



SIA KRONUS
Greenhouse Gas Emissions Report
2021 - 2024

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Reporting period: 2021 - 2024

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Introduction

This study done by Gunita Daine in 2024 according to the requirements of the standard EN ISO 14064-1:2019 Greenhouse gases - Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals.

General description of the organization goals and inventory objectives

Description of organization

SIA KRONUS is an emerging global leader in the manufacture, sale and development of wooden packaging related services, DIY garden products, timber and steel products. Our ultimate goal is to create products and services, which are valuable for our customers all over the world.

We produce wooden packaging of all types for every industry. Manufacture, delivery, quality assurance and guaranteed carrying out of orders within the required time frame.

SIA KRONUS is the largest manufacturer of wooden pallet collars in the world – we produce more than 9 million pallet collars annually. This solution solves most of the tasks associated with cargo storage and transportation.

Throughout the whole production process, from the purchase of raw materials to the delivery of the finished goods to end-users, company ensures the consistent quality of our products.

SIA KRONUS manufacturing processes comply with international standards - ISO 9001:2015, ISO 14001:2015, ISO 50001:2018, ISO 28001:2007. As well as company has implemented and maintains the Chain of Custody management system in accordance with the requirements of the standards PEFC ST 2002:2020 and FSC-STD-40-004 V3-1. The company's policy is to use PEFC (PEFC/12-31-010) and FSC® (FSC-153405) certified raw materials as much as possible. For the development and sale of certified and controlled products, the company will use only such properties, the origin of which is clearly known and proven.

The obtained certificates confirm the compliance of the materials, the finished product as well as the production itself with international standards. This is an important point to export the product worldwide and create packaging solutions that suit everyone. It is important to us that we can provide the highest quality packaging, and this is confirmed by the certificates we have obtained.

Responsible persons

SIA Kronus is responsible for the provision of the GHG statement and the supporting information. Report is prepared by Gunita Daine, Chief Quality Officer.

Purpose of the report and intended users

Target audiences of the study are company's management and employees, customers, and any parties which have an interest in company's GHG emissions. The aim of the study is to provide GHG emission information for both business-to-consumer and business-to-business communication.

Aim of this report is monitoring and reporting the greenhouse gas emissions and activities to reduce these emissions. 2021 is considered to be the base year – this is the period SIA KRONUS has started its accounting of GHG emissions. For the future obtained base year data of 2021 will be used for further monitoring of GHG emissions

Dissemination

The report is available for company's internal use as well as for third party on request.

Reporting period

Data for calculation were collected by SIA Kronus and cover 12 months period of year 2021, 2022, 2023 and 2024. 2021 is the first time SIA Kronus carries out its emission inventory.

Data and information included in the report.

This Report includes Category 1 direct emissions and Category 2 indirect emissions from electricity, reported in accordance with the requirements of the EN ISO 14064-1:2019 Greenhouse gases - Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals.

The Scope 1 and Scope 2 emissions are included in this report according to the GHG protocol A Corporate Accounting and Reporting Standard.

Other categories are not calculated due to the lack of accounting.

The data collected are based on analyses of invoices. The activity data is multiplied by the appropriate emission factor to calculate GHG emissions for the organization.

The electricity emission factors are based on Tier 1 emission factors assuming an averaged or typical technology and country.

Statement about verification

The greenhouse gas emissions reported by SIA Kronus for the period are stated below. SIA Kronus is responsible for the data collection and fair presentation of the GHG statement.

Organizational boundaries

SIA Kronus head office and manufacturing site are placed at Daugulu iela 19, Ulbroka, Stopinu pag., Ropazu nov., LV-2130, Latvia. The SIA Kronus accounts all GHG emissions generated from facilities over which the company has operational control.

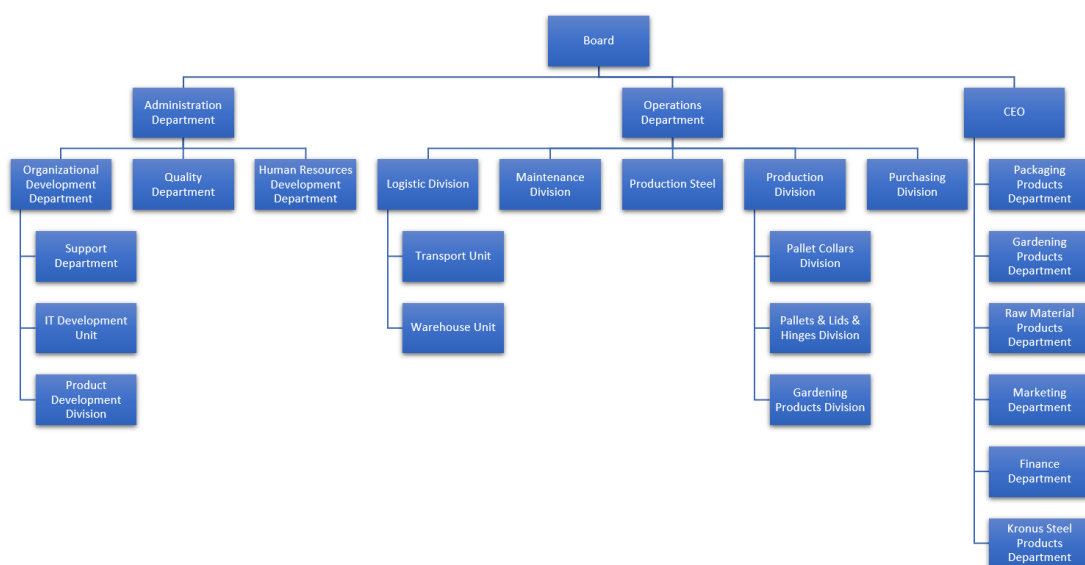


Figure. Organization chart.

Reporting boundaries

This Report includes Category 1 direct emissions and Category 2 indirect emissions, reported in accordance with the requirements of the EN ISO 14064-1:2019 Greenhouse gases - Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals.

The Scope 1 and Scope 2 emissions are included in this report according to the GHG protocol A Corporate Accounting and Reporting Standard.

Category	Type	Source	Emissions factors
Category 1 Direct emissions	Diesel	Company cars	CO ₂ , CH ₄ , N ₂ O
	Gasoline	Company cars	CO ₂ , CH ₄ , N ₂ O
	Wood residues	Boiler house	CO ₂ , CH ₄ , N ₂ O
	Pellets	Boiler house	CO ₂ , CH ₄ , N ₂ O
	R- 410A	Conditioners	CH ₂ F ₂ , CHF ₂ CF ₃
	R -32	Conditioners	CH ₂ F ₂
Category 2 Indirect emissions	Electricity	All	CO ₂ , CH ₄ , N ₂ O
Category 3 Indirect emissions from transportation	ND		
Category 4 Indirect emissions from products used by an organization	ND		
Category 5 Indirect emissions associated with the use of products from the organization	ND		
Category 6 Indirect emissions from other sources	ND		

* The company does not have any sink of CO₂.

** Other categories are not calculated for the first year due to the lack of accounting.

Quantified GHG inventory of emissions and removals 2021

Summary of	KRONUS	For scope 1 and 2 emissions	2021
Total emissions	Scope 1 total emissions	Scope 2 total emissions	Scope 3 total emissions
2,275.3 tCO ₂ e/year	538.8 tCO ₂ e/year	1,736.5 tCO ₂ e/year	- tCO ₂ e/year

Your Total Scope 1 and 2 Emissions Are Equivalent To:



325,044
the annual CO₂ absorption capacity of approximately



18,960,872
kilometers driven (gasoline vehicles)



473
trips around the Earth

Scope 1 Emissions (Direct Emissions)	538.8	tCO ₂ e/year	%	% of Actual Data
Stationary emissions	53.2	tCO ₂ e/year	9.9%	0%
Non-stationary emissions	485.6	tCO ₂ e/year	90.1%	100%
Diffuse emissions	0.0	tCO ₂ e/year	0.0%	50%
Biogenic emissions	0.0	tCO ₂ e/year	0.0%	0%

DATA ANALYSIS

Total % of ACTUAL data:
100%

Total % of ESTIMATED data:
0%

Scope 2 emissions (indirect emissions)	1,736.5	tCO ₂ e/year	%	% of Actual Data
Electricity	1,736.5	tCO ₂ e/year	100.0%	100%
Heating/cooling energy	0.0	tCO ₂ e/year	0.00%	0%
Are AER certificates/PPAs available?	PPA or guarantee of origin is available			

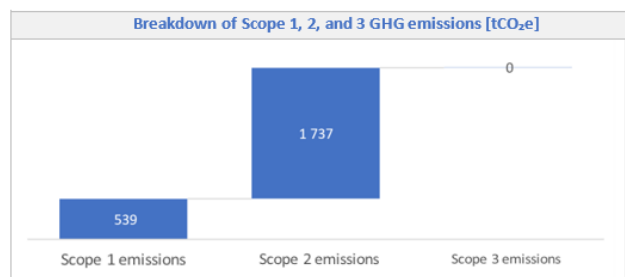
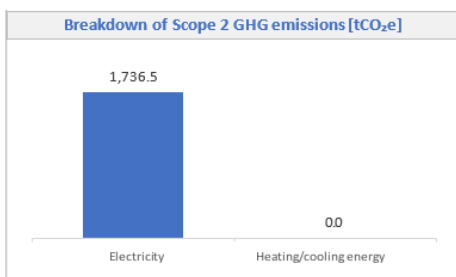
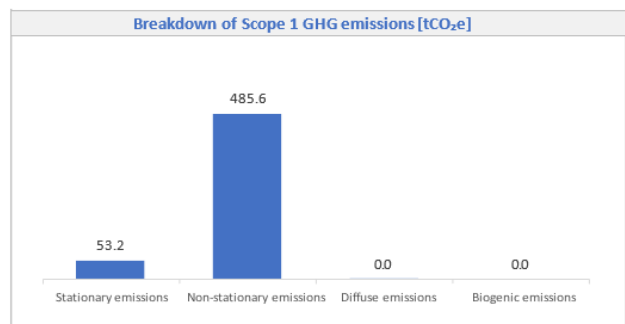
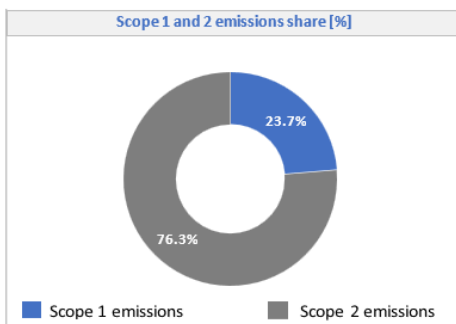
Scope 3 emissions (indirect emissions)

Scope 3 emissions	0.0	tCO ₂ e/year	Data provided directly by the company
Covered categories	0		

Emissions not included in scope 1, 2 emissions:

Emissions from biomass (CO₂ only) 1,409.3 tCO₂/year

CO₂ emissions from biomass combustion are outside the scope of emissions (1 and 2), CH₄ and N₂O are included in scope 1 emissions (stationary emissions).



Quantified GHG inventory of emissions and removals 2022

Summary of	KRONUS	For scope 1 and 2 emissions	2022
Total emissions	Scope 1 total emissions	Scope 2 total emissions	Scope 3 total emissions
2,901.5 tCO ₂ e/year	512.4 tCO ₂ e/year	2,389.1 tCO ₂ e/year	- tCO ₂ e/year

Your Total Scope 1 and 2 Emissions Are Equivalent To:	 414,504 the annual CO ₂ absorption capacity of approximately	 24,179,403 kilometers driven (gasoline vehicles)	 603 trips around the Earth
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Scope 1 Emissions (Direct Emissions)	512.4	tCO ₂ e/year	%	% of Actual Data
Stationary emissions	53.2	tCO ₂ e/year	10.4%	0%
Non-stationary emissions	459.2	tCO ₂ e/year	89.6%	100%
Diffuse emissions	0.0	tCO ₂ e/year	0.0%	50%
Biogenic emissions	0.0	tCO ₂ e/year	0.0%	0%

Scope 2 emissions (indirect emissions)	2,389.1	tCO ₂ e/year	%	% of Actual Data
Electricity	2,389.1	tCO ₂ e/year	100.0%	100%
Heating/cooling energy	0.0	tCO ₂ e/year	0.00%	0%

Are AER certificates/PPAs available? PPA or guarantee of origin is available

DATA ANALYSIS

Total % of ACTUAL data:
100%

Total % of ESTIMATED data:
0%

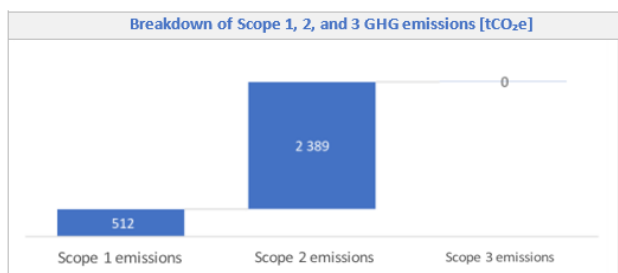
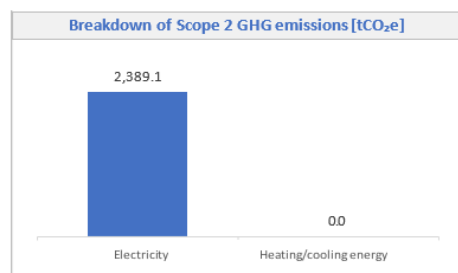
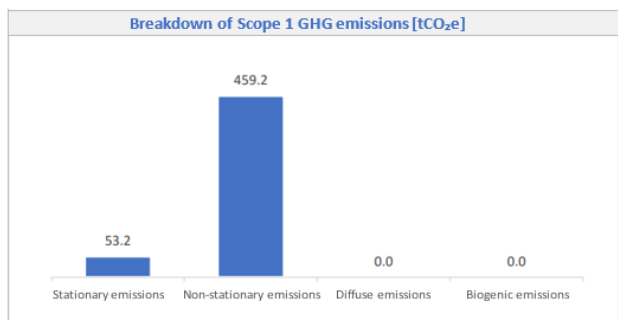
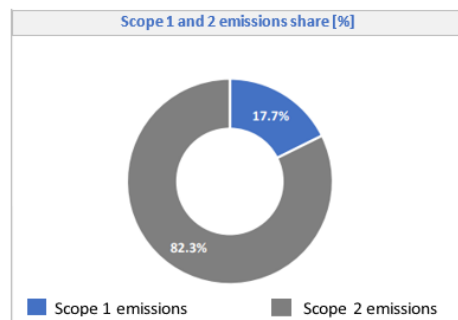
Scope 3 emissions (indirect emissions)

Scope 3 emissions	0.0	tCO ₂ e/year	Data provided directly by the company
Covered categories	0		

Emissions not included in scope 1, 2 emissions:

Emissions from biomass (CO₂ only) 1,409.3 tCO₂/year

CO₂ emissions from biomass combustion are outside the scope of emissions (1 and 2), CH₄ and N₂O are included in scope 1 emissions (stationary emissions).



Quantified GHG inventory of emissions and removals 2023

Summary of	KRONUS	For scope 1 and 2 emissions	2023
Total emissions	Scope 1 total emissions	Scope 2 total emissions	Scope 3 total emissions
3,469.3 tCO ₂ e/year	573.0 tCO ₂ e/year	2,896.2 tCO ₂ e/year	- tCO ₂ e/year

Your Total Scope 1 and 2 Emissions Are Equivalent To:



495,611
the annual CO₂ absorption capacity of approximately



28,910,643
kilometers driven (gasoline vehicles)



721
trips around the Earth

Scope 1 Emissions (Direct Emissions)	573.0	tCO ₂ e/year	%	% of Actual Data
Stationary emissions	122.5	tCO ₂ e/year	21.4%	0%
Non-stationary emissions	450.5	tCO ₂ e/year	78.6%	100%
Diffuse emissions	0.0	tCO ₂ e/year	0.0%	50%
Biogenic emissions	0.0	tCO ₂ e/year	0.0%	0%

DATA ANALYSIS

Total % of ACTUAL data:
100%

Total % of ESTIMATED data:
0%

Scope 2 emissions (indirect emissions)	2,896.2	tCO ₂ e/year	%	% of Actual Data
Electricity	2,896.2	tCO ₂ e/year	100.0%	100%
Heating/cooling energy	0.0	tCO ₂ e/year	0.00%	0%

Are AER certificates/PPAs available?

PPA or guarantee of origin is available

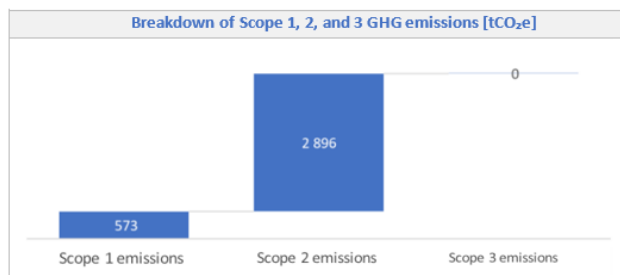
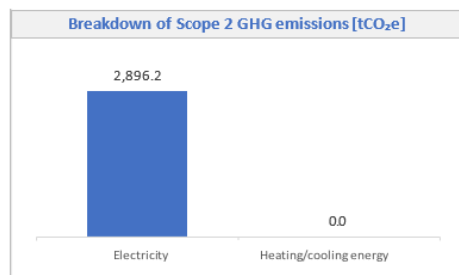
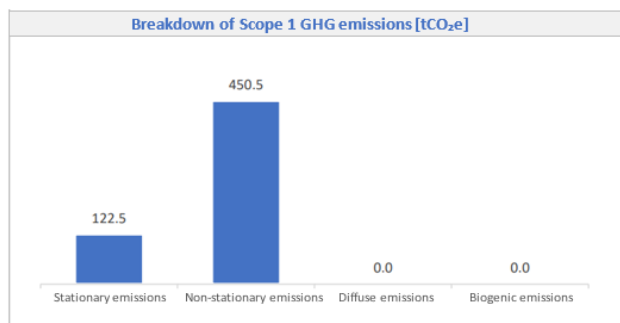
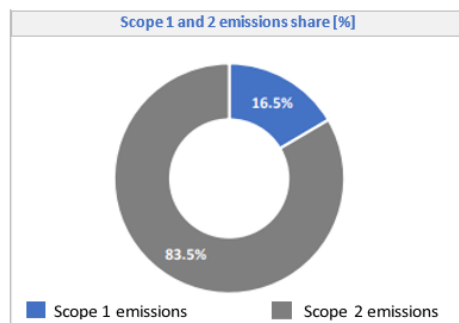
Scope 3 emissions (indirect emissions)

Scope 3 emissions	0.0	tCO ₂ e/year	Data provided directly by the company
Covered categories	0		

Emissions not included in scope 1, 2 emissions:

Emissions from biomass (CO₂ only) 3,260.7 tCO₂/year

CO₂ emissions from biomass combustion are outside the scope of emissions (1 and 2), CH₄ and N₂O are included in scope 1 emissions (stationary emissions).



Quantified GHG inventory of emissions and removals 2024

Summary of	KRONUS	For scope 1 and 2 emissions	2024
Total emissions	Scope 1 total emissions	Scope 2 total emissions	Scope 3 total emissions
3,035.3 tCO ₂ e/year	478.1 tCO ₂ e/year	2,557.1 tCO ₂ e/year	- tCO ₂ e/year

Your Total Scope 1 and 2 Emissions Are Equivalent To:	 433,610 the annual CO ₂ absorption capacity of approximately	 25,293,942 kilometers driven (gasoline vehicles)	 631 trips around the Earth
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Scope 1 Emissions (Direct Emissions)	478.1	tCO ₂ e/year	%	% of Actual Data
Stationary emissions	91.0	tCO ₂ e/year	19.0%	0%
Non-stationary emissions	387.1	tCO ₂ e/year	81.0%	100%
Diffuse emissions	0.0	tCO ₂ e/year	0.0%	50%
Biogenic emissions	0.0	tCO ₂ e/year	0.0%	0%

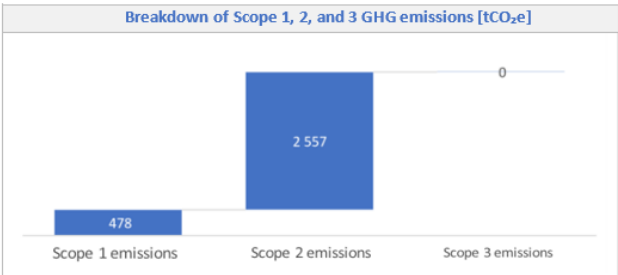
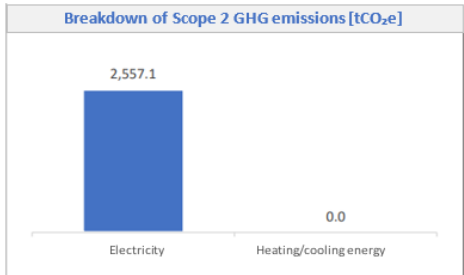
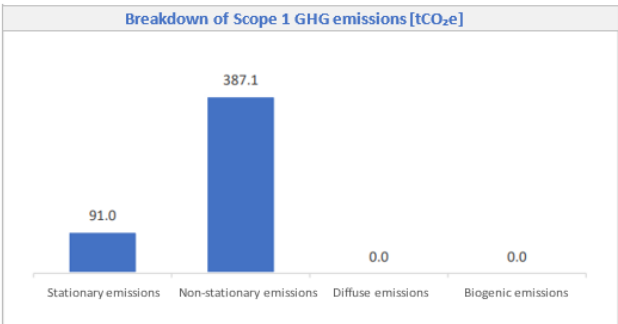
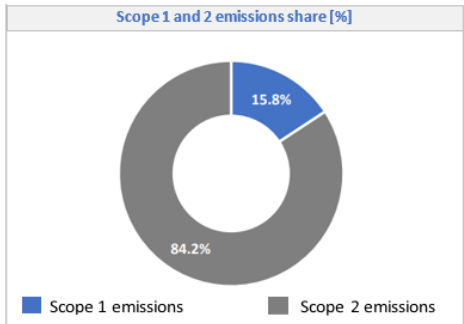
Scope 2 emissions (indirect emissions)	2,557.1	tCO ₂ e/year	%	% of Actual Data
Electricity	2,557.1	tCO ₂ e/year	100.0%	100%
Heating/cooling energy	0.0	tCO ₂ e/year	0.00%	0%
Are AER certificates/PPAs available?	PPA or guarantee of origin is available			

DATA ANALYSIS
Total % of ACTUAL data: 100%
Total % of ESTIMATED data: 0%

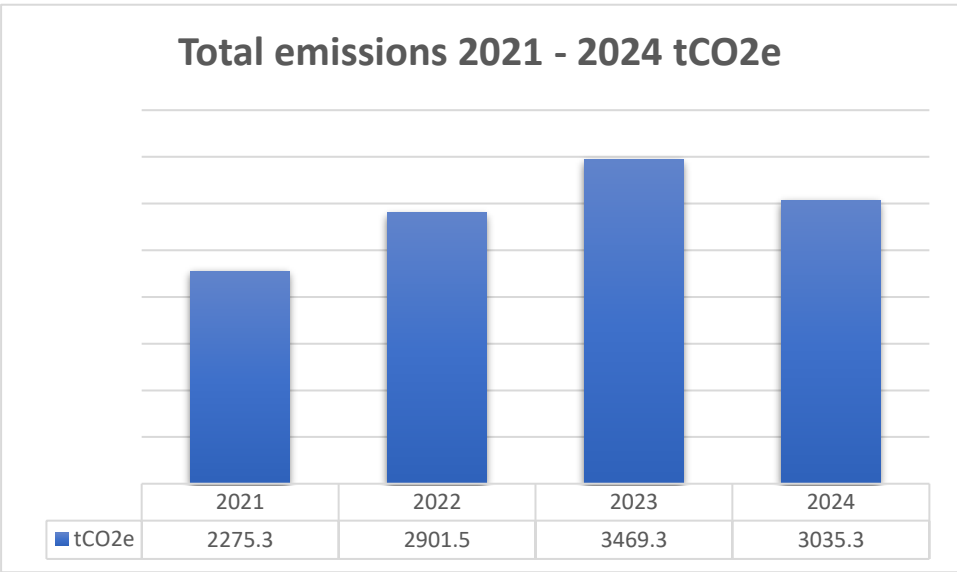
Scope 3 emissions (indirect emissions)	
Scope 3 emissions	0.0 tCO ₂ e/year
Covered categories	0
Data provided directly by the company	

Emissions not included in scope 1, 2 emissions:

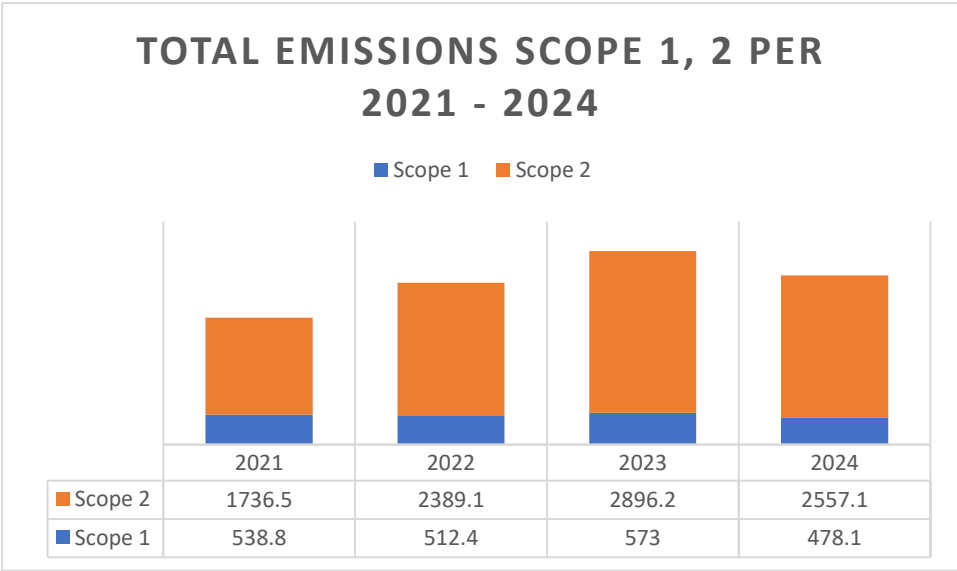
Emissions from biomass (CO ₂ only)	2,434.1	tCO ₂ /year	CO ₂ emissions from biomass combustion are outside the scope of emissions (1 and 2), CH ₄ and N ₂ O are included in scope 1 emissions (stationary emissions).
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Quantified GHG inventory of emissions and removals 2021 – 2024



The total GHG emissions increased between 2021 and 2023 mainly due to higher production activity and energy consumption. In 2024, the total emissions slightly decreased, reflecting the initial results of energy efficiency improvements (including on - site renewable electricity generetaion), equipment upgrades, and optimization measures implemented across production facilities.



The total Scope 1 and Scope 2 emissions increased steadily from 2021 to 2023, mainly due to higher electricity consumption and production volumes. In 2024, a reduction is observed, driven by improved energy management and efficiency measures (including on -site renewable electricity generetaion).

GHG reduction initiative and internal performance tracking

As one of the world's leading manufacturers of wooden pallet collars and pallets we manage environmental aspects related to the company's operations:

- Using natural resources conscientiously.
- Analyzing and reducing potential impact on the environment.
- Maximizing re-use of materials as much as possible.
- Ensuring waste sorting and recycling.

We constantly improve the performance of the energy efficiency system by continuously monitoring and managing energy performance indicators.

In addition to Scopes 1 and 2, KRONUS plans to extend its GHG accounting boundary to include **Scope 3 emissions** starting from 2026. This will cover purchased goods, logistics.

References

EN ISO 14064-1:2019 Greenhouse gases - Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals

UK Government GHG Conversion Factors for Company Reporting, UK Department for Energy Security and Net Zero and Department for Business, Energy & Industrial Strategy, Published 9 June 2020

European Residual Mixes 2021 v1.0 - Table 2, Direct GWP (gCO₂/kWh), Association of Issuing Bodies, (published Version 1.0, 2022-05-31)

Management Commitment

The GHG reduction targets are approved by the Top Management and integrated into the annual Management Review process. Results are presented to the Top Management and used to track progress toward KRONUS's climate goals.

The GHG inventory and reduction plan are reviewed annually by the Quality department.

Conclusions

Emission Reduction Targets and Evaluation

KRONUS has set quantitative GHG emission reduction targets for 2025, based on the results of the 2021–2024 CO₂ inventory:

- **Scope 2 (electricity)** – Reduce total electricity-related emissions by **150 t CO₂e (approx. –10 %)** compared with 2024 levels through solar energy production, LED modernization, and energy efficiency measures.

- **Scope 1 (fuel)** – Reduce emissions by **5 % per year** through fuel efficiency.

- **Scope 3 (supply chain)** – Starting from 2025, KRONUS will expand its GHG inventory to include **upstream and downstream logistics**, as well as business travel and supplier-related emissions.

- Establish a baseline and monitoring system for logistics-related CO₂ emissions (currently 225 855 kg CO₂e in 2024).

Product-level CO₂ footprint (based on Scania collaboration):

- Continue annual monitoring of product-level emissions (pallets, collars, lids) according to the GHG Protocol Product Standard and ISO 14067.

- Reduce the average product carbon intensity by 5 % per unit (kg CO₂e / pcs) by 2026, compared with the 2024 baseline.

Progress towards these targets is **evaluated annually** through the Management Review and the Energy Performance Report. Updated GHG inventories are prepared each year in accordance with **EN ISO 14064-1:2019** and the **GHG Protocol**

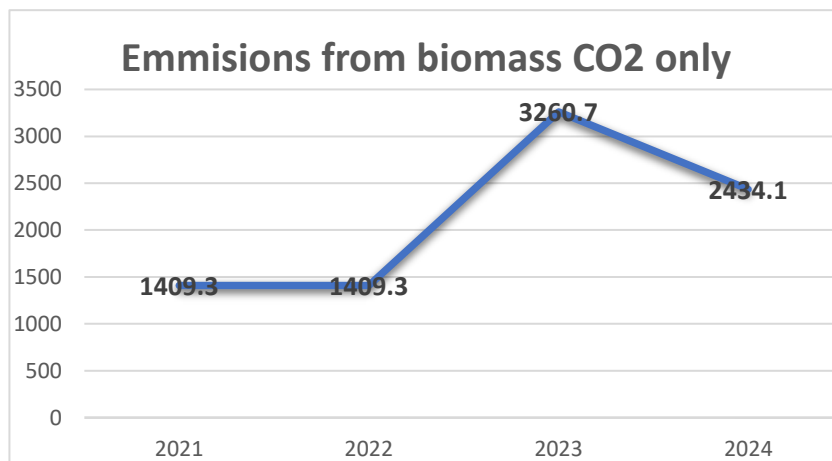
Continuous Improvement and Evaluation:

- Review progress annually during the Management Review and update the GHG Inventory according to EN ISO 14064-1:2019.

Annex A

The biomass-derived CO₂ emissions

The CO₂ generated when biomass fuels are burned is not included in GHG emission totals.



* * Emission factor for solid biomass from Intergovernmental Panel on Climate Change (IPCC). 1997. Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories: Reference Manual (Volume 3). Table 1.1, corrected for 1% unburned carbon per USEPA AP-42 Emission Factors for Wood Residue Combustion in Boilers – Supplement G, July 2001. United States Environmental Protection Agency. Washington, D.C.

NOTE: GHG emissions from biomass products are not included in the calculation of total GHG emissions because it is considered “carbon neutral”. GHG emissions generated from biomass products must be reported separately. Biomass carbon is considered to be “carbon neutral” because when burning biomass the CO₂, emitted in the atmosphere during the combustion processes and after that, is sequestered during growth of the tree. This carbon cycle is a closed circle. New trees when growing absorb atmospheric carbon dioxide and maintain the cycle.

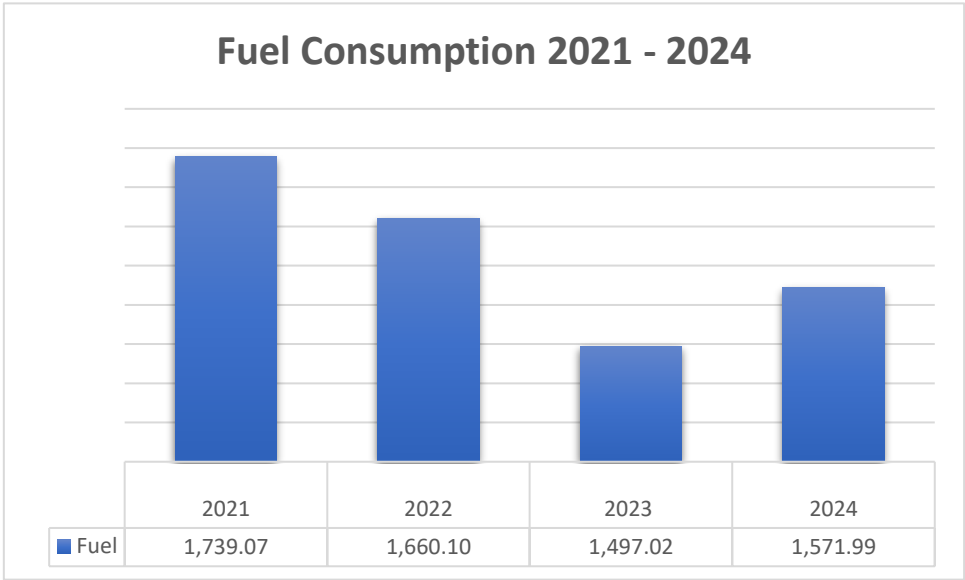
The N₂O and CH₄ which are emitted during combustion process are calculated and reported in Scope 1 as CO₂ e.

The Scope 1 conversion factors presented in this listing contain values for N₂O and CH₄ emissions (which are not absorbed during the growth).

The conversion factors for N₂O and CH₄ are taken from Emission factors from UK Government GHG Conversion Factors for Company Reporting, UK Department for Energy Security and Net Zero and Department for Business, Energy & Industrial Strategy, Published 9 June 2020.

Annex B

Vehicles that are controlled or owned by an organization and emissions.

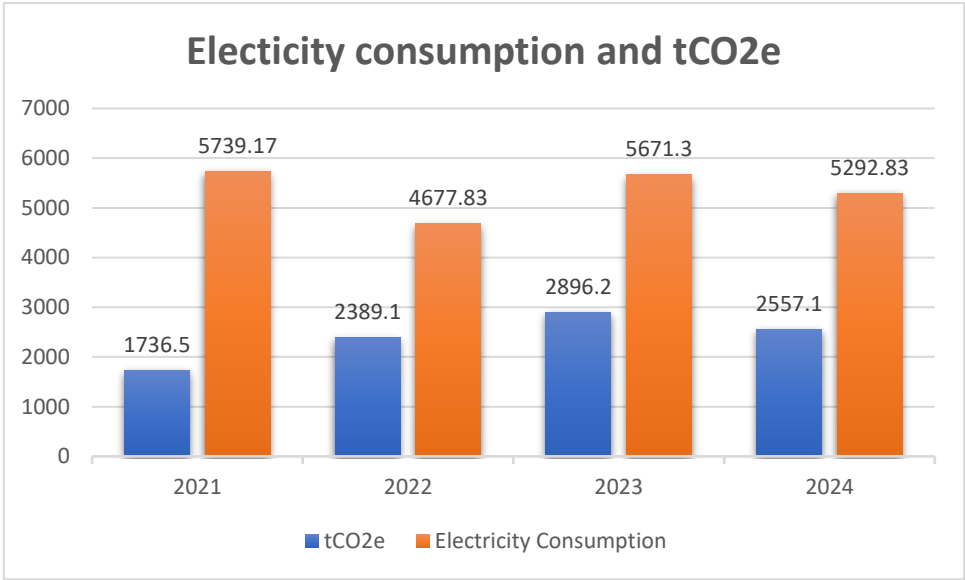


Fuel consumption shows a gradual decrease from 2021 to 2023, mainly due to improved energy efficiency and the partial replacement of diesel forklifts with electric ones. In 2024, a slight increase is observed, which may be related to increased production activity and transportation needs.

NOTE: Emission factors - UK Government GHG Conversion Factors for Company Reporting, UK Department for Energy Security and Net Zero and Department for Business, Energy & Industrial Strategy, Published 9 June 2020

Annex C

Indirect emissions from purchase of electricity.



NOTE: European Residual Mixes 2021 v1.0 - Table 2, Direct GWP (gCO₂/kWh), Association of Issuing Bodies, (published Version 1.0, 2022-05-31)