## Sustainability Report 2024





#### Mait Kaup Warmeston CEO

## Message from our CEO

As we publish our fifth Sustainability Report, I am proud to reflect on a year that tested our resilience, deepened our commitment to sustainability, and advanced our role in Europe's renewable energy transition.

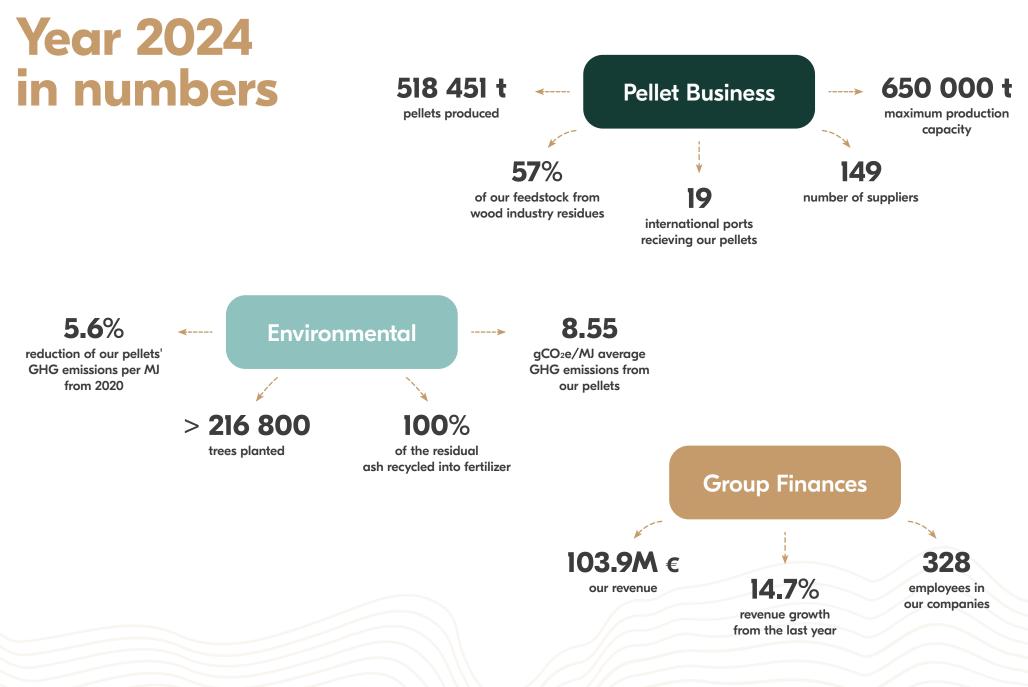
2024 marked a pivotal chapter in Warmeston's growth story. With the successful integration of our Brocēni factory and cogeneration plant, we significantly expanded our production capacity and strengthened our position in the Baltic biomass market. This step—paired with the launch of our wood chips export offering—has broadened our portfolio of sustainable fuels and increased our ability to support clients with efficient, locally sourced, and renewable energy solutions. Despite the challenging market conditions and constrained output across all sites, we remained focused on operational excellence. We prioritized local use of our fuels and continued supplying European CHP plants to ensure maximum energy efficiency. At the same time, we completed major infrastructure upgrades—including new energy storage capacity and solar integration at our Sõmeru site—and streamlined our digital operations, from delivery control systems to ERP integration.

Environmental performance continued to guide our actions. Our pellet GHG emissions per megajoule decreased by 6% compared to last year, and all our pellet ash was recycled into soil-enhancing fertilizer. Across our group, more than 216,800 trees were planted, and our dedication to sustainable sourcing remained firm, with 100% of our feedstock compliant with the industry's most robust sustainability standards. Yet our work goes beyond numbers. We invested in people—revising safety guidelines, training our leadership, benchmarking salaries, and strengthening employee communication. We continued supporting local communities and extended our assistance to Ukraine through trusted partners.

Looking ahead, I remain optimistic. The global demand for secure, sustainable energy is only increasing. Warmeston is well positioned to lead—not just by growing our business, but by helping shape a more resilient and responsible energy system for future generations.

To everyone contributing to our journey—our employees, partners, suppliers, customers, and community members—thank you for your continued trust and commitment.

Together, we are building something truly sustainable.





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Our employees, communities & society

### Sustainability Strategy

## Our strategic directions on sustainability

We are environmentally conscious and pay attention to our resource efficiency, emissions and waste management.

We are resource efficient and committed to sustainable solutions starting from the use of green energy and the establishment of our own solar farm to paperless office. Conscious consumption and efficient resource use will lead to reduced emissions and carbon footprint. We support the implementation of climate policy through production of wood-based biomass fuels.

Climate policy shapes our business environment and frames our long-term purpose. The European Union aims to be climate-neutral by 2050 - a future where we will be led by biofuels and technological innovation. Pellet production will help economies to move from fossil fuels to renewable sources and towards a balanced carbon cycle and even negative emissions. A vision that is in line with the EU's Fit for 55 package. We contribute to the competitiveness of the Estonian and Latvian forest and timber industry by processing the residues of these sectors.

The pellet industry adds value to the residues from the forest and wood industry and provides an output for low-value wood-based materials. The sale of their residues provides these industries additional income for growth, development and job creation in rural areas. We work for long-term growth and development with economic sustainability in mind.

In order to move towards our strategic directions, economic capacity is an essential prerequisite. Maintaining our profitability allows us to ensure long-term operations, invest in innovation and safeguard the created jobs. We value our employees by offering meaningful work and competitive compensation.

Skilled and motivated employees are a necessity for our success. Our employees have a meaningful and positively challenging job. We provide modern and secure work conditions, fair compensation, apply bonus programs, support participation in training programs and sports activities.



### Our commitment to Sustainable Development Goals of the UN

#### Goal

#### Our contribution



In 2024, our newest factory in Brocēni, Latvia started operations within our group, which significantly increased our total production capacity to >650 000 mt. Nevertheless, due to difficult market conditions we had to limit the output volumes in all our production facilities. We have directed our focus toward supplying combined heat and power (CHP) plants to ensure that the pellets are used in energy-efficient production. Furthermore, we prioritize local consumption and provide our premium pellet brand A-pellet to our Estonian and Latvian private customers.



To continue placing workplace safety as our top priority, we have revised and updated the HSE risk assessments and all safety guidelines of our Estonian factories. In 2024 we continued participating in the Figure salary survey to ensure the competitiveness of our salaries. In addition our management team completed comprehensive training on team leadership. As a result, employees reported improved access to information and teams gave higher ratings for management performance.



The company continues to advance its sustainability efforts and adapt to evolving industry trends. We are currently integrating various waybill and delivery control systems across our factories strengthening feedstock delivery control systems and supporting the transition to a 'paperless office' also in Latvia. Additionally, we have enhanced operational efficiency at the Brocēni factory by installing a direct connection between pellet production and the on-site CHP plant."

13 CLIMATE

15 LIFE ON LAND The acquisition of the Brocēni cogeneration plant in Latvia has further expanded our renewable energy production profile and portfolio. With the CHP we added a maximum thermal output of 16MW and a maximum electrical output of 4MW to our renewable energy production. We have further made the investment decision for a 4 MWh electricity storage capacity in our Sõmeru factory and are planning additional investments for a solar energy park and storage capacity in our Sõmeru factory.

Nature's health and well-being are of high importance to Warmeston. Besides having strict rules in place to refrain from sourcing our material from high conservative value areas such as Woodland Key Habitats, Natura 2000 Forest Habitats or natural sacred sites, we also give our best effort to ensure the continuation and good health of the forest ecosystems by actively participating in post-harvest regeneration.

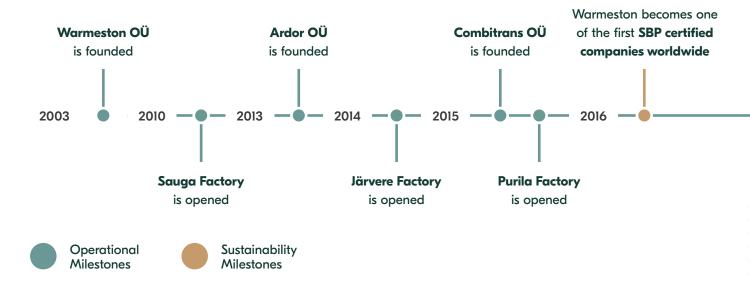


## Warmeston at a glance

### Warmeston's journey

The journey of Warmeston OÜ begins with its establishment in 2003 and gains momentum in 2010 when the first pellet factory was established in Sauga. On three consecutive years from 2013, Sõmeru (Ardor), Järvere and Purila factory were opened. Warmeston acknowledges its role in the global energy transition, so sustainability has played an important role in the company right from the early years.

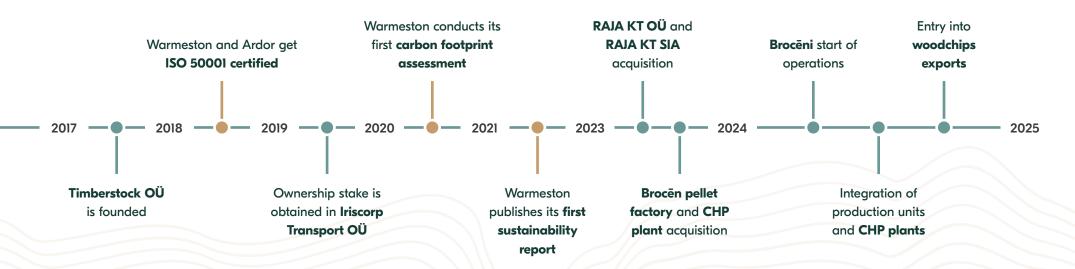
In 2016, when biomass sustainability had not yet caught everyone's attention to the extent it has now, Warmeston



was among the first 10 companies worldwide to become certified against the Sustainable Biomass Program (SBP) standards. This proved to be the right direction, as the Commission has recognized it under the new sustainability framework as a credible way to demonstrate compliance with the revised Renewable Energy Directive. Moving ahead to 2018, Warmeston implemented the ISO 50001 certified energy management system which ensures increasing energy efficiency through a continuous process of monitoring and improvement. In 2020 we started carrying out our annual carbon footprint assessments which enable us to measure and transparently report the climate impact associated with our pellets. This report presents the results of the RED-II aligned carbon footprint assessment for the year 2024.

The years 2023 and 2024 mark important milestone for the Group's expansion. In 2023 Warmeston acquired one of the largest wood-chipping companies in Estonia - Raja KT OÜ together with its Latvian subsidiary Raja KT SIA. In the end of 2023 Warmeston purchased Brocēni pellet factory and the on-site CHP plant.

In 2024, we expanded our product portfolio by introducing wood chips to our export offering, marking our entry into the European biomass market with an additional practical and efficient biomass fuel. Our diversified range of biomass fuels now provides tailored solutions for industrial energy production, allowing us to better meet the varied needs of our clients and contribute to the transition toward renewable energy. Read more on our product selection on page 15.



## Warmeston's organisational structure and process flow

Warmeston's organisational structure is composed of Warmeston OÜ and eight associated companies that provide services along the value chain. Forest management and feedstock sourcing companies Timberstock OÜ, Raja KT OÜ and Raja KT SIA as well as the CHP operating company Technological Solutions SIA are Warmeston's subsidiaries with Warmeston being the only shareholder.

Premium pellet producer Ardor OÜ, service provider Combitrans OÜ and fuelwood dealer Iriscorp Transport OÜ are Warmeston's affiliates through a minority shareholding. For the sake of simplicity, in this report we refer to all of these companies as Warmeston's affiliates. Pellet production Production of wood pellets

Energy generation Combined heat and power (CHP) plant operation

Chipping and transportation Transportation of feedstock and pellets

Forest management and wood chips production Sourcing of forest based materials

### **Pellet production**

**Warmeston OÜ** owns and operates three pellet factories in Estonia: Sauga, Purila and Järvere.

#### Ardor OÜ

Produces premium pellets in its Sõmeru factory in Estonia.

#### Warmeston SIA

Produces premium- and industrial-class pellets in the Brocēni factory in Latvia.

#### **Technological Solutions SIA**

Technological Solutions is responsible for managing the CHP plant providing heat and electricity for the Brocēni pellet factory.

#### Combitrans OÜ

Combitrans is responsible for the logistics and transport of input materials from the supplier to Warmeston's Estonian factories and pellet transportation to the ports. Combitrans is also providing harvesting, chipping and forestation services.

#### Raja KT OÜ / Raja KT SIA

Warmeston's latest acquisition, Raja KT, is active in forest management, wood chip production, and sales to boiler houses in Estonia and Latvia.

#### **Timberstock OÜ**

Timberstock's purpose is managing Warmeston's forest portfolio as well as sourcing forest-based biomass for dryer fuel and pellet production. Timberstock is also supplying wood industry with saw logs and CHP plants with wood chips produced from forest residues.

#### Iriscorp Transport OÜ

The company is active in transporting, buying and selling forest material while also participating in forest management. In Warmeston's operations, Iriscorp is mainly active as the supplier of fuelwood.

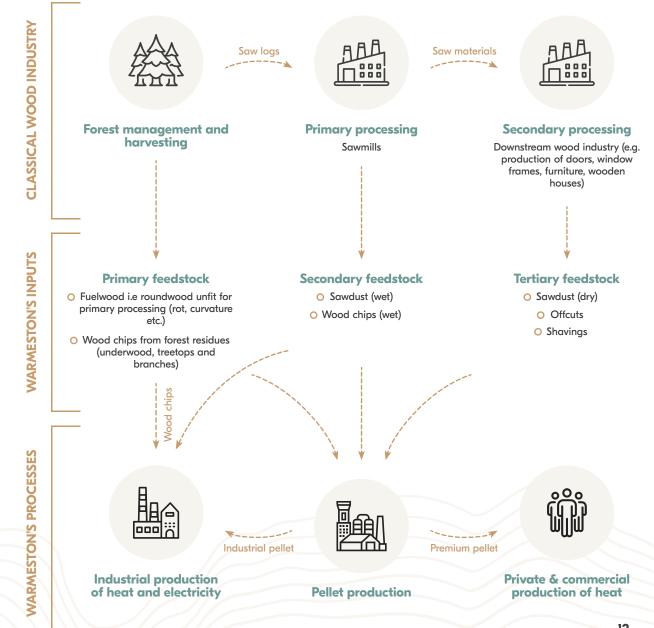
## Warmeston's biomass fuels production

Warmeston produces pellets and wood chips by converting both forest and wood industry residues into energy efficient biofuel. The part of our feedstock that comes directly from the forest (forest residues) consist of low grade and low-value forest-based biomass which is unfit for primary processing due to reasons such as defects, diseases or curvature. The wood industry provides us their residues such as sawdust, wood chips, shavings, and offcuts.

As these feedstock groups do not have any other major application in our supply base, we enable our suppliers to commercialize their residues, thereby contributing to the competitiveness of the local forest and wood industry as well as to job creation in rural areas.

Two different categories of pellets are produced from the feedstock. Premium pellets have a lower ash content and a lighter color and are intended for private and commercial heat production. Industrial pellets are sent to large-scale power plants for electricity production or to combined heat and power (CHP) plants for electricity and heat cogeneration.

The use of wood chips and pellets displaces fossil fuels with renewable energy sources and helps combating climate change.



## Choosing the right biomass fuel

Wood pellets and wood chips are both efficient biomass fuels used to replace fossil fuels in largescale energy production. If sourced sustainably both can replace fossil fuels, but their physical properties and handling requirements differ significantly, making each suitable for specific applications.

FEATURE	WOOD PELLETS	WOOD CHIPS
Form	Densified, cylindrical	Loose, irregular pieces
Moisture content	6-10%	30-60%
Energy density	~4.8-5.0 MWh/ton	~2.0-3.0 MWh/ton depending on moisture content
Storage	Compact, easy to store	Requires large storage areas
Transport	Cost-efficient over long distances	Best for local/regional use
Automation	Highly compatible	Limited



## Practical insights into pellets and chips

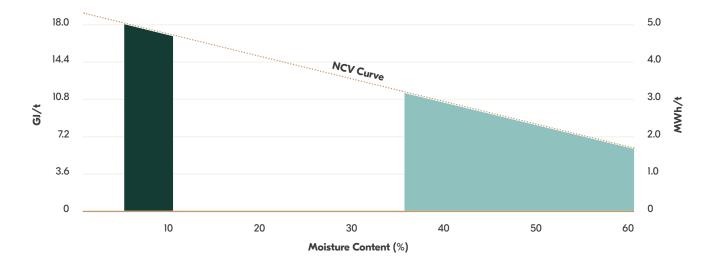
#### Benefits of wood pellets.

Wood pellets offer a highly standardized and energy-dense fuel solution ideal for industrial power plants and CHP facilities supporting longer transportation distances. Pellets require significantly less storage space and enable lower maintenance due to consistent fuel quality and cleaner combustion. Investment in silos and automated feeding systems are required but offer in return longterm operational efficiency.

#### Benefits of wood chips.

Wood chips provide a cost-effective and locally optimized solution for large-scale heat and power generation. Lower processing costs make chips an attractive option where logistics and storage conditions allow. Shorter supply chains allow for dynamic sourcing in response to market conditions. Chips are suitable for open storage but require more area and robust handling equipment. Sensitivity to weather conditions and risk of degradation must be considered during longer storage periods.

#### HEATING VALUE AND MOISTURE OF WOODY BIOMASS FUELS





### **Our pellets**

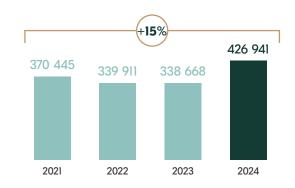
Pellet production has been at the core of Warmeston Group's operations for many years. We produce both industrial and premium-grade pellets that meet the highest sustainability and quality standards. Our pellets are supplied to a wide range of domestic and international customers, supporting renewable energy production in both large-scale facilities and private households.

**Production of industrial pellets** 

Industrial pellets are mainly burned in large-scale power plants for electricity production or combined heat and power (CHP) plants for electricity and heat generation.

Factories: Sauga, Järvere, Purila, Brocēni Clients: Power and CHP plants Quality: II, I2 and EN*plus®* A2 Ash content: < 1.2% Moisture: < 8%

#### WARMESTON'S INDUSTRIAL PELLET OUTPUT, tons, 2021-2024





**Production of premium pellets** 

Premium pellets meet the highest quality requirements and are supplied with a consistently light color. They have a residential or commercial use where pellets are burned in pellet stoves or boilers for heating.

#### Factories: Sõmeru, Järvere, Brocēni

Clients: private consumers and commercial entities producing heat in pellet boilers Quality: ENplus® A1 Ash content: < 0.3-0.7% Moisture: < 8% WARMESTON'S PREMIUM PELLET OUTPUT, tonnes, 2021-2024



### **Our pellet factories**

Warmeston Group operates five pellet production facilities: four of which are located across Estonia and one - our newest acquisition - in the western region of Latvia.

Our largest factory - Sauga - with its 210 thousand metric ton annual production capacity is located in southwestern Estonia in Pärnumaa. Purila factory is located in central Estonia, in Raplamaa, while Järvere and Sõmeru factories are in southern and northern part of the country, respectively.

#### SAUGA FACTORY

Entry into operation: 2010 Maximum production capacity: 210 kT Quality: I2, ENplus<sup>®</sup> A2 **Products:** 6 mm industrial pellets **Employees: 29** Main input categories for production: Primary feedstock (34%) Secondary feedstock (58%) Tertiary feedstock (8%)

#### SÕMERU FACTORY

Entry into operation: 2013 Maximum production capacity: 90 kT Quality: ENplus® A1 Products: 6 mm Premium-class pellets Employees: 12 Main input categories for production: Tertiary feedstock (100%)

#### **BROCĒNI FACTORY**

Entry into operation: 2016

Primary feedstock (80%)

Secondary feedstock (20%)

**Employees: 28** 

Maximum production capacity: 160 kT

Main input categories for production:

Products: 6 mm industrial and Premium-class pellets

Quality: I1, I2, ENplus® A1 and A2

Entry into operation: 2015 Maximum production capacity: 100 kT Quality: I2, ENplus<sup>®</sup> A2 Products: 6 mm industrial pellet **Employees:** 19

**PURILA FACTORY** 

Main input categories for production: Primary feedstock (43%) Secondary feedstock (54%) Tertiary feedstock (3%)

The location advantage of Sauga and Sõmeru factories is their proximity to the port, whereas Järvere factory is close to its raw material. Purila balances both of these aspects.

Purila and Sauga factories produce industrial-class pellets while Sõmeru manufactures exclusively premium pellets. Järvere and Brocēni factories are unique, as they are equipped with a pellet bagging line and also have the the capacity to produce both, industrial and premium pellets.

**JÄRVERE FACTORY** 

Entry into operation: 2014

**Employees:** 19

Primary feedstock (4%)

Tertiary feedstock (21%)

Secondary feedstock (75%)

Maximum production capacity: 115 kT

Main input categories for production:

Quality: II, I2, ENplus® A1 and A2

This provides additional production reliability for long-term offtake contracts and the possibility to supply pellets to our home markets.

Our Latvian pellet factory in Brocēni also includes a cogeneration plant in its complex. This enables efficient on-site energy generation – both electricity and heating - to be used in the factory's manufacturing process.



### **Our chips**

Wood chips in quality classes SM2 and SM3 complement our product portfolio as a versatile biomass fuel. While we have offered wood chips to our domestic customers for some time, 2024 marked an important milestone as we expanded into international markets with this product—broadening our export offering and reinforcing our position in the biomass sector.

SM3 chips are suited for larger industrial heating or CHP installations that can accommodate higher ash and moisture content, such as municipal or district heating networks. Chips may contain tree bark, both dry and non-dry leaves and needles.

**Production of SM3 chips** 



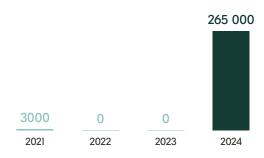
**Production of SM2 chips** 

Producers: Timberstock and Raja KT Clients: Large scale CHPs Quality: SM3 (Baltpool) Ash content: < 5.0% Moisture: 35-60%

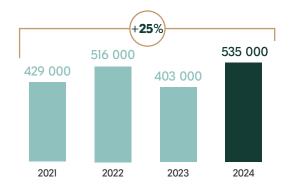
SM2 chips are typically used in medium to large-scale heat and CHP plants, offering a balance between quality and efficiency. Chips may contain dry leaves and dry needles.

Producers: Timberstock and Raja KT Clients: Small and medium size CHPs Quality: SM2 (Baltpool) Ash content: < 3.0% Moisture: 35-55%

#### WARMESTON'S SM3 CHIPS OUTPUT, tons, 2021-2024



#### WARMESTON'S SM2 CHIPS OUTPUT, tonnes, 2021-2024





## The value of locally sourced wood

Raw material for our Estonian pellet factories is primarily (100%) sourced locally, from Estonia and Latvia.

Besides minimizing the raw material's transport demands, Estonian-sourced wood provides a significant contribution to the overall sustainability of Warmeston's pellets.

- About 54% of Estonia's and Latvia's land is covered with forest and the forest area has been expanding steadily since the 1950s.
- Transparency International ranks 180 countries and territories around the world by their perceived levels of public sector corruption by assigning a Corruption Perceptions Index (CPI). The results are given on a scale of 0 (highly corrupt) to 100 (very clean) and as of 2023, Estonia is holding a remarkable 12th rank with its CPI score of 76. This gives high confidence that doing business with Estonian suppliers means that business is done fairly and ethically.

When we manage forests, we do so with long-term goals in mind — growing the kind of forests we want and need for future generations. But even in these carefully cultivated forests, there are always natural by-products, that serve as a valuable local raw material that we can use efficiently and sustainably.

- Estonia's forests are managed sustainably, meaning that the forests and forest land are used in a way that maintains their biodiversity, productivity, regeneration capacity and vitality.
- Nearly 66% of Estonian forests are under thirdparty certification, by FSC (Forest Stewardship Council) PEFC (Programme for the Endorsement of Forest Certification), or both.



## Forest renewal through tree planting



Estonia's forest renewal projects are managed by Warmeston's affiliate Combitrans which uses three unique Risutec machines to carry out the planting. These professional machines allow for an increased agility and efficiency, demonstrating the direct results of our constant quest for more innovative solutions.

#### The main advantages of our specialized machines are:

- Higher success rate
- GPS tracking
- Flexibility

- Documentation of planted trees
- Lower cost per hectare
- Increased efficiency compared to using excavators

#### Forestation (Combitrans)

Equipment: 3 Risutec PM tree planting machines Clients: State and private forest owners Maximum planting capacity: 1 200 000

In 2024, Combitrans planted 181 800 trees helping to regenerate forest.



In addition to Combitrans, Warmeston's affiliate Iriscorp Transport planted 35 000 trees on over 5 hectares.



### **Our development in 2024**

Despite the challenging conditions in the timber sector, the ongoing economic downturn, and high input costs, Warmeston has demonstrated resilience and adaptability while maintaining a strong commitment to sustainability.

In 2024, our development efforts focused on three key areas: improving the operational efficiency of our logistics, implementing energy management projects, and integrating our newly acquired business units.

We built two new PVC storage halls—one at the Sõmeru factory and another at Sauga—with a total storage capacity of 33 000 tons. Additionally, we invested in internal infrastructure at both locations to further enhance operational efficiency.

As part of expanding our renewable energy solutions, we made the investment decision and began constructing a 4 MWh battery bank to support the solar panel system at the Sõmeru factory. A similar project is being prepared for the Sauga site. In Latvia, we completed the installation of a direct line between the pellet plant and the CHP plant at our Brocēni factory and successfully took over the operation of the CHP unit from an external service provider. To integrate our new business units, several operational changes were made. Although the Brocēni pellet factory previously held an ISO 50001 energy management certificate and chain of custody certifications, we decided to transition the site under Warmeston's centrally managed multi-site certificates.

To implement this, we revised and aligned all procedures, conducted additional on-site training, and carried out internal audits. We also launched the production of our premium pellet brand, A-pellet, at the Brocēni factory to serve the Latvian market and initiated joint procurement of spare and wear parts across factories.

We are currently working on integrating our IT platforms to improve access to real-time information and are actively sharing and applying best practices from across our production units. Adding Brocēni to the Warmeston Group has strengthened our position in the Baltic market and brought new synergies across our operations.

Other environmental investments focused on the Sauga factory. We constructed a new wastewater treatment facility, installed an additional noise barrier to reduce sound levels for nearby residents, and renewed the factory's environmental permit.



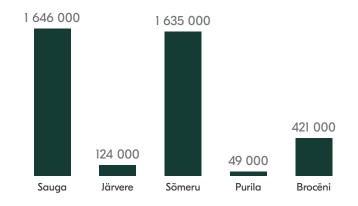
### **Digital innovation**

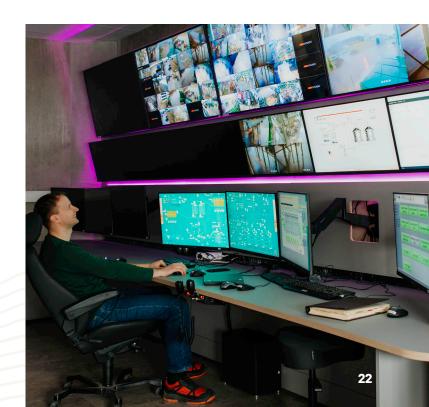
Operational efficiency is a core priority at Warmeston—whether in manufacturing processes, office routines, or logistics. In support of this, digitalization and automation have been key strategic focus areas in recent years.

In 2024, our efforts were concentrated on our newest factory in Brocēni, Latvia. We implemented the existing Toora 2 database system, building on a strong foundation, as the site was already equipped with LoadMon digital measuring gates and had most feedstock data available digitally. Using digital data significantly improves the accuracy of load measurements and enables real-time tracking of all incoming deliveries. This data is now integrated into our centralized database, providing a clear overview of both raw materials and production volumes. Importantly, feedstock data is also shared with our suppliers, enhancing transparency, accuracy, and reliability—values that are central to Warmeston's operations. To further support efficiency, we introduced an online maintenance system at the Brocēni factory. This platform centralizes equipment data and simplifies the tracking and scheduling of maintenance tasks.

In Estonia, we transitioned from our in-house electronic waybill system to a commercial solution, "Eeway," developed by the same provider as the LoadMon system. This platform was already in use at the Brocēni factory, making it a natural choice for alignment across sites.

We also continued rolling out our chosen Enterprise Resource Planning (ERP) system across the group. After successfully completing the transition at Warmeston OÜ, we onboarded Timberstock in 2024 and began preparations with the next business units. The unified ERP system allows for centralized monitoring of operations, improved efficiency, and better management of our supply chain and financial processes. 2024 INVESTMENTS BY FACTORIES, €





Control room in our factory

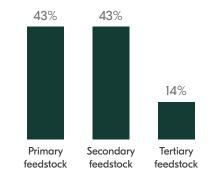
## Our carbon footprint

### Sourcing

## Overview of raw input materials

Our raw material groups can be divided into forest industry residues (fuelwood and fuelwood chips) and residues of the wood industry. The properties of these residues are being homogenized during our pellet production and the increased energy density allows for a convenient use by the end-user in converting the pellets into bioenergy and displacing the use of fossil fuels.

#### FEEDSTOCK PROFILE IN 2024, %



#### WOOD INDUSTRY RESIDUES

Secondary and tertiary feedstock



#### **Shavings**

Residues from the plaining process, consisting of fine wood particles.

#### Industry wood chips

Residues from the wood industry in the form of small pieces of wood with particle size less than 50mm. Can be in both dry (moisture level approx. 10%) and wet (approx. 45%) form.



#### Sawdust

Residues of wood processing (sawing, drilling, grinding, etc.) with a particle size less than 20 mm. Both dry and wet sawdust are used for pellet production. The moisture level of the latter is almost six times higher, which requires proper drying.

#### Offcuts

Dry pieces of wood from the wood industry (e.g., finger jointed wood production).





#### Fuelwood

FOREST INDUSTRY RESIDUES

Primary feedstock

Fuelwood is also known as low-quality roundwood. It is defective roundwood, e.g., with rot, splits or curves, that would not be used outside of energy production.



#### Fuelwood chips

Fuelwood can also be delivered in the form of wood chips.



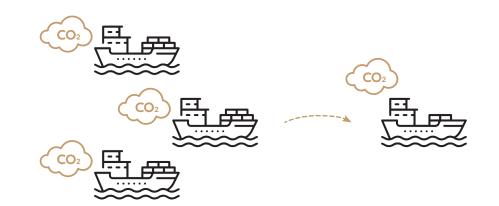
### Decreased volume and increased energy content of pellets

Besides the final pressing stage, pellet production also involves processes such as drying and grinding the feedstock into a small fraction size. This results in a very compact end-product with significantly higher energy content per m3 compared to the raw material. When converted into pellets, the volume of material needed for 1 GJ of energy is reduced by 3-4 times, on average.

Besides simplifying the use of produced biomass for the end user, the significant increase in energy density has great implications on the downstream supply chain. The smaller volume of distributable mass allows for a more efficient transportation and as the logisticsrelated activities such as transport, cargo loading etc. play an important role in the product's carbon footprint. This reduction has direct impact on the transport-related emissions.



Pellets' energy density is on average 3-4 times higher than raw material's



### Reliability of our supply chain

Our supply chain maintains robustness and transparency, adhering to all requisite legal and sustainability criteria. Yearly, this compliance is verified by the external audits of the three most recognized chain of custody certification systems for wood and wood-based products.

As with SBP Standards Version 1.0, we are proud to lead the way as one of the early adopters of Version 2.0. Released in 2023, SBP Standards v2.0 marks a significant advancement, featuring full alignment with EU RED-II requirements, enhanced clarity and robustness, and improved stakeholder engagement.

These efforts reflect our commitment to continuous improvement and responsible sourcing, ensuring that our biomass products meet the highest international standards today—and in the future.



The mark of sponsible forestry



#### Certified since 2014

FSC<sup>®</sup> (Forest Stewardship Council<sup>®</sup>) was founded in 1993 and stands for responsible forest management around the world. The FSC Principles and Criteria provide a foundation for all global forest management standards and the FSC chain of custody certification enables a credible assurance that products which are sold with an FSC claim originate from well-managed forests, controlled sources, or reclaimed materials.

#### **Certified since 2016**

SBP (Sustainable Biomass Program) was established in 2013 and its certification scheme provides assurance that the woody biomass used in industrial, energy production is both legally and sustainably sourced. As a minimum, SBP Standards allow companies in the biomass sector to demonstrate their compliance with regulatory requirements.



#### **Certified since 2018**

PEFC (Programme for the Endorsement of Forest Certification) was founded in 1999 in response to the specific requirements of small- and family forest owners providing independent assessment, endorsement and recognition of national forest certification systems. The PEFC chain of custody certification provides an independently verified assurance that the certified forest-based material contained in a product originates from sustainably managed forests.



Viljo Aros Head of Quality and Sustainability In our Sustainability report 2023, we voiced concerns that the pace of regulatory change in sustainability and traceability was too ambitious. In 2024, this view has been acknowledged by regulators—seen in the extended SBP v2.0 transition period, postponed EUDR deadlines, and proposed change in CSRD implementation.

While the direction remains clear—towards greater transparency, stronger sustainability criteria, and improved stakeholder accountability—the timeline for compliance is becoming more realistic. The adoption of RED III has further raised the bar by setting more ambitious renewable energy targets.

Warmeston remains fully committed to early adaptation, and we continue to lead by example ensuring our operations are aligned with evolving expectations and our supply chain remains a trusted link in the renewable energy transition."

# Our high expectations and thorough vetting process for suppliers

We have established robust processes for supplier selection and maintain strict requirements to prevent any non-compliant raw material from entering our value chain. All suppliers are fully informed of our expectations, have signed our Supplier Code of Conduct, and have successfully passed our vetting process in line with FSC, PEFC, and SBP standards. As a result, we can state with confidence that all biomass we source and supply is legal, sustainable, and aligned with our high standards of responsible business conduct.

Our feedstock sourcing policies ensure that 100% of input material is eligible for use in our SBP-certified product groups, with over 91% classified as SBP-Compliant biomass. The remaining share is primarily directed to local markets and private use, where certification requirements are less stringent. All our suppliers either hold a recognised chain of custody certificate or have undergone our internal supplier training and audit process to ensure their processes exclude wood from controversial origin.

While their volumes are minor, these collaborations allow them to turn wood residues into additional

income—supporting local businesses and contributing to a more inclusive, circular bioeconomy.

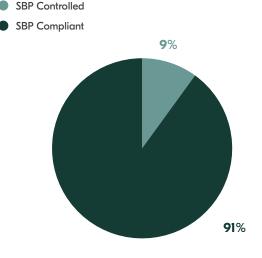
Before acceptance, all feedstock deliveries are controlled at the factory gate. The control procedure consists of 3 main stages with the purpose to verify whether:

- the supplier is in the list of approved suppliers;
- the delivery documents are consistent with the delivered material;
- the delivered material originates from a certified chain of custody or meets the required sustainability criteria to enter our supply chain.

If any of the criteria is not met, the delivery is not accepted.

Our Code of Conduct is based on the 10 principles of UN Global Compact, covering the topics of human and labor rights, environment and anticorruption.

#### SHARE OF SBP CERTIFIED FEEDSTOCK, %, 2024



## Carbon footprint of raw material

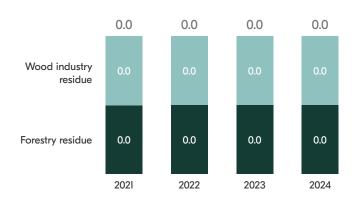
Carbon footprint analysis of the Warmeston's pellet manufacturing starts with the feedstock. The resulting emissions have been calculated by following the RED-II which categorizes the raw material used by Warmeston into residues originating from the forestry and wood industry. According to the directive's default emission values, there are no emissions associated with the sourcing of residual wood.

Due to the fact that 100% of Warmeston's raw material is comprised of residue, the carbon footprint of this first stage is zero.

**"RESIDUE"** means a "substance that is not the end product(s) that a production process directly seeks to produce; it is not a primary aim of the production process, and the process has not been deliberately modified to produce it" \*

\* Directive (EU) 2018/2001: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32018L2001

#### WARMESTON'S PELLET GHG EMISSIONS FROM RAW MATERIAL CULTIVATION, gCO<sub>2</sub>e/MJ, 2021-2024



#### THE SHARE OF THIS STAGE'S GHG EMISSIONS OF THE TOTAL CARBON FOOTPRINT PER MJ



## Our carbon footprint

### Processing

## Our pellet production process

Our production process can be roughly divided into four stages — chipping, drying, grinding and pressing.

Firstly, fuelwood is chipped with a mobile chipper either in the factory or in the forest, prior the delivery. After this, all wood chips are fine chipped with a stationary chipper to give the feedstock a suitable fraction size for further processing. The used inputs are diesel fuel in the mobile chipper and/or renewable electricity in the stationary fine chipper.





#### Debarking of roundwood

#### Electricity

At the Brocēni site, roundwood is debarked using a stationary, electrically powered debarker. This process removes bark from logs prior to chipping, improving feedstock quality and reducing ash content in the final product. The use of a stationary system ensures consistent performance, energy efficiency, and integration into the on-site processing flow.

#### Chipping of roundwood

#### **Electricity/Diesel fuel**

Diesel powered mobile chippers or stationary chippers powered by electricity are used to processes fuelwood to wood chips with a fraction size of up to 50 mm. While stationary chippers are used on site (Brocēni) mobile chippers can be used either at the harvesting site or at the factories.



#### Fine chipper

#### Electricity

All different input groups besides sawdust are processed in stationary fine chippers to achieve a particle size of less than 20 mm. This results in a fine homogenous biomass ready for thermal drying.



#### **Thermal drying**

Biomass

All feedstock with a moisture level above 15% (forest and industry wood chips, wet sawdust) is dried either in a drum dryers or in the case of Brocēni with a belt dryer to achieve the moisture level of ca. 10%.

#### Grinding

Electricity

After drying, the feedstock enters a hammer mill for grinding which further reduces particle size.



#### Pressing

#### Electricity

Having achieved the desired particle size, the biomass is ready to be compressed into pellets.



#### Cooling

#### Electricity

As the pellets are very hot from the compression process, they need to be cooled. This is done in counter flow air coolers where the cooling medium is the outdoor air. Pellet production process creates two types of residues.

- Ash is a residue of burning the biomass in the dryers. In 2024, all factories combined generated over 1917 metric tonnes of ash, 100% of which was recycled into a lime fertiliser which helps to fight soil acidification and provides plants with micronutrients. The ash management has been outsourced to a licensed external company.
- Flue gas emissions from the dryers are proportional to the volume of biomass used in the dryers. We report our emissions quarterly according to our environmental permits and maintain our furnaces and emission control equipment on a regular basis.

## Carbon footprint of Warmeston's pellet production

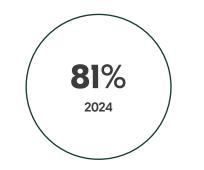
In contrast to the emissions associated with raw material (which were derived from the RED-II default values), the carbon footprint calculation of the pellet production accounts for actual production activities and used resources.

The carbon footprint assessment of the production phase includes chipping and pellet production, the latter of which involves drying, grinding, pelletizing and few other inputs/activities (e.g., transportation within the production area, used water and starch).

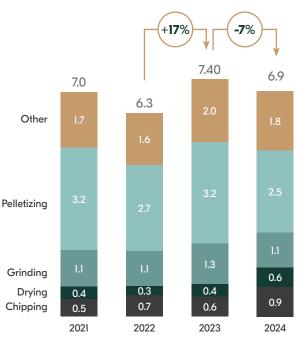
The most significant contribution to this stage's emissions come from pelletizing, which comprises approx. half of the total production footprint.

Compared to 2023, the emissions from pellet production in 2024 have decreased roughly by 6%. Although our emissions intensity slightly improved, our absolute emissions increased during the reporting period. This was primarily due to changes in production dynamics across our facilities, including the addition of a new site and feedstock availability constraints that limited our ability to operate at optimal efficiency levels. As a result, we were not able to fully balance energy inputs with output across the portfolio. We anticipate improvements as supply conditions stabilize and production processes are further optimized.

#### THE SHARE OF THIS STAGE'S GHG EMISSIONS OF THE TOTAL CARBON FOOTPRINT PER MJ



#### WARMESTON'S PELLET GHG EMISSIONS FROM THE PRODUCTION STAGE, gCO<sub>2</sub>e/ MJ, 2021-2024



\* Because of data availability constraints, the annual carbon footprint assessment accounts for the grid electricity's emission intensity from the year preceding the assessment year.



### Our carbon footprint

Transport

### Raw material journey from our suppliers to our factories

Our pellet factories rely solely on the Estonian and Latvian forest and wood industry to supply our feedstock. Our suppliers include forest owners and management companies, sawmills, plywood factories, plaining mills, furniture producers, log-cabin manufacturers etc. They come in various shapes and sizes but share the same values in terms of sustainable forest management. The ability to sell the production residues is particularly important for smaller companies.

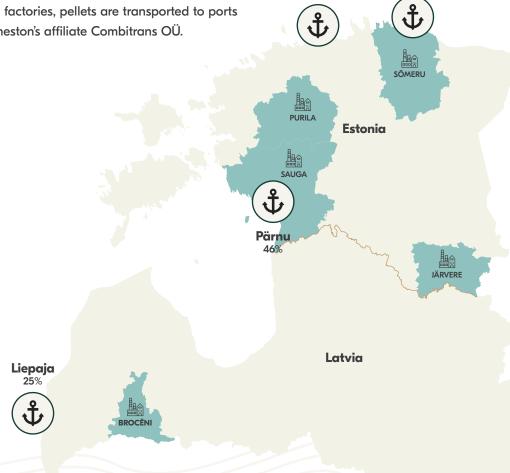
We pay great attention to optimizing our supplier network to keep the raw material chain as short as possible to lower the cost to the environment and increase the flexibility and efficiency of the factories' operation.

#### RAW MATERIAL GROUPS' JOURNEY TO THE FACTORIES. WEIGHTED AVERAGE DISTANCE, 2024



### Finished product's delivery to ports

Once the pellets are ready for storage, they are transported from the factories to one of the four Estonian and one Latvian ports Warmeston uses: Pärnu, Muuga, Sillamäe, Kunda or Liepaja. From our Estonian factories, pellets are transported to ports by Warmeston's affiliate Combitrans OÜ.



Kunda

10%

Muuga 19%

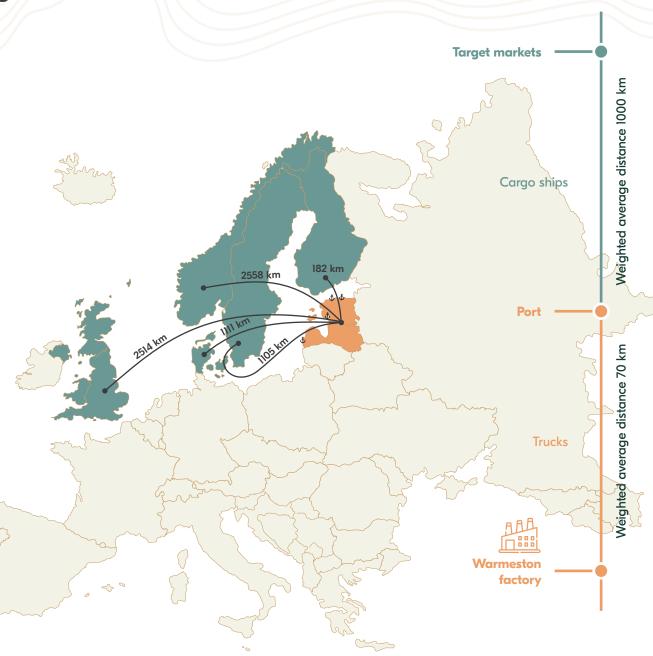


### Pellets' journey to the clients

Once the pellets have been transported to the ports, they are delivered to our customers by coasters (3-10kt DWT), handysize (15-35kt DWT) or by handymax (35-50kt DWT) vessels which run on marine fuel oil.

Our key clients are large-scale CHP plants that produce with high efficiency electricity and heat. Similarly to 2023, the key market in 2024 was Denmark which is the second-largest European pellet importer after the UK and the largest on percapita basis.<sup>1</sup>

This is due to a strong movement away from fossil fuels and towards renewable energy sources, driven by governmental regulation and subsidies incentivizing further bioenergy uptake.<sup>2</sup>



1 — Bioenergy Europe Statistical Report 2024

2 — Danish Energy Agency. Facts about bioenergy in Denmark

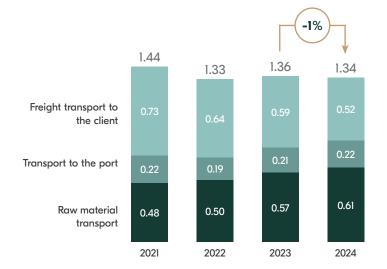
# Carbon footprint of Warmeston's transportation

As for the previous stage, the emissions related to transportation were calculated by taking Warmeston-specific activities and used resources into account. The carbon footprint of the transportation includes the transport of raw materials to the factories and the manufactured pellets from our factories to the ports and then to the end clients.

Compared to 2023, both the raw material and clients were slightly closer in 2024. This resulted in a 1% decrease in the overall transportation GHG emissions.

In 2024, the carbon footprint of the raw material and pellet transport comprises 15% of the total carbon emissions of Warmeston's pellets.

#### WARMESTON'S PELLET GHG EMISSIONS FROM THE TRANSPORTATION STAGE, gCO<sub>2</sub>e/MJ, 2021-2024



#### THE SHARE OF THIS STAGE'S GHG EMISSIONS OF THE TOTAL CARBON FOOTPRINT PER MJ



# Our carbon footprint

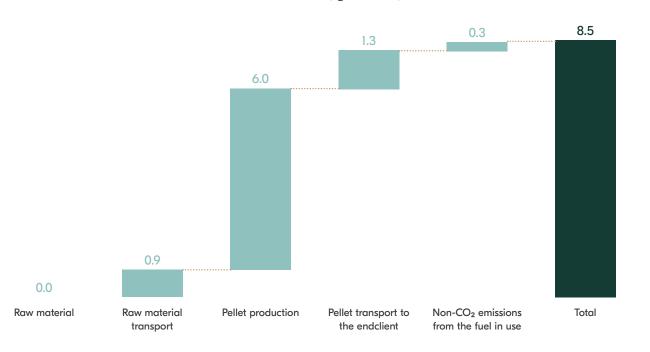
Summary

# Snapshot of our pellet carbon footprint

In 2024, the carbon footprint of Warmeston's pellets amounted to 8.55 gCO2e/MJ which represents pellets' carbon intensity in grams of carbon dioxide equivalent per megajoule of energy. The footprint is comprised of four general stages: raw material, production, transport and non-CO2 emissions from the fuel in use. \*

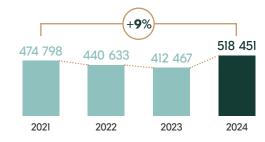
The vast majority of the emissions originate from energyintensive pellet production which is responsible for 80% of the total footprint. Pellets' GHG emissions per MJ decreased by 6% from the previous year. While our absolute emissions increased due to our new plant in Brocēni, this change is attributable to feedstock availability constraints that limited our ability to operate at optimal efficiency levels. As a result, we were not able to fully balance energy inputs with output across the portfolio.

\* This category represents the non-CO<sub>2</sub> GHG emissions (CH<sub>4</sub> and N<sub>2</sub>O) which are emitted when burning the pellets

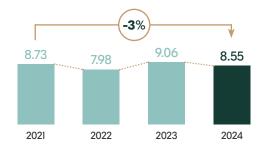


#### WARMESTON PELLET'S CARBON FOOTPRINT OVERVIEW BY PRODUCTION STAGES, gCO<sub>2</sub>e/MJ, 2024

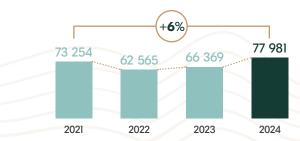
WARMESTON PELLET OUTPUT, tons, 2021-2024



WARMESTON PELLET'S GHG EMISSIONS, gCO<sub>2</sub>e/MJ, 2021-2024



WARMESTON PELLET'S ABSOLUTE GHG EMISSIONS, tCO2e, 2021-2024



Warmeston's pellets can, and often do substitute fossil fuels and therefore play an important role in avoiding the enormous emissions associated with their use. By replacing coal, our 2024 pellet output had the potential to avoid:



More than 345 000 t of coal being burned

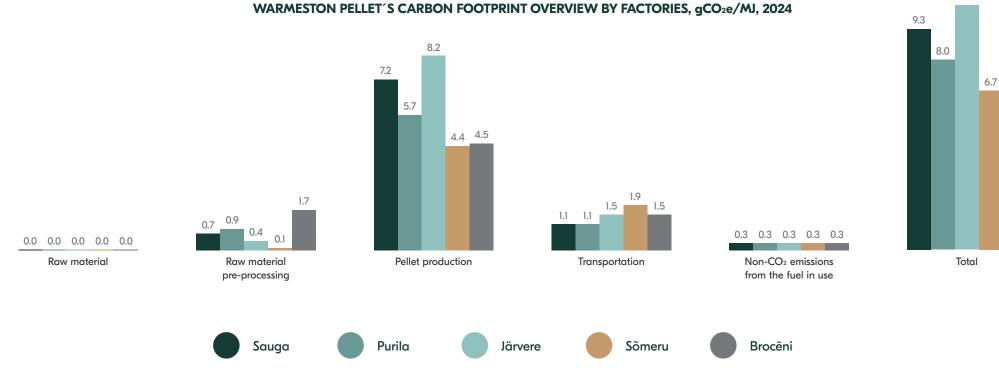
More than 1 million t of CO<sub>2</sub>e emissions being emitted

### **Carbon footprint sources**

Looking at the factory-specific results, we see that the premium pellet factory in Sõmeru has the smallest emission intensity per MJ: 6.7 gCO2e. The main cause for this can be found in the used feedstock – as the raw material is already dry and only a small fraction of it needs to be chipped, it requires less processing, i.e, less resources, and results in reduced production-associated emissions compared to the other factories. Additionally, our newest production in Broceni has a lower production footprint due to the use of a local CHP plant.

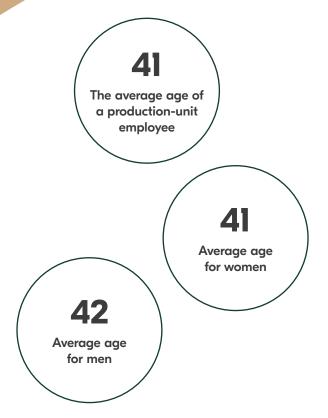
10.3

8.0





## Our employees, communities and society



# Overview of Warmeston's people

By the end of 2024, Warmeston, together with its affiliate companies, employed 328 people, often in the rural areas of our supply areas. The biggest employers are Warmeston and Combitrans, each employing 30% of the Group's employees. At the end of 2024, our factories employed 107 production unit employees who are working in the five factories and 17 people working in our offices in Tartu and Tallinn.

In the further analysis of our people, we will focus on the employees working in the five pellet factories. This serves as a way to highlight the people in charge of handling our production processes, the core of the given report and Warmeston's business.

The average employee working in our factories is 41 years old and is well experienced, as the average employment length of the current employees is 5 years and several having more than 10 years of experience with our plants. 89 men are working in the production units as opposed to 6 women. Therefore, women constitute just 7% of the factory employees. The average woman is 1 year younger than the average man, being 41 and 42 years old, respectively.

#### WARMESTON GROUP'S **EMPLOYEES, 2024**



#### THE PRODUCTION Contribution to our people and UNIT EMPLOYEES **DISTRIBUTION, 2024** communities

At our company, we are dedicated to making a positive contribution to our people and communities.

In 2024 Warmeston continued to participate in a Figure salary survey to promote fair and equal pay for our employees, regardless of their location or background. By conducting a thorough evaluation of our employees' pay levels and comparing them with market standards, we were able to make adjustments where necessary. Consequently, we ensure our employees, whether in Harjumaa or Võrumaa, receive fair and competitive compensation for the work they do. This approach fosters a workplace culture rooted in respect and fairness.

In addition to fair compensation, we pay great attention to our employees' health and well-being. One important aspect is our employees' health insurance, which enhances the availability of quality health examinations and medical assistance when necessary. Promoting physical activities among our employees is done via funding trainings and participation in competitions through the Stebby platform.

Safety is our first priority - we pay great attention to workplace safety and are strictly in line with related regulations. In 2024 we undertook a thorough revision of our health and safety risk assessment and created position specific safety quidelines. We also conducted trainings on the revised guidelines to increase the employees' awareness of occupational safety.

We also invested in the development of our management team through a 14-week external training program focused on practical application of modern modern leadership and management tools. The training significantly strengthened leadership capabilities, as reflected in higher management performance scores and increased employee satisfaction.



## **UNIT EMPLOYEES, 2024** Women 7% Men

### GENDER DISTRIBUTION OF THE PRODUCTION

42

### **Contribution to society**

Warmeston and its affiliates place great importance on giving back to the local communities and society as a whole.

Our charitable activities reflect the values and priorities of our team—we care about health, physical activity, and creating opportunities for growth. We believe in the positive influence of professional athletes and the importance of youth having the chance to challenge and develop their skills. Our primary support is directed toward Estonian sports, and over the years we have supported local teams and individual athletes across various disciplines, including basketball, football, volleyball, athletics, and horse riding. We also contribute to forestry-themed competitions to promote awareness and interest in the forestry profession

In 2024, we continued our long-standing support of local communities and strengthened our cooperation with local fire departments. We also maintained our ongoing support to animal shelters by donating pellets and are actively exploring new cooperation opportunities with municipalities and their public institutions. On a broader level, Warmeston supports Ukrainian soldiers both on the front lines and in the rear, enhancing their well-being and resistance. We have made financial contributions through trusted NGOs to help ensure that assistance reaches those in need. While our contribution is modest on a large scale, we believe it is important to show our support.

We remain committed to making a positive impact and look forward to continuing our engagement with local communities in meaningful ways.



Warmeston supports Ukrainian soldiers both on the front lines and in the rear, enhancing their well-being and resilience.



## Annex Carbon footprint assessment methodology

The main purpose of Warmeston's carbon footprint assessment is to assess the company's carbon footprint from its pellet production in terms of global warming potential per 100 years (GWP 100).

#### Methodology and standards

- Warmeston's carbon footprint analysis was conducted by following the principles of Life Cycle Assessment (LCA), adhering to two generally accepted international ISO standards -ISO 14040: 2006 and ISO 14044: 2006.
- Emissions per unit of input were calculated in SimaPro program, using IPCC 2021 methodology and the emission factors from BioGrace-II and Ecolnvent Database v3.8.
- The analysis is in accordance with the directive (EU) 2018/2001 (recast) on the promotion of the use of energy from renewable sources.

Impact category Global warming potential (GWP 100, kg CO<sub>2</sub> equivalent).

System boundaries Raw materials to client (cradle-to-gate) approach.

#### Structure of the analysis

The analysis is based on an MS Excel dynamic model specially developed for Warmeston.

#### **Functional unit**

Production of 1 metric ton of pellets; 1 MJ of energy.

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