

Greenhouse Gas Assessment for Reed Global Limited and its
subsidiary companies – UK offices
Assessment Period: July 2020 - June 2021
Produced on Oct. 1, 2021 By *Our Impacts*

Assessment Details

This report is prepared on behalf of Natural Capital Partners for Reed Global Limited and its subsidiary companies – UK offices

Natural Capital Partners works with clients all over the world to develop carbon reduction strategies; including footprint measurement, establishing reduction targets and delivering carbon offset programmes.

Consolidation Approach

Operational control

Organisational Boundary

Operations of Reed Global Limited and its subsidiary companies – UK offices

Included

- Reed Global Limited and its subsidiary companies – UK offices
- UK Offices

Operational Boundary

- Air travel
- Bus and coach
- Electricity
- Employee owned cars
- Homeworkers
- Hotel night stays
- Landfilled waste
- Natural gas
- R-22 Refrigerant gas
- Rail (train, tram, light rail, underground)
- Recycled waste
- Taxi
- Water supply
- Water treatment

Client Contact

Rachael Davies Stephen Davies

Ecometrica Reviewer

- Michela Tallarico - michela.tallarico@ecometrica.com

Table of Contents

CarbonNeutral® Certification Summary	4
Introduction	5
Data Quality and Availability	6
Key Assumptions	7
Assessment Summary for Reed Global Limited and its subsidiary companies – UK offices	9
Detailed Results	12
<i>Location-Based methodology</i>	12
<i>Market-Based methodology</i>	12
Summary by Company Unit	14
<i>Location-Based methodology</i>	14
<i>Market-Based methodology</i>	15
Annual Activity Data	16
Key Observations	17
References	18

CarbonNeutral® Certification Summary

CarbonNeutral® certification:			CarbonNeutral® Company				
Reporting period:			July 2020 - June 2021				
CarbonNeutral® certification scope and emissions to be offset:							
Scope	Emissions source		Required or recommended	Included in assessment	Location-Based Method (tCO ₂ e)	Market-Based Method (tCO ₂ e)	
Scope 1	Direct emissions arising from owned or leased stationary sources that use fossil fuels		Required	✓	258	258	
	Direct emissions arising from owned or leased stationary sources that emit fugitive or process emissions		Required	n/a	-	-	
	Direct emissions from owned or leased mobile sources		Required	n/a	-	-	
Scope 2	Emissions from the generation of purchased electricity and/or steam		Required	✓	1,084	1,537	
Scope 3	Fuel and energy related activities	Transmission and distribution losses	Required	✓	94.5	94.5	
	Third party transportation of goods		Required*	n/a	-	-	
	Waste generated in operations		Required	✓	0.0305	0.0305	
	Business Travel	All transportation by air, public transport, rented/leased vehicle and taxi		Required	✓	65.9	65.9
		Emissions arising from hotel accommodation associated with business travel		Recommended	✓	4.97	4.97
	Commuting		Recommended	n/a	-	-	
	Water Supply and Treatment		Recommended	✓	25.6	25.6	
Homeworkers		Recommended	✓	1.75	1.75		
Overall compliance				✓			
TOTAL FOR OFFSET(tCO₂e)**					1,535	1,988	

* Per Natural Capital Partners' CarbonNeutral Protocol, the category "Third party transportation of goods" is required for product manufacturers and distributors only, and is intended to capture significant emissions from the transportation and storage of production-related goods (i.e. inputs into products manufactured and sold by the entity), when the entity takes ownership of the goods at the supplier's gate. This is not intended to capture or include emissions from the day-to-day movement of non-core business consumables, though these may have been included in this assessment as a recommended source.

** Please note total calculated GHG emissions are rounded up to the nearest whole tCO₂e for the purpose of offsetting. Rounding errors may apply.

Introduction

A greenhouse gas (GHG) emissions assessment quantifies the total greenhouse gases produced directly and indirectly from a business or organisation's activities. Also known as a carbon footprint, it is an essential tool, providing your business with a basis for understanding and managing its climate change impacts.

A GHG assessment quantifies all seven Kyoto greenhouse gases where applicable and is measured in units of carbon dioxide equivalence, or CO₂e¹. The seven Kyoto gases are carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), nitrogen trifluoride (NF₃), sulphur hexafluoride (SF₆) and perfluorocarbons (PFCs). The global warming potential (GWP) of each gas is illustrated in the Table 1.

Table 1. GWP of Kyoto Gases (IPCC 2007)

Greenhouse Gas	GWP
Carbon dioxide (CO ₂)	1
Methane (CH ₄)	25
Nitrous oxide (N ₂ O)	298
Hydrofluorocarbons (HFCs)	124 - 14,800
Perfluorocarbons (PFCs)	7,390 - 12,200
Nitrogen trifluoride (NF ₃)	17,200
Sulphur hexafluoride (SF ₆)	22,800

This assessment has been carried out in accordance with the World Business Council for Sustainable Development and World Resources Institute's (WBCSD/WRI) Greenhouse Gas Protocol; a Corporate Accounting and Reporting Standard, including the GHG Protocol Scope 2 Guidance. This protocol is considered current best practice for corporate or organisational greenhouse gas emissions reporting. GHG emissions have been reported by the three WBCSD/WRI Scopes.

Scope 1 includes direct GHG emissions from sources that are owned or controlled by the company such as natural gas combustion and company owned vehicles.

Scope 2 accounts for GHG emissions from the generation of purchased electricity, heat and steam generated off-site. As the subject of this assessment operates in markets which offer contractual instruments with product or supplier-specific data, scope 2 emissions are reported using both the location-based method and the market-based method. The location-based method applies average emission factors that correspond to the grid where consumption occurs, whereas the market-based method applies emission factors that correspond to energy purchased (or not purchased) through contractual instruments. Contractual instruments include energy attribute certificates, direct energy contracts, and supplier specific emission rates. The subject of this assessment has ensured that any contractual instruments used in the market-based method have met the Scope 2 Quality Criteria, as defined in the Guidance. Where contractual instruments do not meet the Quality Criteria, or where contractual instruments were not purchased, market-based scope 2 emissions have been calculated using residual mix emission factors. Where residual mix emission factors are not available, market-based scope 2 emissions have been calculated using default location grid-average emission factors, per the Protocol hierarchy. This may result in double counting between electricity consumers, as an adjusted emission factor taking into account voluntary purchases of electricity with specific attributes was not available.

Scope 3 includes all other indirect emissions such as waste disposal, business travel and staff commuting. Reporting of these activities is optional under the WBCSD/WRI GHG Protocol, but as they can contribute a significant portion of overall emissions Ecometrica recommends they are reported where applicable.

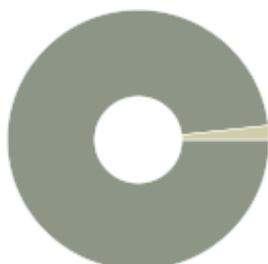
A GHG assessment is an essential tool in the process of monitoring and reducing an organisation's climate change impact as it allows reduction targets to be set and action plans formulated. GHG assessment results can also allow organisations to be transparent about their climate change impacts through reporting of GHG emissions to customers, shareholders, employees and other stakeholders. Regular assessments allow clients to track their progress in achieving reductions over time and provide evidence to support green claims in external marketing initiatives such as product labelling or CSR reporting. Ecometrica GHG assessments are designed to be transparent, consistent and repeatable over time.

¹ Carbon dioxide equivalent or CO₂e is a term for describing different greenhouse gases in a common unit. For any quantity and type of greenhouse gas, CO₂e signifies the amount of CO₂ which would have the equivalent global warming impact.

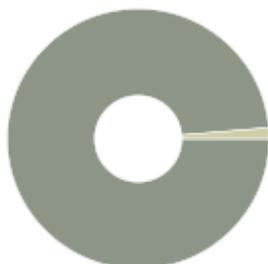
Data Quality and Availability

In order to provide the most accurate estimate of an organisation's GHG emissions, primary (actual) data should be used where it is available, up to date and geographically relevant. Secondary data in the form of estimates, extrapolations and industry averages may be used when primary data is not available. Table 2 details the quality of data submitted for this assessment with the key assumptions used stated below.

Data Quality Overview



Location-based Accuracy Overview		
	tCO ₂ e/year	%
Actual	1,507	98.3
Estimated	26.8	1.75
Total	1,534	100



Market-based Accuracy Overview		
	tCO ₂ e/year	%
Actual	1,961	98.6
Estimated	26.8	1.35
Total	1,987	100

Table 2. Data Quality and Availability

Source of emissions	Data quality
Premises	
Composted waste	N/A
Electricity	Actual
Electricity - Green Tariff	N/A
Fuel oil	N/A
Incinerated waste	N/A
Landfilled waste	Actual
Natural gas	Actual
Other fuel(s)	N/A
R-22 Refrigerant gas	Actual
Recycled waste	Actual
Refrigerant gas loss and other fugitive emissions	N/A
Water supply	Mixed
Water treatment	Estimated
Company owned vehicles	
Cars	N/A
Motorcycle	N/A

Trucks	N/A
Vans	N/A
Business Travel	
Air travel	Actual
Bus and coach	Estimated
Employee owned cars	Actual
Hired cars	N/A
Hotel night stays	Actual
Rail (train, tram, light rail, underground)	Actual
Taxi	Actual
Outbound third-party deliveries	
Air freight	N/A
Bicycle	N/A
Motorcycle	N/A
Rail freight	N/A
Road freight, shared vehicle (tonne.km factors)	N/A
Road freight, whole vehicle (km factors)	N/A
Sea freight (basic options list)	N/A
Homeworkers	
Homeworkers	Estimated
Commuting	
Bicycle	N/A
Bus and coach	N/A
Cars	N/A
Motorcycle	N/A
On foot	N/A
Rail (train, tram, light rail, underground)	N/A

Key Assumptions

- No AIF has been applied to air travel to account for the additional negative effects air travel has on the environment. Short-, medium-, and long-haul air travel has been estimated based on the number of return journeys and the Defra/DECC (2012) typical return distances for short-, medium-, and long-haul flights.
- Business travel by local bus has been estimated based on the amount spent and the DFT/TFS (2021) average cost per [pass.km](#) for travel by local bus.
- Business travel by train, underground and tram has been estimated based on the amount spent and the DFT (2019) average cost per [pass.km](#) for travel by train, underground and tram.
- Business travel by taxi has been estimated based on the amount spent and the DFT (2003) average cost per [pass.km](#) for travel by taxi.
- Electricity consumption has been estimated based on the amount spent and the BEIS (2021) average electricity price per kWh for a small/medium consumer during the assessment period.
- Natural gas consumption has been estimated based on the amount spent and the BEIS (2021) average natural gas price per kWh for a small consumer during the assessment period.
- Water supply has been estimated based on FTE and the BBP (2018) assumption for office water intensity (typical practice). Water treated has been assumed to be equal to water supplied.
- Homeworkers emissions have been calculated based on Ecometrica-developed homeworker model, which includes three distinct energy demands – home office equipment, space heating, and space cooling. The model applies country specific grid electricity

factors to the assumed energy consumption of home office equipment in order to calculate resultant greenhouse gas emissions.

Assessment Summary for Reed Global Limited and its subsidiary companies – UK offices

Gross Overall Emissions (location-based): 1,534 tCO₂e

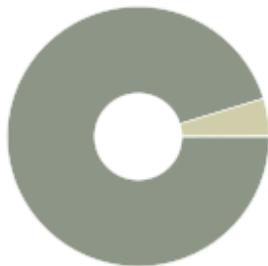
Gross Overall Emissions (market-based): 1,987 tCO₂e

Key Performance Indicators

Absolute GHG emissions will vary over time and often correspond to the expansion or contraction of an organisation. It is useful therefore to use reporting metrics that take these effects into account and monitor relative GHG emissions intensity. A common emissions intensity metric is tonnes of CO₂e per full time equivalent. This has been calculated, along with other relevant metrics, in the table below:

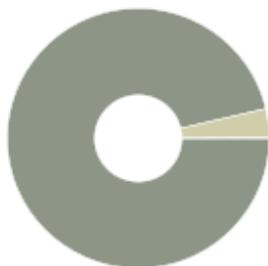
Data	KPI
2,599 Full Time Equivalent Employees	0.59 tCO ₂ e per Full Time Equivalent Employee (Location-Based)
2,599 Full Time Equivalent Employees	0.765 tCO ₂ e per Full Time Equivalent Employee (Market-Based)

Summary by Activity (Location-Based, tCO₂e)



By Activity	tCO ₂ e/year	%
Premises	1,462	95.3
Business Travel	70.9	4.62
Homeworkers	1.75	0.114
Total	1,534	100

Summary by Activity (Market-Based, tCO₂e)



By Activity	tCO ₂ e/year	%
Premises	1,915	96.3
Business Travel	70.9	3.57
Homeworkers	1.75	0.0883
Total	1,987	100

Summary by WBCSD/WRI Scope (Location-Based, tCO₂e)



Scope	tCO ₂ e/year	%
Scope 1	258	16.8
Scope 2	1,084	70.6
Scope 3	193	12.6
Total	1,534	100

Summary by WBCSD/WRI Scope (Market-Based, tCO₂e)



Scope	tCO ₂ e/year	%
Scope 1	258	13
Scope 2	1,537	77.3
Scope 3	193	9.7
Total	1,987	100

Summary by Greenhouse Gas

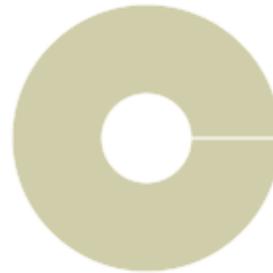
Greenhouse Gas	GWP	tGHG/year (Location-Based)	tCO ₂ e/year (Location-Based)	tGHG/year (Market-Based)	tCO ₂ e/year (Market-Based)
CO ₂	1	1,496	1,496	1,960	1,960
CH ₄	25	0.179	4.47	0.0309	0.773
N ₂ O	298	0.0264	7.86	0.00395	1.18
CO ₂ e	1	25.6	25.6	25.6	25.6
Total			1,534		1,987

Summary of Scope 2 Market-Based Method for Reed Global Limited and its subsidiary companies – UK offices

Energy Consumed and Emissions By Factor Type In Scope 2 Market-Based Method

Scope 2 Market-Based Energy

Scope 2 Market-Based Emissions



Emission Factor Type	Energy		Market-Based Emissions	
	MWh	%	tCO ₂ e	%
Client-supplied market-based instrument	0	0	0	0
Residual mix factors	4,863	100	1,537	100
Default location-based factors	0	0	0	0
Total	4,863	100	1,537	100

Detailed Results

Detailed Summary by WBCSD/WRI Scope

Location-Based methodology

Source of Emissions	tCO ₂ /yr	tCH ₄ /yr	tN ₂ O/yr	Total Emissions (tCO ₂ e/yr)	%
Scope 1 Total	257	0.0141	4.72e-4	258	16.8%
Premises Total	257	0.0141	4.72e-4	258	16.8%
Natural gas	257	0.0141	4.72e-4	258	16.8%
Scope 2 Total	1,073	0.148	0.0224	1,084	70.6%
Premises Total	1,073	0.148	0.0224	1,084	70.6%
Electricity	1,073	0.148	0.0224	1,084	70.6%
Scope 3 Total	166	0.0169	0.00348	193	12.6%
Business Travel Total	70.4	0.00289	0.00152	70.9	4.62%
Air travel	5.93	2.13e-4	1.88e-4	5.99	0.391%
Bus and coach	0.137	8.08e-7	3.63e-6	0.138	0.00899%
Employee owned cars	53.2	0.00194	0.00113	53.6	3.49%
Hotel night stays	4.95	3.55e-4	4.02e-5	4.97	0.324%
Rail (train, tram, light rail, underground)	5.49	3.88e-4	1.38e-4	5.54	0.361%
Taxi	0.648	5.37e-7	1.92e-5	0.653	0.0426%
Homeworkers Total	1.75	1.11e-4	7.21e-6	1.75	0.114%
Homeworkers	1.75	1.11e-4	7.21e-6	1.75	0.114%
Premises Total	93.6	0.0139	0.00196	120	7.83%
Electricity: Electricity - transmission & distribution losses	93.6	0.0126	0.00196	94.5	6.16%
Landfilled waste	0	0.00122	0	0.0305	0.00199%
Recycled waste	0	0	0	0	0%
Water supply	0	0	0	8.37	0.545%
Water treatment	0	0	0	17.2	1.12%
Total	1,496	0.179	0.0264	1,534	100%

Market-Based methodology

Source of Emissions	tCO ₂ /yr	tCH ₄ /yr	tN ₂ O/yr	Total Emissions (tCO ₂ e/yr)	%
Scope 1 Total	257	0.0141	4.72e-4	258	13%
Premises Total	257	0.0141	4.72e-4	258	13%
Natural gas	257	0.0141	4.72e-4	258	13%
Scope 2 Total	1,537	0	0	1,537	77.3%
Premises Total	1,537	0	0	1,537	77.3%
Electricity	1,537	0	0	1,537	77.3%

Scope 3 Total	166	0.0169	0.00348	193	9.7%
Business Travel Total	70.4	0.00289	0.00152	70.9	3.57%
Air travel	5.93	2.13e-4	1.88e-4	5.99	0.302%
Bus and coach	0.137	8.08e-7	3.63e-6	0.138	0.00694%
Employee owned cars	53.2	0.00194	0.00113	53.6	2.7%
Hotel night stays	4.95	3.55e-4	4.02e-5	4.97	0.25%
Rail (train, tram, light rail, underground)	5.49	3.88e-4	1.38e-4	5.54	0.279%
Taxi	0.648	5.37e-7	1.92e-5	0.653	0.0329%
Homeworkers Total	1.75	1.11e-4	7.21e-6	1.75	0.0883%
Homeworkers	1.75	1.11e-4	7.21e-6	1.75	0.0883%
Premises Total	93.6	0.0139	0.00196	120	6.04%
Electricity: Electricity - transmission & distribution losses	93.6	0.0126	0.00196	94.5	4.75%
Landfilled waste	0	0.00122	0	0.0305	0.00154%
Recycled waste	0	0	0	0	0%
Water supply	0	0	0	8.37	0.421%
Water treatment	0	0	0	17.2	0.867%
Total	1,960	0.0309	0.00395	1,987	100%

Summary by Company Unit

Location-Based methodology

Assessment	July 2019 - June 2020		July 2020 - June 2021	
Company Unit	Total Emissions (tCO ₂ e)	Emissions per FTE (tCO ₂ e/FTE)	Total Emissions (tCO ₂ e)	Emissions per FTE (tCO ₂ e/FTE)
Reed Global Limited and its subsidiary companies – UK offices	2,446	0.817	1,534	0.59
UK Offices	2,446	0.817	1,534	0.59

Market-Based methodology

Assessment	July 2019 - June 2020		July 2020 - June 2021	
Company Unit	Total Emissions (tCO₂e)	Emissions per FTE (tCO₂e/FTE)	Total Emissions (tCO₂e)	Emissions per FTE (tCO₂e/FTE)
Reed Global Limited and its subsidiary companies – UK offices	2,958	0.988	1,987	0.765
UK Offices	2,958	0.988	1,987	0.765

Annual Activity Data

Source of Emissions	Value	Unit
Business Travel		
Air travel		
Short-haul	48	return journey
Bus and coach		
Average bus	1,343	pass.km
Employee owned cars		
Average car (unknown fuel)	188,076	mi
Hotel night stays		
Hotel night stays	237	night
Rail (train, tram, light rail, underground)		
Intercity/National train	18,609	GBP
Light rail/Tram	594	GBP
Underground/Subway	1,298	GBP
Taxi		
Average taxi	1,960	GBP
Homeworkers		
Homeworkers		
UK homeworker	780	Homeworker Day
Premises		
Electricity		
Electricity spend, small/medium consumer	673,411	GBP
Landfilled waste		
Waste, landfilled, MSW	55	kg
Natural gas		
Natural gas spend, small consumer	33,840	GBP
R-22 Refrigerant gas		
Recycled waste		
Waste, recycled	29.8	kg
Water supply		
Water supply	24,327	m3
Water treatment		
Water treatment	24,327	m3

Key Observations

Overall

- No market-based instruments have been applied. Reed Global Limited and its subsidiary companies – UK offices is located in the United Kingdom, which has a valid electricity residual mix factor available. This residual mix factor has been applied to the electricity consumption to derive a result in line with the Scope 2 market-based methodology.
- Reed Global Limited and its subsidiary companies – UK offices have decided not to report on commuting at the moment or even estimate as their commuting data was highly inaccurate in previous years and they don't want to skew the reporting further.

Location-based methodology

- Overall emissions have decreased by 912 tonnes of CO₂e, or 37%, from 2,446 tonnes of CO₂e during the 2019/20 assessment period to 1,534 tonnes of CO₂e during the 2020/21 assessment period. This decrease in emissions is mainly due to a reduction in travelling by plane, rail and employee owned car.
- Electricity consumption (including transmission & distribution losses) accounts for the largest portion of emissions with 1178 tonnes of CO₂e, or 77% of the total emissions.
- Natural gas consumption accounts for the second largest portion of emissions with 258 tonnes of CO₂e, or 17% of the total emissions.

Market-based methodology

- Overall emissions have decreased by 971 tonnes of CO₂e, or 33%, from 2,958 tonnes of CO₂e during the 2019/20 assessment period to 1,987 tonnes of CO₂e during the 2020/21 assessment period. This decrease in emissions is mainly due to a reduction in travelling by plane, rail and employee owned car.
- Electricity consumption (including transmission & distribution losses) accounts for the largest portion of emissions with 1,631 tonnes of CO₂e, or 82% of the total emissions.
- Natural gas consumption accounts for the second largest portion of emissions with 258 tonnes of CO₂e, or 13% of the total emissions.

References

Department for Business, Energy and Industrial Strategy (2020). 2020 Government GHG Conversion Factors for Company Reporting.

IEA (2019). Statistics. <http://www.iea.org/stats/index.asp>.

IPCC (2006). Revised IPCC Guidelines for National Greenhouse Gas Inventories: Reference Manual. Intergovernmental Panel on Climate Change. Cambridge University Press, Cambridge.

AIB (2021). European Residual Mixes 2020. Version 1.0, 2021-05-31. Association of Issuing Bodies.

BEIS (2021). Energy statistics. Quarterly energy prices. Prices of fuels purchased by non-domestic consumers in the United Kingdom excluding/including CCL (QEP 3.4.1 and 3.4.2):

<https://www.gov.uk/government/statistical-data-sets/gas-and-electricity-prices-in-the-non-domestic-sector>. Accessed July 2021.

CIBSE (2012). Energy Efficiency in Buildings, Guide F. The Chartered Institution of Building Services Engineers.

Defra/DECC (2012). Guidelines to Defra/DECC's GHG conversion factors for company reporting. Department of Environment Food and Rural Affairs/Department for Energy and Climate Change, London.

Department for Business, Energy and Industrial Strategy (2019). 2019 Government GHG Conversion Factors for Company Reporting.

Department for Business, Energy and Industrial Strategy (2020). 2020 Government GHG Conversion Factors for Company Reporting.;
Department for Business, Energy and Industrial Strategy (2021). 2021 Government GHG Conversion Factors for Company Reporting.

Department for Transport (2003). Travel by taxi and PHV in GB. Personal travel factsheet 9 - January 2003.

Eurostat (2020). Space heating and cooling in households.

IPCC 2006. IPCC Guidelines for National GHG Inventories Smith et al 2001. Waste management options and climate change

The Chartered Institution of Building Services Engineers (2012). Energy efficiency in buildings, CIBSE Guide F.

The Department for Transport (2019). Light rail and tram statistics (LRT), 2018,

<https://www.gov.uk/government/collections/light-rail-and-tram-statistics>

The Department for Transport (2019). Rail data tables, 2018, <https://www.gov.uk/government/collections/rail-statistics>

latest-rail-statistics

