CARBON REDUCTION PLAN

PPN 06/21

Supplier name: Ricardo-AEA Ltd (hereafter referred to as Ricardo Energy & Environment)

Publication date: 12/01/2023 (amended 02/03/2023)

Commitment to achieving Net Zero

Ricardo Energy & Environment [1] is committed to achieving net zero emissions by 2050.

This includes an ambition to achieve net zero Scope 1 and 2 emissions by 2030.

Baseline Emissions Footprint

Baseline emissions are a record of the greenhouse gases that have been produced in the past and were produced prior to the introduction of any strategies to reduce emissions. Baseline emissions are the reference point against which emissions reduction can be measured.

Baseline Year: 2020 (July 2019-June 2020)
Additional Details relating to the Baseline Emissions calculations.
Emissions reported in this plan refer to Ricardo Energy & Environment's UK based operations. Scope 3 emissions reported include: • Upstream transportation and distribution • Downstream transportation and distribution • Waste generated in operations • Business travel • Employee commuting All emissions are rounded to 1 decimal place.
Baseline year emissions:

EMISSIONS	TOTAL (tCO_2e)
Scope 1	**131.3**
Scope 2	**Location-based: 172.3** **Market-based: 34.5**

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[1] Ricardo Energy & Environment is a trading name of Ricardo-AEA Ltd

Scope 3 (Included Sources)	Category	Emissions (tCO2e)
	Upstream transportation and distribution	8.1
	Downstream transportation and distribution	0.0* Due to the consultancy nature of the business, we have no downstream transportation and distribution emissions.
	Waste	0.0* Data is not available for the baseline year. Most offices are leased where waste data is not available. We are now liaising with landlords and disposal contractors to collect this information.
	Business travel	944.4
	Employee commuting	196.0
	Total	**1,148.5**

Total Emissions	**Location-based: 1,452.1** **Market-based: 1,314.3**

Current Emissions Reporting

Reporting Year: 2022 (July 2021- June 2022) All emissions are rounded to 1 decimal place.	
EMISSIONS	**TOTAL (tCO$_2$e)**
Scope 1	**127.7**
Scope 2	**Location-based: 125.8** **Market-based: 25.6**

Scope 3 (Included Sources)	Category	Emissions (tCO2e)
	Upstream transportation and distribution	6.0
	Downstream transportation and distribution	0.0* Due to the consultancy nature of the business, we have no downstream transportation and distribution emissions.
	Waste	0.0* Data is not available for 2022. Most offices are leased where waste data is not available. We are now liaising with landlords and disposal contractors to collect this information.
	Business travel	447.0
	Employee commuting	225.5
	Total	**678.5**
Total Emissions	**Location-based: 932.1** **Market-based: 831.9**	

Emissions reduction targets

To progress towards achieving net zero, we have adopted the following carbon reduction targets.

Assuming a linear trajectory towards our net zero targets, emissions will need to decrease 39% by 2030 (July 2030-June 2031) to remain on track. This target was achieved in 2022, demonstrating good progress towards achieving net zero by 2050.

Progress against these targets can be seen in the graph below. This shows our emission reduction targets to 2050 (inclusive of all emissions reported earlier in this plan). It also shows progress to date (2020 baseline to 2022).

The expected progress towards net zero is illustrated as a linear trajectory between 2020 and 2030 for Scopes 1 and 2 and between 2020 and 2050 for Scope 3. Whilst 2022 results show a significant reduction in emissions since the baseline (2020), that is in part due to the impacts of Covid-19 restrictions. Emissions may increase in the short term as working patterns adjust to a new norm, before dropping again towards our net zero target as measures take effect and emerging technologies are embraced.

Our target defines net zero as achieving at least a 90% reduction in baseline emissions, whilst offsetting the remaining through robust industry standard practice. This is in line with Science Based Targets initiative (SBTi) guidance. We will seek to achieve a reduction beyond this if the situation allows.

New technologies and services are expected to enter the market that will help organisations to decarbonise, for example the introduction of low/zero emission aircraft would transform intercontinental business travel. To monitor progress, allow for expansion or contraction of the business, and to exploit emerging low carbon opportunities, we will review our targets, measures, and progress at the beginning of 2024 and every 3 years thereafter. Significant operational changes, such as large acquisitions or disposals, would justify an earlier review.

Figure 1 - Linear emission reduction target from 2020 to 2050
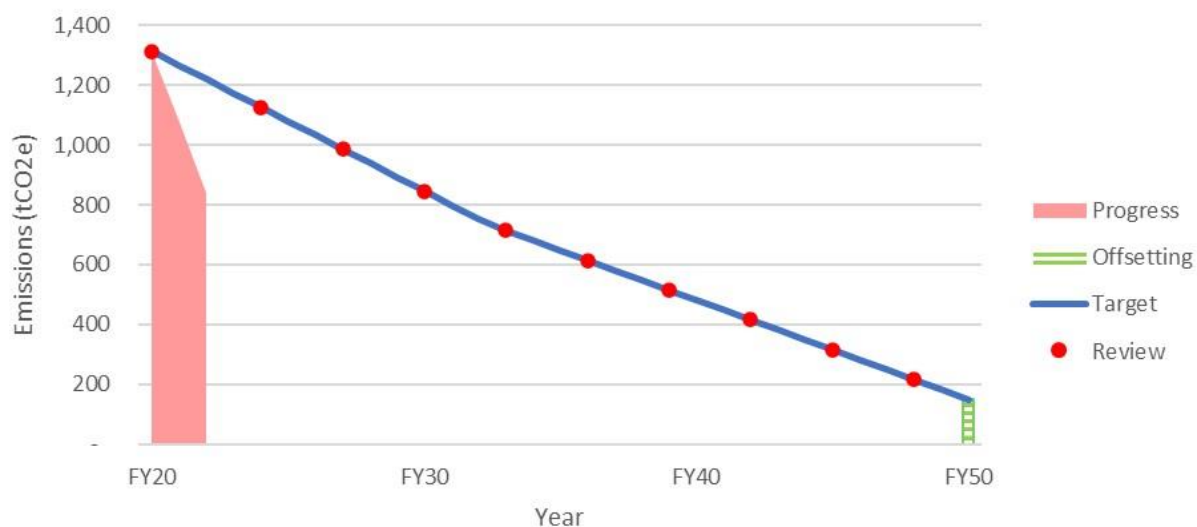
Carbon Reduction Completed Carbon Reduction Initiatives

The following environmental management measures and projects have been completed or implemented since the 2020 baseline. A 482 tCO_{2e} (37%) reduction in emissions was observed between the baseline year (2020) and 2022. While we have implemented some decarbonisation measures as listed below, emission reductions were also driven by the impact of the COVID-19 pandemic on operations e.g., increased homeworking and reduced business travel.

The following mitigation measures have already been implemented and will be in effect when performing the contract:

Ricardo Energy & Environment emissions are verified each year at Ricardo Group level by LRQA in accordance with ISO 14064–3:2006, 'Specification with guidance for validation and verification of greenhouse-gas assertions'. For the 2020 reporting period, this included Scope 1, 2 and Scope 3 business travel. For the 2022 reporting period, this includes all emissions as per the GHG Protocol.

Ricardo also have a verified Science Based Target (SBTi) at group level, in line with the 1.5℃ pathway for Scopes 1 and 2 and well below 2℃ for Scope 3.

The following policies have been implemented to support Ricardo Energy & Environment's decarbonisation:

- Switching to Renewable Energy Guarantee of Origin (REGO) backed renewable electricity tariffs for 80% of our UK electricity consumption

- Trialling an electric pool car in our Harwell office for business travel off site

- Implementing a public transport first travel policy where possible e.g., rail before private car travel

- Implementing internal procedures for booking flights within Great Britain, requiring Senior Leadership Team approval

- Offering cycle2work, bike maintenance checks and season rail ticket loans

- Flexible working policy, allowing more home working and enabling off peak public transport travel times

- Separate waste collection bins in all offices (general, recycling, confidential, crisp packets) and food collection in all larger offices.

In the future we plan to implement further measures such as:

Emission source	Measures
Natural Gas	Ricardo Energy & Environment do not own any fossil fuel powered heating systems. Where leased buildings have these, our commitment is to work with landlords to electrify them at the end of life or explore electrified buildings at the end of lease periods.
Fleet (vehicle emissions)	We are committed to decarbonising our fleet where possible at end of life. This will be occurring on a phased approach to 2030.
Electricity	We are committed to either consuming on-site renewable electricity or procuring 100% REGO backed renewable electricity on all sites by the next lease renewal date.
Waste	(1) Continue efforts to educate employees on waste reduction, sorting and disposal (2) Commitment to working with landlords and waste contractors to enable a move towards zero waste to landfill and decarbonisation of their waste transport fleet, including better transparency of waste collection amounts and treatment methods.
Employee Commuting	We are committed to reducing barriers our employees face when it comes to low emission commuting. We encourage active travel where possible by improving access to bike storage, bike health checks and cycle2work schemes. Our flexible working policy also reduces these barriers, and we will explore additional incentives in the future whilst assessing current policy success.
Hire cars	We will work with our hire car provider to understand the options of renting electric vehicles as a first option, before petrol or diesel vehicles.

Medium and long-haul business travel	Tele-conferencing has proven effective during Covid restrictions, but as countries relax their Covid controls, such virtual measures do not satisfy all client needs nor do they mitigate all project risks. As an international business Ricardo Energy & Environment's goal is to help our clients identify and implement sustainable solutions. Medium and long-haul business travel is expected to remain a business need.
	Any international air travel is to be justified to and approved by a Business Unit Director or above. Where practical, we seek to combine international trips to reduce emissions from travel. As
	new, lower carbon technology emerges in air travel we will review how our travel policies could incentivise their usage in the future.

Declaration and Sign Off

This Carbon Reduction Plan has been completed in accordance with PPN 06/21 and associated guidance and reporting standard for Carbon Reduction Plans.

Emissions have been reported and recorded in accordance with the published reporting standard for Carbon Reduction Plans and the GHG Reporting Protocol corporate standard[2] and uses the appropriate Government emission conversion factors for greenhouse gas company reporting[3].

Scope 1 and Scope 2 emissions have been reported in accordance with SECR requirements, and the required subset of Scope 3 emissions have been reported in accordance with the published reporting standard for Carbon Reduction Plans and the Corporate Value Chain (Scope 3) Standard[4].

This Carbon Reduction Plan has been reviewed and signed off by the board of directors (or equivalent management body).

Signed on behalf of the Supplier:

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Date: …02 March 2023……….……….