

UK Carbon Footprint Report FY2025

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1. Introduction

This report presents the greenhouse gas (GHG) emissions inventory for Liquid Intelligent Technologies UK (Liquid UK), a division of the Cassava Group, for the financial year 2025 (FY25), covering the period from 1 March 2024 to 28 February 2025.

The objective of this report is to compile an accurate and comprehensive GHG emissions inventory for Liquid UK in line with corporate reporting requirements. The inventory includes both direct emissions (such as those from fuel combustion) and indirect emissions (including purchased electricity and business travel). This enables the organisation to assess its climate impact and supports informed decision-making for emissions reduction.

The intended audience of this report includes Cassava's executive leadership, shareholders, and other key stakeholders. This report supports the understanding and management of Cassava's environmental impact in relation to climate change. Transparent presentation of this data it enables stakeholders to make informed decisions that promote sustainable practices within the organisation and guide responsible investment.

The data used to compile the inventory has undergone rigorous internal checks, but no third-party verification or assurance was conducted. Quality controls included comparative analysis against FY24 data to identify anomalies in correlation with industry trends, as well as validation through supporting documentation such as utility bills, lease agreements, and financial records.

In Cassava's GHG inventory, it's important to address the impact of the UK offices. The Liquid UK division maintains the same scope in their GHG inventory as the Cassava Group and falls under Cassava's relevance criteria.

FY24 was established as the baseline year for the Cassava Group's sustainability target setting, and FY25 builds upon that foundation. The data compiled in this report contributes to the ongoing tracking of performance and forms part of Cassava's broader climate strategy.

2. Background

The scope of this report is limited to Liquid UK. For a comprehensive overview of Cassava's full greenhouse gas (GHG) emissions inventory for FY25, please refer to the Cassava Group Carbon Footprint Report, available at <https://liquid.tech/about-us/sustainability/>

Liquid is a leading provider of digital infrastructure. Its extensive fibre broadband and satellite network provides high-speed internet access. Subsidiaries of the Liquid Group make use of this digital infrastructure and maintain strategic partnerships with global technology leaders to deliver tailored digital and telecommunications solutions in Africa and selected international markets.

In addition to connectivity services, Liquid offers managed cloud services, cybersecurity advisory and professional services, and wholesale connectivity through its pan-African fibre network, subsea cable systems, and global satellite coverage.

Details of the Liquid UK operations included in this report are presented in **Table 1**.

Table 1: UK Site Details

No	Site ID	Site Type	Area [m ²]	Power Supplier
1	Liquid Telecom London Office	Office	831.6	Land Securities
2	Telehouse North, Suite H1	Commercial Data Centre	20	Telehouse
3	Telecity/Equinix	Commercial Data Centre	22	Equinix
4	Global Switch	Commercial Data Centre	1	Global Switch
5	Brookmans Park	Commercial Data Centre	40	Arqiva
Total			914.6	

Liquid UK’s headcount adjusted from 76 employees in FY24 to 56 employees in FY25, reflecting a strategic realignment aimed at enhancing operational efficiency and focusing resources on key areas of growth.

3. Approach and Methodology

The Liquid UK greenhouse gas (GHG) inventory for FY25 was compiled in line with the following standards:

- The Greenhouse Gas Protocol Corporate Standard (GHG Protocol¹) as developed by the World Business Council for Sustainable Development and the World Resources Institute.
- The ISO 14064-1, 2nd edition. The ISO standard for measuring and reporting GHG emissions, ISO 14064-1:2006, was revised by the ISO in 2018 and a new edition, ISO 14064-1:2018², was released and used in this report.

These standards were applied in a complementary manner to enhance the environmental integrity of the inventory, support corporate risk management, and facilitate the development of a structured GHG management strategy.

¹ World Business Council for Sustainable Development & World Resources Institute. The Greenhouse Gas Protocol. 2004. [Available Online]: [ghg-protocol-revised.pdf \(ghgprotocol.org\)](https://ghgprotocol.org/).

² International Organization for Standardization. 2018. *Greenhouse gases – Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals*. [Available Online]: [ISO 14064-1:2018 - Greenhouse gases — Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals](https://www.iso.org/standard/72431.html)

For FY25, the GHG Protocol remains the primary framework guiding the inventory process. Its principles form the foundation for the accounting and reporting of emissions in this report. These principles are outlined in **Table 2**.

Table 2: Principles for GHG accounting and reporting

Principle	Description
Relevance	Ensure the GHG inventory appropriately reflects GHG emissions and serves the decision-making needs of both internal and external stakeholders.
Completeness	The GHG inventory accounts for all significant GHG emission sources within the chosen inventory boundary.
Consistency	Utilise consistent methodologies to enable meaningful comparisons of emissions over time.
Transparency	Address all relevant issues in a factual and coherent manner, based on a clear audit trail. Disclose any relevant assumptions and provide appropriate references to the accounting and calculation methodologies as well as data sources used.
Accuracy	Ensure that the quantification of GHG emissions is systematically neither overestimated nor underestimated, while reducing uncertainties as far as practicable.

The quantification of a GHG inventory begins with the selection of reporting boundaries. These boundaries determine which emission sources are included in the inventory by identifying the activities that produce GHG emissions. Two distinct types of boundaries must be established: the organisational boundary, which defines the entities to be included, and the operational boundary, which outlines the emission-generating activities to be accounted for.

3.1. Organisational Boundary

The organisational boundary defines the subsidiaries that fall within the scope of a company’s GHG inventory. Two recognised approaches can be applied when setting this boundary: the **control approach** and the **equity share approach**.

Under the **control approach**, a company accounts for 100 percent of the GHG emissions from operations over which it has control. Control may be defined in two ways:

- **Financial control** exists when the company has the authority to direct the financial and operating policies of an operation and benefits economically from its activities.
- **Operational control** exists when the company has the full authority to implement and enforce operating policies at a facility.

The **equity share approach**, by contrast, allocates emissions in proportion to the organisation’s ownership interests. Emissions are reported according to the company’s equity share, regardless of control.

Defining the organisational boundary ensures consistent and accurate reporting of emissions. It enables organisations to identify the relevant facilities to include in their GHG inventory,

supporting the effective measurement and management of their carbon footprint and the implementation of targeted emission reduction initiatives.

Cassava Group and therefore Liquid UK has adopted an **operational control approach** for determining the organisational boundary for their GHG reporting. This means that emissions are accounted for from all facilities where Cassava has full authority to introduce and enforce operating policies. For the purposes of this report, only emissions associated with the operations of Liquid UK are included. As such, the emissions presented here reflect a subset of Cassava's overall GHG inventory, specific to its UK-based activities.

3.2. Data and Emission Sources

The inputs, resources, and operational activities of Liquid UK contribute to GHG emissions. It is essential to identify the relevant activity data to accurately calculating the carbon footprint. All activity data used in this report was provided by Liquid UK and forms the basis of the GHG inventory for FY25. The data covers both indirect and ancillary emission sources linked to the organisation's operations in the United Kingdom.

The following activity data sets were included in the carbon footprint calculations:

- Floor space
- Number of employees based in the Liquid UK office
- The consumption of purchased electricity
- Employee commuting
- Business travel, including flights, rental vehicles, train journeys, and accommodation
- The treatment and disposal of waste generated
- Utility water consumption by employees. This also includes energy used for the extraction, distribution, and treatment of both water supplied and wastewater processed. These emissions are accounted for in the GHG emissions inventory, as they reflect the indirect emissions associated with the municipal water supply services.
- Emissions associated with the production of capital goods procured which include office furniture and IT equipment like laptops and computer monitors.
- Other ancillary activities identified as material contributors to overall emissions.

These data sets collectively provide a comprehensive view of Liquid UK's emissions profile, enabling a more accurate assessment of its environmental impact.

3.3. Relevance criteria

This GHG inventory applies the **relevance criteria outlined by the GHG Protocol** to assess indirect emissions. These criteria guide the identification of emission sources that are significant to the organisation’s carbon footprint, based on factors such as magnitude, influence, stakeholders, and risk.

The GHG Protocol encourages companies to establish relevance criteria that align with the specific objectives of their GHG inventory. A relevance assessment enables a focused and transparent approach to reporting, ensuring that all material sources of indirect emissions are appropriately addressed. The assessment allows for the prioritisation of both reporting and mitigation efforts, aligns with recognised industry standards, and facilitates effective stakeholder engagement.

Table 3 outlines the framework used to assess the relevance of emissions sources and determine the inclusions in Cassava’s and therefore Liquid UK’s GHG inventory based on recommended thresholds.

Table 3: Relevance criteria and threshold for inclusion

Criteria	Threshold
1. Size	Relevant if emissions account for 1% or more of Liquid UK’s total carbon footprint are considered quantitatively substantial and relevant.
2. Influence	Relevant if Liquid UK has control of emission sources and can implement measures to monitor and reduce the emissions associated with these activities.
3. Risk	Relevant if indirect emissions contribute to Liquid UK’s exposure to relevant climate-related risks. This could include emissions associated with activities that contribute to at least one of the following: increase in regulatory risk or increase in supply chain risk.
4. Stakeholders	Relevant if there are sector-specific guidance, benchmarks or targets for indirect emissions that are relevant to Liquid UK.
5. Outsourcing	Relevant if indirect emissions result from outsourced activities that are core business activities. For example, transportation of products by third-party logistics providers.
6. Sector Guidance	Relevant if there are sector-specific guidance, benchmarks or targets for indirect emissions that are relevant to Liquid UK.
7. Other: Employee engagement	Relevant if employees’ activities or behaviour (e.g. travel/commuting) result in a significant contribution to Liquid UK’s indirect emissions.

The emission sources included in Liquid UK’s GHG inventory are summarised in **Table 4** which provides a detailed breakdown of each source. Further detail on the relevance assessment and the justification for inclusion or exclusion of specific sources is provided in **Appendix 2: Relevance Assessment**.

Emissions from Liquid UK’s operations are categorised as either direct or indirect according to the GHG Protocol reporting standard. The reporting of direct emissions (Scope 1) and energy indirect emissions (Scope 2) is mandatory under both the GHG Protocol and ISO 14064-1:2018. The disclosure of other indirect emissions (Scope 3) is considered voluntary under the GHG Protocol and is determined at the discretion of the reporting organisation and informed by the relevance criteria.

Cassava’s commitment to setting science-based targets through the **Science Based Targets initiative (SBTi)** introduces more rigorous expectations. Under the SBTi framework, companies are required to report on all relevant Scope 3 categories, with exclusions permitted only when clearly justified. The GHG Protocol supports this process by providing relevance criteria to guide the inclusion of indirect emissions sources in the GHG inventory. Categories 4, 8–15 have been excluded from Liquid UK’s GHG inventory for the following reasons. Category 4 (Upstream Transportation and Distribution) should be included based on the relevance assessment of the group’s GHG assessment but is excluded due to the head office not regularly purchasing goods and due to the lack of transportation data for procured items. Category 8 (Upstream Leased Assets) was deemed irrelevant, as activities such as utility consumption for leased buildings is reported under other relevant categories. Similarly, Category 9 (Downstream Transportation and Distribution) is excluded, as Liquid UK is a service provider, and would therefore not engage in product transport-related activities in its operations. The same applies to Category 10 (Processing of Sold Products), Category 11 (Use of Sold Products) and Category 12 (End-of-Life Treatment of Sold Products). Category 13 (Downstream Leased Assets) is excluded as Liquid UK does not own or lease out any assets to other third parties. Finally, Categories 14 (Franchises) and 15 (Investments) are not relevant, as they are not part of Cassava’s business structure. As Liquid UK advances its carbon accounting processes, the emission sources and associated boundaries may be refined over time. The identification and justification of these sources form an essential part of the emissions target-setting process and broader sustainability strategy.

Table 4: Emission sources in Liquid UK’s FY25 GHG inventory

Emission Source	GHG Protocol Classification		
	Scope	Category	Description
Emissions that occur from sources that are controlled or owned by Liquid UK: None for Liquid UK	1		Stationary Combustion Sources Mobile Combustion Sources Fugitive Emissions
Emissions associated with the purchasing of electricity, or the generation of renewable energy. Purchased electricity	2		Purchased Electricity
Products include both goods (tangible products) and services (intangible products) such as: • Water	3	Category 1	Purchased Goods and Services
Emissions from the production of capital goods purchased by the by the company in the reporting year, including:		Category 2:	Capital Goods

Emission Source	GHG Protocol Classification		
	Scope	Category	Description
<ul style="list-style-type: none"> (Uninterrupted power supply) UPS Laptops 			
Emissions related to the production of fuels and energy purchased and consumed by Liquid UK in the reporting year such as: <ul style="list-style-type: none"> Upstream emissions of purchased electricity Transmission and Distribution losses 		Category 3:	Fuel and energy related activities
Waste treatment activities may include: <ul style="list-style-type: none"> Disposal in a landfill Recovery for recycling 		Category 5	Waste Generated in Operations
Emissions from business travel such as: <ul style="list-style-type: none"> Air travel Rail Travel Accommodation 		Category 6	Business travel
Emissions from employee commuting such as: <ul style="list-style-type: none"> Automobile travel Rail travel Motorcycle Bus travel Bicycle Mixed travel (e.g. Car and rail, car and bus, etc.) 		Category 7	Employee Commuting

3.4. Calculation Methodology

The methodology used to calculate the GHG inventory entails multiplying the GHG activity data by an appropriate emission factor:

$$\text{Activity data} \times \text{Emission Factor} = \text{Quantity of GHG Emissions}$$

The total GHG emissions produced by Liquid UK annually are determined by summing the GHG emissions quantities calculated for each activity data source from the above equation.

It should be noted that there are two methods for calculating Scope 2 emissions, which are the emissions from electricity generation for end-users. The two main methods are **location-based** and **market-based**.

The *location-based method* reflects the average emissions intensity of grids where electricity consumption occurs, mainly using grid-average emission factor data.

The *market-based method* reflects emissions from electricity that companies deliberately choose. It derives emission factors from contractual instruments, like energy attribute certificates or direct contracts for energy purchase. The remaining electricity which is procured through market

mechanism and without specific purchase data must use a "residual mix" emission factor representing average emissions from unclaimed energy.

3.5. Assumptions, Emissions Factors and Conversion Factors

Emission factors and conversion factors used in the footprint calculations and summarised in **Appendix 1: Emissions and Conversion Factors**. These inputs have been carefully selected and applied to ensure accuracy and relevance. The full set of factors used is provided in the accompanying Excel spreadsheet.

Source-specific or facility-specific emission factors are preferred where available in line with the guidance provided by the **GHG Protocol**. These offer greater accuracy than generalised factors. The factors applied in the calculations meet the following criteria:

- **Recognised Source**: All factors used originate from reputable and recognised sources within the field of greenhouse gas accounting and reporting.
- **Appropriateness**: Each factor has been selected based on its applicability to the specific activity being assessed, ensuring that emissions are accurately reflected.
- **Up to date**: The emission factors used represent the most current data available at the time of quantification, reflecting the latest scientific understanding and guidance.
- **Consideration of Uncertainty**: Where relevant, factors consider the uncertainties associated with emission estimation. Methodologies used aim to produce accurate, consistent, and reproducible results.
- **Alignment with Intended Use**: The selected factors align with the overall purpose of the GHG inventory, which is to provide a comprehensive and reliable representation of Liquid UK's emissions profile.

By applying these criteria, Liquid UK ensures that the GHG inventory calculations are based on reliable, transparent, and contextually appropriate data. The inclusion of assumptions, emission factors, and conversion factors enhances traceability and supports a clear understanding of the reported emissions, while also facilitating future verification and review.

During the calculation of Liquid UK's GHG inventory for FY25, several key assumptions were applied to support the completeness, accuracy, and consistency of the emissions assessment. The following assumptions were made for the FY25 footprint calculation:

Scope 1 and 2

No assumptions were required, as Liquid UK does not generate any Scope 1 emissions, and the Scope 2 data included the amount of electricity consumed and the information about the grid it was supplied from which was complete and did not necessitate any estimations.

Scope 3:

The following assumptions were applied to estimate indirect emissions for FY25:

- **Municipal Water Consumption:** Water is included in the lease of the office and no water meter is available. Water usage was therefore estimated using employee headcount, based on an average of 32 litres per employee per day over 20 working days per month.
- **Employee Commuting:** The employee commute data collected in 2023 was used to calculate the impact on GHG emissions. Most full-time employees completed the commuting survey in FY24. This data was extrapolated to represent the commuting patterns of all full-time employees, enabling an estimate of commuting-related emissions. Cassava is planning to do a new employee commute survey in 2025/6 which should provide more accurate employee commuting information.
- **Business Travel – Flights:** Where distance data was not available for flights but the origin and destination of flights were known, a flight distance calculator was used to determine the distance travelled. For flights classified as premium or first class, emissions were calculated using business class emission factors, as no specific factors were available for these categories in the short-haul dataset.
- **Business Travel – Rental Vehicles:** Where trip distances were not specified but origin and destination addresses were provided, Google Maps was used to estimate the distance travelled. Trips recorded as chauffeur-driven were assumed to use an average petrol vehicle.

These assumptions were applied to enable reasonable estimations of GHG emissions in instances where direct data was unavailable or incomplete. They were informed by the best available information and aligned with recognised industry practices. As more specific or accurate data becomes accessible in future reporting cycles, these assumptions can be reviewed and refined to enhance the overall accuracy and reliability of Liquid UK's GHG inventory. A primary source was the UK Department for Environment, Food and Rural Affairs (DEFRA), whose emission factors are widely accepted within the industry.

4. Results for Corporate Reporting

The GHG emissions inventory for Liquid UK's FY25 is summarised in **Table 5**. The inventory includes emissions under Scope 2 and Scope 3, which reflect the organisation's indirect emissions from energy consumption and other value chain activities.

No Scope 1 emissions were recorded for FY25, as Liquid UK does not operate any combustion sources or company-owned vehicles that would fall under its operational control

Emissions from the **2024 financial year (FY24)** are included for comparison to assess year-on-year changes.

Table 5: FY25 GHG inventory according to the GHG Protocol

Scope	Description	FY24 Emissions*	FY25 Emissions
Scope 1	Stationary and Mobile Combustion Sources	0 tCO ₂ e	0 tCO ₂ e
Total scope 1		0 tCO₂e	0 tCO₂e
Scope 2 - Location based	Purchased Electricity	77.97 tCO ₂ e	74.17 tCO ₂ e
Total scope 2		77.97 tCO₂e	74.17 tCO₂e
Scope 3	Category 1: Purchased Goods and Services	0.51 tCO ₂ e	0.79 tCO ₂ e
	Category 2: Capital Goods	0.04 tCO ₂ e	0.02 tCO ₂ e
	Category 3: Fuel- and Energy-related Activities	6.75 tCO ₂ e	6.56 tCO ₂ e
	Category 5: Waste Generated in Operations	0.36 tCO ₂ e	0.47 tCO ₂ e
	Category 6: Business Travel	2 082.99 tCO ₂ e	1 064.33 tCO ₂ e
	Category 7: Employee Commuting	168.86 tCO ₂ e	126.14 tCO ₂ e
Total scope 3		2 259.51 tCO₂e	1 198.30 tCO₂e
Total Emissions		2 337.48 tCO₂e	1 272.47 tCO₂e

* FY 24 is the baseline year

In FY25, total GHG emissions amounted to 1,272.47 tCO₂e, representing a 45.6% reduction from 2,337.48 tCO₂e recorded in FY24. The most substantial changes occurred within Scope 3 emissions, which decreased from 2,259.51 tCO₂e in FY24 to 1,198.30 tCO₂e in FY25, a reduction of 47.0%. The largest contributor to this decline was the Business Travel category (Category 6), which saw emissions drop from 2,082.99 tCO₂e to 1,064.33 tCO₂e, a reduction of 48.9%. This decrease is mainly due to less employees in the UK Office, a reduction in air travel, and a shift towards virtual meetings. Employee Commuting (Category 7) declined from 168.86 tCO₂e to 126.14 tCO₂e, a reduction of 25.3%, which can be attributed to increased hybrid and remote work arrangements.

Scope 1 emissions, remained at 0 tCO₂e for both reporting years, indicating that no fossil fuels were directly combusted by Liquid UK. Scope 2 emissions decreased slightly from 77.97 tCO₂e in FY24 to 74.17 tCO₂e in FY25, a 4.9% reduction, due to employees based, remote working conditions and a smaller office space.

Although overall emissions declined, some categories experienced increases. Waste Generated in Operations (Category 5) rose from 0.36 tCO₂e in FY24 to 0.47 tCO₂e in FY25, an increase of 30.6%, was due to an office move and a big clean out of old and redundant documents and equipment. Similarly, emissions from Purchased Goods and Services (Category 1) increased from 0.51 tCO₂e to 0.79 tCO₂e, an increase of 54.9%, which reflect higher procurement activity and also better reporting of Category 1 data.

Business Travel, Employee Commuting, Waste, Purchased Goods and Services, and Purchased Electricity, represent the largest year-on-year differences in the organisation’s GHG inventory and provide insight into where the most significant operational and behavioural changes have occurred.

5. Conclusion and Recommendations

In conclusion, Liquid UK achieved a sizable reduction in total GHG emissions in the 2025 financial year, decreasing from 2,337.48 tCO₂e in FY24 to 1,272.47 tCO₂e in FY25. This 45.6% year-on-year reduction was primarily driven by lower Scope 3 emissions, particularly in business travel and employee commuting. Scope 1 emissions remained at zero while Scope 2 emissions declined slightly as a result of fewer employees and remote working is still an option for employees.

The data collected in line with the GHG Protocol highlights key emission sources across the value chain and provides a solid basis for ongoing reporting and emissions management. These insights will inform future strategies and support the identification of reduction opportunities. FY24 has been selected as the baseline year for setting emissions reduction targets and tracking progress over time.

While overall performance shows clear progress, increases in certain Scope 3 categories, specifically purchased goods and services, and waste, indicate areas requiring continued monitoring and improvement.

A summary of Liquid UK’s GHG inventory by scope, in accordance with the GHG Protocol, is presented in Table 6 below.

Table 6: GHG inventory summary

GHG Inventory according to the GHG Protocol	FY24 Emissions	FY25 Emissions
Scope 1: Direct GHG emissions and removals	0 tCO ₂ e	0 tCO ₂ e
Scope 2: Indirect GHG emissions from imported energy	77.97 tCO ₂ e	74.17 tCO ₂ e
Scope 3: Other indirect emissions that occur in the value chain	2 259.51 tCO ₂ e	1 198.30 tCO ₂ e
Total emissions	2 337.48 tCO₂e	1 272.47 tCO₂e

5.1. Recommendations

To support continued emissions reductions and address categories where emissions have increased, the following actions are recommended for implementation:

Emission reduction opportunities:

- Sustainable Business Travel: Liquid UK will** maintain the reduction in business travel emissions by embedding virtual-first practices and implementing internal guidelines that promote low-carbon travel options. Selecting airlines that offsets emissions and electing to offset emissions when purchasing flight tickets may also provide a means to compensate for travel emissions.

- **Low-Carbon Commuting:** Continue to encourage hybrid or remote working, carpooling, and public or active transport to reduce employee commuting emissions. Subsidising lower emissions commuting could be implemented to influence the emissions in the category. Conducting a new employee commute survey will also allow the Group to get more updated and relevant employee transport data.
- **Improved Waste Management:** Address the increase in emissions from waste by strengthening waste separation, expanding recycling programmes, and conducting regular waste audits and also promoting a paper free office culture.
- **Sustainable Procurement:** Engage suppliers on their emissions practices and include environmental performance criteria in procurement processes to address Scope 3 emissions from purchased goods and services.
- **Energy Efficiency Measures:** Conduct an energy efficiency audit on the new office space and explore further energy-saving initiatives to reduce electricity consumption, particularly in office spaces and data infrastructure.
- **Increase general awareness and training:** Train employees and increase awareness of environmental best practices

Recommendations for future Liquid UK carbon footprint quantification:

- **Improve Scope 3 Data Quality:** Focus on refining data inputs for Scope 3 categories, particularly those based on estimates, to improve the robustness of the inventory. Obtaining supplier-specific emission factors, where possible, would significantly enhance the accuracy of reported values.
- **Expand Emissions Boundary Review:** Regularly assess the organisational and operational boundaries to ensure all material sources are accounted for, especially as operations evolve.
- **Align with a Target Monitoring Framework:** With FY24 established as the baseline year, carbon footprint reporting should align with the emissions reduction strategy currently being formalised, including its associated targets. The carbon footprint will act as the primary tool for tracking progress, supported by a structured and transparent process to monitor performance and ensure alignment with long-term sustainability goals.
- **Strengthen Internal Awareness and Training:** Provide targeted training for relevant teams to improve understanding of emissions categories and the importance of accurate data reporting. Awareness and training about climate change will also support procurement decisions which impact on emissions.
- **Continuous Improvement:** Support ongoing progress by regularly updating emissions data, setting more ambitious targets, and recognising achievements. As data improves, use enhanced methods and supplier-specific factors to strengthen GHG reporting accuracy.

Appendix 1: Emissions and Conversion Factors

Item	Value	Unit	Source
None	--		-
UK - GEF	0.21	tCO ₂ e/MWh	DEFRA GHG conversion factors 2024 - 'UK Electricity' tab
3.1 Purchased Goods and Services			
Water Consumption	0.000153	tCO ₂ e/kilolitre	DEFRA GHG conversion factors 2024 - 'Water Supply' tab
IT Equipment (Dell)	0.000002	tCO ₂ e/USD	Calculated by dividing the total scope 1 + 2 emissions of a major computer manufacturer (Dell) by their total revenue to get an estimate emissions per revenue
IT Components (Intel)	0.000016	tCO ₂ e/USD	Calculated by dividing the total scope 1 + 2 emissions of a major computer component manufacturer (Intel) by their total revenue to get an estimate emissions per revenue
3.3 Fuel and Energy Related Activities			
Transmission & Distribution Losses			
UK - T&D Factor	0.2	tCO ₂ e/MWh	DEFRA 2024 "Transmission and Distribution" Tab
Well-To-Tank Losses			
WTT Diesel	0.0006	tCO ₂ e/Litre	DEFRA GHG conversion factors 2024 - 'WTT - fuels' tab - Diesel (100% mineral)
WTT Petrol	0.00060664	tCO ₂ e/Litre	DEFRA GHG conversion factors 2024 - 'WTT - fuels' tab - Petrol (100% mineral)
3.5 Waste generated in operations			
Waste to Landfill	0.52	tCO ₂ e/tonnes	DEFRA GHG conversion factors 2024 - 'Waste Disposal' tab - Commercial and industrial waste
E-Waste Disposed	0.01	tCO ₂ e/tonnes	DEFRA GHG conversion factors 2024 - 'Waste Disposal' tab
Recyclable Waste	0.01	tCO ₂ e/tonnes	DEFRA GHG conversion factors 2024 - 'Waste Disposal' tab - Assumed Average Plastic Waste
E-Waste Recycled	0.01	tCO ₂ e/tonnes	DEFRA GHG conversion factors 2024 - 'Waste Disposal' tab
Hazardous Waste	0.01	tCO ₂ e/tonnes	Assumed to be E-waste disposed after Discussion with Liquid
Recycled Mixed Paper	0.01	tCO ₂ e/tonnes	DEFRA GHG conversion factors 2024 - 'Waste Disposal' tab
Waste to Landfill - Food Waste	0.70	tCO ₂ e/tonnes	DEFRA GHG conversion factors 2024 - 'Waste Disposal' tab
Waste to Landfill - Paper Waste	1.16	tCO ₂ e/tonnes	DEFRA GHG conversion factors 2024 - 'Waste Disposal' tab
Waste to Landfill - Plastic Waste	0.01	tCO ₂ e/tonnes	DEFRA GHG conversion factors 2024 - 'Waste Disposal' tab
Waste to Landfill - Mix Paper & Food Waste	0.93	tCO ₂ e/tonnes	Calculated
3.6 Business Travel			
Flights			
Domestic UK	0.0003	tCO ₂ e/km	DEFRA 2024 "Business Travel - Air" tab
Economy to/from UK (Short-haul)	0.0002	tCO ₂ e/km	DEFRA 2024 "Business Travel - Air" tab
Business to/from UK (Short-haul)	0.0003	tCO ₂ e/km	DEFRA 2024 "Business Travel - Air" tab
Economy to/from UK (Long-haul)	0.0002	tCO ₂ e/km	DEFRA 2024 "Business Travel - Air" tab
Premium Economy to/from UK (long-haul)	0.0003	tCO ₂ e/km	DEFRA 2024 "Business Travel - Air" tab
Business to/from UK (Long-haul)	0.0006	tCO ₂ e/km	DEFRA 2024 "Business Travel - Air" tab

Item	Value	Unit	Source
First to/from UK (Long-haul)	0.0008	tCO ₂ e/km	DEFRA 2024 "Business Travel - Air" tab
Economy to/from Non-UK	0.0001	tCO ₂ e/km	DEFRA 2024 "Business Travel - Air" tab
Premium Economy to/from Non-UK	0.0002	tCO ₂ e/km	DEFRA 2024 "Business Travel - Air" tab
Business to/from Non-UK	0.0004	tCO ₂ e/km	DEFRA 2024 "Business Travel - Air" tab
First to/from Non-UK	0.0005	tCO ₂ e/km	DEFRA 2024 "Business Travel - Air" tab
Rail			
Rail - Economy Class	0.00001	tCO ₂ e/km	What is the Co2 emission factor per kilometer when using Eurostar? - Eurostar Help Centre
Rail - Business Premier	0.00001	tCO ₂ e/km	What is the Co2 emission factor per kilometer when using Eurostar? - Eurostar Help Centre
Rail - First Class	0.00004	tCO ₂ e/km	DEFRA 2024 "Business Travel - land" & "WTT - pass vehs & travel - land" tab; Assume National Rail
Rail - Standard Class	0.00004	tCO ₂ e/km	DEFRA 2024 "Business Travel - land" & "WTT - pass vehs & travel - land" tab; Assume National Rail
Accommodation			
South Africa - Accommodation	0.06	tCO ₂ e/night	DEFRA 2024 "Hotel Stay" Tab
South Sudan - Accommodation	0.04	tCO ₂ e/night	https://www.hotelfootprints.org/
Botswana - Accommodation	0.05	tCO ₂ e/night	https://www.hotelfootprints.org/
Democratic Republic of the Congo - Accommodation	0.02	tCO ₂ e/night	https://www.hotelfootprints.org/
Egypt - Accommodation	0.04	tCO ₂ e/night	DEFRA 2024 "Hotel Stay" Tab
Ethiopia - Accommodation	0.02	tCO ₂ e/night	https://www.hotelfootprints.org/
France - Accommodation	0.01	tCO ₂ e/night	DEFRA 2024 "Hotel Stay" Tab
Ivory Coast - Accommodation	0.02	tCO ₂ e/night	https://www.hotelfootprints.org/
Italy - Accommodation	0.01	tCO ₂ e/night	DEFRA 2024 "Hotel Stay" Tab
Kenya - Accommodation	0.02	tCO ₂ e/night	https://www.hotelfootprints.org/
Morocco - Accommodation	0.06	tCO ₂ e/night	https://www.hotelfootprints.org/
Nigeria - Accommodation	0.03	tCO ₂ e/night	https://www.hotelfootprints.org/
Rwanda - Accommodation	0.03	tCO ₂ e/night	https://www.hotelfootprints.org/
UK - Accommodation	0.01	tCO ₂ e/night	DEFRA 2024 "Hotel Stay" Tab
United Arab Emirates - Accommodation	0.06	tCO ₂ e/night	DEFRA 2024 "Hotel Stay" Tab
USA - Accommodation	0.02	tCO ₂ e/night	DEFRA 2024 "Hotel Stay" Tab
Tanzania - Accommodation	0.04	tCO ₂ e/night	https://www.hotelfootprints.org/
Zambia - Accommodation	0.01	tCO ₂ e/night	https://www.hotelfootprints.org/
Zimbabwe - Accommodation	0.03	tCO ₂ e/night	https://www.hotelfootprints.org/
India - Accommodation	0.06	tCO ₂ e/night	DEFRA 2024 "Hotel Stay" Tab
Jersey - Accommodation	0.03	tCO ₂ e/night	https://www.hotelfootprints.org/
Saudi Arabia - Accommodation	0.11	tCO ₂ e/night	DEFRA 2024 "Hotel Stay" Tab
Peru - Accommodation	0.02	tCO ₂ e/night	https://www.hotelfootprints.org/
Switzerland - Accommodation	0.01	tCO ₂ e/night	DEFRA 2024 "Hotel Stay" Tab
3.7 Employee Commuting			
Employee Commuting - Car (Diesel)	0.00017	tCO ₂ e/km	DEFRA 2024 "Business Travel - Land" Tab; Average Diesel Vehicle

Item	Value	Unit	Source
Employee Commuting - Car (Petrol)	0.00016	tCO _{2e} /km	DEFRA 2024 "Business Travel - Land" Tab; Average Petrol Vehicle
Employee Commuting - Car (Hybrid)	0.00013	tCO _{2e} /km	DEFRA 2024 "Business Travel - Land" Tab; Average Hybrid Vehicle
Employee Commuting - Car (Unknown)	0.00017	tCO _{2e} /km	DEFRA 2024 "Business Travel - Land" Tab; Average Unknown Vehicle
Employee Commuting - Car, train & walk	0.00007	tCO _{2e} /km	Calculated
Employee Commuting - Bus	0.00011	tCO _{2e} /km	DEFRA 2024 "Business Travel - Land" Tab - Average Bus
Employee Commuting - Mix: Bus and Taxi	0.00016	tCO _{2e} /km	Calculated
Employee Commuting - Mix: train and bus	0.00007	tCO _{2e} /km	Calculated
Employee Commuting - Underground	0.00003	tCO _{2e} /km	DEFRA 2024 "Business Travel - Land" Tab - Rail London Underground
Employee Commuting - Mix: Train, Bus & Taxi	0.00012	tCO _{2e} /km	Calculated
Employee Commuting - Mix: Underground, Bus/Taxi	0.00011	tCO _{2e} /km	Calculated
Employee Commuting - Mix: Car & Train	0.00010	tCO _{2e} /km	Calculated
Employee Commuting - Train	0.00004	tCO _{2e} /km	DEFRA 2024 "Business Travel - Land" Tab - Rail National Rail
Employee Commuting - Taxi	0.00021	tCO _{2e} /km	DEFRA 20234"Business Travel - Land" Tab - Regular Taxi
Employee Commuting - Motorbike	0.00014	tCO _{2e} /km	DEFRA Conversion Factors 2024 'Business Travel - Land' & 'WTT' - pass Vehs & travel - land' sheet - Average Motorbike
Averaged Consumptions used for Estimates			
Average warehouse electricity consumption per floorspace	33.0	kWh/m ²	Warehousing-and-logistics-guide.pdf (ctprodstorageaccountp.blob.core.windows.net)
Average Office waste sent to landfill	0.74	kg/person/day	https://datatopics.worldbank.org/what-a-waste/trends-in-solid-waste-management.html#:~:text=Worldwide%2C%20waste%20generated%20per%20person%20per%20day%20averages%200.74%20kilogram
Average working days per month	20	Days/months	Assumed
Average Water Consumed in Office per day per employee	32	litre/person/day	Office-Buildings-Water-Efficiency-Guide-EN.pdf (squarespace.com)
Conversions			
US Dollar to Great British Pound	0.78	GBP/USD	https://www.xe.com/currencycharts/?from=USD&to=GBP&view=2Y

Appendix 2: Relevance Assessment

Source of indirect emissions	Relevance criteria							Recommendation
	Size	Influence	Risk	Stakeholders	Outsourcing	Sector guidance	Other (Employee Engagement)	
Purchase of goods and services – water consumption - Municipal	No- these emissions do not form more than 1% of the overall indirect emissions.	No – Liquid UK has no level of influence on the purchase of water as it is supplied by a municipality.	No - There is a low risk of water shortages for Liquid UK's.	No – Liquid UK's stakeholders do not specifically require the emission source to be included in their GHG inventory.	No - water supply is not an activity that is typically performed in-house by other companies in the ICT sector	No - sector guidance does not have a recommendation for this emission source.	Yes – Campaigns to use less water and to reduce water waste can be implemented for Cassava's employees through employee engagement.	No, this emission source should not be included in the inventory.
Purchase of goods and services - Purchase of IT equipment	No – these emissions do not form more than 1% of the overall indirect emissions.	Yes -_ Cassava can influence suppliers of IT equipment as there are some possibilities for switching to other suppliers or equipment with a lower emission factor.	Yes- risk of supply chain disruptions from climate change related events such as flooding, can disrupt Cassavas supply chain for the goods that can negatively impact Cassava's business activities.	No – Cassava's stakeholders do not specifically require the emission source to be included in their GHG inventory.	No - IT equipment is not an outsourced activity previously performed in-house nor is it an activity that is typically performed in-house by other companies in the ICT sector.	Yes – ICT sector guidance ³ is applicable and recommends that IT equipment and services are included.	No – No – Employees are not responsible for procuring IT equipment, as this is managed through the formal procurement process, which includes supplier assessments and the use of preferred suppliers.	Yes, this emission source should be included based on influence, risk and sector guidance.
Capital Goods - UPS	No – these emissions do not form more	Yes - Cassava can influence suppliers of UPS	Yes- risk of supply chain disruptions from	No – Cassava's stakeholders do not specifically require	No - UPS equipment is not an outsourced	Yes – ICT sector guidance ⁴ is	No –Employees are not responsible for procuring	Yes, capital goods should be included based on influence,

³ Available at: <https://ghgprotocol.org/sites/default/files/2023-03/GHGP-ICTSG%20-%20ALL%20Chapters.pdf>

⁴ Available at: <https://ghgprotocol.org/sites/default/files/2023-03/GHGP-ICTSG%20-%20ALL%20Chapters.pdf>

Source of indirect emissions	Relevance criteria							Recommendation
	Size	Influence	Risk	Stakeholders	Outsourcing	Sector guidance	Other (Employee Engagement)	
	than 1% of the overall indirect emissions.	as there are some possibilities for switching to other suppliers or equipment with a lower emission factor.	climate change related events such as flooding, can disrupt Cassavas supply chain for the UPS that can negatively impact Cassava's business activities.	the emission source to be included in their GHG inventory.	activity previously performed in-house nor is it an activity that is typically performed in-house by other companies in the ICT sector.	applicable and recommends that ICT equipment and services are included and can influence their business services.	Capital Goods, as this is managed through the formal procurement process, which includes supplier assessments and the use of preferred suppliers.	risk and sector guidance.
Fuel- and Energy-related activities – purchased electricity	No – these emissions do not form more than 1% of the overall indirect emissions.	No – Cassava has no level of influence on the purchase of electricity as it is supplied by a utility company.	Yes- risk of supply chain disruptions from climate change related events such as flooding and high wind speeds, can disrupt Cassava's supply chain for electricity supply that can negatively impact Cassava's business activities.	No – Cassava's stakeholders do not specifically require the emission source to be included in their GHG inventory.	No - Electricity is not an outsourced activity previously performed in-house nor is it an activity that is typically performed in-house by other companies in the ICT sector.	No - sector guidance does not have a recommendation for this emission source.	Yes – Campaigns to use less electricity can be implemented for Cassava's employees through employee engagement.	Yes, it should be included based on risk and employee engagement.
Waste generated in operation – Waste Sent to Landfill	No – these emissions do not form more than 1% of the overall indirect emissions.	Yes – Cassava has a level of influence on the waste sent to landfill as they can limit the amount sent to landfill and increase	Yes- risk of supply chain disruptions from climate change related events such as flooding, can disrupt Cassava's supply chain for waste	No – Cassava's stakeholders do not specifically require the emission source to be included in their GHG inventory.	No - waste sent to landfill is not an outsourced activity previously performed in-house nor is it an activity that is typically performed in-	No - sector guidance does not have a recommendation for this emission source.	Yes – Campaigns to use reduce waste sent to landfill and to make use of recycling can be implemented for Cassava's employees	Yes, waste sent to landfill should be included based on influence, risk and employee engagement.

Source of indirect emissions	Relevance criteria							Recommendation
	Size	Influence	Risk	Stakeholders	Outsourcing	Sector guidance	Other (Employee Engagement)	
		recycling practices.	sent to landfill that can negatively impact Cassava's employee health.		house by other companies in the ICT sector.		through employee engagement.	
Waste generated in operation –Waste Recycled	No – these emissions do not form more than 1% of the overall indirect emissions.	Yes – Cassava has a level of influence on the waste recycled as they can influence the way the waste is recycled	No - risk for this emission source is low.	No – Cassava's stakeholders do not specifically require the emission source to be included in their GHG inventory.	Yes- some recycling can be done in-house such as separating waste and composting.	No - sector guidance does not have a recommendation for this emission source.	Yes – Campaigns to recycle can be implemented for Cassava's employees through employee engagement.	Yes, waste recycled should be included based on influence, outsourcing and employee engagement.
Business travel - Flights	Yes – these emissions forms more than 1% of the overall indirect emissions.	Yes – Cassava has a level of influence on the flights as they can choose different suppliers and lower emission flights.	Yes- risk of supply chain disruptions from climate change related events such as extreme weather events that can delay a flight, can disrupt Cassava's business operations.	No – Cassava's stakeholders do not specifically require the emission source to be included in their GHG inventory.	No - Flights is not an outsourced activity previously performed in-house nor is it an activity that is typically performed in-house by other companies in the ICT sector.	No - sector guidance does not have a recommendation for this emission source.	No – employees are not responsible for booking transportation for business travel, as this is managed through the designated travel booking process.	Yes, flights should be included based on size, influence and risk
Business travel - Rail	No – these emissions do not form more than 1% of the overall indirect emissions.	Yes – Cassava has a level of influence on the rail travel as they can choose different suppliers.	Yes- risk of supply chain disruptions from climate change related events such as extreme weather events that can delay a train route, can disrupt Cassava's	No – Cassava's stakeholders do not specifically require the emission source to be included in their GHG inventory.	No - Rail travel is not an outsourced activity previously performed in-house nor is it an activity that is typically performed in-house by other	No - sector guidance does not have a recommendation for this emission source.	No – employees are not responsible for booking transportation for business travel, as this is managed through the designated travel booking process.	Yes, rail travel should be included based on influence and risk.

Source of indirect emissions	Relevance criteria							Recommendation
	Size	Influence	Risk	Stakeholders	Outsourcing	Sector guidance	Other (Employee Engagement)	
			business operations.		companies in the ICT sector.			
Business travel - Accommodation	No – these emissions do not form more than 1% of the overall indirect emissions.	Yes – Cassava has a level of influence on accommodation as they can choose different suppliers and accommodation that implements sustainable practices.	Yes- risk of supply chain disruptions from climate change related events such as extreme weather events that can disrupt Cassava’s business travel.	No – Cassava’s stakeholders do not specifically require the emission source to be included in their GHG inventory.	No - Accommodation is not an outsourced activity previously performed in-house nor is it an activity that is typically performed in-house by other companies in the ICT sector.	No - sector guidance does not have a recommendation for this emission source.	No – employees are not responsible for booking accommodation for business travel, as this is managed through the designated travel booking process.	Yes, accommodation should be included based on influence and risk.
Employee commuting	Yes – these emissions forms more than 1% of the overall indirect emissions.	No – Cassava has no level of influence on employee commuting.	Yes- risk change related events such as extreme weather events can disrupt employees commuting to work, putting them in danger.	No – Cassava’s stakeholders do not specifically require the emission source to be included in their GHG inventory.	No – employee commuting is not an outsourced activity previously performed in-house nor is it an activity that is typically performed in-house by other companies in the ICT	No - sector guidance does not have a recommendation for this emission source.	Yes, campaigns can be implemented to encourage carpooling, or arrange for a shuttle service.	This emission source should be included based on size, risk, and employee engagement.