



# LRQA Independent Assurance Statement

Relating to Ricardo plc GHG Emissions Data Verification for the Financial year July 1, 2023-June 30, 2024

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 2023/2024. The Inventory relates to direct GHG emissions and energy indirect GHG emissions and other indirect GHG emissions.

Scopes 1, 2 and the Scope 3-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), and Category 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 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 -3:2019 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<sup>1</sup>.
- 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 22/23, FY 21/22, FY20/21, FY19/20.

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<sup>1</sup> <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-Categories 1,2 ,3 and 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 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<sup>2</sup> and at the materiality of the professional judgement of the verifier.

**Table 1. Summary of Ricardo plc’s GHG Emissions for July 1, 2023- June 30, 2024**

Scope of GHG emissions	Tonnes CO <sub>2</sub> e
Scope 1 GHG emissions	2,725
Scope 2 GHG emissions (Location-based)	2,777
Scope 2 GHG emissions (Market-based)	914
Scope 3 GHG emissions [GHG Protocol Basis]	135,994
Scope 3 GHG emissions [SBTi Basis]	166,241
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 Midlands Technical Centre, UK and reviewed processes related to the control of GHG emissions data and records:
- conducting remote site visit to the following location
  - Ricardo Prague, CZ

<sup>2</sup>. 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.



- Shoreham Technical Centre, UK
- corporate office of Ricardo plc, 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 2023/24.
- 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 observation and finding, made during the assurance engagement, are:

- Improve the robustness of checks for Cat 1 spend data prior to external audit.

### **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: 12 August 2024

Sujatha Ramasamy

LRQA Lead Verifier

On behalf of LRQA 1 Trinity Park, Bickenhill Lane, Birmingham, UK.

LRQA reference: LRQ0003441

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**Table 2: Greenhouse gas emissions and intensity metrics**

- FY 2023/24 figures verified by LRQA.
- Restated figures FY2022/23, FY2021/22, Baseline FY2019/20 not verified by LRQA.

		FY 2023/24	FY 2022/23	FY 2021/22	FY 2019/20 baseline
<b>Emissions – tCO<sub>2</sub>e</b>		Ramasamy, Sujatha (sujatha.ramasamy@lrqa.com) is signed in			
Scope 1	Gas (methane based) usage	1,775	1,563	1,599	
	Diesel usage	574	502	762	
	Gasoline usage	318	477	495	
	Other emissions	58	303	966	
	<b>Total</b>	<b>2,725</b>	<b>2,845</b>	<b>3,822</b>	<b>4,343</b>
Scope 2	Location-based	2,777	2,764	3,292	4,981
	Market-based	914	637	618	2,016
<b>Total (Scopes 1 and 2)</b>	Location-based	5,502	5,609	7,114	9,324
	Market-based	3,639	3,482	4,440	6,359
Scope 3	Category 1 (including Category B) – Purchased goods and services	124,699	141,204	85,306	*
	Category 2 – Capital goods	649	4,938	4,430	*
	Category 3 – Fuel and energy related activities	195	216	276	
	Category 4 – Upstream transportation and distribution	340	361	206	*
	Category 5 – Waste – ongoing operations	36	113	144	*
	Category 5 – Waste – exceptional item – demolition at Shoreham Technical Centre	13	*	*	*
	Category 6 – Business travel (all modes)	2,448	3,018	2,462	*
	Category 7 – Employee commuting	2,018	1,737	2,902	
	Category 9 – Downstream transportation and distribution	92	163	89	
	Category 11 – Use of sold product (weight apportioned basis – GHG protocol)	4,925	4,894	4,600	*
	Category 11 – Use of sold product – (whole vehicle weight method – SBTi)	35,172	35,736	32,461	
	Category 12 – End of life of sold products	517	435	285	*
	Category 13 – Downstream leased assets, location based	61	65	46	*
	Scope 3 total – GHG basis	135,994	157,142	100,746	*
	Scope 3 total – SBTi basis	166,241	187,984	128,607	*
Total – Location-based (Scopes 1,2,3) GHG Protocol basis		141,496	162,751	107,860	13,291
Total – Market-based (Scopes 1,2,3) GHG Protocol basis		139,633	160,624	105,186	10,326

- (\*) No data
- Scope 1, 2 and Scope 3 – Categories 1, 2 and 13 have been verified to 'Reasonable Assurance' in FY23/24
- Scope 3 – Categories 4, 5, 6, 7, 8, 9, 11 and 12 have been verified to 'Limited Assurance'.



		FY 2023/24	FY 2022/23	FY 2021/22	FY 2019/20 baseline
<b>Intensity measures – GHG basis (tCO<sub>2</sub>e per employee)</b>					
Total (Scopes 1 and 2)	Location-based	1.94	2.00	2.57	3.05
	Market-based	1.28	1.24	1.61	2.08
Scope 3	GHG Protocol basis	47.91	56.10	36.40	*
Total (Scopes 1, 2, 3)	Location-based	49.85	58.10	38.97	*
	Market-based	49.19	57.34	38.00	*
<b>(tCO<sub>2</sub>e per £m revenue)</b>					
Total (Scopes 1 and 2)	Location-based	11.59	12.58	18.37	24.49
	Market-based	7.67	7.81	11.46	18.07
Scope 3	GHG Protocol basis	286.48	352.34	260.12	*
Total (Scopes 1, 2, 3)	Location-based	298.07	364.91	278.49	*
	Market-based	294.15	360.14	271.59	*
<b>Electricity consumption MWh</b>					
	Electricity consumed (all sources)	10,980	12,021	15,369	17,455
	Renewable electricity consumed	8,894	10,901	13,601	12,973
	Non-renewable electricity used	2,086	1,120	1,768	4,482
	Percentage of renewable electricity used	81%	91%	89%	74%
<b>SECR (UK Streamlined Energy and Carbon Reporting)</b>					
	UK Scope 1 tCO <sub>2</sub> e	2,342	2,333	3,430	2,496
	UK Scope 2 – Location-based tCO <sub>2</sub> e	1,931	2,078	2,605	3,065
	UK Scope 2 – Market-based tCO <sub>2</sub> e	138	12	26	166
	UK Scope 1 + Scope 2 tCO <sub>2</sub> e location-based	4,273	4,411	6,035	5,562
	UK Scope 1 + Scope 2 tCO <sub>2</sub> e market-based	2,480	2,344	3,455	2,662
	Energy consumption (million kWh)	16	19	26	17
<b>Intensity measures (tCO<sub>2</sub>e per UK employee)</b>					
	Scope 1	1.40	1.40	2.07	1.50
	Scope 2 Location based	1.15	1.25	1.57	1.84
	Scope 2 Market based	0.08	0.01	0.02	0.10
	Scope 1 + Scope 2 Location-based	2.55	2.64	3.64	3.34
	Scope 1 + Scope 2 Market-based	1.48	1.41	2.08	1.60

1. (\*) No data
2. Scope 1, 2 and Scope 3 – Categories 1, 2 and 13 have been verified to 'Reasonable Assurance' in FY23/24
3. Scope 3 – Categories 4, 5, 6, 7, 8, 9, 11 and 12 have been verified to 'Limited Assurance'.

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#### Notes on the table

- 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 2023/24 have been verified by LRQA in accordance with ISO 14064-3:2019, 'Specification with guidance for validation and verification of greenhouse-gas assertions'
- The base year is FY 2019/20, as this is 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
- Our enhanced quality assurance process for data, have identified a number of data improvements which have resulted in updated estimates – the most significant of this was under reporting of gas use at our Shoreham Technical Centre caused by a malfunctioning meter – this has resulted in a 52% increase in scope 1 emissions and less than 1% increase of the group's total emissions for FY22/23 (Market GHG protocol basis) The related totals and intensity metrics have been restated for FY21/22, and 22/23, but these have not been verified by LRQA
- Large improvements have been made to our emissions calculation methodology during the FY 2023/24 reporting cycle, including:
  - Employee commuting, where we increased the return rate to 82% from 73% for site-based employees
  - Re-evaluation of the vehicle mileage used in the lifetime of the engines we produce. This was based on a sample of over 2800 vehicles in US and UK. As a result, the average mileage has reduced by 45%. We have restated all previous years based on this which reduces the Group's whole carbon emissions by 2.5% and 13.5% on a Market Based GHG protocol basis and Market Based SBTi basis respectively and the same has not been verified by LRQA.
  - Change to the estimating method for waste in our office only sites where we moved to occupancy from capacity, as several buildings are underutilised – this has resulted in a 68% reduction in ongoing waste emissions from FY 22/23 to FY23/24, and a de minimis change to group emissions.
  - In FY23/24 a greater proportion of business travel was calculated on a activity basis rather than spend basis
- 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<sub>2</sub>e/ 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, Defra and US EPA emission factors are used for this. Category 11 is based on published WLTP emissions for each engine variant, and estimated vehicle use over 10 years. Categories 12 emissions are estimated based on volumes of engines, transmissions and ABS kits sold. End of life emissions are estimated on material type and weight using Defra and Ecoinvent emission factors.
- Our waste reporting shows an exceptional item in FY23/24, where there was significant demolition of old and unfit buildings at the Shoreham Technical Centre
- A majority of 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.
- Other Scope 1 emissions include refrigerants used to recharge cooling and air conditioning plants, fire extinguishants such as FM200 and sulphur hexafluoride (SF<sub>6</sub>) associated with switchgear. These vary from year to year depending on number and type of fire events and maintenance activities
- 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 on the financially audited information and the KPMG-audit opinion

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