

CARBON EMISSIONS AUDIT REPORT



Clague Architects
1.4.23 to 31.3.24

ABOUT THE AUDIT

Clague Architects are looking to assess their carbon emissions over a range of activities. Emissions from fuels (Scope 1) and electricity (Scope 2) for their office premises in Canterbury and their fleet of company cars have been audited and calculated.

This is the third consecutive year that Clague has carried out an audit of its emissions.

The audit has been carried out by Andrew Stevens, Independent Decarbonisation Consultant, on behalf of Clague.



METHODOLOGY

AUDIT METHODOLOGY (1)

Clague uses gas to heat their premises in Canterbury. They also use electricity in the offices for their infrared heating system.

They have a fleet of 10 company cars which are a range of electric, hybrid, petrol and diesel with varying engine sizes. Each car has been separately assessed in terms of its emissions relative to the mileage carried out.

The audited period is 1.4.23 to 31.3.24 which follows on from previous audits carried out.

AUDIT METHODOLOGY (2)

Emissions are expressed in the format “tCO₂e” which means “tonnes of carbon dioxide equivalent”. This includes the other main greenhouse gases of methane and nitrous oxide. These greenhouse gases are less prevalent but more damaging than CO₂.

Emissions have been calculated by using the UK Government conversion factors for 2023 along with the actual consumption data for electricity and fuels. Some data was received for a different annual period but Clague have confirmed it is representative of an April to March period.

AUDIT METHODOLOGY (3)

For 2023 we have assessed Clague's electricity (Scope 2) emissions taking into account their renewable electricity tariff. As the tariff started mid year we have assumed that 50% of the reported electricity was consumed using renewable electricity. This is known as the "market based" approach. Emissions from renewable electricity contracts are assumed to be zero greenhouse emissions using this "market based" approach.

SCOPE 1 EMISSIONS



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SCOPE 1 EMISSIONS (1)

Clague uses mains gas in its Canterbury offices. We have been told that the annual consumption was 32,742 kWh.

32,742 kWh x GHG conversion factor of 0.18 / 1000

= **5.89 tCO₂e.**

SCOPE 1 EMISSIONS (2)

On checking last year's gas consumption declared by Clague (2,138) this appears to be significantly understated compared to the 23/24 figure supplied (32,742).

Clague have now supplied the accurate 22/23 figure and the emissions for this year have now been recalculated and shown in this report.

SCOPE 1 EMISSIONS (3)

The other Scope 1 emissions come from the fleet of company cars. There were 10 cars used during the year and details are given below:

Vehicle	Reg	Fuel type / engine size	Mileage
A	GL72VKJ	Electric 2.0	14023
B	GK19DZW	Diesel 2.0	17600
C	GK21FLH	Petrol 2.0	820
D	GJ73RTV	Petrol 2.0	9020
E	GJ70CWZ	Petrol 3.0	16000
F	GC69AGO	Hybrid 2.0	8800
G	LN18WEX	Petrol 1.6	14400
H	YJ21CJR	Petrol 2.0	9040
I	OV14NRY	Diesel 2.2	2142
J	OW19ZHB	Petrol 2.0	5666

SCOPE 1 EMISSIONS (4)

The emissions from these vehicles have been calculated separately and are shown below:

Vehicle	Conversion factor	tCO ₂ e
A	0	0.00
B	0.3357	5.91
C	0.43812	0.36
D	0.43812	3.95
E	0.43812	7.01
F	0.2453	2.16
G	0.28676	4.13
H	0.43812	3.96
I	0.3357	0.72
J	0.43812	2.48
		30.68

SCOPE 1 EMISSIONS (5)

Total Scope 1 emissions are therefore:

Gas consumption - 5.89 tCO₂e

Company cars - 30.68 tCO₂e

Total = 36.57 tCO₂e

SCOPE 2 EMISSIONS



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SCOPE 2 EMISSIONS (1)

Clague uses electricity in the Canterbury offices. Annual consumption was 44,509 kWh.

As mentioned previously, Clague moved onto a 100% renewable electricity tariff from October 2023. We have therefore assumed that 50% of the annual consumption was under a renewable energy contract and 50% was not.

SCOPE 2 EMISSIONS (2)

April to October (estimated) - 22,254 kWh x GHG conversion factor of 0.207074 / 1000 = 4.61 tCO₂e

October to March (estimated) - 22,254 kWh all under 100% renewable electricity contract = 0 tCO₂e.

Overall electricity emissions (“market based” from October 2023) are 4.61 tCO₂e.

There are no other Scope 2 emission categories.

TOTAL SCOPE 1&2 EMISSIONS

Scope 1 emissions = 36.57 tCO₂e

Scope 2 emissions = 4.61 tCO₂e



Total GHG emissions for period 1.4.23 to 31.3.24

= 41.18 tCO₂e.

AUDIT NARRATIVE (1)

Previous years' totals can be seen below:

1.4.21 to 31.3.22 = 41.25 tCO₂e

1.4.22 to 31.3.23 = 51.91 tCO₂e (*previously reported as 41.09. Now recalculated*)

1.4.23 to 31.3.24 = 41.18 tCO₂e

AUDIT NARRATIVE (2)

The 22/23 gas consumption figure has been recalculated to give a better comparison between years.

As a result of the recalculation, Clague shows a decrease of 10.73 tCO₂e (21%) in the 23/24 year. The primary reasons for this were the move to 100% renewable electricity tariffs (and the consequential move to “market based” reporting) and also reduced gas consumption compared to 22/23.

AUDIT NARRATIVE (3)

The Scope 2 emissions have been calculated using the market based approach. The differences in reporting methods can be seen below:

Scope 2 (market based) - 4.61 tCO₂e

Scope 2 (location based) - 9.22 tCO₂e.

In the next audit period (1.4.24 to 31.3.25) Clague will see the benefit of a full year of renewable electricity tariff and their Scope 2 emissions will be zero using the market based approach.



CARBON REDUCTION STRATEGIES

DECARBONISATION STRATEGIES

Projects / initiatives to reduce the company's emissions could include:

1. Migrating more company cars to electric. Converting half the fleet onto electric could reduce the fleet emissions by up to 50%.
2. Monitor the infrared heating over the colder months and use this instead of gas. This would work well with the 100% renewable electricity tariff.
3. Continue to replace all legacy lighting with LED alternatives.



CARBON OFFSETTING

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Carbon offsetting can be considered when all other avenues to reduce emissions have been exhausted. The correct approach should be “Eliminate” > “Reduce” > “Offset”

Offsetting should only be considered via internationally recognised schemes such as “Gold Standard” or VCS.

An approximate cost to offset the emissions detailed in this report would be £300 to £700 per year.

DISCLAIMER

All source data and information has been supplied by the company being audited and no liability is accepted for errors or omissions owing to the quality or accuracy of data provided

Andrew Stevens

Independent Decarbonisation Consultant

October 2024

