LRQA Independent Assurance Statement

Relating to Ricardo plc GHG Emissions Data Verification for the Financial year July 1, 2022-June 30, 2023

This Assurance Statement has been prepared for Ricardo plc in accordance with our contract.

Terms of Engagement

LRQA was commissioned by Ricardo plc to provide independent assurance of its greenhouse gas (GHG) emissions inventory (hereafter referred to as "the Inventory") for the for the financial year 2022/2023. The Inventory relates to direct GHG emissions and energy indirect GHG emissions and other indirect GHG emissions.

Scopes 1, 2 and the Scope 3-Cat 13-Downstream Leased assets were verified to a reasonable level of assurance and a materiality of 5%. The following categories in Scope 3 were verified to limited assurance and materiality of the professional judgement of the verifier: Category 1- Purchase of goods and services (category 8 included in category 1 if applicable); Category 2- Capital goods; Category 3 - Fuel- and Energy-Related Activities (Not Accounted for in Scope 1 or 2), Category 4-Upstream transport and distribution; Category 5-Waste generated by operations, Category 6- Business Travel, Category 7 – Employee commuting; Category 9-Downstream T&D; Category 11-Use of sold products; Category 12-End of life treatment of sold products. The inventory has been verified using ISO 14064 - Part 3 for greenhouse gas emissions as taking into account the requirements of The Greenhouse Protocol – A Corporate Accounting and Reporting Standard (revised edition, Jan 2015).

Our assurance engagement covered Ricardo plc's Operational control boundaries as follows:

- Verifying conformance with:
    - Ricardo plc's reporting methodologies such as Environmental and non-financial reporting, GHG scope 3 data and calculations and Ricardo Group methodology statement.
    - World Resources Institute / World Business Council for Sustainable Development Greenhouse Gas Protocol: A corporate accounting and reporting standard, revised edition (otherwise referred to as the WRI/WBCSD GHG Protocol) for the GHG data[1].

- Evaluating the accuracy and reliability of data and information for only the selected indicators listed below:
    - Direct (Scope 1), Energy Indirect (Scope 2) and Other Indirect (Scope 3) GHG emissions.
        - Scope 3 GHG emissions verified by LRQA only include Category 1, 2, 3, 4, 5, 6, 7, 9, 11, 12 and 13.

Our assurance engagement excluded the data and information of Ricardo plc

- small offices that are services (from organisation such as Regus, data capture not carried out– population of less than 5).
- emissions from homebased working are excluded from our measurement boundary.

Note:

- LRQA has not repeated the verification of financial data previously verified by third parties.
- LRQA has not verified the restatement of emissions for FY 21/22, FY20/21, FY19/20.

[1] *http://www.ghgprotocol.org/*

LRQA's responsibility is only to Ricardo plc. LRQA disclaims any liability or responsibility to others as explained in the end footnote. Ricardo plc's responsibility is for collecting, aggregating, analysing and presenting all the data and information within the Report and for maintaining effective internal controls over the systems from which the Report is derived. Ultimately, the Report has been approved by, and remains the responsibility of Ricardo plc.

LRQA's Opinion

Based on LRQA's approach, we believe that Ricardo plc's Scope 1, Scope 2 and Scope 3-Category 13 have in all material respects

- Met the requirements of criteria listed above; and
- Disclosed accurate and reliable performance data and information as summarized in Table 1 below.

The opinion expressed is formed on the basis of a reasonable level of assurance and at the materiality of 5%

Based on LRQA's approach nothing has come to our attention that would cause us to believe that Ricardo plc's Scope 3- Categories 1, 2, 3, 4, 5, 6, 7, 9,11 and 12 have not, in all material respects:

- Met the requirements of the criteria listed above; and
- Disclosed accurate and reliable performance data and information as summarized in below and break down of scopes presented in table 2.

The opinion expressed is formed on the basis of a limited level of assurance[2] and at the materiality of the professional judgement of the verifier.

Table 1. Summary of Ricardo plc's GHG Emissions for July 1, 2022- June 30, 2023

Scope of GHG emissions	Tonnes CO_2e
Scope 1 GHG emissions	1,875
Scope 2 GHG emissions (Location-based)	2,764
Scope 2 GHG emissions (Market-based)	637
Scope 3 GHG emissions [GHG Protocol Basis]	161, 218
Scope 3 GHG emissions [SBTi Basis]	217,751
Note 1: Scope 2, Location-based and Scope 2, Market-based are defined in the WRI/WBCSD GHG Protocol Scope 2 Guidance, 2015	

LRQA's Approach

LRQA's assurance engagements are carried out in accordance with our verification procedure. The following tasks were undertaken as part of the evidence gathering process for this assurance engagement:

- conducting site tours to the corporate office of Ricardo plc and reviewed processes related to the control of GHG emissions data and records:

[2]. The extent of evidence-gathering for a limited assurance engagement is less than for a reasonable assurance engagement. Limited assurance engagements focus on aggregated data rather than physically checking source data at sites. Consequently, the level of assurance obtained in a limited assurance engagement is lower than the assurance that would have been obtained had a reasonable assurance engagement been performed.

- conducting remote site visit to the following location
    - Ricardo Prague, CZ
    - Shoreham Technical Centre, UK
    - Midlands Technical Centre, UK
- interviewing relevant staff of the organization responsible for managing GHG emissions data and records; and
- verifying, on a sampling basis, the historical GHG emissions data at a primary data level for the financial year 2022/23.
- verifying the emission factors applied for market-based Scope 2 emissions.
- verifying the spend data for Scope 3- Category 1,2,4 and 9.
- verifying consumption data for Scope 3- Category 3,5,6,7,11,12 and 13.

Observations

Further observations and findings, made during the assurance engagement, are:

- Improve the transparency of data collection at a site/source level for H1, 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 by the organisation in order to minimise the risk of misstatements within the inventory prior to external audit.
- Obtain evidence of conformance to Scope 1,2 and 3 data quality criteria for all sites.
- Improve the GHG inventory training and audit training to the staff involved in the reporting process.

LRQA's Standards, Competence and Independence

LRQA implements and maintains a comprehensive management system that meets accreditation requirements for ISO 14065 *Greenhouse gases – Requirements for greenhouse gas validation and verification bodies for use in accreditation or other forms of recognition* and ISO/IEC 17021 *Conformity assessment – Requirements for bodies providing audit and certification of management systems* that are at least as demanding as the requirements of the International Standard on Quality Control 1 and comply with the *Code of Ethics for Professional Accountants* issued by the International Ethics Standards Board for Accountants.

LRQA ensures the selection of appropriately qualified individuals based on their qualifications, training and experience. The outcome of all verification and certification assessments is then internally reviewed by senior management to ensure that the approach applied is rigorous and transparent.

LRQA is Ricardo plc's certification body for ISO 9001, ISO 14001 and ISO 45001. The verification and certification assessments are the only work undertaken by LRQA for Ricardo plc and as such does not compromise our independence or impartiality.

Dated: 18 August 2023

Sujatha Ramasamy
LRQA Lead Verifier
On behalf of LRQA 1 Trinity Park, Bickenhill Lane, Birmingham, UK.
LRQA reference: LRQ00003441

Table 2: Greenhouse gas emissions and intensity metrics

- Base year figures in black font for FY2019/20 verified by LR.
- FY 2020/21 figures in black font verified by LRQA.
- Current verification statement FY2022/23 in pink font verified by LRQA.
- But FY 2021/22 figures in green font are restated figures for FY22 and the FY2019/2020 figures in pink font are recent figures not verified by LRQA**.**

Metrics and targets

		FY 2022/23	FY 2021/22	FY 2020/21	FY 2019/20 baseline
Emissions – tCO_2e					
Scope 1	Gas (methane based) usage	593	697	777	*
	Diesel usage	502	762	555	*
	Gasoline usage	477	495	381	*
	Other emissions	303	966	703	*
	Total	1,875	2,920	2,416	4,343
Scope 2	Location-based	2,764	3,292	3,791	4,981
	Market-based	637	618	774	2,016
Total (Scopes 1 and 2)	Location-based	4,639	6,212	6,207	9,324
	Market-based	2,512	3,538	3,190	6,359

		FY 2022/23	FY 2021/22	FY 2020/21	FY 2019/20 baseline
Emissions – tCO_2e continued					
Scope 3	Category 1 (including Category 8) – Purchased goods and services	141,204	85,306	*	*
	Category 2 – Capital goods	4,936	4,430	*	*
	Category 3 – Fuel and energy related activities	216	276	*	*
	Category 4 – Upstream transportation and distribution	361	206	*	*
	Category 5 – Waste	113	144	*	*
	Category 6 – Business travel (all modes)	3,018]	2,462	*	*
	Category 7 – Employee commuting	1,737	2,902	*	*
	Category 9 – Downstream transportation and distribution	163	89	*	*
	Category 11 – Use of sold product (weight apportioned basis – GHG protocol)	8,971	8,431	*	*
	Category 11 – Use of sold product – (whole vehicle weight method – SBTi)	65,504	59,500	*	*
	Category 12 – End of life of sold products	435	285	*	*
	Category 13 – Downstream leased assets, location based	65	46	*	*
	Scope 3 total – GHG basis	161,218	104,577	*	*
	Scope 3 total – SBTi basis	217,751	155,645	*	*
	Total – Location-based (Scopes 1,2,3) GHG Protocol basis	165,858	110,790	6,688	13,291
	Total – Market-based (Scopes 1,2,3) GHG Protocol basis	163,730	108,116	3,671	10,326

Intensity Measures – GHG basis (tCO_2e per employee)					
Total (Scopes 1 and 2)	Location-based	1.66	2.25	2.14	3.05
	Market-based	0.90	1.28	1.10	2.08
Scope 3	GHG Protocol basis	57.56	37.85	*	*
Total (Scopes 1,2,3)	Location-based	59.21	40.10	*	*
	Market-based	58.45	39.13	*	*
(tCO_2e per £m revenue)					
Total (Scopes 1 and 2)	Location-based	10.40	16.04	17.64	24.49
	Market-based	5.63	9.14	9.07	18.07
Scope 3	GHG Protocol basis	361.56	270.02	*	*
Total (Scopes 1,2,3) GHG basis	Location-based	371.96	286.06	*	*
	Market-based	367.19	271.95	*	*

		FY 2022/23	FY 2021/22	FY 2020/21	FY 2019/20 baseline
Electricity consumption MWh					
	Electricity consumed (all sources)	12,021	15,369	15,742	17,455
	Renewable electricity consumed	10,901	13,601	14,296	12,973
	Non-renewable electricity used	1,120	1,768	1,446	4,482
	Percentage of renewable electricity used	91%	89%	91%	74%
SECR (UK Streamlined Energy and Carbon Reporting)					
	UK Scope 1 tCO_2e	1,364	2,526	2,175	2,496
	UK Scope 2 – Location-based tCO_2e	2,078	2,606	2,971	3,065
	UK Scope 2 – Market-based tCO_2e	12	26	47	166
	UK Scope 1 + Scope 2 tCO_2e Location-based	3,442	5,132	5,146	5,562
	UK Scope 1 + Scope 2 tCO_2e Market-based	1,375	2,552	2,223	2,662
	Energy consumption (million kWh)	14	21	21	17
Intensity measures (tCO_2e per UK employee)					
	Scope 1	0.82	1.52	1.35	1.50
	Scope 2 Location based	1.25	1.57	1.84	1.84
	Scope 2 Market based	0.01	0.02	0.03	0.10
	Scope 1 + Scope 2 Location-based	2.06	3.09	3.19	3.34
	Scope 1 + Scope 2 Market-based	0.82	1.54	1.38	1.60

* No data
Scope 1, 2 and Scope 3 – Category 13 have been verified to 'Reasonable Assurance'. Scope 3 – Categories 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 and 12 have been verified to 'Limited Assurance'.

The operational control test is applied to determine if an emission is within Scope 1 or Scope 2.

- 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 FY 2022/23 have been verified by LRQA in accordance with ISO 14064–3:2006, 'Specification with guidance for validation and verification of greenhouse-gas assertions'.
- The base year is FY 2019/20, as this as the first year where Scope 1 and Scope 2 data was verified. The Scope 3 base year is FY 2021/22. Some data includes estimates, which may be updated at a later time when more accurate data are available.
- Large improvements have been made to our emissions reporting during the FY23 reporting cycle. Therefore, FY22 values have been re-estimated and re-stated by Ricardo for comparability, due to the following:
    - Improved emission factors, using more location specific and more granular breakdown. For example, US EPA factors used for the US instead of IEA.
    - Improved methodology (e.g., employee commuting)
    - Improved data capture system, allowing for more data visibility (FigBytes)
- Emission factors used for fuels, transmission and distribution and electricity are based on the most appropriate open-source data by location. For example, BEIS/ DEFRA conversion factors are used for the UK, US EPA for the US and the most recent confirmed IEA factors for the majority of other locations. Electricity emissions factors used for market-based calculations where renewable electricity is procured are 0kgCO_2e/kWh. Location-based factors are applied elsewhere.
- For Scope 3 emissions factors for categories: 1, 2, 4, 5, 8, and 9 are based upon finance data using Defra for UK and EU based entities, and Quantis for other entities. Scope 3, Category 7 is based on an annual employee commuting survey, which had a complete return rate of 73% for site-based employees. DEFRA and US EPA emission factors are used for this. Categories 11 and 12 emissions are estimated based on volumes of engines and ABS kits sold. End of life emissions are estimated on material type and weight using DEFRA and Ecoinvent emission factors. Category 11 is based on published WLTP emissions for each engine variant, and estimated vehicle use over 10 years.
- Air, rail and hotel emissions are calculated by FCM using bespoke factors that take airline and aircraft type. This methodology follows those outlined by Thrust Carbon. The remaining elements of Category 6 are calculated based on cost using the Defra and Quantis factors as above. For previous years, business travel was estimated on a slightly different methodology due to a change in travel provider, therefore, a fair comparison cannot be made. We are working with our travel provider to update our baseline calculations using the same methodology as FY23.
- Other Scope 1 emissions include refrigerants used to top up cooling and air conditioning plants after leakage, fire extinguishants such as FM200 and sulphur hexafluoride (SF6) associated with switchgear. These vary from year to year.
- SECR: Our UK operations are our biggest consumer of electricity, which is our only UK Scope 2 emission source, where we directly procure electricity from renewable sources for our largest sites.
- We have no Scope 3 emissions in Categories 10 (processing of sold product), 14 (franchises) or 15 (investments). Category 8 emissions (upstream leased assets) are included within our Category 1 reporting if applicable.
- Our triggers for base year recalculation would be an acquisition or disposal which changed head count by
  +/- 20% – this did not occur in the current or previous year. The combined effect of the acquisitions was below the threshold.
- Revenue based intensity metrics rely of the financially audited information and the KPMG-audit opinion.