# Global Carbon Reporting

**Stelrad Group PLC** 



# Stelrad Group PLC

# **Global Carbon Reporting**

1<sup>st</sup> January – 31<sup>st</sup> December 2022 Summary

### **Overall Carbon Intensity**

**0.19** tCO<sub>2</sub>e per tonne of product produced (+10.92% YOY) **20,081.02** tCO<sub>2</sub>e (-21.07% YOY)

### **Global Carbon & Consumption**

Gas & Other Fuels 33,142,531 kWh 6,060.56 tCO<sub>2</sub>e -26.42% YOY **Electricity** 39,270,489 kWh 13,449.76 tCO<sub>2</sub>e -18.62% YOY

### **Carbon Intensity Metric**

**0.06** tCO<sub>2</sub>e per tonnes of product produced

+3.40% YOY

**0.13** tCO<sub>2</sub>e per tonnes of product produced +14.36% YOY

**Transport** 2,402,174 kWh 570.70 tCO<sub>2</sub>e -15.75% YOY

0.005 tCO<sub>2</sub>e per tonnes of product produced +18.40% YOY

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# **Executive Summary**

Energy usage, associated emissions, energy efficiency actions and energy performance for Stelrad Group PLC.



### **Global Carbon Reporting**

This report summarises our energy usage, associated emissions, energy efficiency actions and energy performance for the global group operations over the 2022 financial year.

It also summarises, in the appendix, the methodologies utilised for all calculations related to the elements reported under Energy & Carbon.

As of November 2021, Stelrad Group PLC is a quoted company. The business is now mandated to include energy consumption, emissions, intensity metrics and all energy efficiency improvements implemented in our most recent financial year in group accounts moving forwards. An organisational boundary has been applied for the reporting.

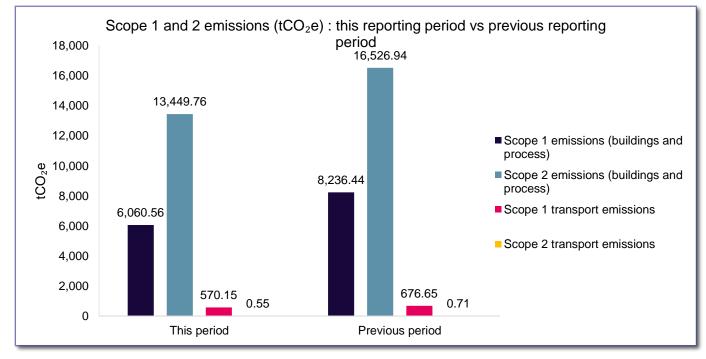
We are proud to say we achieved 96.15% verifiable data coverage with 3.85% of estimated consumption data to achieve 100% data coverage.

### Year 2

Stelrad's Scope 1 direct emissions (combustion of natural gas and transportation fuels) for this year of reporting are 6,630.71 tCO<sub>2</sub>e, resulting from the direct combustion of 35,541,874 kWh of fuel.

Scope 2 indirect emissions from buildings and process operations (purchased electricity) and transport for this year of reporting are 13,450.30 tCO<sub>2</sub>e, resulting from the consumption of 39,273,320 kWh of electricity purchased and consumed in day-to-day business operations.

Our global operations have an intensity metric of 0.19 tCO<sub>2</sub>e per tonnes of product produced for this reporting year.



# **Annual Reporting Figures**

# The total consumption and emissions figures for energy supplies reportable by Stelrad Group PLC.



### Consumption (kWh) and Greenhouse Gas emissions (tCO<sub>2</sub>e) Totals

The following figures show our global operations' consumption and associated emissions for this reporting year. Scope 1 consumption and emissions relate to the direct combustion of natural gas and fuels utilised for transportation operations, such as company vehicle fleets and on-site transport. Scope 2 consumption and emissions relate to indirect emissions relating to the consumption of purchased electricity in day-to-day business operations.

### Totals

The total consumption (kWh) figures for reportable energy supplies are as follows:

Utility and Scope		2022 Global Consumption (kWh)	2021 Global Consumption (kWh)
Grid-Supplied Electricity (Scope 2)		39,270,489	47,916,041
Gaseous and other fuels (Scope 1)		33,142,531	44,921,633
Transportation (Scope 1)		2,399,342	2,904,930
Transportation (Scope 2)		2,831	3,340
	Total	74,815,194	95,745,944

The total emission ( $tCO_2e$ ) figures for reportable energy supplies are as follows. Conversion factors utilised in these calculations are detailed in the appendix.

The Group have elected to continue to voluntarily dual report for 2022, utilising market-based emission factors to demonstrate the current carbon position of the business. As the business increases the amount of renewable energy used throughout global operations, this will show the impact on the overall global carbon footprint.

Grid-Supplied Electricity (Scope 2) Gaseous and other fuels	13,449.76 6,060.56	81.10 6,060.56	16,526.94 8,236.45	15,389.10 8,236.45
(Scope 1) Transportation (Scope 1)	570.15	570.15	676.66	676.66
Transportation (Scope 2)	0.55	0.55	0.71	0.71
Total	20,081.02	6,712.36	25,440.75	24,302.91

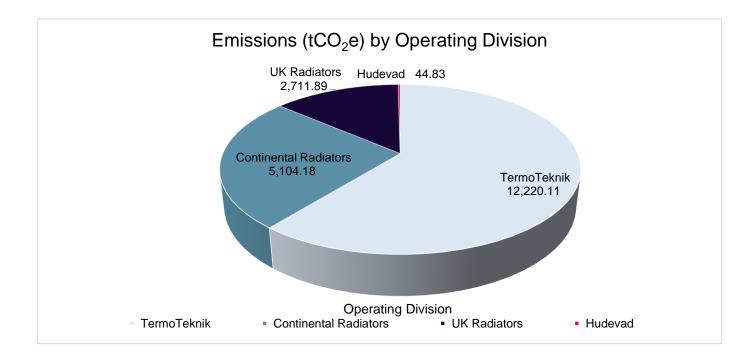
### **Intensity Metric**

An intensity metric of tCO<sub>2</sub>e per tonne of product produced has been applied to our annual total emissions. The methodology of the intensity metric calculations is detailed in the appendix, and the results of this analysis are as follows:

Intensity Metric	2022 Intensity	2022 Intensity	2021 Intensity	2021 Intensity
	Metric (location-	Metric (market-	Metric (location-	Metric (market-
	based)	based)	based)	based)
tCO <sub>2</sub> e / tonne of product produced	0.19	0.06	0.17	0.17

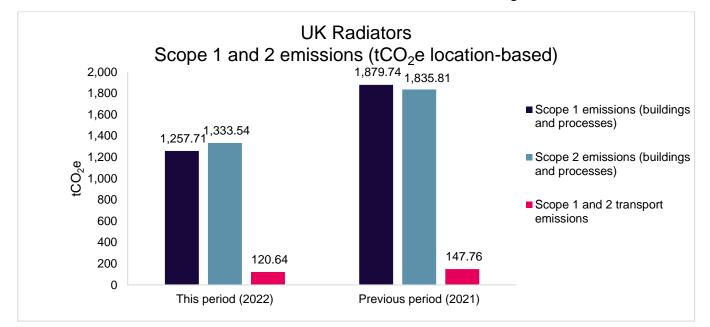
## **Global Operations**

Stelrad Group PLC operates globally and has four main operating divisions encompassing seven business units. The consumption and emissions of each operating division are detailed below. Intensity metrics have been calculated for business units where production is undertaken on-site.



### **UK Radiators**

Operations of UK Radiators includes manufacturing and activities undertaken by Head Office in the UK, including travel in company vehicles and on-site vehicles. Renewable energy has been procured for all electricity supplies in the portfolio, and the impact of this on Scope 2 indirect emissions can be seen in market-based emissions calculations, saving 1,333.54 tCO<sub>2</sub>e.

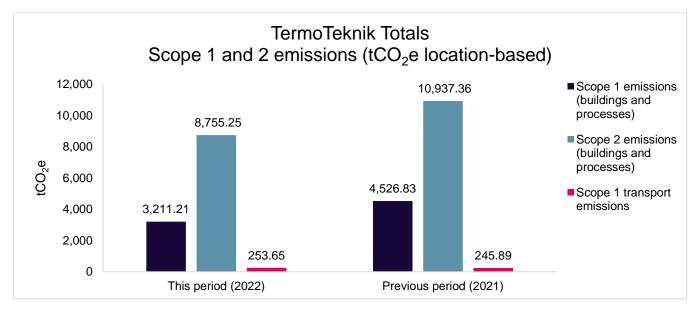


Utility and Scope	2022 UK Radiators Consumption (kWh)	2021 UK Radiators Consumption (kWh)
Grid-Supplied Electricity (Scope 2)	6,895,954	8,646,009
Gaseous and other fuels (Scope 1)	6,841,943	10,262,848
Transportation (Scope 1)	517,078	654,981
Transportation (Scope 2)	2,831	3,340
Total	14,257,806	19,567,177

Utility and Scope	2022 UK Radiators (tCO <sub>2</sub> e) (location-based)	2022 UK Radiators (tCO <sub>2</sub> e) (market-based)	2021 UK Radiators (tCO <sub>2</sub> e) (location-based)	2021 UK Radiators (tCO <sub>2</sub> e) (market-based)
Grid-Supplied Electricity (Scope 2)	1,333.54	0	1,835.81	0
Gaseous and other fuels (Scope 1)	1,257.71	1,257.71	1,879.74	1,879.74
Transportation (Scope 1)	120.10	120.10	147.05	147.05
Transportation (Scope 2)	0.55	0.55	0.71	0.71
Tota	2,711.89	1,378.35	3,863.31	2,027.51
Intensity Metric	2022 Intensity Metric (location- based)	2022 Intensity Metric (market- based)	2021 Intensity Metric (location- based)	2021 Intensity Metric (market- based)
tCO <sub>2</sub> e / tonne of product produced	0.16	0.08	0.21	0.11

### TermoTeknik

Operations of TermoTeknik include manufacturing in Turkey, activities undertaken by offices in Turkey, Caradon Polska in Poland, and ISG Heating Equipment in China. This includes travel in all countries, in company and on-site vehicles. A renewable electricity supply has been procured for the manufacturing site in Turkey, saving 8,701.92 tCO2e in 2022.



### TermoTeknik (Turkey)

Utility and Scope	2022 TermoTeknik (TR) Consumption (kWh)	2021 TermoTeknik (TR) Consumption (kWh)
Grid-Supplied Electricity (Scope 2)	23,290,325	29,107,124
Gaseous and other fuels (Scope 1)	17,503,122	24,632,913
Transportation (Scope 1)	853,342	756,649
Total	41,646,789	54,496,687

Utility and Scope	2022 TermoTeknik (TR) (tCO₂e) (location-based)	2022 TermoTeknik (TR) (tCO₂e) (market-based)	2021 TermoTeknik (TR) (tCO₂e) (location-based)	2021 TermoTeknik (TR) (tCO₂e) (market-based)
Grid-Supplied Electricity (Scope 2)	8,733.87	31.95	10,915.17	10,915.17
Gaseous and other fuels (Scope 1)	3,195.02	3,195.02	4,520.36	4,520.36
Transportation (Scope 1)	204.23	204.23	178.90	178.90
Total	12,133.12	3,431.20	15,614.44	15,614.44
Intensity Metric	2022 Intensity Metric (location- based)	2022 Intensity Metric (market- based)	2021 Intensity Metric (location- based)	2021 Intensity Metric (market- based)
tCO <sub>2</sub> e / tonne of product produced	0.17	0.05	0.15	0.15

### TermoTeknik – Caradon Polska

Utility and Scope	2022 Caradon Polska Consumption (kWh)	2021 Caradon Polska Consumption (kWh)
Grid-Supplied Electricity (Scope 2)	27,167	27,710
Gaseous and other fuels (Scope 1)	80,555	35,304
Transportation (Scope 1)	204,104	285,357
Total	311,826	348,371

Utility and Scope	2022 Caradon Polska (tCO <sub>2</sub> e) (location-based)	2022 Caradon Polska (tCO <sub>2</sub> e) (market-based)	2021 Caradon Polska (tCO₂e) (location-based)	2021 Caradon Polska (tCO₂e) (market-based)
Grid-Supplied Electricity (Scope 2)	20.64	21.70	21.05	22.13
Gaseous and other fuels (Scope 1)	16.19	16.19	6.47	6.47
Transportation (Scope 1)	48.75	48.75	66.14	66.14
Total	85.57	86.63	93.66	94.74

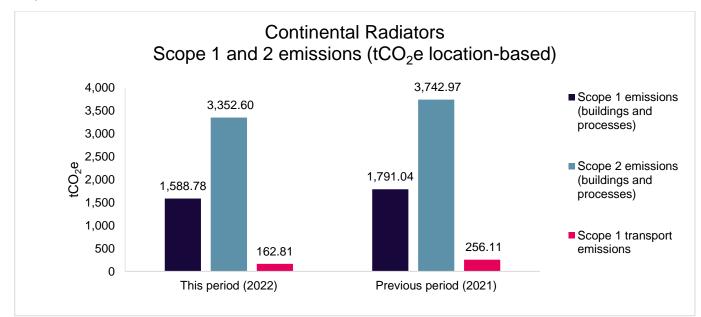
### TermoTeknik – ISG Heating Equipment

Utility and Scope	2022 ISG Heating Equipment Consumption (kWh)	2021 ISG Heating Equipment Consumption (kWh)
Grid-Supplied Electricity (Scope 2)	876	1,439
Gaseous and other fuels (Scope 1)	0	0
Transportation (Scope 1)	2,963	3,682
Total	3,839	5,120

Utility and Scope	2022 ISG Heating Equipment (tCO <sub>2</sub> e) (location- based)	2022 ISG Heating Equipment (tCO <sub>2</sub> e) (market- based)	2021 ISG Heating Equipment (tCO <sub>2</sub> e) (location- based)	2021 ISG Heating Equipment (tCO₂e) (market- based)
Grid-Supplied Electricity (Scope 2)	0.74	0.74	1.14	1.14
Gaseous and other fuels (Scope 1)	0.00	0.00	0.00	0.00
Transportation (Scope 1)	0.67	0.67	0.85	0.85
Total	1.42	1.42	1.99	1.99

### **Continental Radiators**

Operations of Continental Radiators include manufacturing in the Netherlands and activities undertaken by offices in the Netherlands and Belgium. This includes travel in the Netherlands, in company vehicles and on-site vehicles. Two electricity supplies in the Netherlands procured renewable electricity in 2022, while renewable electricity was procured in Belgium from September 2022 onwards.



### **Continental Radiators (Netherlands)**

	Total	18,308,146	20,820,068
Transportation (Scope 1)		682,525	1,087,709
Gaseous and other fuels (Scope 1)		8,701,181	9,778,575
Grid-Supplied Electricity (Scope 2)		8,924,441	9,953,784
Utility and Scope		2022 Continental Radiators (NL) Consumption (kWh)	2021 Continental Radiators (NL) Consumption (kWh)

Utility and Scope	2022 Continental Radiators (NL) (tCO <sub>2</sub> e) (location- based)	2022 Continental Radiators (NL) (tCO <sub>2</sub> e) (market- based)	2021 Continental Radiators (NL) (tCO <sub>2</sub> e) (location- based)	2021 Continental Radiators (NL) (tCO <sub>2</sub> e) (market- based)
Grid-Supplied Electricity (Scope 2)	3,340.78	0.00	3,726.10	4,396.92
Gaseous and other fuels (Scope 1)	1,588.78	1,588.78	1,791.04	1,791.04
Transportation (Scope 1)	162.81	162.81	256.11	256.11
Total	5,092.36	1,751.59	5,773.25	6,444.07

Intensity Metric	2022 Intensity	2022 Intensity	2021 Intensity	2021 Intensity
	Metric (location-	Metric (market-	Metric (location-	Metric (market-
	based)	based)	based)	based)
tCO <sub>2</sub> e / tonne of product produced	0.28	0.10	0.22	0.24

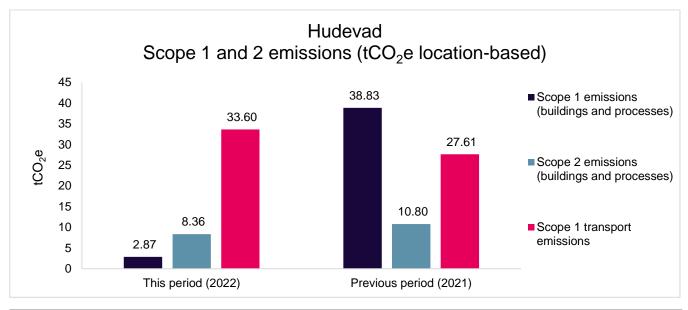
### **Continental Radiators (Belgium)**

Utility and Scope		2022 Continental Radiators (BE) Consumption (kWh)	2021 Continental Radiators (BE) Consumption (kWh)
Grid-Supplied Electricity (Scope 2)		73,043	104,232
Gaseous and other fuels (Scope 1)		0	0
Transportation (Scope 1)		0	0
	Total	73,043	104,232

Utility and Scope	2022 Continental Radiators (BE) (tCO <sub>2</sub> e) (location- based)	2022 Continental Radiators (BE) (tCO <sub>2</sub> e) (market- based)	2021 Continental Radiators (BE) (tCO <sub>2</sub> e) (location- based)	2021 Continental Radiators (BE) (tCO <sub>2</sub> e) (market- based)
Grid-Supplied Electricity (Scope 2)	11.82	9.97	16.87	21.34
Gaseous and other fuels (Scope 1)	0.00	0.00	0.00	0.00
Transportation (Scope 1)	0.00	0.00	0.00	0.00
Total	11.82	9.97	16.87	21.34

### Hudevad

Operations of Hudevad include activities undertaken by offices in Denmark, alongside travel in company vehicles. Renewable electricity was procured from September 2022 onwards.



Utility and Scope	2	2022 Hudevad Consumption (kWh)	2021 Hudevad Consumption (kWh)
Grid-Supplied Electricity (Scope 2)	5	58,683	75,744
Gaseous and other fuels (Scope 1)	1	15,731	211,993
Transportation (Scope 1)	1	139,330	116,551
	Total 2	213,744	404,289

Total	44.83	53.20	77.23	98.83
(Scope 1)				
Transportation	33.60	33.60	27.61	27.61
Gaseous and other fuels (Scope 1)	2.87	2.87	38.83	38.83
Grid-Supplied Electricity (Scope 2)	8.36	16.73	10.80	32.39
Jtility and Scope	2022 Hudevad (tCO₂e) (location- based)	2022 Hudevad (tCO₂e) (market- based)	2021 Hudevad (tCO <sub>2</sub> e) (location- based)	2021 Hudevad (tCO₂e) (market- based)

# **Energy Efficiency Improvements**

Stelrad Group PLC are committed to year-onyear improvements in their operational energy efficiency.



### **Energy Efficiency Improvements**

We are committed to year-on-year improvements in our operational energy efficiency. As such, a register of energy efficiency measures available to us has been compiled, with a view to implementing these measures in the next five years.

# Measures ongoing and undertaken through 2022:

#### Targeting Scope 3 emissions

UK Radiators have calculated Scope 3 emissions for 2021 and 2022. This baseline can be used to measure emissions reductions across the supply chain.

Reducing the baseload in the UK Operation

One area of high usage is the site baseload, which is driven by large pumps and fans, which are required to operate 24/7. Through data analysis and completion of a series of small projects, while also decommissioning a full paint line and associated cooling tower, the site has been able to reduce its baseload from around 232 kWh in early 2022 to about 124 kWh in late 2022 (~946,000 kWh saving per year).

#### Fume extraction optimisation

The Turkish site has several production lines. Each line has a fume extraction hood, which extracts welding fumes and vapours from the machinery, and expels this out of the factory. The large fans were operating while power was supplied to the lines, regardless of whether any production was taking place. The Turkish operation completed a project to automatically switch off the fans if no product was detected while installing frequency inverters to the fans to reduce the overall power requirements. This project will save an approx. 1,596,000 kWh of energy each year.

### ISO 50001 accreditation

In 2022, the continental operation focused on achieving the ISO 50001 accreditation to align with the two other manufacturing sites. The site achieved the standard in late 2022 and is now using the management system to develop a long-term energy reduction strategy and share best practice ideas with the rest of the group.

### Renewable energy

A focus in 2022 was to roll out renewable electricity contracts across the business, where possible. This has been a success in that the group increased its renewable electricity proportion from 9.25% in 2021 to 52% by the end of 2022.

# Measures prioritised for implementation in 2023:

### New operating division

In 2022, Stelrad Radiator Group purchased DL Radiators Spa. In 2023, we will incorporate their carbon reporting into the existing Stelrad reporting model.

### Scope 3 emissions

Following the UK Scope 3 emissions project, the group will work with our consultants to deliver our first group Scope 3 report using 2023 as the baseline reference year.

#### Renewables

Stelrad Radiators will continue to explore options to move all remaining electricity contracts to renewables. Also, Stelrad will continue to explore opportunities for the selfgeneration of electricity through a mediumterm solar PV array program, to gradually reduce our reliance on external grid electricity and carbon emissions.

# **Compliance Responsibility**

This report has been prepared for Stelrad Limited by Net Zero Compliance: a division of Inspired Energy PLC.



### **Inspired Energy**

This report has been prepared by Net Zero Compliance (a division of Inspired Energy PLC) for Stelrad Limited by means of interpreting the Companies (Directors' Report) and Limited Liability Partnerships (Energy and Carbon Report) Regulations 2018 as they apply to information supplied by Stelrad Limited and its energy suppliers.

Stelrad Limited's registered CEO and CFO are responsible for complying with the Regulations. To the best of their knowledge, they must be satisfied that all relevant information concerning Stelrad Limited's organisation structure, properties, activities and energy supplies has been provided to Inspired Energy.

This includes details of any complex ownership structures (for example, private equity funds, franchises for private finance initiatives) and energy generated on-site (including CHP) or supplied to/from a third party (i.e. not a licenced energy supplier or a landlord/tenant).

# **Appendix**

### **Reporting Methodology**

Scope 1 and 2 consumption and  $CO_2e$  emission data have been calculated per the 2019 UK Government environmental reporting guidance. The following Emission Factor Databases consistent with the 2019 UK Government environmental reporting guidance have been used, utilising the current published kWh gross calorific value (CV) and kgCO<sub>2</sub>e emissions factors relevant for reporting year 01/01/2022 – 31/12/2022: Database 2022, Version 1.0.

Where available, country-specific emissions factors have been utilised for the global operational emissions of Stelrad Group PLC. Residual emissions factors have been used for non-renewable energy reported under market-based calculations. Where possible, these have been sourced for the countries of operation for Stelrad Group PLC. Where country-specific residual factors were unavailable, country-specific average emissions factors were applied.

Estimations undertaken to cover missing billing periods for properties directly invoiced to Stelrad Group PLC were calculated at the meter level on a kWh/day pro-rata basis. These estimations equated to 3.85% of reported consumption.

Intensity metrics have been calculated utilising the 2022 reportable figures for the following metrics, and tCO<sub>2</sub>e for both individual sources and total emissions were then divided by this figure to determine the tCO<sub>2</sub>e per metric:

•	UK Radiators tonnage of product produced 2022 (2021)	<b>16,829</b> (18,672)
•	TermoTeknik tonnage of product produced <b>2022</b> (2021)	<b>69,920</b> (101,633)
•	Continental Radiators tonnage of product produced <b>2022</b> (2021)	<b>17,884</b> (26,733)



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