

## Carbon footprint report for FC Darlington Locomotives 01 June 2022 to 31 May 2023

FC Darlington Locomotives emitted 179 kgCO<sub>2</sub>e (Kilogrammes of carbon dioxide equivalent) for 2022/23 (across scope 1 and 2). This can be presented as 0 tCO<sub>2</sub>e (tonnes of carbon dioxide equivalent) with an intensity indicator of 0.02 tCO<sub>2</sub>e per total full-time equivalent employee (FTE) and 0 tCO<sub>2</sub>e per million GBP £.

When Scope 3 is added, this brings the total to 44 tCO<sub>2</sub>e.

**Table 1. UK GHG emissions and energy use data for period 01 June 2022 to 31 May 2023**

| Emissions source  | Units     | kWh | Carbon (kgCO <sub>2</sub> e) | Carbon (tCO <sub>2</sub> e) |
|---|-----------|-----|------------------------------|-----------------------------|
| <b>Scope 1</b>  |           |     |                              |                             |
| <b>Total Scope 1</b>  |           |     | <b>0</b>                     | <b>0</b>                    |
| <b>Scope 2</b>  |           |     |                              |                             |
| UK National Grid electricity  | 864 kWh   | 864 | 178.91                       | 0.18                        |
| <b>Total Scope 1 &amp; 2</b>  |           |     | <b>179</b>                   | <b>0</b>                    |
| <b>Total tCO<sub>2</sub>e per *FTE on gross scope 1 &amp; 2</b>         |           |     |                              | <b>0.02</b>                 |
| <b>Total tCO<sub>2</sub>e per *£m Turnover on gross scope 1 &amp; 2</b> |           |     |                              | <b>0</b>                    |
| <b>Scope 3</b>  |           |     |                              |                             |
| Van diesel (average up to 3.5 tonnes)                                   | 2,882 km  | -   | 666.63                       | 0.67                        |
| Small car (petrol)  | 58,057 km | -   | 8,174.44                     | 8.17                        |
| Medium car (petrol)   | 24,935 km | -   | 4,443.20                     | 4.44                        |
| Large car (petrol)  | 24,935 km | -   | 6,788.35                     | 6.79                        |
| Small car (diesel)  | 36,506 km | -   | 5,085.70                     | 5.09                        |
| Medium car (diesel)   | 13,498 km | -   | 2,256.25                     | 2.26                        |
| Large car (diesel)  | 12,773 km | -   | 2,664.40                     | 2.66                        |
| Average car (hybrid)  | 3,647 km  | -   | 433.89                       | 0.43                        |
| Transmission and distribution of UK national grid electricity           | 864 kWh   | 864 | 15.48                        | 0.02                        |
| Average car (EV)  | 4,416 km  | -   | 241.98                       | 0.24                        |
| Average car (EV)  | 1,386 km  | -   | 75.93                        | 0.08                        |
| Large car (diesel)  | 1,656 km  | -   | 345.43                       | 0.35                        |
| Medium car (diesel)   | 2,433 km  | -   | 406.76                       | 0.41                        |
| Small car (diesel)  | 6,083 km  | -   | 847.47                       | 0.85                        |
| Average car (hybrid)  | 744 km    | -   | 88.46                        | 0.09                        |
| Large car (petrol)  | 4,562 km  | -   | 1,242.09                     | 1.24                        |
| Medium car (petrol)   | 3,549 km  | -   | 632.33                       | 0.63                        |

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|  |             |     |               |             |
|--|-------------|-----|---------------|-------------|
| Small car (petrol)   | 6,861 km    | -   | 965.98        | 0.97        |
| Average car (Plug-in hybrid)   | 338 km      | -   | 31.74         | 0.03        |
| Van diesel (average up to 3.5 tonnes)                                      | 541 km      | -   | 125.06        | 0.13        |
| Commercial and industrial waste (Recycled)                                 | 0 tonne     | -   | 0.49          | 0.00        |
| Paper and board: board (Recycled)  | 0 tonne     | -   | 0.19          | 0.00        |
| Working from Home Annually   | 6,864 Hours | -   | 2,291.07      | 2.29        |
| WTT- UK electricity (generation)   | 864 kWh     | 864 | 39.66         | 0.04        |
| WTT- UK electricity (T&D)  | 864 kWh     | 864 | 3.43          | 0.00        |
| WTT - Diesel - Small car   | 30,684 km   | -   | 1,040.79      | 1.04        |
| WTT - Petrol - Small car   | 42,533 km   | -   | 1,661.78      | 1.66        |
| WTT - Diesel - Medium car  | 11,172 km   | -   | 455.71        | 0.46        |
| WTT - Petrol - Medium car  | 16,913 km   | -   | 837.00        | 0.84        |
| WTT - Diesel - Large car   | 10,266 km   | -   | 523.57        | 0.52        |
| WTT - Petrol - Large car   | 17,926 km   | -   | 1,357.39      | 1.36        |
| WTT - Hybrid - Average car   | 3,201 km    | -   | 99.52         | 0.10        |
| WTT - Plug-in Hybrid Electric Vehicle - Average car                        | 270 km      | -   | 6.60          | 0.01        |
| WTT - Battery Electric Vehicle - Average car                               | 2,931 km    | -   | 35.61         | 0.04        |
| <b>Total Scope 3</b>   |             |     | <b>43,884</b> | <b>44</b>   |
| <b>Total Scope 1, 2 &amp; 3</b>  |             |     | <b>44,063</b> | <b>44</b>   |
| <b>Total tCO<sub>2</sub>e per *FTE on gross scope 1, 2 &amp; 3</b>         |             |     |               | <b>4.41</b> |
| <b>Total tCO<sub>2</sub>e per *£m Turnover on gross scope 1, 2 &amp; 3</b> |             |     |               | <b>0</b>    |
| Adjustments  |             |     |               |             |

\*Notes: For 01 June 2022 to 31 May 2023 the number of Full-time equivalent employees (FTE) was 10 and the Turnover was GBP UNKNOWN



### Energy efficiency measures taken

- FC Darlington Locomotives has undertaken extensive research and data collection to establish this our inaugural carbon footprint report.

### Energy efficiency planned

FC Darlington Locomotives plans to further refine the collection of data to produce a more accurate footprint. We will be introducing several energy saving efficiency plans, mainly around transport.

### Notes about methodology:

- FC Darlington Locomotives has adopted an operational control approach to establishing the boundary. The methodology adopted in line with the Greenhouse Gas Protocol<sup>1</sup> and the BEIS Environmental Reporting Guidelines<sup>2</sup>. The calculations were completed on the SmartCarbon™ Calculator<sup>3</sup> using the UK Government emissions factors<sup>4</sup>.
- CO<sub>2</sub>e is the universal unit of measurement to indicate the global warming potential (GWP) of Greenhouse Gases (GHGs), expressed in terms of the GWP of one unit of carbon dioxide. There are seven main GHGs that contribute to climate change, as covered by the Kyoto Protocol: carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF<sub>6</sub>) and nitrogen trifluoride (NF<sub>3</sub>). Different activities emit different gases. Using CO<sub>2</sub>e allows all greenhouse gases to be measured on a like-for-like basis.
- For National grid electricity consumption, THE ORGANISATION has included factors for the transmission and distribution of electricity (T&D) losses, which occur between the power station and site(s). The emissions from T&D has been accounted for in Scope 3. As with other Scope 3 impacts, reporting T&D is voluntary but is recommended standard practice by UK Government<sup>2</sup>.



## Definitions:

**Carbon footprint** - The total set of greenhouse gas emissions (GHG) caused directly and indirectly by an individual event, organisation, or product expressed as Carbon Dioxide Equivalent (CO<sub>2</sub>e). (Source: Greenhouse Gas Protocol).

**Scope 1** (direct emissions) emissions are those from activities owned or controlled by your organisation. Examples of Scope 1 emissions include emissions from combustion in owned or controlled boilers, furnaces and vehicles; and emissions from chemical production in owned or controlled process equipment.

**Scope 2** (energy indirect) emissions are those released into the atmosphere that are associated with your consumption of purchased electricity, heat, steam and cooling. These indirect emissions are a consequence of your organisation's energy use, but occur at sources you do not own or control.

**Scope 3** (other indirect) emissions are a consequence of your actions that occur at sources you do not own or control and are not classed as Scope 2 emissions. Examples of Scope 3 emissions are business travel by means not owned or controlled by your organisation, waste disposal, materials or fuels your organisation purchases. Deciding if emissions from a vehicle, office or factory that you use are Scope 1 or Scope 3 may depend on how you define your operational boundaries. Scope 3 emissions can be from activities that are upstream or downstream of your organisation. More information on Scope 3 and other aspects of reporting can be found in the Greenhouse Gas Protocol Corporate Standard.

## References:

1. The GHG Protocol Corporate Accounting and Reporting Standard. Revised Edition (2015) World Resource Institute and World Business Council for Sustainable Development.
2. Environmental Reporting Guidelines: Including streamlined energy and carbon reporting guidance (March 2019) UK Government Department for Business, Environment and Industrial Strategy.
3. [SmartCarbon Calculator: https://www.smartcarboncalculator.com/](https://www.smartcarboncalculator.com/)
4. Greenhouse gas reporting: conversion factors - Full set (for advanced users). More at this link: <https://www.gov.uk/government/collections/government-conversion-factors-for-company-reporting>