

TTP Group

Greenhouse Gas Emissions Inventory Report

TTP Group Limited

Contents

	3
	4
	4
	4
	4
	5
	5
	7
	7
	7
	8
	8
	8
	8
	8
	8
	8
	8
	8
	9
	9
	9
	10
	10
	10

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.

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

This report is for our Base Year and we will 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.

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 2021 to 31 March 2022 (FY21-22).

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 2021 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	214	
S2: Electricity (location)	411	
S2: Electricity (market)	0	
S3C1: Purchased goods and services	7,099	
S3C2: Capital goods	8,657	Includes TTP Campus build
S3C3: Fuel and energy related activities	137	
S3C4: Upstream transportation and distribution	0	N/A - Covered in S3C1
S3C5: Waste generated in operations	2	
S3C6: Business travel	374	
S3C7: Employee commuting	561	
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	
Total using Electricity (location)	17,487	

Direct GHG emissions

Carbon dioxide

We have assumed that all of our natural gas is burned. With 642MWh of gas, we calculate that this equates to 117 tCO₂e of CO₂ (factor of 0.18282 kgCO₂e of CO₂ per kWh(Gross CV)), 160 kgCO₂e of CH₄ (factor 0.00025 kgCO₂e of CH₄ per kWh(Gross CV)), and 0.064 tCO₂e of N₂O (factor 0.0001 kgCO₂e of N₂O per kWh(Gross CV)).

TTP Group also owns a van that is used both by the company and for personal use outside office hours. As a Class III van, we have used the DEFRA conversion factors to estimate that this corresponds to emissions of 4 tCO₂e (made up of 3.97 tCO₂e of CO₂, 0.094 kgCO₂e of CH₄, and 28 kgCO₂e of N₂O).

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 2021-22, this amounted to 3.7kg of R410A and 36.3kg of R417A. Using GWPs of 2,088 and 2,346 respectively, we arrive at a total of 93 tCO₂e. GWP numbers taken from UK government conversion factors for 2021.

This gives a total of 214 tCO₂e for natural gas usage in our heating and cooking systems, fuel burned by our van, and escaped refrigerants.

Indirect GHG emissions

Scope 2: Electricity

For TTP Group, the emissions amounting from electricity consumption are 411 tCO₂e when using a location-based method and 0 tCO₂e when using a market-based method. These emissions were calculated from meter readings totalling 1.9 GWh and given that 100% 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 7,099 tCO₂e. 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 tCO₂e 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.

Scope 3 Category 2 Capital Goods

We estimate that TTP Group's emissions from capital goods are 8,657 tCO₂e. This was estimated in the same way as above, though using the financial statements of capital purchases. This includes 8,146 tCO₂e 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 137 tCO₂e. This was calculated using the DEFRA 2021 emission factors.

Scope 3 Category 4: Waste Generated

We estimate that the total emissions from our waste amount to 2 tCO₂e. 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 2021 conversion tables.

Scope 3 Category 6: Business Travel

We estimate the emissions from our business travel to be 374 tCO₂e.

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 561 tCO₂e. 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 tCO₂e. 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

This report is for the historical base year, 1 April 2021 – 31 March 2022 (FY21-22) and is the first year that we made estimates.

Uncertainty assessment

We do not believe the spend-based 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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