

# **TTP Group**

## **Greenhouse Gas Emissions Inventory Report**

TTP Group Limited

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We at TTP Group Limited (“TTP Group”) take responsibility for our impact on the environment and continually assess our business activities to consider sustainable alternatives.

We recognise that, to limit global warming to 1.5°C, this must remain central to our philosophy. In 2023, TTP Group set a near-term science-based target to reduce its Scope 1 and Scope 2 emissions by 42% by 2030. This target is aligned with SBTi’s ambition to limit global warming to 1.5°C. The near-term science-based target is a necessary step towards TTP Group’s ambition to have a SBTi-validated net-zero target.

This voluntary Greenhouse Gas Emissions Report describes the emissions and details the verification of the inventory of greenhouse gas emissions for TTP Group.

We publish this report annually in order to disclose our greenhouse gas emissions to our stakeholders in accordance with the commitment in TTP Group’s Sustainability Policy to publicly report our Scope 1, Scope 2, and Scope 3 emissions.

TTP Group’s Sustainability Team is responsible for estimating the company’s emissions, recommending operational changes to the Sustainability Steering Group (comprising a director of TTP Group Limited and a director of TTP plc) and implementing those changes that are approved. This report is carried out in accordance with the GHG Accounting and Reporting Principles found within the GHG Protocol Corporate Accounting and Reporting Standard.

This report is subject to third-party verification.

This report has been structured in accordance with the requirements described in ISO 14064-1:2018 “Greenhouse gases - Part 1: “Specification with guidance at the organisation level for quantification and reporting of greenhouse gas emissions and removals”. It includes all required and relevant information.

As a result of the verification process ISO 14064-1:2018, BSI states that:

It is considered that the Greenhouse Gas Emissions Inventory Report TTP Group for FY22-23 as of 30 July 2024 and ratified by the management of the organisation is substantially correct and corresponds to a faithful representation of the emissions of the activities for the scope defined by the company; in conformity requirements of standard ISO 14064-1:2018 for a limited level of assurance.

# Reporting organisation

TTP Group is the holding company of a group of consultancy and pre-product companies, as follows:

- **TTP plc:** a technology and product development consultancy working in the healthcare, telecoms, industrials and consumer sectors.
- **Awerian Limited:** a technology and product development consultancy specialising in the defence sector.
- **LEX Diagnostics Limited:** a pre-product company developing rapid PCR tests for use in primary care.
- **Cellular Origins Limited:** a pre-product company developing fully automated factories for manufacturing cell therapies at scale.
- **Cellular Highways Limited:** a pre-product company developing automated cell sorting instruments for manufacture of cell therapies.
- **TTP Campus Limited:** the company managing TTP's site.

# Person or entity accountable

The report has been prepared by Sustainability Team of TTP Group. Accountability for this report lies with the CEO of TTP Group who also chairs the Sustainability Committee.

# Reporting period

This report covers the period 1 April 2022 to 31 March 2023 (FY22-23).

# Organisational and reporting boundaries

We include the emissions of the above companies, which are fully owned by TTP Group.

# Criteria used to define significant emissions

We have not excluded any emissions that we are aware of.

## Emissions

We have used the Greenhouse Gas Protocol to organise our emissions into Scope 1, 2, and 3.

The following sections will look at the methodologies quantifying each category of emission and include descriptions of uncertainties where we are aware.

All emissions factors are from the Full Set of 2022 DEFRA emissions factors and DEFRA's Table 13 – Indirect Emissions From Supply Chain (published in 2014, adjusted for inflation).

Table 1. Summary of carbon emission inventory

Description	TTPG - tCO2e	Comment
S1: Direct GHG Emissions	158	
S2: Electricity (location)	544	
S2: Electricity (market)	299	
S3C1: Purchased goods and services	4,791	
S3C2: Capital goods	8,742	Includes TTP Campus build
S3C3: Fuel and energy related activities	215	
S3C4: Upstream transportation and distribution	0	N/A - Covered in S3C1
S3C5: Waste generated in operations	2	
S3C6: Business travel	1,535	
S3C7: Employee commuting	452	
S3C8: Upstream leased assets	0	N/A - not considered to be material
S3C9: Downstream transportation and distribution	0	N/A - Covered in S3C1
S3C10: Processing of sold products	0	N/A - TTP does not sell product
S3C11: Use of sold products	0	N/A - TTP does not sell product
S3C12: End of life treatment of sold products	0	N/A - TTP does not sell product
S3C13: Downstream leased assets	0	N/A - not considered to be material
S3C14: Franchises	0	N/A - TTP does not have franchisees
S3C15: Investments	32	
<b>Total using Electricity (location)</b>	<b>16,741</b>	

# Direct GHG emissions

## Carbon dioxide

We have assumed that all of our natural gas is burned. With 759MWh of gas, we calculate that this equates to 139 tCO<sub>2</sub>e of CO<sub>2</sub> (factor of 0.18362 kgCO<sub>2</sub>e of CO<sub>2</sub> per kWh(Gross CV)), 190 kgCO<sub>2</sub>e of CH<sub>4</sub> (factor 0.00025 kgCO<sub>2</sub>e of CH<sub>4</sub> per kWh(Gross CV)), and 0.076 tCO<sub>2</sub>e of N<sub>2</sub>O (factor 0.0001 kgCO<sub>2</sub>e of N<sub>2</sub>O per kWh(Gross CV)).

TTP Group also own a van that is used both by the company and for personal use outside office hours. In FY22-23, the van did 9483 miles. As a Class III van, we have used the DEFRA conversion factors to estimate that this corresponds to emissions of slightly less than 4 tCO<sub>2</sub>e (made up of 3.860 tCO<sub>2</sub>e of CO<sub>2</sub>, 0.095 kgCO<sub>2</sub>e of CH<sub>4</sub>, and 28 kgCO<sub>2</sub>e of N<sub>2</sub>O).

## Refrigerants and Other Gasses

TTP Group uses refrigerants in the climate control systems of the buildings that it occupies. We calculate the mass of lost refrigerants by the amount required to refill the systems at any servicing in the year. In 2022-23, this amounted to 4.7kg of R410A and 3.3kg of R417A. Using GWPs of 2,088 and 2,346 respectively, we arrive at a total of 18 tCO<sub>2</sub>e. GWP numbers taken from UK government conversion factors for 2022.

This gives a total of 158 tCO<sub>2</sub>e for natural gas usage in our heating and cooking systems, fuel burned by our van, and escaped refrigerants.

## CO<sub>2</sub> Removals

We have offset our flights for the year FY22-23 via Tradewater, totalling approximately 1,500 tCO<sub>2</sub>e. We have not subtracted this offset from our emissions.

We consider other sources of emissions, such as other greenhouse gases and biogenic emissions, to be negligible as we are predominantly office based.

# Indirect GHG emissions

## Scope 2: Electricity

For TTP Group, the emissions amounting from electricity consumption are 544 tCO<sub>2</sub>e when using a location-based method and 299 tCO<sub>2</sub>e when using a market-based method. These emissions were calculated from meter readings totalling 2.8 GWh and given that 45% of consumption was from 100% renewable electricity tariffs.

## Scope 3: Supply Chain Emissions

### Scope 3 Category 1: Purchased Goods and Services

We estimate that TTP Group's emissions from purchased goods and services are 4,791 tCO<sub>2</sub>e. This was calculated by classifying companies accounting for 80% of our spend according to the categories in Table 13, then using inflation adjusted conversion factors to convert our spending into tCO<sub>2</sub>e estimates, before finally scaling the final value by 1.25 to account for the remaining 20%.

TTP Group recognises that this is an inaccurate way of calculating emissions. Where possible, we have used companies' own stated emissions, but those that have published these numbers represent a small fraction of our supplier base.

We also believe that this is an overestimate of our emissions, as many of our products are one-off, fast turnaround items. For example, our spend on plastics (e.g. prototype parts and total weight <1ton) in the year FY22-23 was £152k, equivalent to 112 tCO<sub>2</sub>e using the conversion factor for "rubber and plastic products" in Table 13 (0.96 kgCO<sub>2</sub>e/£ then divided by 1.303 to factor in cumulative inflation to give 0.737 kgCO<sub>2</sub>e/£).

Back-calculating this using the 2022 DEFRA emission factor for "Plastics: average rigid", we calculate that this would correspond to 34 tons of plastic – far more than we use.

### Scope 3 Category 2 Capital Goods

We estimate that TTP Group's emissions from capital goods are 8,742 tCO<sub>2</sub>e. This was estimated in the same way as above, though using the financial statements of capital purchases. This includes 7,291 tCO<sub>2</sub>e estimated to have been due to the construction of TTP Campus.



### **Scope 3 Category 3: Energy**

We have accounted for our use of electricity and natural gas in previous sections. Our estimated emissions from electricity and gas, are 215 tCO<sub>2</sub>e. This was calculated using the DEFRA 2022 emission factors.

### **Scope 3 Category 4: Waste Generated**

We estimate that the total emissions from our waste amount to 1.8 tCO<sub>2</sub>e. We break down our waste into categories such as paper, food, wastewater, WEEE, and chemical waste (non-exhaustive). We use Ellgia to handle our waste and estimate only a very small percentage of the waste ends up in landfill. This has been assumed at 1%. The emissions for each waste stream were then individually calculated using conversion factors in DEFRA's 2022 conversion tables.

### **Scope 3 Category 6: Business Travel**

We estimate the emissions from our business travel to be 1,535 tCO<sub>2</sub>e.

The majority is from our flights. We used the point-to-point distances between city pairs to calculate passenger-km, then adjusted the conversion factor based on purchased class and type of travel (domestic, short-haul, long-haul, international) as in the DEFRA conversion tables. We have included radiative forcing. We did not include at-airport upgrades that were not purchased.

Car emissions were estimated by assuming an average distance driven per day of car hire and assuming an average middling car, then using the appropriate conversion factor from DEFRA.

Hotels were assumed to be 50/50 split between our two largest markets: Europe and the US. Though trips are taken outside these regions, they amount to a small fraction of the total. If in the future, another part of the world sees significant and continued visitation, we shall adjust accordingly.

Trains were based on expensed and directly purchased trips, and taking the distance between the station pairs to get a passenger-km value. This was multiplied by the appropriate conversion factor (electric, conventional, and international) in the DEFRA conversion table.

### **Scope 3 Category 7: Employee Commuting**

We estimate that total emissions from employee commuting were 452 tCO<sub>2</sub>e. This was based on an employee survey in which we asked for primary mode of commute, type of car (small petrol, large diesel, battery electric etc.), distance and days in the office. The appropriate conversions were chosen from the DEFRA conversion tables.

### Scope 3 Category 15: Investments

We have estimated that through our investments, TTP Group is responsible for 32 tCO<sub>2</sub>e. In line with the GHG Protocol, we have taken a fraction of emissions in line with our equity share in the two companies that we have investments in. We have no certain numbers for either, so used estimates based on size of company and industry to generate a total for their companies, then took the share of this in line with our stake.

We also have holdings in Melbourn Science Park (TTP Group location) and Allia Future Business Centre, but we have struggled to determine numbers for these, and further believe that counting for Melbourn Science Park would amount to double counting many of our own emissions.

### Scope 3 Other Categories

We do not believe that the other categories apply to us as a result of the activities we do and do not engage in.

Upstream Transportation and Distribution could be split out, but so far we have included shipping figures where we have paid directly (and therefore had a choice, rather than having a supplier organise shipping) in purchased goods and services.

## Historical base year

The historical base year is 1 April 2021 – 31 March 2022 (FY21-22). This was the first year that we made estimates. We estimated that our emissions were 17.5 ktCO<sub>2</sub>e. Of this, we estimate 8 ktCO<sub>2</sub>e was associated with the building of our new headquarters at TTP Campus.

We have not made any changes or recalculations to the base year or other historical GHG data or categorisation. The numbers in this report can be regarded as comparable to our base year figures.

## Uncertainty assessment

As referenced in Scope 3 Category 1 Purchased Goods and Services, we do not believe the spendbased method accurately reflects the true emissions from our supply chain. However, at the time of writing this report, we did not have any more accurate numbers. We have not estimated errors on these emissions calculations.

# TTP Group

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