS

Greenhouse gas emissions are categorised into three groups or 'Scopes' by the most widely-used international accounting tool, the Greenhouse Gas (GHG) Protocol. We have specified which Scope each material topic covers in this report.

SCOPE 1 covers all direct emissions from the activities of an organisation or under their control. Examples: Fuel combustion, company vehicles, fugitive emissions.

SCOPE 2 covers indirect emissions from electricity purchased and used by the organisation. These physically occur at the facility where electricity is generated. Examples: Purchased electricity, heat and steam.

SCOPE 3 covers all other indirect emissions. Scope 3 emissions are a consequence of the activities of the organisation, but occur from sources not owned or controlled by the organisation. These are usually by far the greatest share of the carbon footprint (Source: Science-based targets). Examples: purchased goods and services, business travel, employee commuting, waste disposal, water use, use of sold products, transportation and distribution (upstream and downstream), investments, and leased assets and franchises





Materials

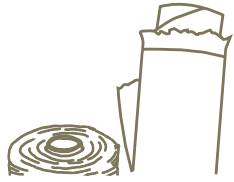
Our fabrics are made from wool, viscose, linen and a small amount of cotton. In addition we use dye stuff and chemicals for dyeing.



Waste

Our waste consists of waste for recycling, waste for incineration and special industrial waste.

We generate waste from wool-based production waste, cardboard (sorted), wood, plastic (mixed) and unsorted residual waste.



Method used to retrieve data:

Data for material input is extracted from our ERP-system.

Data uncertainty:

Data for material input is converted from meters to kg based on average weight per meter.



Method used to retrieve data:

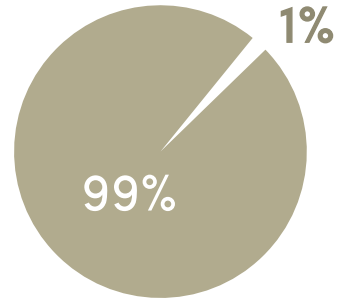
We have analysed our waste generation by using waste-data provided by our waste-management company.

Data uncertainty:

The data can be regarded as high quality and accurate data.

Our Material Input

Non-renewable materials	5 tons
Renewable materials	390 tons
Total material input in 2022	395 tons



99% of our material input is renewable.

Our Waste Generation

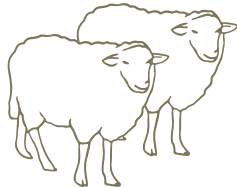


Total waste generated in 2022

80,4 tons

Improvement target:

Use of Norwegian Wool depends on actual availability. We strive to use as much Norwegian Wool as possible.



How we are going to achieve the improvement target:

Collaborate with our wool-supplier Norilia to secure access to larger quantities of Norwegian wool. We are currently working on a test programme using recycled fiber into our yarn production.



Improvement target:

We aim to reduce the combustion rate by 30% by 2025.

30%

How we are going to achieve the improvement target:

Recycle production waste into raw material, product development with recycled raw material, business development with a focus on surplus material.



Energy sources

We use electricity based on clean hydropower for our production machines and buildings.

In addition we use Liquefied Petroleum Gas (LPG). The LPG is burned in a boiler for steam production as a main energy source for water heating in our dye-plant.



Greenhouse gases GHG

When we burn the Liquefied Petroleum Gas (LPG) in our production process, we create carbon dioxide (CO₂). We have initiated a programme to reduce our need for LPG, and thereby also reduce our CO₂ outlet. Other sources with CO₂ outlet comes mainly from transporting goods in and out of our factory area.



Method used to retrieve data:

Electrical power is sourced from EI-Hub. Non-renewable energy is purchased LPG.

Data uncertainty:

Because we have used actual numbers in our calculation the data uncertainty should be minimal.



Method used to retrieve data:

LPG is calculated based on the purchased quantity. For electric power, the CO2e figure is calculated on the basis of 17g CO2e/kWh.

Data uncertainty:

Outlets are based on calculation from energy consumption.

Our Energy Consumption

Non-renewable energy sources

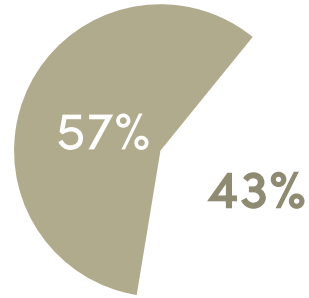
3 597 462 kWh

Renewable energy sources

2 746 828 kWh

Total energy consumption

6 344 290 kWh



43% of all energy consumption is renewable

Our GHG Emissions

SCOPE 1

SCOPE 2



Stationary Combustion

Indirect Energy Sources

Total GHG emission in 2021

816 553 kg CO2e

Improvement target:

Reduce our Energy Consumption 25% by 2025.

25%

How we are going to achieve the improvement target:

We use electricity based on hydropower and LPG (Propane) for the boiler to produce steam. We will reduce our energy consumption utilize high pressure heat pumps recovering energy from our water outlet. The first phase in this programme is planned to be completed within February.



Improvement target:

Reduce CO2 from the propane boiler by 35% by 2025.

35%

How we are going to achieve the improvement target:

Our propane boiler generates approx. 900 tonnes of CO2 per year. In 2022, we carried out an energy survey, and in 2023 the work team has started implementing measures. The first phase is planned to be completed on 1 February 2024.

4.0 PREPARING FOR THE FUTURE: CLIMATE RISK

Climate change affects us in different ways. While some are becoming more vulnerable to flooding, others will experience disruptions to their global value chains.

The Nordic climate will become warmer, wetter and wilder. At the same time, climate change has resulted in climate policies – on National and EU level – to reduce greenhouse gas emissions and adapt society to climate change.

These regulations also pose a risk. Climate change will also affect us, and we have to be prepared for it.



HOW WE ESTIMATE CLIMATE RISKS

We have made a careful analysis of our own operations and predicted how these may be affected by climate change in the short-, medium-, and long term. In the process, we identified what climate risks and opportunities are expected to have the greatest impact on our activities and intend to prioritize topics strategically in line with our findings. Our estimations are self assessment based and should be viewed as a first step towards making more comprehensive climate risk assessments in the future.

CLIMATE RISKS

Here is an overview of the climate risks that are expected to have the greatest impact on our operations in the short-, medium-, and long term. Please note that besides the time-frame they are not listed in any particular order.

NSRS Index:	PRIORITY LEVELS BASED ON RELEVANCE AND IMPACT – KNOWLEDGE MEASURED BY AVERAGE			
	Short term perspective	Long term perspective	Knowledge level (om 1 to 10, where 1 is lowest and 10 is highest)	
Transition Risks	<i>Increased pricing of GHG emissions</i>	Medium	Medium	10,0
	<i>Enhanced emission-reporting obligations</i>	Low	Medium	9,0
	<i>Mandates on and regulation of existing products and services</i>	Low	High	5,5
	<i>Substitution of existing products and services with lower emissions options</i>	Low	Low	8,0
	<i>Costs to transition to lower emissions technology</i>	High	Medium	7,0
	<i>Changing customer behavior</i>	Medium	High	6,0
	<i>Uncertainty in market signals</i>	Low	Low	10,0
	<i>Increased cost of raw materials</i>	Medium	Medium	10,0
	<i>Shifts in consumer preferences</i>	High	High	8,0
	<i>Stigmatization of sector</i>	Low	Low	10,0
<i>Increased stakeholder concern or negative stakeholder feedback</i>	Medium	Medium	8,0	
Physical	<i>Increased severity of extreme weather events such as cyclones and floods</i>	Low	Low	5,0
	<i>Changes in precipitation patterns and extreme variability in weather patterns</i>	Low	Low	5,0
	<i>Rising mean temperatures</i>	Low	Low	5,0
	<i>Rising sea levels</i>	Low	Low	5,0

CLIMATE RISKS OF STRATEGIC IMPORTANCE

The strategic importance of a risk depends on the potential scope of its impact in relation to our level of knowledge about the topic. Here is an overview of the key risks that we face based on these parameters.

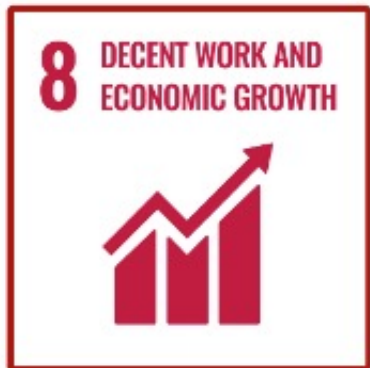
NSRS Index:		PRIORITY LEVELS BASED ON RELEVANCE AND IMPACT – KNOWLEDGE MEASURED BY AVERAGE		
		Short term perspective	Long term perspective	Knowledge level (om 1 to 10, where 1 is lowest and 10 is highest)
Resource efficiency	Increased pricing of GHG emissions	High	High	10,0
	Use of more efficient modes of transport	High	High	6,0
	Use of more efficient production and distribution processes	High	High	8,0
	Use of recycling	Medium	High	8,0
	Move to more efficient buildings	Medium	Medium	8,0
	Reduced water usage and consumption	High	High	9,0
Energy source	Use of lower-emission sources of energy	High	High	10,0
	Use of supportive policy incentives	High	High	10,0
	Use of new technologies	Low	Low	10,0
	Participation in carbon market	Low	Low	3,0
	Shift toward decentralized energy generation	Low	Low	8,0
Products and services	Development and/or expansion of low emission goods and services	Low	High	8,0
	Development of climate adaptation and insurance risk solutions	Low	Low	7,0
	Development of new products or services through R&D and innovation	High	High	9,0
	Ability to diversify business activities	Medium	Medium	5,0
	Shift in consumer preferences	High	High	8,0
Markets	Access to new markets	High	High	6,0
	Use of public-sector incentives	High	High	8,0
	Access to new assets and locations needing insurance coverage	Low	Low	8,0
Resilience	Participation in renewable energy programs and adoption of energy- efficiency measures	High	High	8,0
	Resource substitutes / diversification	Low	Low	6,0

SUSTAINABLE DEVELOPMENT GOALS

5.0 THE SUSTAINABLE DEVELOPMENT GOALS

A Global To-Do List The Sustainable Development Goals (SDGs) were adopted by all United Nations Member States in 2015. They provide a plan of action for addressing the world's most pressing challenges. Even if just starting our sustainability journey, the SDGs remind us that our efforts are part of something bigger - that we together contribute to the peace and prosperity of people and planet.

Here is an overview of the SDGs that we have focused on throughout this reporting cycle.



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



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



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



Ensure sustainable consumption and production patterns.



Take urgent action to combat climate change and its impacts.

INTERNAL SUSTAINABILITY DEVELOPMENT GOALS (SDG)

We are always striving to improve. On the next page you will find our 6 internal Sustainable Development Goals (SDGs) in the next years to come.

In our production we use close to 100% sustainable raw materials from sheep and wood (viscose). The wool is high quality wool from Norway and New Zealand. We use as much Norwegian wool as is available in the quality we use in our production; as short-distance raw materials as possible.

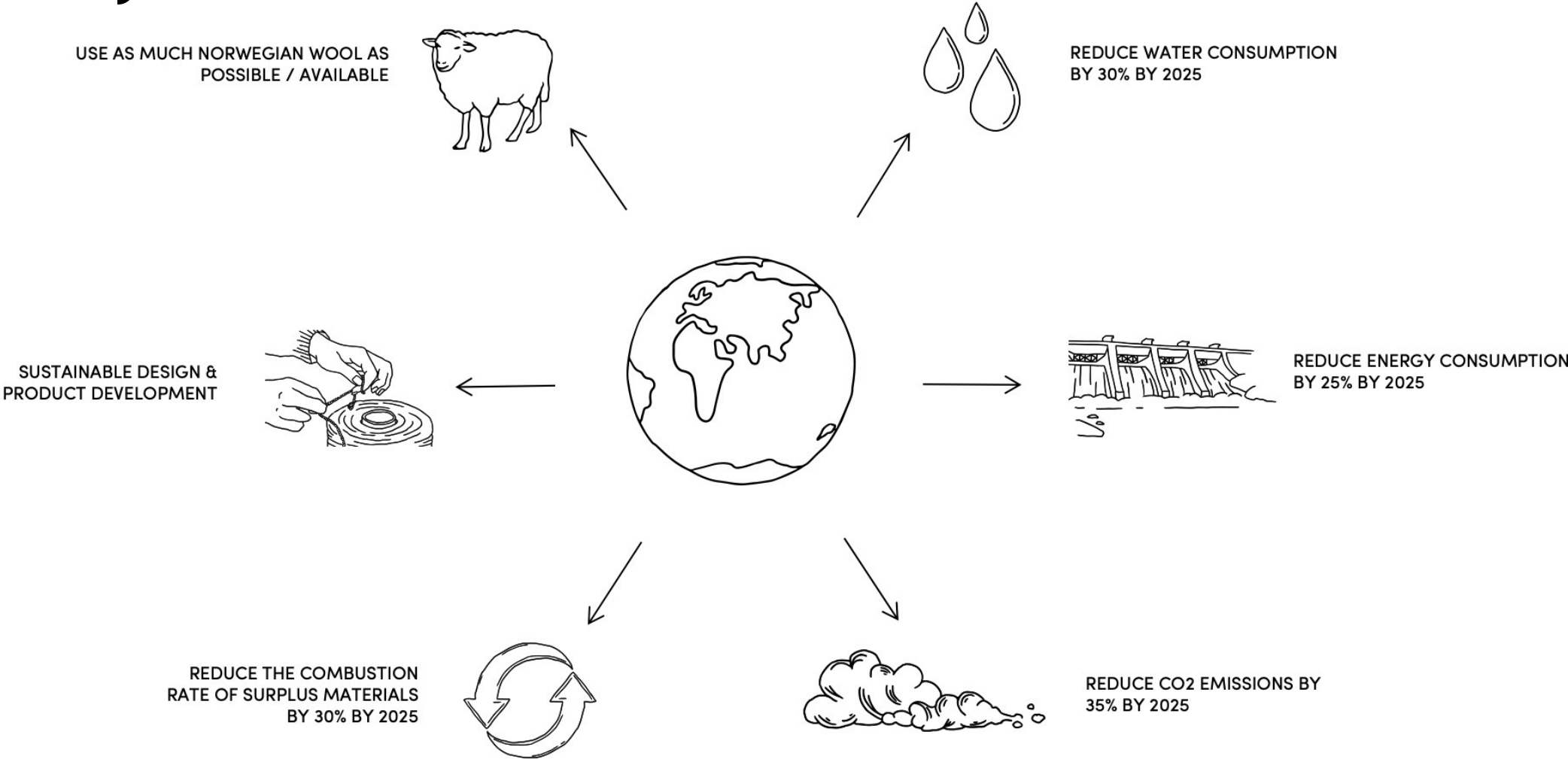
In addition to wool's unique, sustainable characteristics, our complete control of the value chain allows us to push for evermore sustainable processes and products. Our use of chemicals is minimal, as wool fabrics can achieve a large proportion of the technical requirements in the industry quite naturally.



PURE WATER IN – PURE WATER OUT

In our production we use water from the Mesna river that flows next to the mill. This means that we have strict requirements from the Norwegian Environmental Agency for our discharge water, which in turn goes through a treatment plant and into Norway's largest lake, which is a source of drinking water.

Sustainability Development Goals (SDG)



1. Reduce water consumption

We are working to reduce water consumption by 30% during 2025. We have a high reuse of water and we make water-saving investments. In 2019, we invested in a new Ultra Sonic washing machine which reduced water consumption in the washing process by 40%. During 2024, we will implement a process for reusing process water in our fiber stack where the wool is washed.

We are also working to improve the fill rate in our machines, that is, more wool in each bath. All our waste water goes to a municipal treatment plant. The water for production is taken from the Mesna River, which flows next to the factory. The water is released back into Mjøsa, which is Norway's largest source of drinking water. This means that we have very strict requirements for the quality of the water that goes from the factory to the municipal treatment plant.

2. Reduce energy consumption

We are working to reduce energy consumption by 25% during 2023. We are working with the recovery of surplus heat in the form of heating process water and premises. We have a high level of awareness of consumption, such as looking at which facilities should run when, such as ventilation, heating fans, etc. We look after all small energy thieves such as light and heat, and work towards increased use of renewable energy. In 2022, we carried out an energy survey with subsequent proposed measures which are implemented on an ongoing basis. Phase 1 is to be completed in February 2024.

3. Reduce CO2 emissions

We are working to reduce CO2 emissions by 35% during 2025. Today we use electricity based on hydropower and petroleum gas (LPG) for the steam boiler in production that produces steam. The propane

boiler generates approx. 900 tonnes of CO2 per year. We want to reduce the use of propane to more environmentally friendly energy sources. One of the first measures is to install a heat pump to replace the use of propane. The energy we use today goes to district heating.

Wool textiles have little need for the use of chemistry in the production process. We work to use the most environmentally friendly dyes possible and work continuously to reduce the use of chemicals by optimizing the processes so that the chemicals are used optimally.

All our chemicals comply with REACH (Registration, Evaluation, Authorization and Restriction of Chemicals), an EU regulation that is applicable in Norway through the EEA agreement. The regulations require that importers or manufacturers of chemicals must document the properties of the substance before it can be imported or produced. REACH also includes detailed guidelines for the risk assessment of chemicals.

4. Reduce the burn rate of excess material

We are working to reduce the combustion rate by 30% during 2025. Our surplus material consists of production residues in the form of jar edges, yarn residues and loose fibres. We also have a proportion of textiles classified with 2nd sorting. These cannot be sold as upholstery fabric, and must therefore be given new life in another form. We therefore continuously work to find new business areas, recycle waste into yarn and other products, including through the Sirkull Industrial Project under the auspices of Norsk Industri (Teko.)

Most of our residual materials are reused and are also used by artists, schools and students for training. Jar edges are used for fillers and fibreboards. The latter goes to energy recovery.

5. Sustainable design & product development

The most important thing for us when it comes to design & product development is to use our expertise in wool to design and develop new, sustainable products that have a low environmental impact and that stand the test of time. The goal is to produce products that can last for generations, both for clothing and furniture.

All new products that are launched must be EU Ecolabel certified. We are also working on a research project with SINTEF Norway to evaluate LCA (Life Cycle Analysis) for woolen textiles with Norwegian wool produced at Gudbrandsdalens Uldvarefabrik.

6. Use of Norwegian wool

We use organic raw materials; wool and viscose. About 50% of the wool we use in production is Norwegian wool, which we buy from Norilia. (Nortura). This is as much Norwegian wool in class C1 (finest fibres) as is available on the market. Our goal is to use as much short-travel raw materials as possible.

6.0 RESEARCH & DEVELOPMENT (R&D)

We work actively in networks and with research institutes to constantly learn and improve.

Sirkull (TEKO) / PlussLAB

SIRKULL has been a collaborative project with leading Norwegian tea companies on mapping opportunities for reuse and recycling of surplus materials and waste from their factories. The aim of the project is to find disposal and new solutions for the reuse and recycling of wool as a high-quality material. Different types of waste, such as jar edges, cut-offs, yarn etc. can lead to different possibilities. Tea companies Innvik, Gudbrandsdalens Uldvarefabrik, Røros Tweed/Rauma, Devold, Aclima, Selbu Spinneri and Heimen Husflid have participated in the project.

Bærull

Gudbrandsdalens Uldvarefabrik has, in collaboration with SINTEF, carried out a research project where we aimed to develop an LCA for a specific product. In this project, we have been able to quantify the CO2 equivalents in all input factors, but have also uncovered a lack of real data for Norwegian wool. We will continue to improve the generic data used in the project with real data as it becomes available. The main goal is to prepare LCA data that will form the basis for developing EPDs for our products.

3TS - Energy saving project

We have started a major energy saving project which involves recovering the heat in the waste water with the use of advanced heat pumps, a new accumulation tank for hot water, and a new distribution scheme for hot water for our processes. The first phase of the project will provide savings equivalent to 2 million kWh, and Enova is supporting the project with 22% of the costs.

EUs TAXONOMY: One of the most pressing regulatory risks in the Nordic region, also for SMEs.

The EU Taxonomy is a new classification tool for sustainable private sector activities. By providing a set of industry-specific technical screening criteria, the Taxonomy dictates whether a specific private sector activity is sustainable or not.

It is designed to counter greenwashing and to steer finance in a sustainable direction. While directly targeting large companies and financial actors, smaller organisations may be affected indirectly through its financial sponsors and upstream customers as they need the non-financial data from their SME customers in order to report on the taxonomy

Are we targeted by the Taxonomy?

As for today, we are not targeted by the EU Taxonomy, but we will continue our sustainability work towards the same rules and regulations.

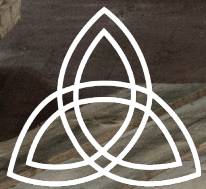
7.0 WHAT'S NEXT?

Sustainability is a complex matter. What's good for the planet in one minute, may be deemed harmful a few months later in the light of new research. It is extremely difficult to have a positive impact in one place without creating some level of harm in another. We nonetheless do our best and aim to constantly improve and keep ourselves updated.

We welcome your feedback

This is our very first step towards working with sustainability. As we gain experience with time and learn from the process, we will also raise our ambitions. We welcome any feedback, input or ideas you might have.

Contact: gu@gu.no



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