

Assurance Statement

The GHG Emissions Inventory for the *financial year 2019/20* prepared by:

Ricardo plc
Shoreham Technical Centre, Shoreham-by-Sea, West Sussex, BN43 5FG, UK

has been verified by Lloyd's Register Quality Assurance Limited in accordance with:

ISO 14064-3:2006¹

as taking into account the requirements of:

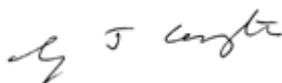
GHG Protocol, 2015

The assurance has been formed on the basis of a reasonable level of assurance and at a materiality of 5%.

Scope of GHG emissions	2019/20 (Tonnes CO ₂ e)
Direct GHG emissions (Scope 1)	4,343
Energy indirect GHG emissions (Scope 2) – Location based	4,981
Energy indirect GHG emissions (Scope 2) – Market based	2,016
Other indirect GHG emissions (Scope 3) [employee air travel]	3,967

Signed:

Date: 18th August 2020



G Clayton
On behalf of
Lloyd's Register,
1 Trinity Park, Bickenhill Lane, Birmingham, B37 7ES, UK

LRQA reference number: LRQ00003441

This summary is not valid without the full Assurance Statement attached on pages 2 to 6 to which it applies.

¹ ISO 14064:2006 Greenhouse gases — Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions

**Assurance Statement related to
GHG Emissions Inventory for the financial year 2019/20
prepared for Ricardo plc
Shoreham Technical Centre, Shoreham-by-Sea, West Sussex, BN43 5FG, UK**

Terms of Engagement

This Assurance Statement has been prepared for *Ricardo plc*.

Lloyd's Register Quality Assurance Ltd. was commissioned by *Ricardo plc* to assure its *GHG Emissions Inventory for the financial year 2019/20*, (hereafter referred to as "the Inventory").

The Inventory relates to direct GHG emissions and energy indirect GHG emissions *and other indirect GHG emissions limited to employee air travel*.

Management Responsibility

Ricardo plc management was responsible for preparing the Inventory and for maintaining effective internal controls over the data and information disclosed. Lloyd's Register (LR)'s responsibility was to carry out an assurance engagement on the Inventory in accordance with our contract with *Ricardo plc*.

Ultimately, the Inventory has been approved by, and remains the responsibility of *Ricardo plc*.

LRQA's Approach

Our verification has been conducted in accordance with ISO 14064-3:2006, '*Specification with guidance for validation and verification of greenhouse gas assertions*' to provide limited assurance that GHG data as presented in the Inventory have been prepared in conformance with *Ricardo plc*'s own data handling and calculation methodology, which is developed taking into consideration, "The Greenhouse Protocol – A Corporate Accounting and Reporting Standard (revised edition, Jan 2015)".

To form our conclusions the assurance engagement was undertaken as a sampling exercise and covered the following activities:

- conducted remote visits to the Corporate office of *Ricardo plc* at the following locations, and reviewed processes related to the control of GHG emissions data and records:
 - Shoreham Technical Centre, UK
 - Leamington Spa Technical Centre, UK
 - Detroit Technical Centre, USA
- interviewed relevant staff of the organization responsible for managing GHG emissions data and records; and,
- verified, on a sampling basis, the historical GHG emissions data at a primary data level for the financial year 2019/20.
- verified the emission factors used for diesel, gasoline/petrol, natural gas, electricity and air travel (with radiative force being considered) with the source reference and confirmed its appropriateness.

- verified the emission factors applied for market-based Scope 2 emissions.

Level of Assurance & Materiality

The opinion expressed in this Assurance Statement has been formed on the basis of a reasonable level of assurance and at a materiality of 5%

LR's Opinion

Based on LRQA's approach, the total direct GHG emissions and energy indirect GHG emissions and other indirect GHG emissions limited to employee air travel. Disclosed in the Report as summarized in Table 1 below are materially correct and that the Report has been prepared as taking into account the requirements of: GHG Protocol, 2015, except for the following qualification(s): emissions have been expressed as tCO₂e only, emissions of individual gases have not been identified.

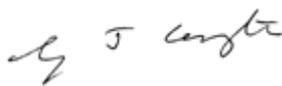
LR's Recommendations

Ricardo plc should:

- Incorporate collection of refrigerant gas leakage data in existing sustainability reporting systems
- Embed market-based emission factors including residual emission factors in existing sustainability reporting systems for those territories not currently following this approach.
- Use regional electricity emission factors in the USA as appropriate
- Improve the transparency of data collection at a site/source level, as data tends to be aggregated prior to entry into the reporting system, better documentation of sources and methodologies is recommended.
- A system of controls should be adopted in order to detect mis-statements within the inventory, by the organisation, prior to external audit.
- Provide evidence of conformance to Scope 2 quality criteria for Utrecht activity data.

Signed:

Date: 18th August 2020



G Clayton
On behalf of
Lloyd's Register,
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Table 1. Ricardo plc attestation updated with full data set (only FY19/20 is verified)

Green House Gas Emissions

	FY 2019/20	FY 2018/19	FY 2017/18
			Scope 1 and scope 2 baseline
Emissions - tCO₂e ('000s)			
Scope 1	4,343	4,914	8,638
Scope 2 – Location based	4,981	6,187	8,221
Scope 2 – Market based	2,016	2,635	4,175
Scope 3 – Air travel	3,967	No data	No data
Total – Location based (Scopes 1 and 2)	9,324	11,101	16,859
Total – Market based (Scopes 1 and 2)	6,359	7,549	12,813
Total – Location based (Scopes 1,2,3)	13,291	N/A	N/A
Total - Market based (Scopes 1,2,3)	10,326	N/A	N/A
Scope 3 - Air travel base line	6,015	N/A	N/A
Intensity Measures (tCO₂e per employee)			
Scope 1*	1.42	1.66	2.78
Scope 2 – Location based	1.63	2.09	2.65
Scope 2 – Market based	0.66	0.89	1.35
Scope 3 - Air travel	1.30	No data	No data
Total – Location based (Scopes 1 and 2)	3.05	3.76	5.43
Total – Market based (Scopes 1 and 2)	2.08	2.55	4.13
Total – Location based (Scopes 1,2,3)	4.36	N/A	N/A
Total - Market based (Scopes 1,2,3)	3.38	N/A	N/A
Electricity consumption MWh			
Electricity consumed (all sources)	17,455	20,395	24,113
Renewable energy consumed	12,973	14,579	16,174
Percentage of renewable electricity used	74%	71%	67%

Notes

The operational control test is applied to determine if an emission is within Scope.

The inventory has been compiled according to the GHG Protocol and internal procedures with the exception that individual gases are not reported. Our GHG emissions for FY19/20 have been verified by Lloyds Register in accordance with ISO 14064-3:2006, 'Specification with guidance for validation and verification of greenhouse gas assertions'.

As this is the first year of reporting base year data is not currently being included. Where necessary previous year data has been restated to improve quality. Some data includes estimates which may be updated at a later time when more accurate data is available.

Emission factors used for fuels and UK location-based electricity are based on UK BEIS/DEFRA conversion factors for 2020. Electricity emissions factors used for location-based calculations are the most recent IEA factors for the country. Electricity emissions factors used for market-based calculations where renewable electricity is not supplied are the most recent year GWP residual mix factors from aib-net.org for countries in Europe and UK and location based for other countries

Air travel emissions are calculated by Susterra using bespoke factors taking account of route, class of travel, airline and aircraft type.

Some de minimis data has not been included, this includes very small sites, bottled gases and refrigerants used to top up cooling and air conditioning plants, fire extinguishants other than FM200 and sulphur hexafluoride (SF6) associated with switchgear.

Our UK operations are our biggest consumer of electricity, where we directly procure electricity from renewable sources for our largest sites.

The sale of the DTC¹ test facility had no material impact on this year's emissions due to the timing of the sale.

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