



# CARBON ASSESSMENT REPORT

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# CARBON ASSESSMENT REPORT

FOR

**Crown Gas and Power**



**CROWN**  
**GAS & POWER**



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## Nomenclature

Nomenclature	Description
GHG	Greenhouse Gases, gases that trap heat in our atmosphere. GHG include Carbon dioxide, methane, nitrous oxides, and fluorinated gases.
Embodied Carbon	The total GHG emissions generated to produce a product; It includes those from extraction, manufacture, processing, transportation, and assembly in every component.
Carbon Equivalent	The effect on global warming of a greenhouse gas (GHG) relative to that of CO <sub>2</sub> .
Zero Carbon	The absence of GHG emissions
Greenhouse Gas Protocol	The GHG Protocol Corporate Accounting and Reporting Standard which provides requirements and guidance to prepare a corporate-level GHG emissions inventory.
Net Zero Carbon (NZC)	The sum effect of combining actions to reduce GHG emissions with actions to off-set them.
Carbon Offsetting	A reduction in emissions of GHG to compensate for unavoidable emissions.
Global Warming Potential (GWP)	The heat adsorbed by any GHG as a multiple of the equivalent in carbon dioxide.
IPCC	The Intergovernmental Panel on Climate Change. It provides regular scientific assessment on climate change to policy makers.
AR6	The sixth assessment report of the IPCC. The most recent assessment report is 2021.
tCO <sub>2</sub> e	Notation for tonnes of carbon dioxide equivalent emissions.
kgCO <sub>2</sub> e	Notation for kilograms of carbon dioxide equivalent emissions.
ICE	The Inventory of Carbon and Energy.
Scope 1	Direct GHG emissions are those that occur from sources that are owned or controlled by the company such as emissions from combustion in owned or controlled boilers, furnaces, vehicles, etc., emissions from chemical production in owned or controlled process equipment.
Scope 2	Indirect GHG emissions account for GHG emissions from the generation of imported energy such as purchased electricity consumed by the company. Purchased electricity is defined as electricity that is purchased or otherwise brought into the organisational boundary of the company. Scope 2 emissions physically occur at the facility where electricity is generated.
Scope 3	Other indirect GHG emissions. The GHG Protocol Corporate Accounting and Reporting Standard defines Scope 3 as an optional reporting category that allows for the treatment of all other indirect emissions. Scope 3 emissions are a consequence of the activities of the company but occur from sources not owned or controlled by the company. Some examples of scope 3 activities are extraction and production of purchased materials; transportation of purchased fuels; and use of sold products and services. BS EN ISO 14064 separates out Scope 3 emissions into categories 3 to 6 covering indirect emissions from transportation, products used, use of products from the business and other sources respectively.



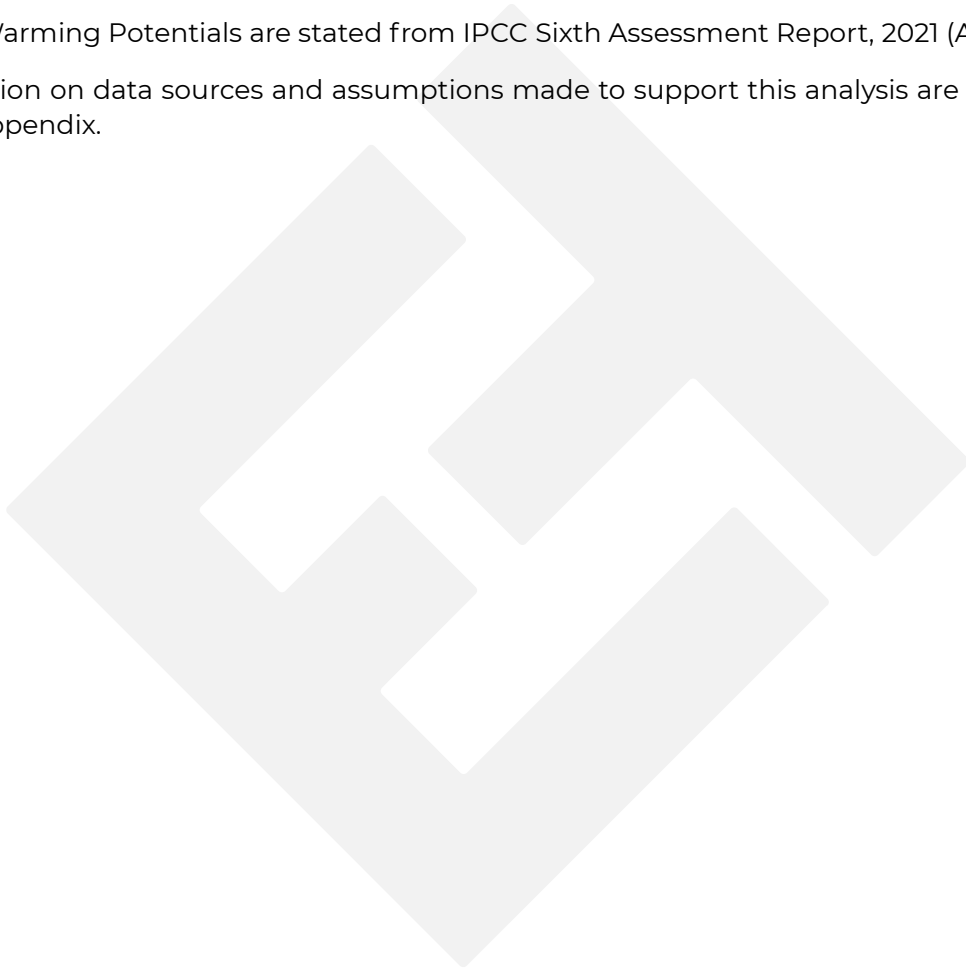
## Methodology and Quantification Standards

The Business Carbon Assessments was completed for PAS 2060 verification. Emissions have been reported and recorded in accordance with the international standard BS EN ISO 14064-1. This methodology is very similar to the assessment of GHG emissions following the GHG Protocol Corporate Reporting Standard and uses the appropriate Government emission conversion factors for greenhouse gas company reporting.

Quantification of carbon dioxide equivalent emissions arising from business activities were completed in accordance with the emission factors of Greenhouse gas reporting: conversion factors published by DEFRA, the UK government Department for Business, Energy, and Industrial Strategy for 2023. Additionally, The Inventory of Carbon and Energy has provided carbon equivalent data conversions for complex materials.

Global Warming Potentials are stated from IPCC Sixth Assessment Report, 2021 (AR6).

Information on data sources and assumptions made to support this analysis are provided in the Appendix.



## Executive Summary

Crown Gas and Power have completed this carbon footprint assessment report in accordance with ISO-14064-1. This document forms the PAS 2060 Qualifying Explanatory Statement whereby Tunley Environmental verify that Crown Gas and Power has achieved carbon neutrality in accordance with PAS 2060:2014 on 3<sup>rd</sup> May 2024 for the reporting period of 1<sup>st</sup> August 2022 to 31<sup>st</sup> July 2023.

The internationally applicable specification, developed by the British Standard Institute, demonstrates carbon neutrality. The third-party verification from Tunley Environmental substantiates claims that Crown Gas and Power are a carbon neutral business.

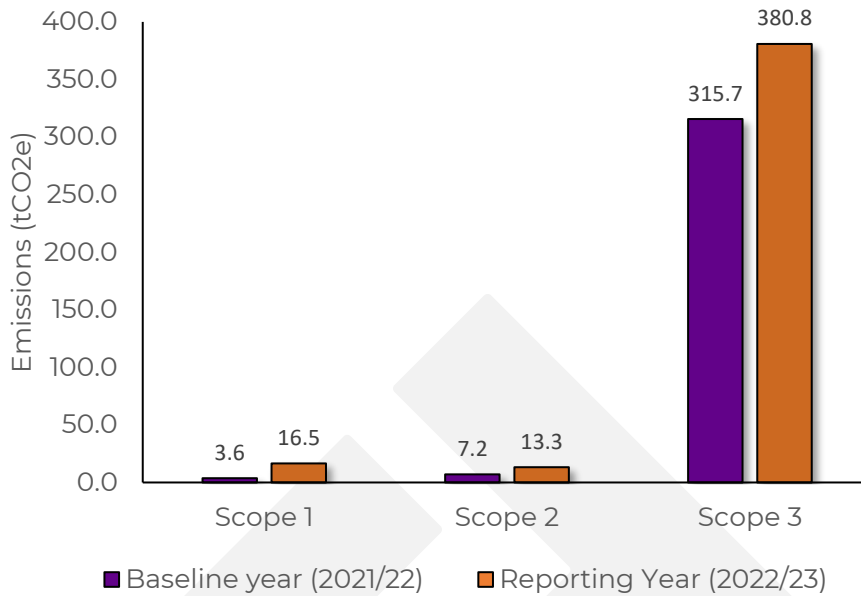
Crown Gas and Power (hereafter referred to as CGP) would like to report on the carbon emissions for the reporting year between 1<sup>st</sup> August 2022 and 31<sup>st</sup> July 2023 in comparison to the baseline year between 1<sup>st</sup> August 2021 and 31<sup>st</sup> July 2022. Quantifying the business carbon emissions puts CGP in a position to demonstrate sustainability and environmental responsibility to their customers and the wider public. It allows GCP to compare their emission data between the reporting year and the baseline year (2021-22) and show how a measurable change can be made to climate change emissions and facilitate the achievement of Net-Zero Carbon (NZC). CGP and Tunley Environmental have collaborated to identify emission sources and collect data. This report will compare GCP's reporting year (2022-23) with the baseline year (2021-22) in accordance with ISO-14064-1. The goal of this project is for GCP to achieve PAS2060 verification of carbon neutrality; by identifying where carbon reductions are necessary, creating a roadmap to reduce carbon emissions, and purchasing carbon offset credits. CGP and Tunley Environmental have collaborated to identify emission sources and collect data.

Tunley Environmental has conducted an independent assessment to quantify carbon emissions due to business activities conducted by CGP, based on the data provided by the company. The evaluation herein reported includes two components of emission quantifications for:

- The company's business activities in 2022-23. This first component evaluates carbon emissions from Scopes 1, 2, and 3 during the reporting year, in comparison to the baseline year.
- A roadmap to Net-Zero Carbon (NZC) based on data of the baseline year. This will act as a guidance for CGP to minimise their carbon footprint resulting from their business activities.

This assessment demonstrates CGP commitment to showing how carbon emissions can be reduced. It also provides CGP with a clear evaluation of carbon emissions associated with these business practices, how their emissions have changed between each year assessed, and aligns with CGP ambition for achieving carbon neutrality.

Total carbon emissions in tonnes of carbon dioxide equivalents (tCO<sub>2</sub>e per annum) in the reporting year (2022-23) are **410.7 tCO<sub>2</sub>e** compared to **326.4 tCO<sub>2</sub>e** in the baseline year (2021-22) (Figure 1). Emissions were higher in each scope in the reporting year compared to the baseline year; however, this is in large part due to the actions taken by CGP to reduce emissions in the future. This will be discussed further in the emissions data section (see pages 12-16).



**Figure 1.** Greenhouse gas emissions for Scopes 1, 2 and 3 between baseline year and reporting year.

Tunley Environmental recommend taking steps to reduce emissions and become NZC by 2032. By implementing the emission reduction initiatives suggested in this report, CGP will be able to reduce their emissions by 72% by 2030.

## Introduction

Climate change poses a significant challenge to the environment, necessitating mitigation measures at international, national, and local levels. It impacts businesses, natural systems, and communities. This is caused by global warming, as a result of an increase in greenhouse gas (GHG) emissions, known as carbon emissions.

Tunley Environmental conducted this assessment using the standard protocols stated above and data provided by CGP for their business activities, based on data in the reporting year between 1<sup>st</sup> August 2022 and 1<sup>st</sup> July 2023.

This assessment is based on data categorised into three scopes, as defined by the Greenhouse Gas Protocol. For each year, the assessment provides detailed quantification of GHG emissions due to:

- i) Scope 1: Direct emissions such as those arising from gas heating and refrigerants.
- ii) Scope 2: Indirect emissions from purchased electricity.
- iii) Scope 3: Other indirect emissions from business travel and commuting using employees' vehicles and by train, paper usage, and hotel stays.

Appreciating the importance of determining major contributors to the emissions, Tunley Environmental provides CGP with detailed analysis and discussion on the contributions from different emission sources considered; this will support CGP with their decision-making processes to reduce their carbon emissions. Where information and data were limited, we made reasonable assumptions based on our expertise and external sources of data. This report is completed to internationally recognised [standards](#) mentioned previously.



## Carbon Emissions Methodology

### Carbon Emissions Context

Carbon dioxide and other greenhouse gases (GHG) must be reduced to avoid the devastating impact from climate change. From local commitments (such as the [Greater Manchester's commitment to zero carbon by 2038](#)) to global commitments (such as the [Paris Agreement](#)), it is more important than ever for business to reduce their GHG emissions.

Thus, CGP are committed to make significant changes to their business in order to become more sustainable and reduce emissions. To do this, CGP calculate their carbon footprint per year, offset these emissions to become carbon neutral, and plan to reduce emissions in the future with aspirations to becoming Net Zero.

It is important to understand the phrases often used for sustainability and carbon reduction:

#### Carbon Neutral

Being carbon neutral is to balance carbon emissions with an equivalent amount sequestered or offset. Thus, it is often achieved by calculating the total amount of GHG emissions produced per year and this amount is offset through credits to make up the difference between its emissions and a zero-carbon baseline. According to PAS 2060:2014 carbon neutral is a "condition in which during a specified period there has been no net increase in the global emission of greenhouse gases to the atmosphere as a result of the greenhouse gas emissions associated with the subject during the same period".

#### Net Zero Carbon

Becoming Net Zero is the goal every company should aspire to. It refers to balancing the amount of emitted GHG emissions with the equivalent emissions through offsets or sequestration. However, this should primarily be achieved through a reduction in the amount of GHG emissions produced. Offsets are required when the GHG emissions cannot be reduced any further.

CGP are a carbon neutral company with aspirations to become Net Zero by 2030.

### Quantification of GHG Emissions

Tunley Environmental calculated CGP's carbon footprint for the 2022/23 financial year in accordance with the international standard BS EN ISO 14064-1, a similar methodology to following that of the [World Resources Institute GHG Protocol - A Corporate Accounting and Reporting Standard, Revised Edition](#) (the GHG Protocol).

The approach taken is the operational control approach, ensuring everything in the operational control of CGP is accounted for in the carbon footprint. To ensure the validation of the Carbon Neutral statement, the carbon inventory is available when requested and a detailed methodology is provided. This ensures the carbon neutral claim is truthful, accurate, clear and unambiguous; in line with the [UK's Competition and Markets Authority \(CMA\) Green Claims Code](#).

## Business Activities

A business carbon assessment is based on data categorised into three scopes, as defined by The Greenhouse Protocol. For each year, the assessment provides detailed quantification of GHG emissions due to:

### Scope 1: Direct Emissions:

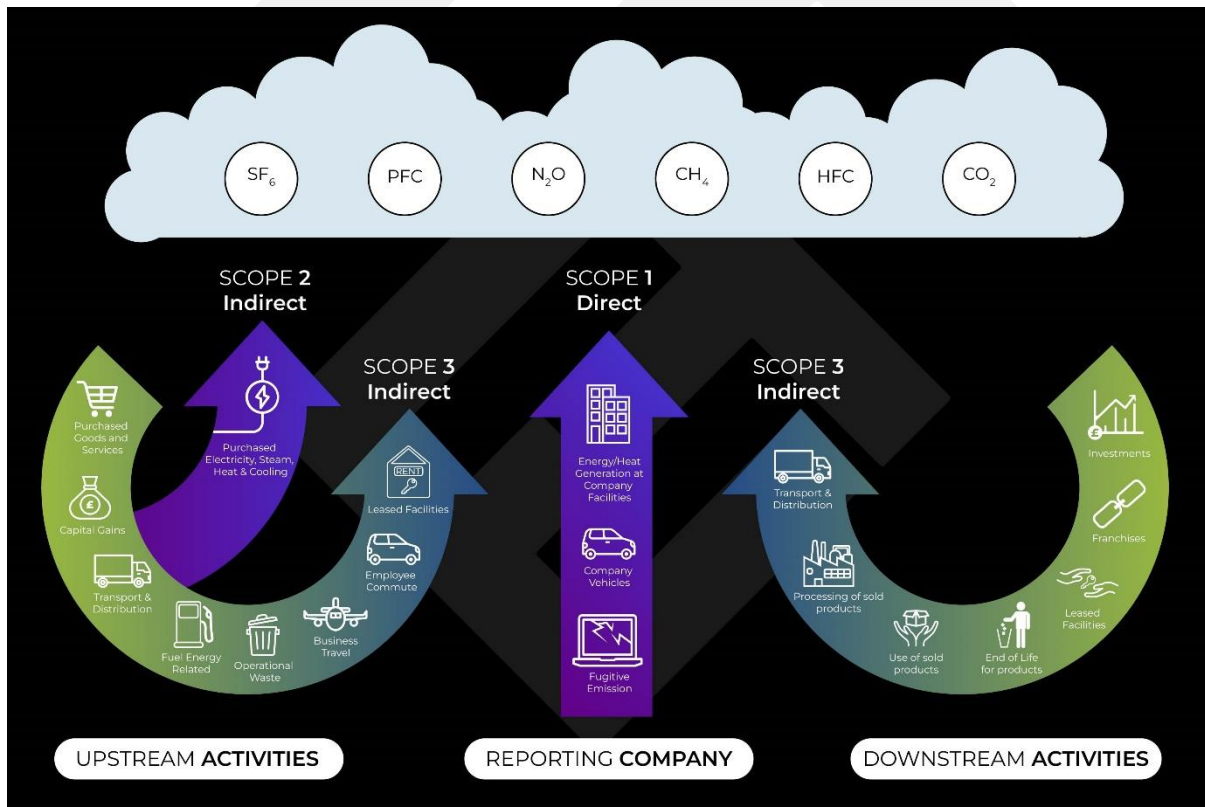
- Stationary combustion of fuels (for example burning natural gas for heating).
- Mobile combustion of fuels (for example burning diesel in company owned vehicles).
- F-gases emitted to the atmosphere (for example, refrigerant leaks from air conditioning).

### Scope 2: Indirect Emissions from using Energy

- The emissions produced from the generation of purchased electricity used.

### Scope 3: Other Indirect Emissions

- This includes both upstream and downstream business activities from a total of 15 business categories. For example, usage of water, business travelling, waste disposal, transportation and distribution, and the use of supplies such as food and drink.



**Figure 2:** An overview of the GHG Protocol scopes and emissions across an entire value chain.

## Exclusions

In accordance with guidelines that ensures the carbon neutrality statement does not hide or omit important information, the business activities that are excluded from the business carbon footprint are:

- 3.8 – Upstream Leased Assets
- 3.10 – Processing of Sold Products
- 3.11 – Use of Sold Products
- 3.12 – End of Life Treatment of Sold Products
- 3.13 – Downstream Leased Assets
- 3.14 – Franchises

The decision to omit some Scope 3 emission activities was chosen to ensure the accuracy of the carbon assessment. In this report, Scope 3 GHG emissions are estimated from factual data collected only. Further, the global carbon footprint must represent a relevant baseline to CGP's current operation.

For the avoidance of doubt, the emissions arising from life cycle phases of the products sold by CGP to its customer base is calculated but excluded and reported in the Out of Scopes. This is because it is out of CGP's operational control. CGP are downstream suppliers of the products and thus have little control in the emissions from using the products. While the emissions from the use of sold gas are materially significant, the company's negligible influence over how these products are used (as indicated by a less than 5% profit stake) justifies their categorisation as out of scope. This approach is in-line with the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard. Additionally, draft guidance from the Science Based Targets institute (SBTi) for the Oil & Gas industry identifies the scope of emissions for downstream distribution companies (such as CGP) to be excluded. From a financial viewpoint, CGP's value stake represents much less than 5% of the sold product and therefore responsibility lies with primary extraction and processing companies.

## Limitations

It is important to understand the limitations of the carbon assessment that are inherently created by the use of certain assumptions required to calculate the GHG emissions. These assumptions are limitations are inevitable and essential when suitable quantified data is unavailable. Please see the uncertainty scores in Data Accuracy Assessment for further information. The limitations undertook to complete this assessment are as follows:

### **Estimated Data Used from Assumptions in Place of Primary Data**

In certain circumstances, the data required to calculate the GHG emissions were unavailable. For example, the mileage of amazon deliveries in upstream transport and distribution which is unavailable on the delivery notes from the amazon business account. Therefore, the mileage was estimated using the distance between the amazon warehouse in Manchester and CrownPoint Office. The assumptions are noted within the additional document GHG Emissions Methodology, Inventory and Assessment if requested. It is recommended that CGP begin to make records for the data where assumptions have been used.

### **Spend-Based Emission Calculations**

Primary data that accurately measures the amount (in terms of weights and volumes) of a business activities conducted was used where available. However, for the purchased goods and services and capitals costs, the data available were in costs instead of amounts. This means, the spend based methodology was used reducing the accuracy of the emission

calculations. For example, for office supplies, the amount of money spent on paper was used to calculate the emissions instead of amount of paper purchased. It is recommended that emissions from the top 20% of suppliers for purchased goods and services are based on quantity of goods/services in place of spend; however, the current approach is appropriate for the large scale of accounts in place. Alternatively, working with suppliers to calculate their carbon footprint, generate supplier specific spend based emission factors and understanding their plans to reduce emissions is recommended.

### **Emissions Based of Average Emission Factors**

The emission factors applied in our calculations are sourced from the DEFRA 2023 emission factor database. Given our reporting period spans two calendar years, ideally, both 2022 and 2023 emission factors would be used, but due to the inability to segregate data across these years, we have utilised only the 2023 dataset for emission factors. For certain business activities, emission factors can vary significantly based on suppliers. For example, stainless steel from a supplier in China could be significantly worse than that from a supplier in Europe depending on multiple factors. Therefore, it is recommended to begin working with the top 20% of suppliers used to collect accurate emission factors to improve accuracy and reduce emissions from collaboration on joint incentives.

Additional to the limitations from the GHG emission calculations, uncertainty is also created from the data collection process. In accordance with the ISO 14064 international standard, the uncertainty associated with the data used for the carbon footprint quantification has been assessed at the GHG category level. Please see Data Accuracy Assessment for further information.

## **Verification of Methodology**

**Verification Conducted by:** Tunley Environmental

**Verification Process:** A detailed outline of the verification steps undertaken, including data review (invoices, receipts), risk assessment, and on-site verification activities, as applicable.

**Level of Assurance:** Reasonable Assurance

**Verification Findings and Opinion:** A summary of the verification findings and the opinion issued by Tunley Environmental regarding the accuracy and reliability of CGP's GHG inventory.

In accordance with the ISO 14064 standard, this GHG report for CGP has been rigorously verified by Tunley Environmental to ensure the accuracy and reliability of the disclosed greenhouse gas emissions and removals. The verification process, conducted by Tunley Environmental, involved an evaluation of the GHG inventory against the ISO 14064 criteria. This included a detailed review of all relevant data, evidenced by invoices and receipts, to guarantee the integrity of the information reported. The verification was performed with a level of reasonable assurance, the highest level of scrutiny under the ISO framework, indicating a high degree of confidence in the findings. This exhaustive verification process underscores CGP's commitment to transparent and credible environmental reporting, reflecting its dedication to sustainable business practices and its contribution to global efforts in mitigating climate change.

## Emission data

Scope 1 made up 4% of the total emissions, which was 16.5 tCO<sub>2</sub>e. The total Scope 2 emissions were 13.3 tCO<sub>2</sub>e (3.2%), which resulted from electricity usage. Scope 3 contributed 92.7% to the total carbon footprint in 2022.

**Table 1.** Total emission data for CGP broken down in Scopes outlined in The GHG Protocol.

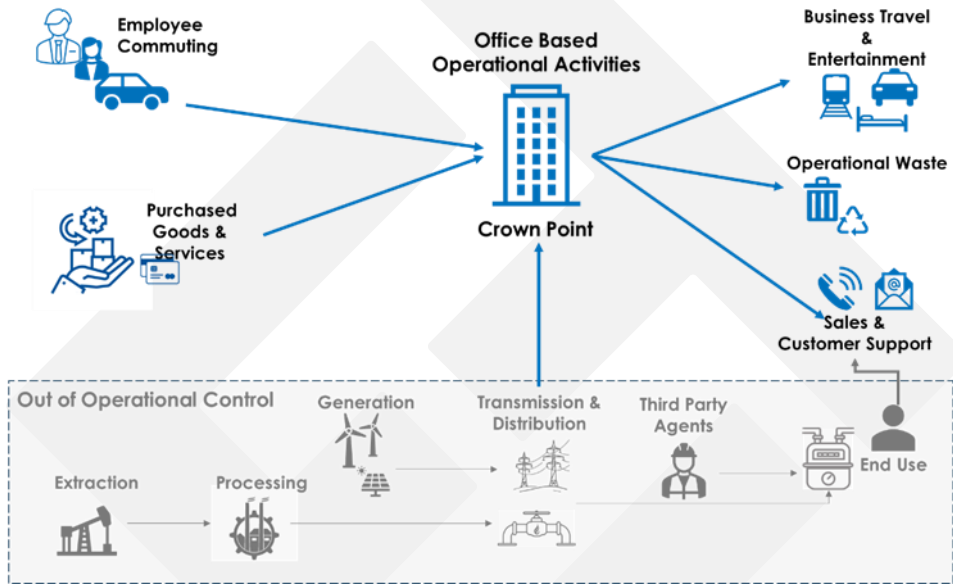
Scope	Baseline 2021/22 Emissions (tCO <sub>2</sub> e)	Re-audit 2022/23 Emissions (tCO <sub>2</sub> e)
Scope 1	3.6	16.5
Scope 2	7.2	13.3
Scope 3	315.7	380.8
<b>Total</b>	<b>326.4</b>	<b>410.7</b>
Change from baseline	0	+25.8

**Table 2.** Emission data for CGP broken down in each scope and category.

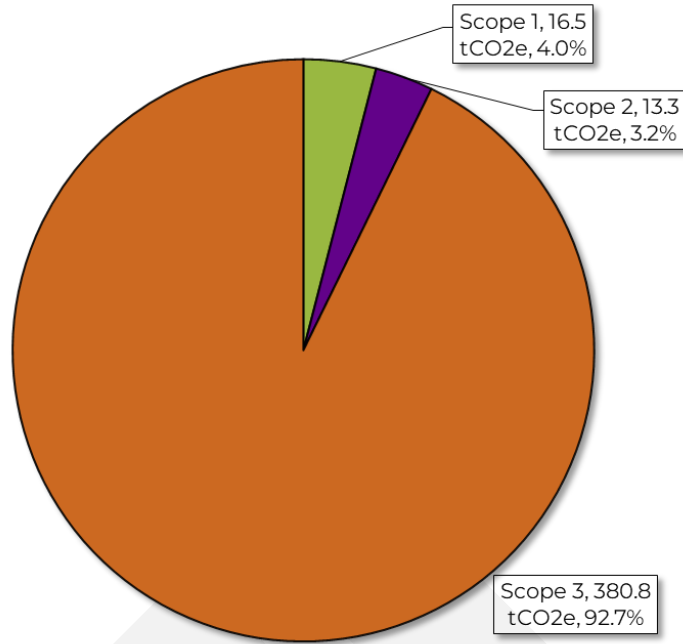
Scope	Category	Emissions tCO <sub>2</sub> e p.a. 2021-22	Overall Contribution (%)	Emissions tCO <sub>2</sub> e p.a. 2022-23	Overall Contribution (%)
S1.1	Stationary combustion	3.6	1.1	0.0	0.0
S1.2	Mobile combustion	0.0	0.0	0.0	0.0
S1.3	Refrigerants	0.0	0.0	16.5	4.0
S2.1	Purchased heat	0.0	0.0	0.0	0.0
S2.2	Purchased electricity	7.2	2.2	13.3	3.2
S3.1	Purchased goods and services	220.3	66.7	228.3	55.6
S3.2	Capital goods	31.4	9.5	81.2	19.8
S3.3	Fuel and energy related activities not included in S1 or S2	6.2	1.9	8.3	2.0
S3.4	Upstream transportation and distribution	5.1	1.6	7.0	1.7
S3.5	Waste generated in operations	3.7	1.1	3.8	0.9
S3.6	Business travel	9.9	3.0	8.5	2.1
S3.7	Employee commuting (& remote working)	32.9	10.0	32.9	8.0
S3.8	Upstream leased assets	0.2	0.1	0.0	0.0
S3.9	Downstream transportation and distribution	0.0	0.0	0.0	0.0
S3.10	Processing of sold products	0.0	0.0	0.0	0.0
S3.11	Use of sold products – standard fuel mix*	533,237.4	0.0	595,696.6	0.0
S3.11	Use of sold products – Biogas*	18.7	0.0	31.9	0.0

S3.12	End of life treatment of sold products	0.0	0.0	0.0	0.0
S3.13	Downstream leased assets	0.0	0.0	0.0	0.0
S3.14	Franchises	0.0	0.0	0.0	0.0
S3.15	Investments	6.0	1.8	10.9	2.7
<b>Total</b>		<b>326.4</b>	<b>100%</b>	<b>410.7</b>	<b>100%</b>

\* S3.11 is not included as CGP have a minimal value share in gas they sell, and do not have operational control over transmission and distribution. The values are therefore greyed out to represent that they are not included in the final figures. See **Figure 3** for the visualisation of scope boundaries.



**Figure 3.** Diagram made by CGP showing operational control boundaries.



**Figure 4.** Percentage contributions of three scopes.

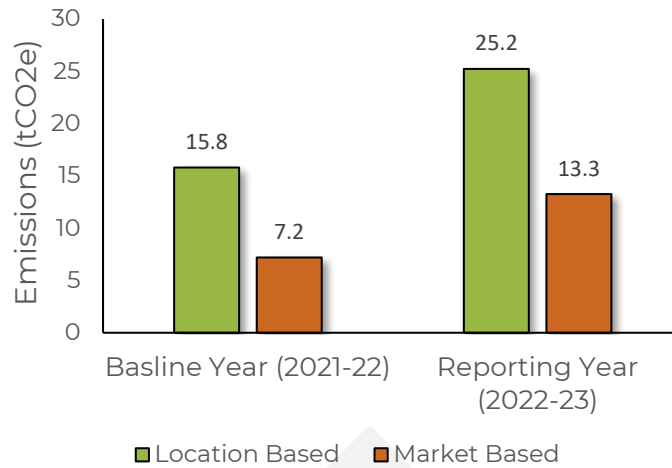
### Scope 1 and 2

The direct GHG emissions produced and released by CGP include three major subcategories within Scope 1: Stationary combustion, mobile combustion, and refrigerants. Scope 2 emissions are caused by the indirect release of GHG emissions that are released to the atmosphere from the generation of electricity and purchased heat.

The emissions produced by CGP in scope 1 and 2 for the reporting year (2022-23) accounts for 7.2% of all emissions in scope 1, 2 and 3 (Figure 3). This is an increase of 3.9% compared to the baseline year (2021-22). The increase in scope 1 was due to a refrigerant leak with the air conditioning system, however, CGP has taken steps to reduce the likelihood of this happening again with regular maintenance of the air conditioning system. The increase observed in scope 2 is due to the switch from gas heating to electric, on a standard fuel mix electricity tariff. However, CGP have since switched to renewable energy. These changes will be reflected in the 2023-24 data.

To achieve carbon neutrality and net zero emissions, scope 1 and 2 emissions must be reduced to zero. This is outlined further in the roadmap to net zero carbon. However, Tunley is aware that CGP have already taken steps to reduce their scope 1 and 2 emissions by removing gas heating and procuring a renewable energy electricity tariff.

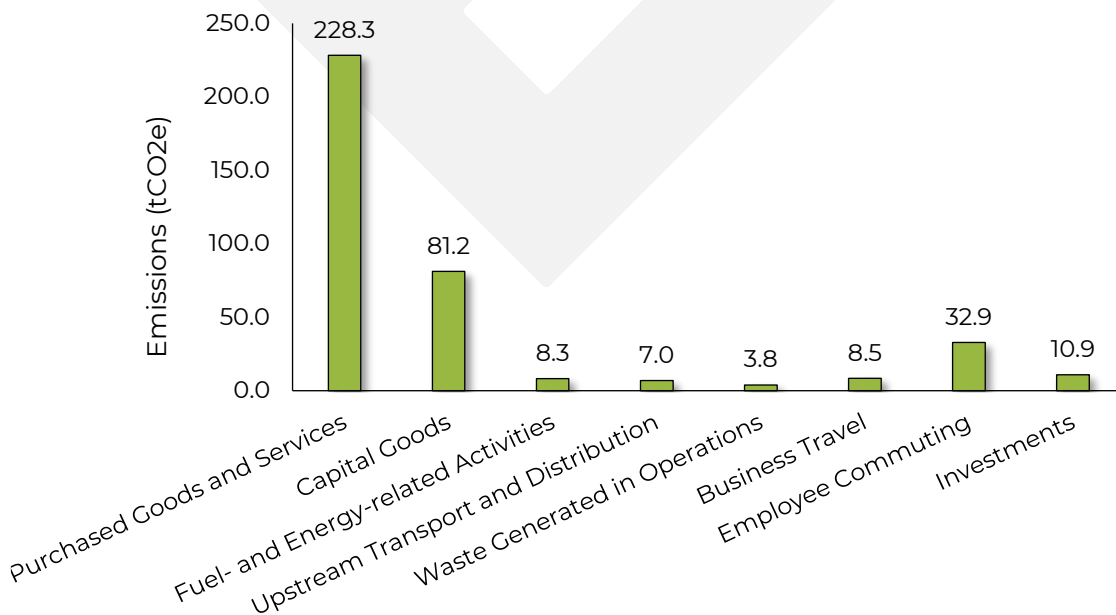
In scope 2, as we know the suppliers of electricity to the Crown Point office, the market-based emission factor for electricity usage was compared to the location based (**Figure 5**). The market-based emission factor, which is based on both British Gas and SSE 2022-23 declarations, is significantly lower than the location-based emission factor.



**Figure 5.** Location based vs Market based scope 2 emissions in reporting year compared to baseline.

### Scope 3

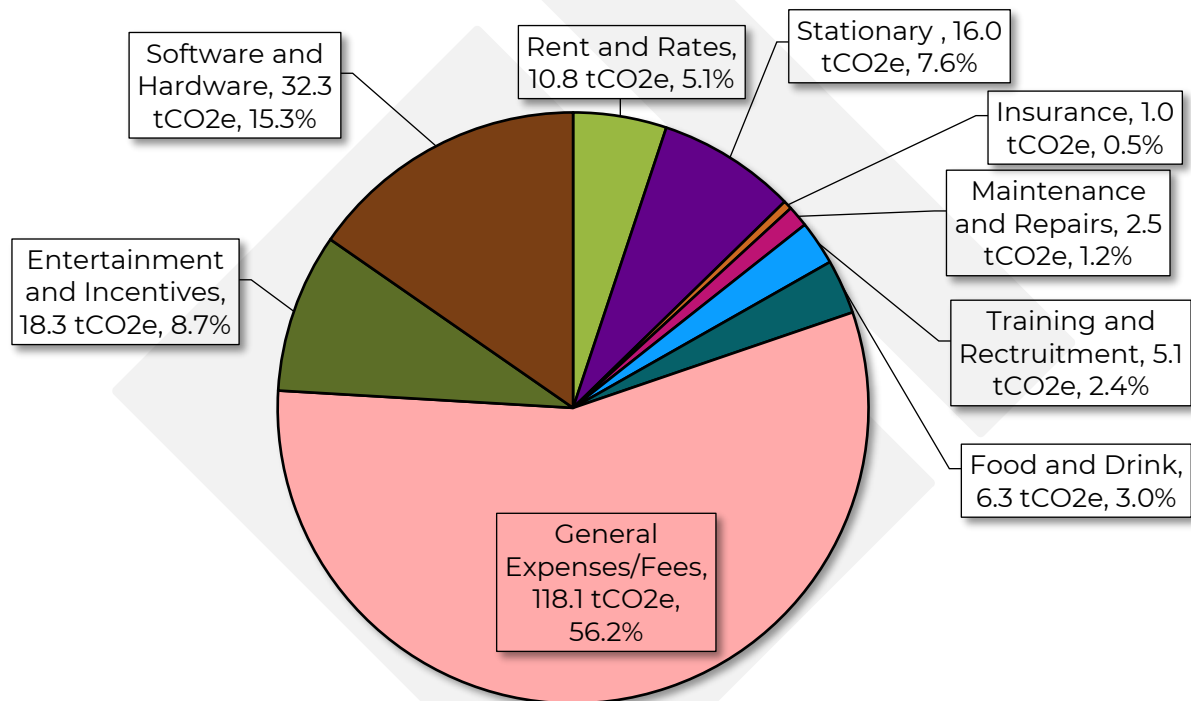
The major contributors of scope 3 indirect emissions were purchased goods and services, capital goods, and employee commuting. These contributed 228.3 tCO<sub>2</sub>e, 81.2 tCO<sub>2</sub>e, and 32.9 tCO<sub>2</sub>e respectively, to the total emissions of 410.7 tCO<sub>2</sub>e from scope 3 (**Figure 6**). Other significant contributors to total indirect emissions result business travel (8.5 tCO<sub>2</sub>e) and from well-to-tank (WTT) emission from the purchasing of natural gas and transmission and distribution (T&D) of electricity (8.3 tCO<sub>2</sub>e). Additional minor indirect emissions from scope 3, which have been considered in this assessment, are laid out in **Figure 6**. Scope 3 emissions were increased by 65.1 tCO<sub>2</sub>e. However, this was mainly due to changes CGP were making during the reporting year, such as office renovations, the instalment of solar panels, and the removal of gas heating, to reduce carbon emissions in future years. CGP should, therefore, see a slight reduction in their scope 3 emissions in the next year.



**Figure 6.** Breakdown of carbon emissions by Scope 3 business activity.



To enable the detailed breakdown of carbon emissions from the major contributors of scope 3 (purchased goods and services and capital goods), the purchases were broken down into further categories (**Figure 7**). The emissions from purchased goods and services and capital goods were calculated using spend based data which is based on an estimate of the total upstream emissions associated with the supply of a particular product group. The major contributors of purchased goods and services and capital goods emissions were found to be general fees and expenses and software and hardware. General fees and expenses, which includes subscriptions and licences, legal expenses, accountancy fees, fines, debts, and professional fees, accounted for 56.2% (118.1 tCO<sub>2</sub>e) of the total emissions from capital goods and purchased goods and services. Software and hardware accounted for 15.3% (32.3 tCO<sub>2</sub>e) of the total emissions. Emissions from entertainment and incentives were increased by 12.5% compared to the baseline year. Whereas the emissions from remaining categories were marginal in comparison (**Figure 7**). By breaking down each spend category, it enables CGP to see where the highest emissions in suppliers are coming from, and potentially target them for carbon emission reductions.

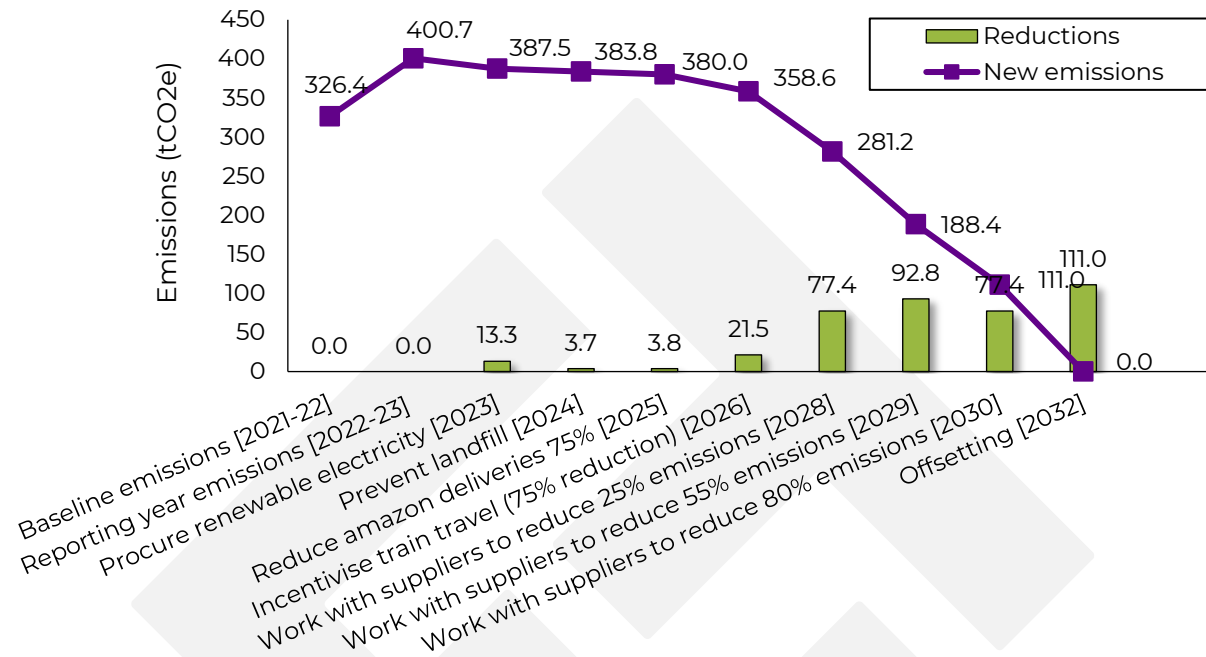


**Figure 7.** Detailed breakdown of carbon emissions from the major carbon emission contributions of indirect scope 3 emissions: purchased goods and services, and capital goods.

## Strategic CO<sub>2</sub>e Reduction Initiatives

Tunley Environmental recommend CGP to implement a long-term approach on carbon reduction.

GHG emissions can be reduced 72% through implementing reduction strategies that focus on emission sources of significant contributions by 2030. Once the initiatives have been considered and taken, any unavoidable, remaining emissions can be removed by carbon off-setting actions (by 2032) (**Figure 8**). This section provides CGP with GHG reduction initiatives.



**Figure 8** Roadmap to NZC by 2032.

Note that data for the baseline emissions in 2021 was taken from a previous BCA report conducted for CGP. The data in this report were adjusted to reflect the use of location-based emission factor for electricity to ensure consistency with the data herein assessed for the reporting year.

### Using Renewable Electricity – 2023

Tunley Environmental appreciate that CGP have already switched to an Ofgem-certified green electricity tariff (Renewable Energy Guarantees of Origin, [REGO](#)) for the year 2023-24. The roadmap to net zero shows how this implementation will reduce CGP's carbon emissions by 13.3 tCO<sub>2</sub>e per annum.

### Prevent landfill – 2024

Preventing 100% of waste generated at CGP from entering landfill reduce their carbon emissions from waste generation by a further 3.8 tCO<sub>2</sub>e. The calculations were conducted using the amount of waste sent for landfill in the current reporting year and comparing the current emissions to the potential emissions produced if that waste was sent for recycling.

### Reduce amazon deliveries 75% – 2025

By coordinating orders for items from amazon e.g. ordering a number of items at the one time in bulk, you can opt for nominated day delivery, which means fewer deliveries and fewer parcels thereby reducing carbon emissions for the upstream transportation of

amazon purchases. It may not be possible to adhere to this for every order, and so a reduction of 75% of amazon deliveries is more feasible.

### **Incentivise train travel – 2026**

Incentivising train travel for all employees, for both business travel and employee commuting, could reduce emissions by up to 75% (based on a 75% uptake assumption), which is 21.5 tCO<sub>2</sub>e per annum. This can be done by, for example, contributing a percentage of train ticket prices.

### **Work With Suppliers to Reduce Emissions – 2028 Onwards**

Work with suppliers to move away from spend based carbon emission factors. This can be done by collecting supplier carbon emissions to calculate an accurate spend based carbon emission factor for each supplier. Additional work with suppliers to understand their goals will enable CGP to accurately forecast the reduction of scope 3 emissions.

The method used to calculate the reduction in scope 3 is based on strategic assumptions regarding supplier engagement in emission reduction efforts. The initial assumption is that a specific number of suppliers will commit to calculating their own GHG emissions, and actively participate in emission reduction initiatives. Then it is assumed that suppliers will achieve a 50% reduction in GHG emissions. This reduction is measured against the average emissions associated with monetary expenditure within their specific sector. It is assumed that from 2029 the emissions reduced will continue to increase with an increase in supplier engagement. The calculation model incorporates a progressive annual increase in the number of suppliers who successfully reduce their emissions by the stipulated 50%.

This approach effectively quantifies the anticipated reductions in Scope 3 emissions by modelling future supplier participation in emission reduction plans and their expected achievement in halving emissions relative to the sector's current average spending-based emission factor. This forward-looking calculation aims to project the potential environmental benefits of sustained and expanding supplier engagement in GHG reduction efforts over time, and, therefore, reducing scope 3 emissions by around 25% per annum.

### **Offsetting – 2032**

Whilst reducing emissions is the ideal end goal in decarbonisation this is not always feasible with every source emission. In these instances, offsetting against the carbon emissions is necessary. Therefore, the remaining carbon emissions will have to be offset with bona fide suppliers. Consequently, Tunley recommends all offsets be purchased from One Tribe (<https://onetribeglobal.com/>). The cost of carbon credits typically operates between a range of £12 to £18 per tCO<sub>2</sub>e. One Tribe's carbon credits are typically procured through one or more of the following regulatory bodies: Verra, Gold Standard, American Carbon Registry and Delta. OneTribe use their purchasing power to facilitate the very best pricing for their clients, however, it's important to note that these prices are subject to change based on market demand and other factors.

For the purposes of achieving "Carbon Neutral" to PAS 2060 in the financial year 2022/23, Crown Gas and Power was required to purchase 411 tCO<sub>2</sub>e. To ensure neutrality, CGP the following verified offset projects:



**Figure 9.** An image showing the offsets purchased for the Kinik Wind Power Plant by Crown Gas and Power.



## PAS2060 – Carbon Neutral

The British Standard Institute (BSI) has developed an internationally applicable specification for demonstrating carbon neutrality. Verification to this standard substantiates claims that a business is carbon neutral.

Conformity with this specification can be achieved in three ways:

- 1) 3rd party certification
- 2) Other party validation
- 3) Self-validation

Crown Gas and Power have chosen “other party verification” through Tunley Environmental. This provided Crown Gas and Power with the support, documentation and protection required from external criticism, ensuring high confidence in the carbon neutrality statement.

**Table 3** provides the PAS 2060 Qualifying Explanatory Statement to demonstrate that CGP has achieved carbon neutrality in accordance with PAS 2060:2014 on 3<sup>rd</sup> May 2024 for the reporting period of 1<sup>st</sup> August 2022 to 31<sup>st</sup> July 2023.

**Table 3:** Declaration of achievement of carbon neutrality.

PAS2060 Requirement	Response
<b>Entity making declaration</b>	Crown Gas and Power.
Subject of PAS 2060 declaration	All offices, commercial premises, vehicles, goods and services for which Crown Gas and Power has operational control.
Description of subject	Crown Gas and Power is a business energy supplier to the commercial sector, supplying gas to UK businesses.
Rationale for selection of the subject	<p>The subject was selected given it represents the operational control boundary of Crown Gas and Power following the WRI GHG Protocol methodology. The boundary is summarised as follows:</p> <ul style="list-style-type: none"> <li>• Scope 1 emissions: Combustion of gas, Combustion of fuel (stationary &amp; mobile), Refrigerant leakage</li> <li>• Scope 2 emissions: Purchased electricity &amp; heat (location based)</li> <li>• Scope 3 emissions: Purchased Goods &amp; services, Capital goods, Well-to-tank &amp; Transmission &amp; distribution losses, Upstream transportation &amp; distribution, Business travel, employee commuting, excluded Scope 3 emissions are those associated with: <ul style="list-style-type: none"> <li>○ Upstream &amp; downstream leased assets. Use of sold products, processing and end-of-life treatment of sold products. Franchises and investments.</li> </ul> </li> </ul>
<b>Type of conformity assessment</b>	Other-party validation



Baseline date for PAS 2060 programme	1st August 2021 to 31st July 2022
Period during which the entity is demonstrating carbon neutrality of the subject has been achieved	1st August 2022 to 31st July 2023
Recorded carbon footprint of the subject during the period stated above	410.7 tonnes CO <sub>2</sub> e p.a.
Which PAS 2060 recognised methodology has been followed to achieve carbon neutrality?	WBCSD/WRI Greenhouse Gas Protocol, Corporate accounting and Reporting standard (revised edition, March 2004)
How have the reductions in GHG emissions during the period been achieved?	Reductions in emissions for stationary combustion achieved by replacing gas heating with electric. Reductions in scope 2 reductions will come into effect in 23/24 as renewable energy tariff has been procured out with the reporting year 22/23 dates.  Please see ' <a href="#">Carbon Emissions Methodology</a> ' for further information.
Has there been material changes to the subject?	No, the scope and boundary of the assessment is the same as the baseline FY2021/22.
Actual reduction in GHG emissions	Increase of +25.8 tCO <sub>2</sub> e in reporting year compared to baseline.
Carbon Offset standard and methodology	Verified Carbon Standard (VCS) (see ' <a href="#">Carbon Offsetting</a> ' report section)
UK economic growth rate over the application period	2022: 4.3% <a href="https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG">https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG</a>
Other-party validation statement	Tunley Environmental declare that the information presented in this qualifying explanatory statement in support of PAS 2060:2014 is true and accurate to the best of our knowledge, ability and experience.
Name of Senior Representative	Dale Marriott
Signature	

## Tunley Environmental Report Emission Statement

Tunley Environmental GHG emissions from completing this assessment were 2.52 kgCO<sub>2</sub>e.

## Appendix

### Data Sources and Assumptions

Below we provide all of the data analysed with notes on sources provided and assumptions used in the calculation of emissions (**Table A1**). Additionally, the error score calculated as a factor of both data provided and emission factor used is displayed.

**Table A1.** Data sources and assumptions. Data accuracy assessment system utilised explained below.

Facility	Item	Data	Emission factor	Overall score
Crown point office	Refrigerants	4seasons F-Gas Record - Obtained through Facilities Manager - Band1	DEFRA 2023, R410A refrigerant - Band1	1
Crown point office	Electricity	British Gas and SSE - Fixed Price Energy Plan, Standard Fuel Mix - Band1	British gas and SSE standard fuel mix declarations	1
Crown point office	Business travel - cars	Provided by CGP miles - Band 1	Defra 2023, passenger car – Band 1	1
Crown point office	Business travel - taxi	Provided by CGP accounts - Band 1	Defra table 19 (49.3-5) – Band 3	3
Crown point office	Business travel - train	Provided by CGP accounts - Band 1	Defra table 19 (49.1-2)- Band 3	3
Crown point office	Business travel - Coach	Provided by CGP accounts - Band 1	Defra table 19 (49.3-5)- Band 3	3
Crown point office	Hotel stays	Provided by CGP accounts – Band 1	Defra table 19 (55) - Band 3	3
Crown point office	Capital goods	Provided by CGP accounts – Band 1	Defra table 19 – Band 3	3
Crown point office	Purchased goods and services	Provided by CGP accounts – Band 1	Defra table 19 – band 3	3
Crown point office	Upstream transportation	Estimation based on delivery log and amazon deliveries – Band 2	DEFRA 2023 Freighting goods - average van - fuel type unknown – band 2	4
Crown point office	Landfilled waste	Provided by CGP – Band 1	Defra 2022, waste disposal - Band 1	1
Crown point office	Recycled waste	Provided by CGP – Band 1	Defra 2022, waste disposal - Band 1	1
Crown point office	Employee commuting	Survey CGP – band 2	Defra 2022, land travel – band 1	2

## Data Accuracy Assessment

All the raw data provided to Tunley Environmental were broken down into accuracy levels reflective of the data sources provided (Table A2 & Table A3). This allows for inaccuracy and uncertainty to be accounted for in this assessment. Both activity data (e.g., quantities of material, usage of electricity, etc) and emission factors are scored using the same band-based system, with 1-6 corresponding to the highest & lowest levels of accuracy, respectively. *via*

Emission factors are to be evaluated using the following five indicators:

- Technological relevance.
- Temporal coverage.
- Geographical coverage.
- Completeness.
- Reliability (e.g., peer-reviewed source, reproducible, low uncertainty in the information provided).

**Table A2.** Accuracy bands assigned to data, description of data assignment, adjustment factor provided increase to CO<sub>2</sub> emission calculations.

Accuracy Score	Description
1	Activity data accurately measured, fully accounted for and/or reported. Emission factor satisfies all five indicators.
2	Activity data provided directly by company/organisation; some generalisations made. Emission factor satisfies four indicators.
3	Activity data produced based on information provided by company/organisation. Emission factor satisfies three indicators.
4	Activity data assumption based on similar product/event reports by the same company/organisation. Emission factor satisfies two indicators.
5	Activity data assumption based on product/event reports by a similar company/organisation. Emission factor satisfies one indicator.
6	Activity data assumption made based only on publicly available information. Emission factor is estimated using the data available for a broader data category to which the emission source belongs, the estimated emission factor does not meet the indicators' requirements.

**Table A3.** Overall error score matrix for accuracy assessment.

Error Score	Action
1 - 2	Use the data, no further action required.
3 - 4	Can use the data, <b>recommended</b> to <b>improve data</b> quality by e.g., i) checking raw data with client (assessing recollection need) and ii) sourcing different emission factors or averaging several data points, required to declare this in the report.
5 - 10	<b>Strive</b> to <b>improve data</b> as a <b>priority</b> and only use the data when no further improvements can be made (see above)
12 - 25	<b>Required</b> to <b>improve data</b> quality (see above).
30 - 36	<b>Do not use the data</b> , discuss with the client and the carbon team to improve data quality and/or to assess whether the data can be used and the approach to report this.





Table A4 Actions to improve data quality and reduce uncertainty.

Error Score		Emission Factor					
		Five indicators	Four indicators	Three indicators	Two indicators	One indicator	No indicators
Data	Excellent	1	2	3	4	5	6
	Very good	2	4	6	8	10	12
	Good	3	6	9	12	15	18
	Relevant	4	8	12	16	20	24
	Acceptable	5	10	15	20	25	30
	Poor	6	12	18	24	30	36





### Scope 1 & 2 GHG Emissions

Where possible Scope 1 and Scope 2 emissions are separated into known greenhouse gas emissions. This enables further understanding for CGP on their direct greenhouse gas emissions.

**Table A5.** Direct GHG emissions detailed separately for Scope 1 and Scope 2 showing CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O emissions in tonnes of CO<sub>2</sub>e.

Item	Data (kWh)	Emissions (tCO <sub>2</sub> e)			
		Total	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O
Gas	0	0	0	0	0
Electricity	121816.7	4.37	23.3	0.09	0.17

### Emission Data Report to ISO 14064-1

To encourage completeness, consistency, and readability ISO 14064-1 recommends that the GHG quantification should be reported using the full descriptive categories provided. Therefore, this is fully displayed and categorised in **Table A1**.

**Table A6.** Complete ISO14064-1 data categorisation table.

Category	Description	Emissions (tCO <sub>2</sub> e)
<b>1</b>	<b>Direct GHG emissions &amp; removals in tCO<sub>2</sub>e</b>	<b>16.5</b>
1.1	Direct emissions from stationary combustion	0.0
1.2	Direct emissions from mobile combustion	0.0
1.3	Direct process emissions and removals arising from industrial processes	16.5
1.4	Direct fugitive emissions arising from release of GHGs in anthropogenic systems	0.0
1.5	Direct emissions and removals from land use, land use change, and forestry	0.0
<b>2</b>	<b>Indirect emissions in tCO<sub>2</sub>e</b>	<b>13.3</b>
2.1	Indirect emissions from imported electricity	13.3
2.2	Indirect emissions from imported energy	0.0
<b>3</b>	<b>Indirect GHG emissions from transportation</b>	<b>48.4</b>
3.1	Emissions from upstream transportation and distribution	7.0
3.2	Emissions from downstream transportation and distribution	0.0
3.3	Emissions from employee commuting & teleworking	32.9
3.4	Emissions from client and visitor transport	-
3.5	Emissions from business travel	8.5
<b>4</b>	<b>Indirect GHG emissions from products used by the organisation</b>	<b>313.3</b>
4.1	Emissions from purchased goods	228.3
4.2	Emissions from capital goods	81.2
4.3	Emissions from the disposal of solid and liquid waste	3.8
4.4	Emissions from the use of assets	0.0
4.5	Emissions from the use of services that are not described in the above subcategories	0.0
<b>5</b>	<b>Indirect GHG emissions associated with the use of products from the organisation for reporting year</b>	<b>10.9</b>



<b>5.1</b>	Emissions or removals from the use stage of the product	0.0
<b>5.2</b>	Emissions from downstream leased assets	0.0
<b>5.3</b>	Emissions from end-of-life stage of product	0.0
<b>5.4</b>	Emissions from investments	10.9
<b>6</b>	<b>Indirect GHG emissions from other sources not specified</b>	<b>8.3</b>



## Approval

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Reference:	BCA – CrownGP/2024 – 1
Revision:	A

Revision History:	Change Description:	Changed by:	Date:	Approved by:	Date:
B	Updated the Baseline year's emissions from the Use of Sold Products.	AY	9 <sup>th</sup> May 2024	LD	9 <sup>th</sup> May 2024
C					
D					
E					
F					

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