

Carbon footprint report for Newcastle Hospitals 01 April 2022 to 31 March 2023

Newcastle Hospitals emitted 50,276,612 kgCO₂e (Kilogrammes of carbon dioxide equivalent) for 2022/23 (across scope 1 and 2). This can be presented as 50,277 tCO₂e (tonnes of carbon dioxide equivalent).

When Scope 3 is added, this brings the total to 211,338.64 tCO₂e.

Table 1. UK GHG emissions and energy use data for period 01 April 2022 to 31 March 2023

Emissions source	Units	kWh	Carbon (kgCO ₂ e)	Carbon (tCO ₂ e)
Scope 1				
Natural gas	244,982,568 kWh	244,982,568	44,719,117.96	44,719.12
Diesel	3,186 litre	33,791	8,148.69	8.15
Petrol	323 litre	3,077	699.10	0.70
Desflurane	8 kg	-	15,107.60	15.11
Sevoflurane	970 kg	-	209,579.40	209.58
Isoflurane	105 kg	-	51,785.77	51.79
Entonox (50)	5,892 kg	-	1,016,778.11	1,016.78
Nitrous oxide	3,137 kg	-	934,721.70	934.72
Total Scope 1			46,955,938	46,956
Scope 2				
UK National Grid electricity	17,171,754 kWh	17,171,754	3,320,673.79	3,320.67
Total Scope 1 & 2			50,276,612	50,277
Intensity (kgCO₂e per patient contact)				27.63
Scope 3				
Healthcare Waste for incineration	84.84 tonnes		76,466.29	76.47
Healthcare Waste for alternative treatment (and then energy from waste (EFW))	623.51 tonnes		354,777.19	354.78
Non Hazardous healthcare waste (EFW)	1,297.06 tonnes		27,601.44	27.6
Food waste	286.4 tonnes		2,552.11	2.55
Garden waste	10.82 tonnes		96.42	0.1
All other waste	2,662.54 tonnes		56,658.85	56.66
Average car (Unknown fuel)	1,811,482 km	1,253,021	309,165.71	309.17
Transmission and distribution of UK national grid electricity	17,171,754 kWh	17,171,754	303,768.33	303.77
Flights (Domestic, with RF)	97,703 km	-	24,022.21	24.02
Flights (Short-haul, with RF)	284,100 km	-	42,904.81	42.90
Flights (Long-haul, with RF)	298,968 km	-	44,208.40	44.21

Regular taxi	906,461 km	-	188,779.50	188.78
Local bus (not London)	113,133 km	-	12,193.42	12.19
National rail	1,221,321 km	-	43,344.69	43.34
Van diesel (average up to 3.5 tonnes)	435,796 km	404,092	100,913.03	100.91
Average car (petrol)	107,783 km	76,872	18,374.78	18.37
Average car (diesel)	36,431 km	24,368	6,223.09	6.22
Average car (hybrid)	1,981 km	961	237.81	0.24
Average car (EV)	1,926 km	469	99.02	0.10
Motorbike (Average)	45,088 mile	-	8,239.38	8.24
Average car (EV)	1,814,053 km	-	93,242.30	93.24
Average car (Unknown fuel)	11,863,912 km	-	2,024,813.82	2,024.81
Local bus (not London)	6,312,906 km	-	680,405.02	680.41
Light rail and tram	5,006,788 km	-	143,244.21	143.24
National rail	399,092 km	-	14,163.76	14.16
Regular taxi	72,562 km	-	15,111.78	15.11
Downstream leased assets - UK electricity	2,331,391 kWh	2,331,391	450,844.39	450.84
Supply Chain - Reported			3,346,530.40	3,346.53
Supply Chain – Spend based method				152,673.05
Total Scope 3				153,070.03
Total Scope 1, 2 & 3				211,338.64
Intensity (kgCO2e per patient contact)				116.12
Adjustments				
Green tariff electricity	17,171,754 kWh	17,171,754	0.00	0.00

Energy efficiency measures taken

- Change to Freeman Energy Centre operational strategy – reducing the running hours of our fossil fuel Combined Heat and Power (CHP) to match our demand, with no export to the grid.

Energy efficiency planned

- Removal of gas powered boilers from Regent Point office facilities. Installation of air source heat pumps, solar photovoltaic panels, complete upgrade to LED lighting and improvements to building management system.
- Low Carbon Skills Fund application to further develop our heat decarbonisation plans for the RVI and Freeman Hospital.
- Continue to work as a partner in the development of a City Heat Network for Newcastle

Notes about methodology:

- Newcastle Hospitals has adopted an operational control approach to establishing the boundary. The methodology adopted in line with the Greenhouse Gas Protocol¹ and the BEIS Environmental Reporting Guidelines². The calculations were completed on the SmartCarbon™ Calculator³ using the UK Government emissions factors⁴.
- CO₂e 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 (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF₆) and nitrogen trifluoride (NF₃). Different activities emit different gases. Using CO₂e 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 Government².

Estimations:

- None

Exclusions:

- Northern Centre for Cancer Care, North Cumbria
- Well to tank carbon emissions



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 (CO₂e). (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>



SECR requirements:

SECR requires that companies include in their annual director's report the following information:

- Annual UK greenhouse gas emissions (in tonnes of carbon dioxide equivalent (CO₂e), as a minimum relating to gas, purchased electricity and transport fuel
- Associated energy use (in kWh)
- An emissions intensity ratio (e.g. tCO₂e per full time equivalent employee, or other suitable indicator)
- A stated methodology used for calculating the footprint (e.g. SmartCarbon aligns to the Greenhouse Gas Protocol and uses the UK government emissions factors)
- A narrative on energy efficiency measures taken and planned. If no measures have been taken, this should be stated
- In future years, the prior year equivalent figures are also required to be disclosed for comparison, but this is not mandatory in the first year.

More info at this link:

<https://www.smartcarboncalculator.com/streamlined-energy-carbon-reporting-secr/>