

# Streamlined Energy & Carbon Reporting (SECR)

Stelrad Group PLC  
2023

# SECR Highlights

Stelrad Group PLC

Reporting Year: 1<sup>st</sup> January 2023 – 31<sup>st</sup> December 2023

## Total Carbon Emissions

Total Location-based Carbon Emissions: 22,001.12 tCO<sub>2</sub>e  
 YOY percentage change (tCO<sub>2</sub>e): -17.60%

## Overall Carbon Intensity

Intensity Metric: 0.184 tCO<sub>2</sub>e per tonne of product  
 YOY percentage change (tCO<sub>2</sub>e): -6.81%

**Table 1: Energy Source Breakdown**

	Natural Gas and LPG	Electricity	Transport
<b>Carbon &amp; Energy Consumption</b>			
kWh	40,414,243	45,740,240	2,639,089
tCO <sub>2</sub> e	7,460.39	13,926.49	614.23
YOY percentage change (tCO <sub>2</sub> e)	-16.88%	-18.28%	-10.33%
<b>Carbon Intensity Metric</b>			
tCO <sub>2</sub> e per tonne of product	0.063	0.117	0.005
YOY percentage change (tCO <sub>2</sub> e/tonne product)	-6.00%	-7.57%	+1.41%

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# Executive Summary

SECR disclosures are mandatory for listed and large unlisted UK companies with reporting cycles beginning on or after 1<sup>st</sup> April 2019.

This report summarises our energy usage, associated emissions, energy efficiency actions and energy performance under the government policy Streamlined Energy & Carbon Reporting (SECR). This is implemented by the Companies (Directors' Report) and Limited Liability Partnerships (Energy and Carbon Report) Regulations 2018.

Also, it summarises in the appendix, the methodologies utilised for all calculations related to the elements reported under energy & carbon.

Stelrad Group PLC contains the UK incorporated business Stelrad Limited. Under SECR legislation, we are mandated to include energy consumption, emissions, intensity metrics and all energy efficiency improvements implemented in our most recent financial year, for our UK and global operations.

An operational boundary has been applied for the purposes of the reporting.

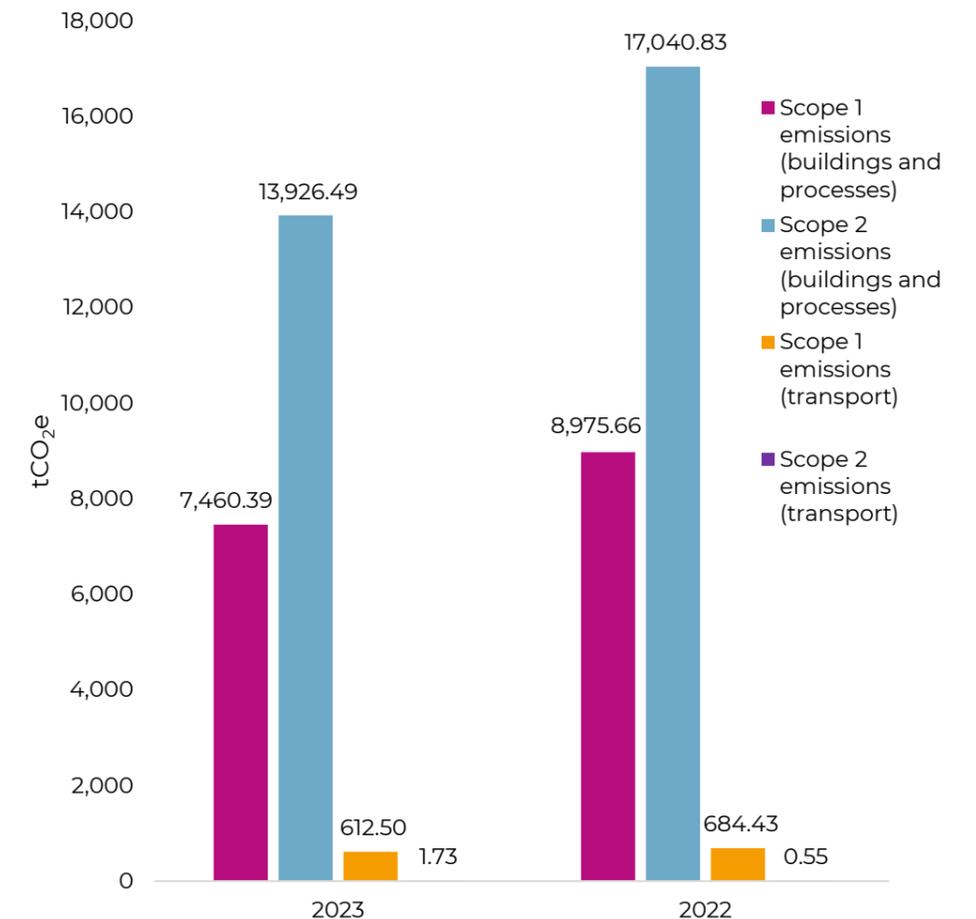
### Year 3

Stelrad Group PLC Scope 1 direct emissions (combustion of natural gas, LPG and transportation fuels) for this year of reporting are 8,072.90 tCO<sub>2</sub>e, resulting from the direct combustion of 43,044,978 kWh of fuel. This represents a carbon reduction of 16.43% from last year (Figure 1).

Scope 2 indirect emissions (purchased electricity) for this year of reporting are 13,928.22 tCO<sub>2</sub>e, resulting from the consumption of 45,748,594 kWh of electricity purchased and consumed in day-to-day business operations. This represents a carbon reduction of 18.27% from last year (Figure 1).

Our operations have an intensity metric of 0.184 tCO<sub>2</sub>e per tonne of product for this reporting year. This represents a reduction in the operational carbon intensity of 6.81% from our previous reporting year.

**Figure 1: Scope 1 and 2 emissions (tCO<sub>2</sub>e): this reporting period vs the previous reporting period.**



# Annual Reporting Figures

Stelrad Group PLC has global operations. Therefore, we have selected to voluntarily disclose global emissions within this report for full transparency of emissions for Group operations.

Where possible, we have used country-specific emissions factors for these calculations. Where country-specific emissions factors were not available, UK Government published emission factors were utilised. The details of source data for these factors are outlined in the appendix.

We have elected to voluntarily dual report our global emissions for this reporting year, utilising market-based emissions factors, to demonstrate the carbon reduction achieved by renewable electricity procurement. The methodology is outlined in the appendix.

After the Acquisition of Radiators S.p.A in 2022, our 2022 numbers have been restated to include this new subsidiary.

**Table 2: Stelrad Group PLC Global Emissions Intensity Metric.**

Intensity Metrics	Location-based tCO <sub>2</sub> e		Market-based tCO <sub>2</sub> e	
	2023	% change	2023	% change
	<b>All Scopes tCO<sub>2</sub>e per tonne of product</b>	0.184	-6.81%	0.102

**Table 3: Stelrad Group PLC Global Total Energy Consumption (kWh).**

Utility and Scope	2023 Consumption (kWh)	2022 Consumption (kWh) (restated)*
<b>Scope 1 Total</b>	<b>43,044,978</b>	<b>51,989,727</b>
Natural Gas	40,087,324	48,764,933
Transportation	2,630,735	2,877,463
Other Fuels	326,919	347,331
<b>Scope 2 Total</b>	<b>45,748,594</b>	<b>52,551,782</b>
Grid-Supplied Electricity	43,792,911	50,359,502
Electric Transportation	8,354	2,831
Self-Generated Electricity	1,947,329	2,189,449
<b>Total</b>	<b>88,793,572</b>	<b>104,451,508</b>

**Table 4: Stelrad Group PLC Global Total Location-based Emissions (tCO<sub>2</sub>e).**

Utility and Scope	2023 Consumption (tCO <sub>2</sub> e) Location-based	2023 Consumption (tCO <sub>2</sub> e) Market-based	2022 Consumption (tCO <sub>2</sub> e) Location-based (restated)*	2022 Consumption (tCO <sub>2</sub> e) Market-based (restated)*
<b>Scope 1 Total</b>	<b>8,072.90</b>	<b>8,072.90</b>	<b>9,660.09</b>	<b>9,660.09</b>
Natural Gas	7,390.47	7,390.47	8,901.16	8,901.16
Transportation	612.50	612.50	684.43	684.43
Other Fuels	69.93	69.93	74.50	74.50
<b>Scope 2 Total</b>	<b>13,928.22</b>	<b>4,049.32</b>	<b>17,041.38</b>	<b>5,166.73</b>
Grid-Supplied Electricity	13,926.49	4,046.27	17,040.83	5,166.19
Electric Transportation	1.73	3.05	0.55	0.55
<b>Total</b>	<b>22,001.12</b>	<b>12,122.22</b>	<b>26,701.47</b>	<b>14,826.83</b>

\*2022 values have been restated to include the acquisition of Radiators S.p.A

# Annual Reporting Figures: UK Radiators

**Table 5: UK Radiators Total Energy Consumption (kWh).**

Utility and Scope	2023 Consumption (kWh)	2022 Consumption (kWh)
<b>Scope 1 Total</b>	<b>6,539,350</b>	<b>7,359,021</b>
Natural Gas	5,780,694	6,567,149
Transportation	481,987	517,078
Other Fuels	276,669	274,794
<b>Scope 2 Total</b>	<b>6,349,304</b>	<b>6,898,785</b>
Grid-Supplied Electricity	6,340,950	6,895,954
Electric Transportation	8,354	2,831
Self-Generated Electricity	-	-
<b>Total</b>	<b>12,888,654</b>	<b>14,257,806</b>

**Table 7: UK Radiators Emissions Intensity Metric.**

Intensity Metrics	Location-based tCO <sub>2</sub> e		Market-based tCO <sub>2</sub> e	
	2023	% change	2023	% change
<b>All Scopes tCO<sub>2</sub>e per tonne of product</b>	0.137	-14.8%	0.067	-18.6%

**Table 6: UK Radiators Total Emissions (tCO<sub>2</sub>e).**

Utility and Scope	2023 Consumption (tCO <sub>2</sub> e)	2023 Consumption (tCO <sub>2</sub> e)	2022 Consumption (tCO <sub>2</sub> e)	2022 Consumption (tCO <sub>2</sub> e)
	Location-based	Market-based	Location-based	Market-based
<b>Scope 1 Total</b>	<b>1,234.62</b>	<b>1,234.62</b>	<b>1,377.80</b>	<b>1,377.80</b>
Natural Gas	1,065.49	1,065.49	1,198.76	1,198.76
Transportation	109.95	109.95	120.10	120.10
Other Fuels	59.18	59.18	58.94	58.94
<b>Scope 2 Total</b>	<b>1,314.78</b>	<b>3.05</b>	<b>1,334.09</b>	<b>0.55</b>
Grid-Supplied Electricity	1,313.05	0.00	1,333.54	0.00
Electric Transportation	1.73	3.05	0.55	0.55
<b>Total</b>	<b>2,549.40</b>	<b>1,237.67</b>	<b>2,711.89</b>	<b>1,378.35</b>

# Annual Reporting Figures: Continental Radiators (Netherlands & Belgium)

**Table 8: Continental Radiators Total Energy Consumption (kWh).**

Utility and Scope	2023 Consumption (kWh)	2022 Consumption (kWh)
<b>Scope 1 Total</b>	<b>6,796,796</b>	<b>9,383,706</b>
Natural Gas	6,191,835	8,675,046
Transportation	602,413	682,525
Other Fuels	2,548	26,134
<b>Scope 2 Total</b>	<b>6,508,135</b>	<b>8,997,484</b>
Grid-Supplied Electricity	6,508,135	8,997,484
Electric Transportation	-	-
Self-Generated Electricity	-	-
<b>Total</b>	<b>13,304,931</b>	<b>18,381,190</b>

**Table 10: Continental Radiators Emissions Intensity Metric.**

Intensity Metrics	Location-based tCO <sub>2</sub> e		Market-based tCO <sub>2</sub> e	
	2023	% change	2023	% change
<b>All Scopes tCO<sub>2</sub>e per tonne of product</b>	0.265	+4.8%	0.106	+22.0%

**Table 9: Continental Radiators Total Emissions (tCO<sub>2</sub>e).**

Utility and Scope	2023 Consumption (tCO <sub>2</sub> e)	2023 Consumption (tCO <sub>2</sub> e)	2022 Consumption (tCO <sub>2</sub> e)	2022 Consumption (tCO <sub>2</sub> e)
	Location-based	Market-based	Location-based	Market-based
<b>Scope 1 Total</b>	<b>1,283.60</b>	<b>1,283.60</b>	<b>1,751.59</b>	<b>1,751.59</b>
Natural Gas	1,141.85	1,141.85	1,583.17	1,583.17
Transportation	141.20	141.20	162.81	162.81
Other Fuels	0.54	0.54	5.61	5.61
<b>Scope 2 Total</b>	<b>1,911.80</b>	<b>0.00</b>	<b>3,352.60</b>	<b>9.97</b>
Grid-Supplied Electricity	1,911.80	0.00	3,352.60	9.97
Electric Transportation	-	-	-	-
<b>Total</b>	<b>3,195.40</b>	<b>1,283.60</b>	<b>5,104.19</b>	<b>1,761.56</b>

# Annual Reporting Figures: Radiators S.p.A (Italy)

Table 11: Radiators S.p.A Total Energy Consumption (kWh).

Utility and Scope	2023 Consumption (kWh)	2022 Consumption (kWh)
<b>Scope 1 Total</b>	<b>11,515,194</b>	<b>16,447,853</b>
Natural Gas	11,059,340	15,969,732
Transportation	455,854	478,121
Other Fuels	-	-
<b>Scope 2 Total</b>	<b>10,798,280</b>	<b>13,278,462</b>
Grid-Supplied Electricity	8,850,951	11,089,013
Electric Transportation	-	-
Self-Generated Electricity	1,947,329	2,189,449
<b>Total</b>	<b>22,313,474</b>	<b>29,726,315</b>

Table 13: Radiators S.p.A Emissions Intensity Metric.

Intensity Metrics	Location-based tCO <sub>2</sub> e		Market-based tCO <sub>2</sub> e	
	2023	% change	2023	% change
<b>All Scopes tCO<sub>2</sub>e per tonne of product</b>	0.364	-1.3%	0.457	1.2%

Table 12: Radiators S.p.A Total Emissions (tCO<sub>2</sub>e).

Utility and Scope	2023 Consumption (tCO <sub>2</sub> e)	2023 Consumption (tCO <sub>2</sub> e)	2022 Consumption (tCO <sub>2</sub> e)	2022 Consumption (tCO <sub>2</sub> e)
	Location-based	Market-based	Location-based	Market-based
<b>Scope 1 Total</b>	<b>2,146.19</b>	<b>2,146.19</b>	<b>3,029.38</b>	<b>3,029.38</b>
Natural Gas	2,039.48	2,039.48	2,915.11	2,915.11
Transportation	106.71	106.71	114.27	114.27
Other Fuels	-	-	-	-
<b>Scope 2 Total</b>	<b>2,782.56</b>	<b>4,046.21</b>	<b>3,591.07</b>	<b>5,085.09</b>
Grid-Supplied Electricity	2,782.56	4,046.21	3,591.07	5,085.09
Electric Transportation	-	-	-	-
<b>Total</b>	<b>4,928.75</b>	<b>6,192.40</b>	<b>6,620.45</b>	<b>8,114.47</b>

# Annual Reporting Figures: TermoTeknik (Turkey)

**Table 14: TermoTeknik Total Energy Consumption (kWh).**

Utility and Scope	2023 Consumption (kWh)	2022 Consumption (kWh)
<b>Scope 1 Total</b>	<b>17,755,593</b>	<b>18,356,464</b>
Natural Gas	17,007,918	17,503,122
Transportation	747,675	853,342
Other Fuels	-	-
<b>Scope 2 Total</b>	<b>22,018,883</b>	<b>23,290,325</b>
Grid-Supplied Electricity	22,018,883	23,290,325
Electric Transportation	-	-
Self-Generated Electricity	-	-
<b>Total</b>	<b>39,774,477</b>	<b>41,646,789</b>

**Table 16: TermoTeknik Emissions Intensity Metric.**

Intensity Metrics	Location-based tCO <sub>2</sub> e		Market-based tCO <sub>2</sub> e	
	2023	% change	2023	% change
<b>All Scopes tCO<sub>2</sub>e per tonne of product</b>	0.149	-1.7%	0.044	+2.7%

**Table 15: TermoTeknik Total Emissions (tCO<sub>2</sub>e).**

Utility and Scope	2023 Consumption (tCO <sub>2</sub> e)		2022 Consumption (tCO <sub>2</sub> e)	
	Location-based	Market-based	Location-based	Market-based
<b>Scope 1 Total</b>	<b>3,311.10</b>	<b>3,311.10</b>	<b>3,399.25</b>	<b>3,399.25</b>
Natural Gas	3,134.88	3,134.88	3,195.02	3,195.02
Transportation	176.22	176.22	204.23	204.23
Other Fuels	-	-	-	-
<b>Scope 2 Total</b>	<b>7,893.99</b>	<b>0.00</b>	<b>8,733.87</b>	<b>31.95</b>
Grid-Supplied Electricity	7,893.99	0.00	8,733.87	31.95
Electric Transportation	-	-	-	-
<b>Total</b>	<b>11,205.09</b>	<b>3,311.10</b>	<b>12,133.12</b>	<b>3,431.20</b>

## Annual Reporting Figures: Hudevad (Denmark)

Table 17: Hudevad Total Energy Consumption (kWh).

Utility and Scope	2023 Consumption (kWh)	2022 Consumption (kWh)
<b>Scope 1 Total</b>	<b>174,935</b>	<b>155,061</b>
Natural Gas	18,792	15,731
Transportation	156,143	139,330
Other Fuels	-	-
<b>Scope 2 Total</b>	<b>51,996</b>	<b>58,683</b>
Grid-Supplied Electricity	51,996	58,683
Electric Transportation	-	-
Self-Generated Electricity	-	-
<b>Total</b>	<b>226,931</b>	<b>213,744</b>

Table 18: Hudevad Total Emissions (tCO<sub>2</sub>e).

Utility and Scope	2023 Consumption (tCO <sub>2</sub> e) Location-based	2023 Consumption (tCO <sub>2</sub> e) Market-based	2022 Consumption (tCO <sub>2</sub> e) Location-based	2022 Consumption (tCO <sub>2</sub> e) Market-based
<b>Scope 1 Total</b>	<b>39.25</b>	<b>39.25</b>	<b>36.47</b>	<b>36.47</b>
Natural Gas	3.46	3.46	2.87	2.87
Transportation	35.79	35.79	33.60	33.60
Other Fuels	-	-	-	-
<b>Scope 2 Total</b>	<b>8.47</b>	<b>0.00</b>	<b>8.36</b>	<b>16.73</b>
Grid-Supplied Electricity	8.47	0.00	8.36	16.73
Electric Transportation	-	-	-	-
<b>Total</b>	<b>47.72</b>	<b>39.25</b>	<b>44.83</b>	<b>53.20</b>

## Annual Reporting Figures: Caradon Polska (Poland)

Table 19: Caradon Polska Total Energy Consumption (kWh).

Utility and Scope	2023 Consumption (kWh)	2022 Consumption (kWh)
<b>Scope 1 Total</b>	<b>255,310</b>	<b>284,659</b>
Natural Gas	28,745	34,152
Transportation	178,863	204,104
Other Fuels	47,702	46,403
<b>Scope 2 Total</b>	<b>21,878</b>	<b>27,167</b>
Grid-Supplied Electricity	21,878	27,167
Electric Transportation	-	-
Self-Generated Electricity	-	-
<b>Total</b>	<b>277,188</b>	<b>311,826</b>

Table 20: Caradon Polska Total Emissions (tCO<sub>2</sub>e).

Utility and Scope	2023 Consumption (tCO <sub>2</sub> e) Location-based	2023 Consumption (tCO <sub>2</sub> e) Market-based	2022 Consumption (tCO <sub>2</sub> e) Location-based	2022 Consumption (tCO <sub>2</sub> e) Market-based
<b>Scope 1 Total</b>	<b>56.41</b>	<b>56.41</b>	<b>64.93</b>	<b>64.93</b>
Natural Gas	5.30	5.30	6.23	6.23
Transportation	40.90	40.90	48.75	48.75
Other Fuels	10.21	10.21	9.95	9.95
<b>Scope 2 Total</b>	<b>16.57</b>	<b>0.00</b>	<b>20.64</b>	<b>21.70</b>
Grid-Supplied Electricity	16.57	0.00	20.64	21.70
Electric Transportation	-	-	-	-
<b>Total</b>	<b>72.98</b>	<b>56.41</b>	<b>85.57</b>	<b>86.63</b>

## Annual Reporting Figures: ISG Heating Equipment (China)

Table 21: ISG Heating Equipment Total Energy Consumption (kWh).

Utility and Scope	2023 Consumption (kWh)	2022 Consumption (kWh)
<b>Scope 1 Total</b>	<b>7,800</b>	<b>2,963</b>
Natural Gas	-	-
Transportation	7,800	2,963
Other Fuels	-	-
<b>Scope 2 Total</b>	<b>118</b>	<b>876</b>
Grid-Supplied Electricity	118	876
Electric Transportation	-	-
Self-Generated Electricity	-	-
<b>Total</b>	<b>7,918</b>	<b>3,839</b>

Table 22: ISG Heating Equipment Total Emissions (tCO<sub>2</sub>e).

Utility and Scope	2023 Consumption (tCO <sub>2</sub> e) Location-based	2023 Consumption (tCO <sub>2</sub> e) Market-based	2022 Consumption (tCO <sub>2</sub> e) Location-based	2022 Consumption (tCO <sub>2</sub> e) Market-based
<b>Scope 1 Total</b>	<b>1.73</b>	<b>1.73</b>	<b>0.67</b>	<b>0.67</b>
Natural Gas	0.00	0.00	-	-
Transportation	1.73	1.73	0.67	0.67
Other Fuels	0.00	0.00	-	-
<b>Scope 2 Total</b>	<b>0.06</b>	<b>0.06</b>	<b>0.74</b>	<b>0.74</b>
Grid-Supplied Electricity	0.06	0.06	0.74	0.74
Electric Transportation	-	-	-	-
<b>Total</b>	<b>1.79</b>	<b>1.79</b>	<b>1.42</b>	<b>1.42</b>

# Energy Efficiency Narrative

## Energy Efficiency Improvements

Stelrad Group PLC are committed to year-on-year improvements in their operational energy efficiency. A register of energy efficiency measures has been compiled, with a view to implementing these measures in the next five years.

### Measures ongoing and undertaken through 2023

#### Cooling tower optimisation

The main cooling tower maintains the production lines on the UK site at a safe working temperature. Upgrades have been made to the four cooling pumps, reducing usage during periods of low demand. This is estimated to save 177MWh a year and reduce the factory baseload.

#### After-rinse pump invertors

The after-rinse pumps are large 11kw pumps that help to remove excess paint from radiators in the UK. Invertors have been installed, allowing for greater control of operating speeds and reducing energy usage by c.74%.

#### Extractor fan optimisation

Extractor fans, which remove welding fumes, vapours and process gases, are present on each production line in our Turkish facility. In 2023, optimisation of the fan speed and running times resulted in estimated savings of 1,596MWh a year.

#### Infrared heating

Infrared heaters are used to maintain the ambient temperature in production settings. These automatically turn off when no motion is detected. The automation settings have been changed to reduce the time between last detecting motion and turning off from 120 seconds to 30 seconds.

## Measures prioritised for implementation in 2024

#### Submetering

Implementation of an electricity submetering system in Italy, allowing the identification of energy consumption per process, and the chance to make more targeted efficiency savings.

#### Electrification of burners

The burners on our paint line in Turkey will be upgraded. These currently run on natural gas, and these will be replaced by more efficient alternatives that consume electricity. It is estimated that this will save 170MWh a year.

#### Cooling tower control upgrade

Similar to the cooling tower project completed in 2023, a controls upgrade is planned to the paint cooling tower. This tower reduces heat created by the paint process, and it is estimated that this project could save 116MWh a year.

#### LED lighting

Expand the use of LED lighting to additional production and packaging areas in Turkey.

## I: Compliance Responsibility

This report has been prepared by the ESG division of Inspired PLC for Stelrad Group PLC 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 Group PLC and its energy suppliers.

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

This includes details of any complex ownership structures (for example, private equity funds, franchises for private finance initiatives) and electricity/gas usage that is covered by the EU Emissions Trading Scheme (ETS) or Climate Change Agreements (CCA) scheme generated on-site (including Combined Heat and Power (CHP)) or supplied to/from a third party (i.e., not a licenced energy supplier or a landlord/tenant).

## II: Reporting Methodology

This report (including the Scope 1 and 2 consumption and CO<sub>2</sub>e emissions data) has been developed and calculated using the *GHG Protocol – A Corporate Accounting and Reporting Standard* (World Business Council for Sustainable Development and World Resources Institute, 2004); *Greenhouse Gas Protocol – Scope 2 Guidance* (World Resources Institute, 2015); *ISO 14064-1 and ISO 14064-2* (ISO, 2018; ISO, 2019a); *Environmental Reporting Guidelines: Including Streamlined Energy and Carbon Reporting Guidance* (HM Government, 2019).

Government Emissions Factor Database 2023 version 1.1 has been used, utilising the published kWh gross calorific value (CV) and kgCO<sub>2</sub>e emissions factors relevant for the reporting period 01/01/2023 – 31/12/2023.

Estimations were undertaken to cover missing billing periods for properties directly invoiced to Stelrad Group PLC. These were calculated on a kWh/day pro-rata basis at the meter level. All estimations equated to 1.7% of reported consumption.

Intensity metrics have been calculated using total tCO<sub>2</sub>e figures and the selected performance indicator agreed with Stelrad Group PLC for the relevant report period:

Tonnage of product <b>2023</b> (2022)	<b>119,271.90</b> (138,891.90)
---------------------------------------	--------------------------------

Inspired Energy PLC  
Progress Business Park, Orders Lane  
Kirkham, Preston  
Lancashire  
PR4 2TZ  
United Kingdom

t +44 (0) 1772 689 250  
investors@inspiredplc.co.uk  
<https://inspiredplc.co.uk/>

