Spanish Point Technologies Carbon Footprint

2019 - 2021 Carbon Footprint

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Document Control

Version	Description	by	Date
1.0	Initial draft containing Scope 3 screening (top down calculation)	RE	11/04/2022
2.0	Final draft including activity based calculation (bottom up calc)	RE	24/05/2022
2.1	Add in Microsoft calculations for Azure cloud services	RE	13/06/2022
2.2	Allocation of emissions from Azure cloud services between categories 1 and 11; move gas to Scope 3 (landlord's financial control)	RE	14/06/2022

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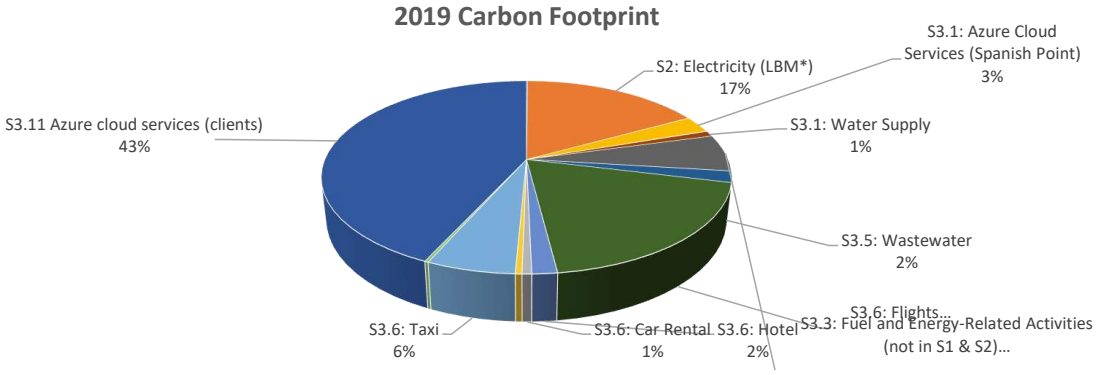
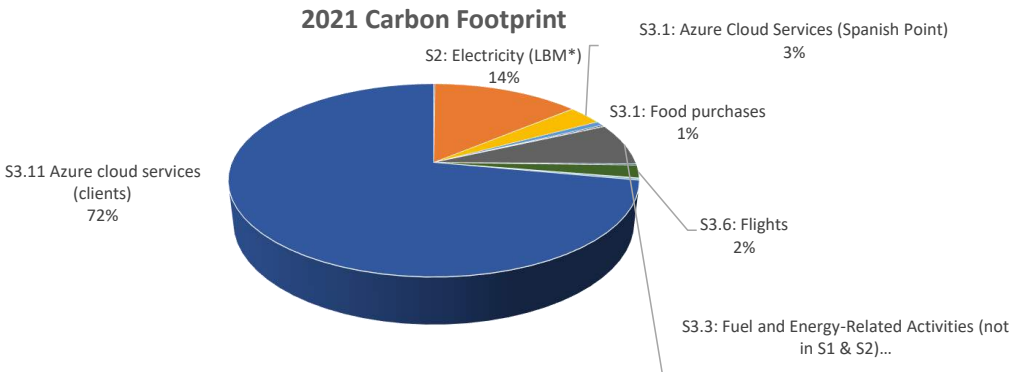
Executive Summary to GHG Protocol

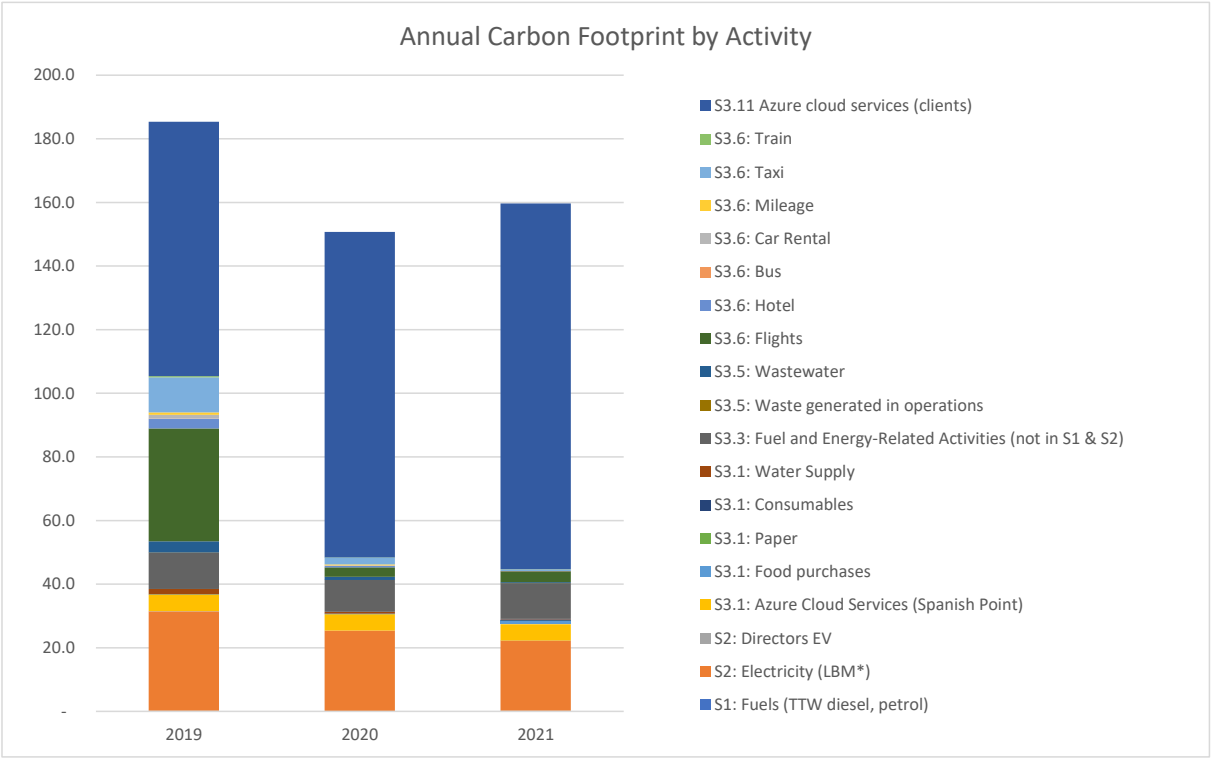
This carbon footprint of Spanish Point Technologies Ltd at The Plaza EastPoint Business Park, Clontarf -Dublin 3, Dublin, D03 E5R6 aims to cover all the emissions we have activity data for. We would like to include downstream emissions associated with Microsoft Azure cloud computing which we believe to be the most significant source of Scope 3 emissions, but await the Microsoft App to deliver information we can use. Other downstream supply chain emissions have been excluded (categories 10-15).

			tCO_2e		
Scopes & Categories		**Activities**	**2019**	**2020**	**2021**
Scope 1	Direct Emissions	S1: Refrigerants	-	-	-
		S1: Fuels (TTW diesel, petrol)	0.2	0.1	0.2
Scope 2	Indirect Emissions Purchased Energy				
		S2: Electricity (LBM*)	31.3	25.3	22.1
		S2: Directors EV	0.1	-	0.0
Scope 3	Upstream Supply Chain	S3.1: Purchased goods and services			
	Category 1	S3.1: Azure Cloud Services (Spanish Point)	5.1	5.1	5.1
		S3.1: Food purchases	no data	no data	1.1
		S3.1: Paper	0.1	0.0	0.0
		S3.1: Consumables	no data	0.2	0.3
		S3.1: Water Supply	1.7	0.5	0.2
	Category 2	S3.2: Capital goods	n/a	n/a	n/a
	Category 3	S3.3: Fuel and Energy-Related Activities (not in S1 & S	11.5	10.0	11.2
	Category 4	S3.4: Upstream transportation & distribution	n/a	n/a	n/a
	Category 5	S3.5: Waste generated in operations	0.0	0.0	0.0
		S3.5: Wastewater	3.5	1.0	0.3
	Category 6	S3.6: Business Travel			
		S3.6: Flights	35.5	2.9	3.4
		S3.6: Hotel	3.1	0.5	0.0
		S3.6: Bus	0.0	0.0	0.0
		S3.6: Car Rental	1.2	0.1	-
		S3.6: Mileage	0.8	0.3	0.1
		S3.6: Taxi	11.0	2.2	0.4
		S3.6: Train	0.5	0.0	0.0
	Category 7	S3.7: Employee Commuting	no data	no data	no data
	Category 8	S3.8: Upstream leased assets	n/a	n/a	n/a
Scope 3	Downstream Supply Chain				
	Category 9	S3.9: Downstream transportation & distribution	no data	no data	no data
	Category 10	S3.10: Processing of sold products	no data	no data	no data
	Category 11	S3.11: Use of sold products	no data	no data	no data
		S3.11 Azure cloud services (clients)	79.9	102.3	115.0
	Category 12	S3.12: End-of-life treatment of sold products	no data	no data	no data
	Category 13	S3.13: Downstream leased assets	no data	no data	no data
	Category 14	S3.14: Franchises	no data	no data	no data
	Category 15	S3.15: Investments	no data	no data	no data
TOTAL			**185.3**	**150.7**	**159.7**
tCO_2e % vs 2019 baseline				-18.7%	-13.8%
tCO_2e % vs previous				-18.7%	5.9%

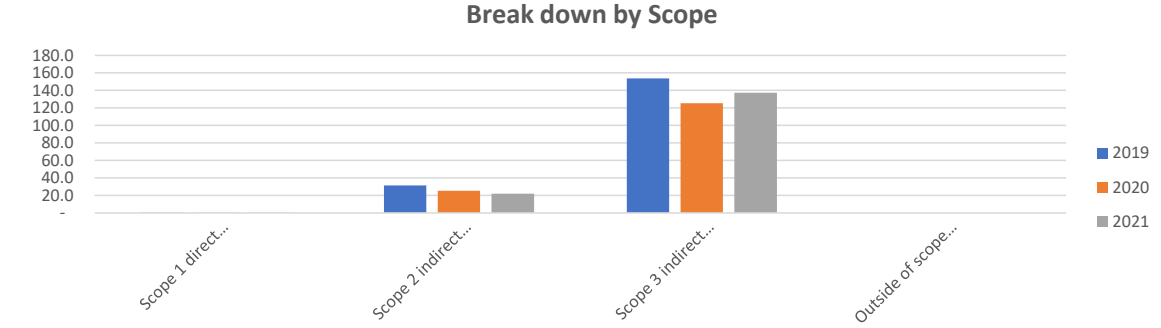
*LBM = Location-Based Method; MBM = Market-Based Method







	Year		
	2019	2020	2021
Scope 1 direct emissions	0.2	0.1	0.2
Scope 2 indirect emissions from acquired energy	31.3	25.3	22.1
Scope 3 indirect emissions from everything else	153.8	125.3	137.4
Outside of scope (biogenic emissions)			
Total	**185.3**	**150.7**	**159.7**



1. Introduction

Spanish Point Technologies is an innovative software company working with Microsoft technologies to provide business systems which remove complexity, increase productivity and connect users to critical business information. It employs technologies such as Azure, Microsoft 365, SharePoint, Dynamics 365, PowerApps & Power Automate, Power BI and SQL Server to build solutions for client businesses (IT consulting). The company currently employes about 55 people.

Spanish Point provides a full end to end project implementation service including design and implementation services, project management, training and ongoing technical support and managed services.

What is a Carbon Footprint?

A Carbon Footprint is the best estimate that we can get of the full climate change impact of something.

'Carbon' = shorthand for all the different global warming greenhouse gases
'Footprint' = metaphor for the total impact that something has, be it an activity, an item, a lifestyle, a company, a country or even the whole world*

*Source: How Bad Are Bananas? The Carbon Footprint of Everything, Mike Berners-Lee (Revised 2020 edition)

A greenhouse gas (sometimes abbreviated GHG) is a gas in an atmosphere that absorbs and emits radiation within the thermal infrared range. This process is the fundamental cause of the greenhouse effect. The primary greenhouse gases in the Earth's atmosphere are water vapor, carbon dioxide, methane, nitrous oxide, and ozone. Greenhouse gases greatly affect the temperature of the Earth, as without them, Earth's surface would average about 33 °C colder.

GHG emissions inventories account for and report on the **seven greenhouse gases** covered by the Kyoto Protocol:

1. Carbon dioxide (CO_2),
2. Methane (CH_4),
3. Nitrous oxide (N_2O),
4. Hydrofluorocarbons (HFCs),
5. Perfluorocarbons (PFCs), and
6. Sulphur hexafluoride (SF_6).
7. Nitrogen trifluoride (NF_3)

The Maths is Simple: You find a measurable activity, multiply it by an emissions factor (EF) and the result is the carbon footprint of that activity expressed in tonnes of carbon dioxide equivalent (tCO_2e). The challenge is not the maths, but often finding a measure of a particular activity and matching it with an appropriate emissions factor.

When we add up the carbon footprints of all the individual activities attributable to a company, product or process there may be some things that get left out perhaps because we do not have activity data or cannot find an appropriate emissions factor. Avoiding these more difficult activities could mean that your carbon footprint suffers from a truncation error with potentially significant sources of emissions being omitted. To get around this truncation error we complete a screening exercise on expenditure excluding salaries to focus on potential carbon hotspots attributable to your activities that might be overlooked (see method 1 in the methodology below).

What are Scopes?

Scopes are a means of classifying an organisation's GHG emissions from its activities. The **GHG Protocol** classifies emissions under Scopes 1, 2 and 3

Scope 1 (S1) = direct emissions
Scope 2 (S2) = indirect purchased energy emissions (you control consumption, but not how it is generated)
Scope 3 (S3) = indirect emissions for everything else, and further divided into 15 categories
Outside of Scope* = 'carbon neutral' bioenergy

*While the GHG Protocol coined the terms Scope 1, 2 and 3, the UK Government added a term "Outside of Scope" in its GHG conversion factors for company reporting which we also use. Outside of scopes includes biogenic CO_2 factors that should be used to account for the direct carbon dioxide (CO_2) impact of burning biomass and biofuels, including when reporting emissions from electricity consumption. Biogenic CO_2 emissions are one of several activities labelled 'outside of scopes' by the GHG Protocol Corporate Accounting and Reporting Standard because the Scope 1 impact of these fuels has been determined to be a net '0' (since the fuel source itself absorbs an equivalent amount of CO_2 during the growth phase as the amount of CO_2 released through combustion). Full reporting of any fuel from a biogenic source, including electricity, should have the biogenic CO_2 value documented to ensure complete accounting of the emissions created. [UK Government GHG Conversion Factors for Company Reporting, 2021]

ISO 14064-1 uses different nomenclature from scopes as follows:
ISO Categories

1. **Direct** GHG emissions and removals (owned or controlled)
2. Indirect GHG emissions from **imported energy**
3. Indirect GHG emissions from **transportation**
4. Indirect GHG emissions from **products** used by an organisation (goods & services)
5. Indirect GHG emissions associated with the **use of products** from the organisation
6. Indirect GHG emissions from **other sources**

How to use your Carbon Footprint Results

A carbon footprint is useful to make comparisons to inform decision making or to track progress if performance improvement can be measured and verified. The tables in this analysis may show that we do not have complete activity based data and that we could not find emission factors for some particular inputs and outputs. We usually have accurate Scope 1 and 2 data and can make meaningul progress in the areas of refrigerants (S1), energy (S1 & 2), waste, water and transport (S3). Other Scope 3 emissions may be more difficult to calculate and influence emissions reduction.

For Scope 3 indirect emissions, we generally suggest you consider where you can influence the carbon footprint of your suppliers (upstream indirect emissions) and your customers (downstream indirect emissions). For example, for food manufacturers, this could mean working with farms to optimise their emissions, asking them if they can report on them, and offering to collaborate with them so that everyone benefits from reduced emissions in their supply chain. The 15 categories suggested by the GHG Protocol are listed in the Executive Summary, some of which may not be applicable to your organisation.

2. Methodology

Boundary

Spanish Point Technologies Ltd
The Plaza EastPoint Business Park, Clontarf -Dublin 3, Dublin, D03 E5R6

Consolidation Approach (means of defining the physical or organisational limits)

Financial control

Base Year

2019 chosen, as first complete year without an impact from Covid-19

Method: What's potentially missing?

Normally we do two calculations to come to a number for your carbon footprint.

The **first calculation (top down method 1) considers potential carbon hotspots by reviewing provided expenditure data**. Calculating the carbon footprint from expenditure usually represents an upper limit on the carbon footprint calculation (a "top down" or "upper bound" calculation), but is not an accurate method as the emission factors are old and may not represent the true carbon intensity of various suppliers (factors adjusted for Irish purposes from 2009 UK values). Furthermore, this calculation cannot be used repeatedly as expenditure may not accurately reflect the decarbonisation of your supply chain, i.e. reducing expenditure would be the only way to reduce the calculated carbon footprint with this method which is of course non-sensical.

The second calculation (bottom up method 2) is based on primary data provided by the client and, while more accurate, does not capture all the Scope 3 indirect emissions attributable to the client. Calculations from such utility data should be treated as a "bottom up" or "lower bound" calculation, as likely some inputs have been missed and the calculations suffers from "truncation error". Usually, the true carbon footprint is likely to lie somewhere in between method 1 and method 2.

Results Comparison

Year	Expenditure Category	Top down Expenditure Method 1 [tCO_2e]	Activities	Bottom up Activity Based Method 2 [tCO_2e]	% difference
2019	**Total**	**857.1**		**185.3**	**78%**
	PRODUCT CATEGORY N/A	-			
	Air transport5	170.3	S3.6: Flights	35.5	79%
	Auxiliary financial services	1.7			
	Banking and finance	0.3			
	Computer services	321.4	S3.1:	85.1	74%
	Crude petroleum, natural gas3	2.9	S1: Gas & Fuel	11.6	-306%
	Education	3.4			
	Electricity production and distribution3	83.6	S2: Electricity (LBM*)	31.3	63%
	Food and drink products1	72.0	S3.1: Food purchases	no data	
	Hotels, catering, pubs etc	24.7	S3.6: Hotel	3.1	87%
	Insurance and pension funds	2.9			
	Legal, consultancy and other business activities	3.5			
	Membership organisations	0.5			
	Office machinery and computers	42.1			
	Other service activities	27.9			
	Plastic products	-			
	Post and telecommunications	15.3			
	Printing and publishing	0.5	S3.1: Paper	0.1	76%
	Real estate activities	23.6			
	Recreational services	2.4			
	Road transport5	53.0	S3.6: Business Travel - Lan	13.4	75%
	Sewage and refuse services	3.0	S3.5: Waste, Water & Was	5.2	-74%
	Soap and toilet preparations	1.9	S3.1: Consumables	no data	

Uncertainty

For some of the calculations we have highlighted in red where there is uncertainty. This could be over:
- the quantities provided
- the units against the quantities
- the emission factors, where we may have had to use a proxy or we could not find a suitable emission factor

In the supporting data we have also highlighted discrepancies in red which the client may wish to check as part of data collation improvement for future years of carbon accounting.

Base year emissions recalculation policy

The Summary Results lists all the activities under Scopes 1, 2 and 3 that we have activity data for. Where results values are listed as "no data" we had no activity data available at the time. Should such data become available, then it will be necessary to collect data back to the chosen baseline and recalculate total emissions including this new activity. If this is not possible, or the stucture of Company name significantly changes, then it may be necessary to calculate a new carbon footprint with a later base year.

4. Carbon Footprint Analysis

Scope 1 Emissions

Scope 1: REFRIGERANT TOP UPS / LEAKS

Light green cells - for data entry
Blue cells - Carbon footprint calculation
Assumptions

Year	Refrigerant Use	Qty [kgs]	EFs [$kgCO_2e/kg$]	Source	tCO_2e
2019	no refrigerant top ups	-			-
2020	no refrigerant top ups	-			-
2021	no refrigerant top ups	-			-

*Note, we account for annual refrigerant top-ups to allow for fugitive emissions from refrigeration.

Supporting Data

6/4/22 email from Eoin Cleary: Two fridges in office, no extra top ups etc.

Scope 1: FUEL

Light green cells - for data entry
Blue cells - Carbon footprint calculation
Assumptions

Year	Energy Type	Qty	Units	EFs [$kgCO_2e$/unit]	Source	TTW Scope 1 tCO_2e	WTT Scope 3 tCO_2e*	Outside of Scopes tCO_2e (biogenic)**
2019	**Totals**					**0.2**	**0.0**	
	Director's Car, Diesel	60	Litres	2.684	SEAI	0.2	0.0	-
2020	**Totals**					**0.1**	**0.0**	
	Director's Car, Diesel	37	Litres	2.684	SEAI	0.1	0.0	-
2021	**Totals**					**0.2**	**0.0**	
	Director's Car, Diesel	57	Litres	2.684	SEAI	0.2	0.0	-

*DEFRA UK factors for Well to Tank (WTT) Scope 3 indirect emissions have been used here. SEAI does not report WTT emission factors for any energy types.

**Outside of Scopes (biogenic emissions) not accounted for. SEAI provides a single emission factors for forecourt fuels regardless of annual changes in biofuel blend.

Supporting Data

6/4/22 EC email: data from "Travel expenses - Green project, Sustineo" spreadsheet

	2019	2020	2021	
Director's car, diesel	€ 80	€ 44	€ 81	
Annual ave diesel price inc VAT	€ 1.325	€ 1.200	€ 1.419	AA Ireland Fuel Price Figues
Estimated Litres	60.29	36.79	57.08	

Scope 2 Emissions

Scope 2: ELECTRICITY

Light green cells - for data entry
Blue cells - Carbon footprint calculation
Assumptions

Location-Based Method (LBM) Calculation

Year	Type	Qty	EFs [kgCO2e/ unit]	Source	TTW Scope 1 tCO_2e	WTT Scope 3 tCO_2e*	Outside of Scopes tCO_2e (biogenic)**
2019	Grid electricity	96,426	0.325	SEAI 2019	31.3	6.3	-
	Director's EV (grid, home)	161	0.325	SEAI 2020	0.1	0.0	-
2020	Grid electricity	85,712	0.295	SEAI 2020	25.3	4.9	-
	Director's EV (grid, home)	-	0.295	SEAI 2021	-	-	-
2021	Grid electricity	74,822	0.295	SEAI 2020	22.1	5.9	-
	Director's EV (grid, home)	150	0.295	SEAI 2021	0.0	0.0	-

Market-Based Method (MBM) Calculation (office elec only, i.e. excluding Director's EV)

Year	Type	Qty	EFs [kgCO2e/ unit]	Source	TTW Scope 1 tCO_2e	WTT Scope 3 tCO_2e*	Outside of Scopes tCO_2e (biogenic)**
2019	electric Ireland	96,426	0.284	CRU 2019	27.4	-	-
2020	electric Ireland	85,712	0.179	CRU 2020	15.3	-	-
2021	electric Ireland, energia***	74,822	0.075	CRU 2020	5.6	-	-

*DEFRA UK factors for Well to Tank (WTT) Scope 3 indirect emissions have been used here. SEAI does not report WTT emission factors for any energy types.

**Outside of Scopes (biogenic emissions) not accounted for. SEAI provides a single emission factors for forecourt fuels regardless of annual changes in biofuel blend.

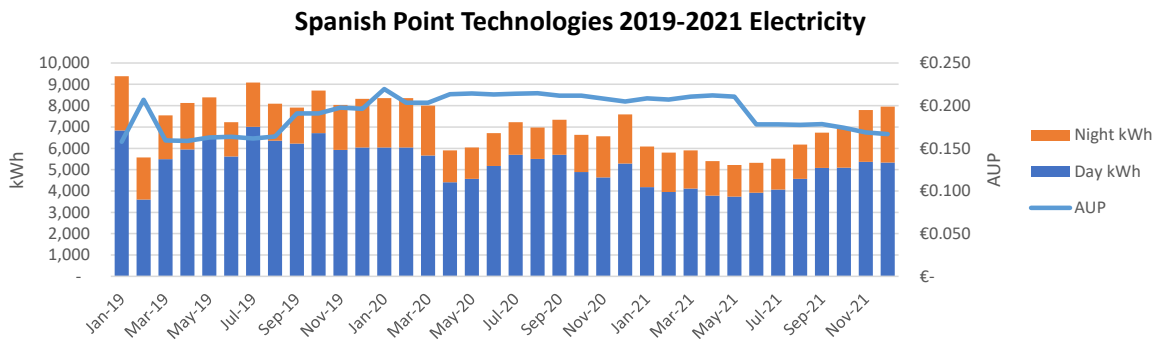
***5 months electric Ireland @ 179gCO2/kWh and 7 months Energia @ 0gCO2/kWh

Supporting Data

4/4/22 EC email: client spreadsheet analysis of electricity "Green Start request list 04.04.22", Electricity worksheet (access to supplier bills not provided): Electric Ireland until May 2021 and then Energia

Payee:	Spanish Point Technologies Ltd
Premises supplied	The Plaza EastPoint Business Park, Clontarf -Dublin 3, Dublin, D03 E5R6
MPRN	not provided
Tariff	not provided
Acc no.	not provided
Meter no.	not provided
MIC(kVA)	not provided

Year	Supplier	Month	Day kWh	Night kWh	TOT [kWh]	€ ex VAT	AUP ex VAT
2019	**Totals**		**72,296**	**24,130**	**96,426**	**€ 16,868**	**€ 0.175**
	Electric Ireland	Jan-19	6,838	2,540	9,378	€ 1,480	€ 0.158
	Electric Ireland	Feb-19	3,597	1,979	5,576	€ 1,154	€ 0.207
	Electric Ireland	Mar-19	5,489	2,060	7,549	€ 1,202	€ 0.159
	Electric Ireland	Apr-19	5,952	2,179	8,131	€ 1,291	€ 0.159
	Electric Ireland	May-19	6,514	1,881	8,395	€ 1,365	€ 0.163
	Electric Ireland	Jun-19	5,620	1,609	7,229	€ 1,183	€ 0.164
	Electric Ireland	Jul-19	7,014	2,073	9,087	€ 1,469	€ 0.162
	Electric Ireland	Aug-19	6,362	1,728	8,090	€ 1,325	€ 0.164
	Electric Ireland	Sep-19	6,226	1,691	7,916	€ 1,511	€ 0.191
	Electric Ireland	Oct-19	6,710	2,002	8,712	€ 1,664	€ 0.191
	Electric Ireland	Nov-19	5,932	2,104	8,036	€ 1,589	€ 0.198
	Electric Ireland	Dec-19	6,042	2,283	8,325	€ 1,635	€ 0.196
2020	**Totals**		**63,635**	**22,076**	**85,712**	**€ 18,074**	**€ 0.211**
	Electric Ireland	Jan-20	6,044	2,313	8,357	€ 1,834	€ 0.220
	Electric Ireland	Feb-20	6,044	2,313	8,357	€ 1,700	€ 0.203
	Electric Ireland	Mar-20	5,664	2,338	8,002	€ 1,629	€ 0.204
	Electric Ireland	Apr-20	4,414	1,486	5,901	€ 1,259	€ 0.213
	Electric Ireland	May-20	4,567	1,476	6,043	€ 1,295	€ 0.214
	Electric Ireland	Jun-20	5,180	1,531	6,711	€ 1,430	€ 0.213
	Electric Ireland	Jul-20	5,703	1,520	7,223	€ 1,546	€ 0.214
	Electric Ireland	Aug-20	5,501	1,473	6,974	€ 1,497	€ 0.215
	Electric Ireland	Sep-20	5,701	1,644	7,346	€ 1,555	€ 0.212
	Electric Ireland	Oct-20	4,888	1,748	6,636	€ 1,406	€ 0.212
	Electric Ireland	Nov-20	4,643	1,928	6,571	€ 1,369	€ 0.208
	Electric Ireland	Dec-20	5,286	2,305	7,591	€ 1,554	€ 0.205
2021	**Totals**		**53,208**	**21,614**	**74,822**	**€ 14,029**	**€ 0.188**
	Electric Ireland	Jan-21	4,185	1,905	6,090	€ 1,271	€ 0.209
	Electric Ireland	Feb-21	3,953	1,843	5,796	€ 1,201	€ 0.207
	Electric Ireland	Mar-21	4,114	1,792	5,907	€ 1,243	€ 0.210
	Electric Ireland	Apr-21	3,787	1,614	5,401	€ 1,144	€ 0.212
	Electric Ireland	May-21	3,736	1,479	5,215	€ 1,098	€ 0.210
	Energia	Jun-21	3,915	1,405	5,320	€ 948	€ 0.178
	Energia	Jul-21	4,063	1,448	5,511	€ 982	€ 0.178
	Energia	Aug-21	4,569	1,608	6,177	€ 1,096	€ 0.177
	Energia	Sep-21	5,088	1,651	6,739	€ 1,201	€ 0.178
	Energia	Oct-21	5,089	1,825	6,914	€ 1,204	€ 0.174
	Energia	Nov-21	5,370	2,423	7,793	€ 1,314	€ 0.169
	Energia	Dec-21	5,338	2,620	7,958	€ 1,327	€ 0.167



6/4/22 EC email: data from "Travel expenses - Green project, Sustineo" spreadsheet

	2019	2020	2021	
Director's car, EV	€ 40		€ 40	
Annual Ave AUP inc VAT	€ 0.248	€ 0.250	€ 0.267	SEAI domestic fuels comparison energy costs, Band DC
Estimated kWh	161.10	-	149.54	

Scope 3 Emissions

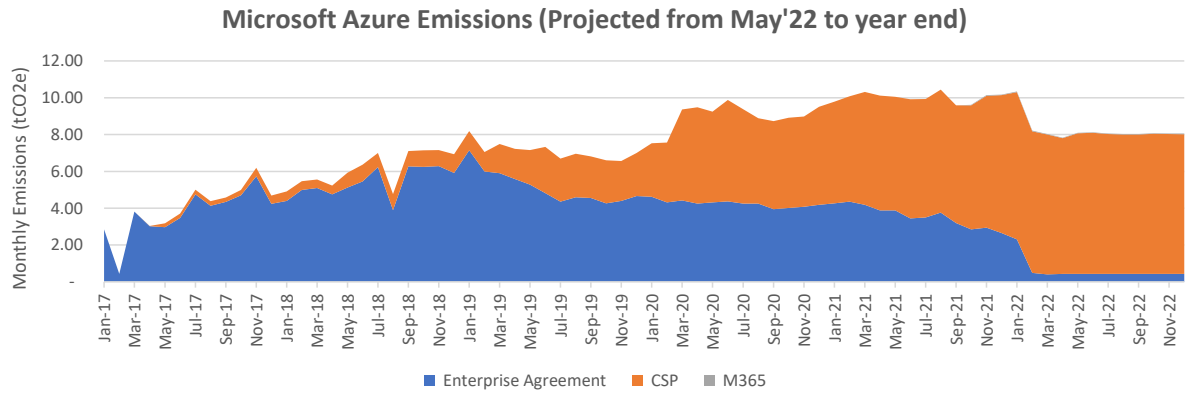
Scope 3.1: MICROSOFT AZURE

Light green cells - for data entry
Blue cells - Carbon footprint calculation
Assumptions

Year	Microsoft Azure Cloud Services	tCO_2e
2017	**Totals**	**46.87**
	Enterprise Agreement	44.47
	CSP	2.40
	M365	-
2018	**Totals**	**73.56**
	Enterprise Agreement	64.64
	CSP	8.92
	M365	-
2019	**Totals**	**85.06**
	Enterprise Agreement	61.57
	CSP	23.50
	M365	-
2020	**Totals**	**107.46**
	Enterprise Agreement	51.04
	CSP	56.42
	M365	-
2021	**Totals**	**120.17**
	Enterprise Agreement	42.91
	CSP	77.17
	M365	0.09
2022	**Totals**	**98.93**
	Enterprise Agreement	7.04
	CSP	91.55
	M365	0.34

Allocation between Spanish Point Technologies and its clients

	2019	2020	2021	Comments
Spanish Point Technologies	5.13	5.13	5.13	0.43 tCO2e per month under Enterprise Agreement
Clients (balance)	79.93	102.32	115.03	Balance of emissions attributed to clients



Supporting Data

2/6/22 EC email: spreadsheet "Microsoft - Azure" detailing monthly emissions by Scope from Jan 2017 to date
(May-Dec 2022 are projected estimates)

Month - Year	Enterprise Agreement	CSP	M365	Total (tCO2e)	Check	Source	Comment
Jan-17	2.85			2.85	-	Microsoft	
Feb-17	0.43			0.43	-	Microsoft	
Mar-17	3.81			3.81	-	Microsoft	
Apr-17	3.03	0.01		3.04	-	Microsoft	
May-17	2.97	0.22		3.19	-	Microsoft	
Jun-17	3.48	0.23		3.70	-	Microsoft	
Jul-17	4.76	0.24		5.00	-	Microsoft	
Aug-17	4.13	0.25		4.38	-	Microsoft	
Sep-17	4.34	0.24		4.58	-	Microsoft	
Oct-17	4.70	0.29		5.00	-	Microsoft	
Nov-17	5.73	0.47		6.20	-	Microsoft	
Dec-17	4.24	0.44		4.69	-	Microsoft	
Jan-18	4.39	0.52		4.91	-	Microsoft	
Feb-18	4.99	0.48		5.47	-	Microsoft	
Mar-18	5.09	0.47		5.57	-	Microsoft	
Apr-18	4.76	0.47		5.23	-	Microsoft	
May-18	5.12	0.80		5.93	-	Microsoft	
Jun-18	5.46	0.90		6.36	-	Microsoft	
Jul-18	6.23	0.78		7.00	-	Microsoft	
Aug-18	3.90	0.87		4.77	-	Microsoft	
Sep-18	6.27	0.83		7.10	-	Microsoft	
Oct-18	6.24	0.90		7.15	-	Microsoft	
Nov-18	6.28	0.88		7.16	-	Microsoft	
Dec-18	5.91	1.02		6.93	-	Microsoft	
Jan-19	7.15	1.04		8.19	-	Microsoft	
Feb-19	6.00	1.04		7.05	-	Microsoft	
Mar-19	5.90	1.58		7.48	-	Microsoft	
Apr-19	5.59	1.64		7.22	-	Microsoft	
May-19	5.28	1.87		7.15	-	Microsoft	
Jun-19	4.82	2.52		7.34	-	Microsoft	
Jul-19	4.36	2.34		6.70	-	Microsoft	
Aug-19	4.59	2.37		6.96	-	Microsoft	
Sep-19	4.56	2.25		6.81	-	Microsoft	
Oct-19	4.26	2.34		6.60	-	Microsoft	
Nov-19	4.40	2.17		6.57	-	Microsoft	
Dec-19	4.66	2.33		6.99	-	Microsoft	
Jan-20	4.63	2.90		7.53	-	Microsoft	
Feb-20	4.32	3.24		7.57	-	Microsoft	
Mar-20	4.42	4.94		9.36	-	Microsoft	
Apr-20	4.25	5.24		9.49	-	Microsoft	
May-20	4.32	4.92		9.24	-	Microsoft	
Jun-20	4.36	5.51		9.88	-	Microsoft	
Jul-20	4.26	5.12		9.38	-	Microsoft	
Aug-20	4.25	4.63		8.89	-	Microsoft	
Sep-20	3.95	4.78		8.73	-	Microsoft	
Oct-20	4.02	4.89		8.91	-	Microsoft	
Nov-20	4.08	4.90		8.98	-	Microsoft	
Dec-20	4.18	5.33		9.51	-	Microsoft	
Jan-21	4.26	5.53		9.79	-	Microsoft	
Feb-21	4.35	5.73		10.08	-	Microsoft	
Mar-21	4.18	6.14		10.32	-	Microsoft	
Apr-21	3.88	6.23		10.11	-	Microsoft	
May-21	3.88	6.17		10.05	-	Microsoft	
Jun-21	3.45	6.47		9.92	-	Microsoft	
Jul-21	3.50	6.43		9.94	-	Microsoft	
Aug-21	3.76	6.68		10.44	-	Microsoft	
Sep-21	3.19	6.39		9.59	-	Microsoft	
Oct-21	2.84	6.74	0.03	9.62	-	Microsoft	

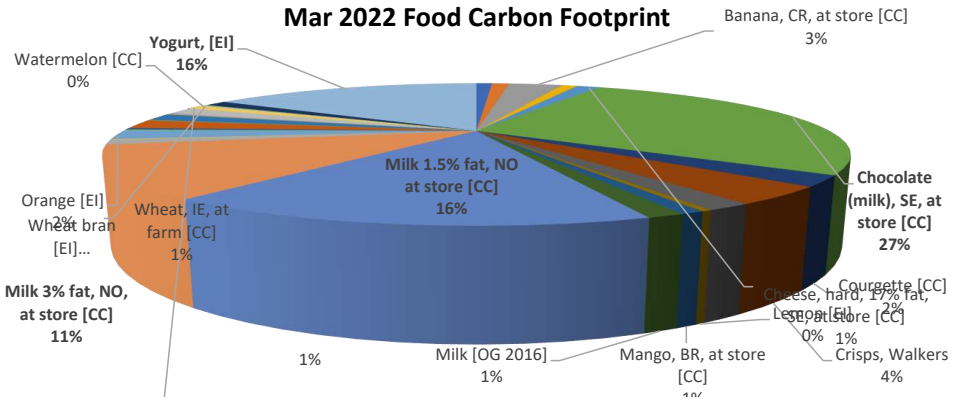
Month - Year	Enterprise Agreement	CSP	M365	Total (tCO2e)	Check	Source	Comment
Nov-21	2.95	7.16	0.03	10.14	-	Microsoft	
Dec-21	2.65	7.49	0.02	10.17	-	Microsoft	
Jan-22	2.30	8.00	0.03	10.34	-	Microsoft	
Feb-22	0.48	7.70	0.03	8.21	-	Microsoft	
Mar-22	0.40	7.60	0.03	8.03	-	Microsoft	
Apr-22	0.43	7.37	0.03	7.83	-	Microsoft	
May-22	0.43	7.64	0.03	8.10	-	Microsoft	MSFT estimate
Jun-22	0.43	7.67	0.03	8.12	-	Microsoft	MSFT estimate
Jul-22	0.43	7.60	0.03	8.06	-	Microsoft	MSFT estimate
Aug-22	0.43	7.58	0.03	8.03	-	Microsoft	MSFT estimate
Sep-22	0.43	7.57	0.03	8.03	-	Microsoft	MSFT estimate
Oct-22	0.43	7.61	0.03	8.07	-	Microsoft	MSFT estimate
Nov-22	0.43	7.61	0.03	8.06	-	Microsoft	MSFT estimate
Dec-22	0.43	7.59	0.03	8.05	-	Microsoft	MSFT estimate

Scope 3 Emissions

Scope 3.1: FOOD PURCHASES

Light green cells - for data entry
Blue cells - Carbon footprint calculation
Assumptions

Year	Food Types	Quantity [kgs]	EFs [kgCO2e/ unit]	Source	tCO_2e
2021	**Adjusted for 12 months**	**910.5**			**1.14**
	Total March 2021	**75.9**			**0.09**
	Almond [EI]	1.0	0.90	EcoInvent v3.8	0.001
	Apple, whole fruit, France, at store [CC]	2.6	0.37	Carbon Cloud - Climate Hub	0.001
	Banana, CR, at store [CC]	5.6	0.55	Carbon Cloud - Climate Hub	0.003
	Bread, Soft, wheat, SE, at store [CC]	0.9	1.00	Carbon Cloud - Climate Hub	0.001
	Cheese, hard, 17% fat, SE, at store [CC]	0.1	10.00	Carbon Cloud - Climate Hub	0.001
	Chocolate (milk), SE, at store [CC]	6.9	3.70	Carbon Cloud - Climate Hub	0.026
	Courgette [CC]	1.0	2.20	Carbon Cloud - Climate Hub	0.002
	Crisps, Walkers	1.4	2.46	Walkers (2009)	0.004
	Grape [EI]	5.5	0.27	EcoInvent v3.8	0.001
	Lemon [EI]	1.0	0.31	EcoInvent v3.8	0.000
	Mango, BR, at store [CC]	0.8	0.89	Carbon Cloud - Climate Hub	0.001
	Milk [OG 2016]	1.0	1.14	Origin Green 2016	0.001
	Milk 1.5% fat, NO at store [CC]	10.0	1.50	Carbon Cloud - Climate Hub	0.015
	Milk 3% fat, NO, at store [CC]	6.0	1.80	Carbon Cloud - Climate Hub	0.011
	Nuts (Treenuts), EU, at farm [CC]	0.6	1.70	Carbon Cloud - Climate Hub	0.001
	Oil (Palm), South America, at farm [CC]	0.2	0.68	Carbon Cloud - Climate Hub	0.000
	Orange [EI]	7.3	0.28	EcoInvent v3.8	0.002
	Oranges, EU, at farm [CC]	2.3	0.10	Carbon Cloud - Climate Hub	0.000
	Oranges, whole fruit, ES, at store [CC]	0.8	0.51	Carbon Cloud - Climate Hub	0.000
	Peanuts, CN, at store in GB [CC]	1.4	1.30	Carbon Cloud - Climate Hub	0.002
	Rice [EI]	0.1	1.44	EcoInvent v3.8	0.000
	Rice, W EU, at farm [CC]	0.1	0.98	Carbon Cloud - Climate Hub	0.000
	Strawberries, fresh, GB, at store [CC]	1.5	0.91	Carbon Cloud - Climate Hub	0.001
	Sugar (white) [EI]	0.3	0.55	EcoInvent v3.8	0.000
	Sweet corn, EU, at farm [CC]	0.7	0.39	Carbon Cloud - Climate Hub	0.000
	Sweetcorn [EI]	0.5	0.27	EcoInvent v3.8	0.000
	Tea, EU, at farm [CC]	0.8	1.80	Carbon Cloud - Climate Hub	0.001
	Water, Bottled [MBL]	2.8	0.32	Mike Berners-Lee	0.001
	Watermelon [CC]	2.1	0.04	Carbon Cloud - Climate Hub	0.000
	Wheat bran [EI]	0.5	0.41	EcoInvent v3.8	0.000
	Wheat, IE, at farm [CC]	2.2	0.53	Carbon Cloud - Climate Hub	0.001
	Yogurt, [EI]	7.8	1.93	EcoInvent v3.8	0.015



Supporting Data

4/4/22 EC email: spreadsheet "Green Start request list 04.04.22", Tesco worksheet detailing food purchases for Mar 2022

Food Item	kgs	Food Type	EF [kgCO2e/kg]	Source
March 2022 Totals	**75.9**			
Avonmore Slimline	2.00	Milk 1.5% fat, NO at store [CC]	1.50	Carbon Cloud - Climate Hub
Tesco Low Fat Milk	2.00	Milk 1.5% fat, NO at store [CC]	1.50	Carbon Cloud - Climate Hub
Tesco Fresh Milk	2.00	Milk 3% fat, NO, at store [CC]	1.80	Carbon Cloud - Climate Hub
Green Grapes	1.00	Grape [EI]	0.27	EcoInvent v3.8
Red Grapes	1.00	Grape [EI]	0.27	EcoInvent v3.8
Greek Yogurt Vanilla	0.96	Yogurt, [EI]	1.93	EcoInvent v3.8
Greek Yogurt Lemon	0.96	Yogurt, [EI]	1.93	EcoInvent v3.8
Strawberries	0.25	Strawberries, fresh, GB, at store [CC]	0.91	Carbon Cloud - Climate Hub
Mango Chunks	0.55	Mango, BR, at store [CC]	0.89	Carbon Cloud - Climate Hub
Watermelon Fans	0.60	Watermelon [CC]	0.04	Carbon Cloud - Climate Hub
Special K	0.50	Wheat bran [EI]	0.41	EcoInvent v3.8
Nutella	0.20	Oil (Palm), South America, at farm [CC]	0.68	Carbon Cloud - Climate Hub
Coco Pops	0.12	Rice, W EU, at farm [CC]	0.98	Carbon Cloud - Climate Hub
Maltesers Fun Size	0.20	Chocolate (milk), SE, at store [CC]	3.70	Carbon Cloud - Climate Hub
King Crisps Cheese & Onion	0.30	Crisps, Walkers	2.46	Walkers (2009)
Bounty	0.23	Chocolate (milk), SE, at store [CC]	3.70	Carbon Cloud - Climate Hub
Aero Milk Chocolate	0.11	Chocolate (milk), SE, at store [CC]	3.70	Carbon Cloud - Climate Hub
Aero Peppermint	0.11	Chocolate (milk), SE, at store [CC]	3.70	Carbon Cloud - Climate Hub
Lindt Sea Salt	0.40	Chocolate (milk), SE, at store [CC]	3.70	Carbon Cloud - Climate Hub
Bananas 6 Pack	1.80	Banana, CR, at store [CC]	0.55	Carbon Cloud - Climate Hub
Alpro Almond Milk	1.00	Almond [EI]	0.90	EcoInvent v3.8
Easy Peelers	1.50	Orange [EI]	0.28	EcoInvent v3.8
Pink Lady Apples 4 pack	1.06	Apple, whole fruit, France, at store [CC]	0.37	Carbon Cloud - Climate Hub
Seedless Grapes	0.50	Grape [EI]	0.27	EcoInvent v3.8
Low Fat Milk	2.00	Milk 1.5% fat, NO at store [CC]	1.50	Carbon Cloud - Climate Hub
Fresh Milk	2.00	Milk 3% fat, NO, at store [CC]	1.80	Carbon Cloud - Climate Hub
Red Grapes	0.50	Grape [EI]	0.27	EcoInvent v3.8
Orange Juice	1.00	Orange [EI]	0.28	EcoInvent v3.8
Greek Yogurt Vanilla	0.48	Yogurt, [EI]	1.93	EcoInvent v3.8
Strawberries	0.40	Strawberries, fresh, GB, at store [CC]	0.91	Carbon Cloud - Climate Hub
Muller Light Dark Choc Yogurt	0.64	Yogurt, [EI]	1.93	EcoInvent v3.8
Watermelon Fans	0.30	Watermelon [CC]	0.04	Carbon Cloud - Climate Hub
Lemons	-	Lemon [EI]	0.31	EcoInvent v3.8
Cruchie Treat Size	0.21	Chocolate (milk), SE, at store [CC]	3.70	Carbon Cloud - Climate Hub
Buttons	0.17	Chocolate (milk), SE, at store [CC]	3.70	Carbon Cloud - Climate Hub
Barry's Tea	0.13	Tea, EU, at farm [CC]	1.80	Carbon Cloud - Climate Hub
Malteser's Fun Size	0.20	Chocolate (milk), SE, at store [CC]	3.70	Carbon Cloud - Climate Hub
McCambridges Stoneground Wheat	0.50	Wheat, IE, at farm [CC]	0.53	Carbon Cloud - Climate Hub
Manhattan Popcorn	0.18	Sweet corn, EU, at farm [CC]	0.39	Carbon Cloud - Climate Hub
Tayto Salt & Vinegar	0.15	Crisps, Walkers	2.46	Walkers (2009)
Galaxy Ripple	0.13	Chocolate (milk), SE, at store [CC]	3.70	Carbon Cloud - Climate Hub
Bounty bars	0.23	Chocolate (milk), SE, at store [CC]	3.70	Carbon Cloud - Climate Hub
Aero Milk	0.11	Chocolate (milk), SE, at store [CC]	3.70	Carbon Cloud - Climate Hub
Toffee Crisp	0.15	Crisps, Walkers	2.46	Walkers (2009)
Manhattan Cheese popcorn	0.36	Sweetcorn [EI]	0.27	EcoInvent v3.8
Lindt Sea Salt chocolate	0.40	Chocolate (milk), SE, at store [CC]	3.70	Carbon Cloud - Climate Hub
Cinnamon Raisin Bagels	0.43	Bread, Soft, wheat, SE, at store [CC]	1.00	Carbon Cloud - Climate Hub
San Pellegrino Limonata	1.98	Water, Bottled [MBL]	0.32	Mike Berners-Lee
Ribena	0.85	Water, Bottled [MBL]	0.32	Mike Berners-Lee
Nature Valley Protein	0.16	Peanuts, CN, at store in GB [CC]	1.30	Carbon Cloud - Climate Hub
Nature Valley Salted Caramel	0.16	Peanuts, CN, at store in GB [CC]	1.30	Carbon Cloud - Climate Hub
Fruit & Nut Shot	0.25	Nuts (Treenuts), EU, at farm [CC]	1.70	Carbon Cloud - Climate Hub
Easy Peelers	0.75	Orange [EI]	0.28	EcoInvent v3.8
Organic Fairtrade Bananas 5	0.75	Banana, CR, at store [CC]	0.55	Carbon Cloud - Climate Hub
Pink Lady Apples 4 pack	0.53	Apple, whole fruit, France, at store [CC]	0.37	Carbon Cloud - Climate Hub
Nature Valley Mix	0.12	Peanuts, CN, at store in GB [CC]	1.30	Carbon Cloud - Climate Hub
Seedless Grapes	2.00	Grape [EI]	0.27	EcoInvent v3.8
Low Fat Milk	2.00	Milk 1.5% fat, NO at store [CC]	1.50	Carbon Cloud - Climate Hub

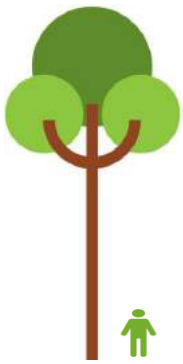
Food Item	kgs	Food Type	EF [kgCO2e/ kg]	Source
Orange Juice	4.00	Orange [EI]	0.28	EcoInvent v3.8
Greek Yoguart Vanilla	3.84	Yogurt, [EI]	1.93	EcoInvent v3.8
Light Cheese Triangles	0.13	Cheese, hard, 17% fat, SE, at store [CC]	10.00	Carbon Cloud - Climate Hub
Strawberries	0.40	Strawberries, fresh, GB, at store [CC]	0.91	Carbon Cloud - Climate Hub
Muller Light Yogurt	0.96	Yogurt, [EI]	1.93	EcoInvent v3.8
Watermelon Fans	1.20	Watermelon [CC]	0.04	Carbon Cloud - Climate Hub
Walkers Quavers	0.38	Crisps, Walkers	2.46	Walkers (2009)
Oranges	-	Orange [EI]	0.28	EcoInvent v3.8
Crunchie treat size	0.21	Chocolate (milk), SE, at store [CC]	3.70	Carbon Cloud - Climate Hub
Cadbury Milk 6 pack	1.30	Chocolate (milk), SE, at store [CC]	3.70	Carbon Cloud - Climate Hub
McCambridges Stoneground Wheat	1.00	Wheat, IE, at farm [CC]	0.53	Carbon Cloud - Climate Hub
Manhattan Popcorn	0.54	Sweet corn, EU, at farm [CC]	0.39	Carbon Cloud - Climate Hub
Tayto S&V	0.15	Crisps, Walkers	2.46	Walkers (2009)
King Crisps C&O	0.30	Crisps, Walkers	2.46	Walkers (2009)
Galaxy Ripple	0.13	Chocolate (milk), SE, at store [CC]	3.70	Carbon Cloud - Climate Hub
Bounty	0.46	Chocolate (milk), SE, at store [CC]	3.70	Carbon Cloud - Climate Hub
Twinings Peppermint	0.16	Tea, EU, at farm [CC]	1.80	Carbon Cloud - Climate Hub
Aero Milk	0.11	Chocolate (milk), SE, at store [CC]	3.70	Carbon Cloud - Climate Hub
Aero Peppermint	0.11	Chocolate (milk), SE, at store [CC]	3.70	Carbon Cloud - Climate Hub
Toffee Crisp	0.15	Chocolate (milk), SE, at store [CC]	3.70	Carbon Cloud - Climate Hub
Cinnamon Raisin Bagels	0.43	Bread, Soft, wheat, SE, at store [CC]	1.00	Carbon Cloud - Climate Hub
Twix	0.32	Chocolate (milk), SE, at store [CC]	3.70	Carbon Cloud - Climate Hub
Naked Noodle Singapore	0.23	Wheat, IE, at farm [CC]	0.53	Carbon Cloud - Climate Hub
Cadbury Twirl	0.47	Chocolate (milk), SE, at store [CC]	3.70	Carbon Cloud - Climate Hub
Cadbury Flake	0.18	Chocolate (milk), SE, at store [CC]	3.70	Carbon Cloud - Climate Hub
Nature Valley Chocolate	0.32	Peanuts, CN, at store in GB [CC]	1.30	Carbon Cloud - Climate Hub
Nature Valley Caramel	0.64	Peanuts, CN, at store in GB [CC]	1.30	Carbon Cloud - Climate Hub
Easy Peelers	2.25	Oranges, EU, at farm [CC]	0.10	Carbon Cloud - Climate Hub
Organic Fairtrade Bananas 5	2.25	Banana, CR, at store [CC]	0.55	Carbon Cloud - Climate Hub
Pink Lady Apples 4 pack	1.06	Apple, whole fruit, France, at store [CC]	0.37	Carbon Cloud - Climate Hub
Avonmore Slimline	1.00	Milk [OG 2016]	1.14	Origin Green 2016
Low Fat Milk	2.00	Milk 1.5% fat, NO at store [CC]	1.50	Carbon Cloud - Climate Hub
Fresh Milk	2.00	Milk 3% fat, NO, at store [CC]	1.80	Carbon Cloud - Climate Hub
Red Grapes	0.50	Grape [EI]	0.27	EcoInvent v3.8
Strawberries	0.40	Strawberries, fresh, GB, at store [CC]	0.91	Carbon Cloud - Climate Hub
Mango Chunks	0.28	Mango, BR, at store [CC]	0.89	Carbon Cloud - Climate Hub
Special K	0.50	Wheat, IE, at farm [CC]	0.53	Carbon Cloud - Climate Hub
Squash	1.00	Courgette [CC]	2.20	Carbon Cloud - Climate Hub
Coco Pops	0.12	Rice [EI]	1.44	EcoInvent v3.8
Barrys Tea	0.50	Tea, EU, at farm [CC]	1.80	Carbon Cloud - Climate Hub
Cadbury Milk	0.11	Chocolate (milk), SE, at store [CC]	3.70	Carbon Cloud - Climate Hub
Maltesers Fun Size	0.20	Chocolate (milk), SE, at store [CC]	3.70	Carbon Cloud - Climate Hub
Manhattan Popcorn	0.18	Sweetcorn [EI]	0.27	EcoInvent v3.8
Bounty	0.23	Chocolate (milk), SE, at store [CC]	3.70	Carbon Cloud - Climate Hub
Aero Milk	0.11	Chocolate (milk), SE, at store [CC]	3.70	Carbon Cloud - Climate Hub
Toffee Crisp	0.15	Chocolate (milk), SE, at store [CC]	3.70	Carbon Cloud - Climate Hub
Mi Wadi Lemon	1.00	Lemon [EI]	0.31	EcoInvent v3.8
Cadbury Twirl	0.24	Chocolate (milk), SE, at store [CC]	3.70	Carbon Cloud - Climate Hub
Fruit & Nut Snack Pot	0.33	Nuts (Treenuts), EU, at farm [CC]	1.70	Carbon Cloud - Climate Hub
Easy Peelers	0.75	Oranges, whole fruit, ES, at store [CC]	0.51	Carbon Cloud - Climate Hub
Organis Fairtrade Bananas 5 pack	0.75	Banana, CR, at store [CC]	0.55	Carbon Cloud - Climate Hub
Berry Jam	0.34	Sugar (white) [EI]	0.55	EcoInvent v3.8

Scope 3.1: PAPER

Light green cells - for data entry
Blue cells - Carbon footprint calculation
Assumptions

Year	Activity Data	Qty [# of sheets]	Qty [kg]	EFs [$kgCO_2e$/ kg]	Source	tCO_2e
2019	**Total**	**12,000**	**132**			**0.125**
	Paper, virgin	12,000	132	0.953	DEFRA 2019	0.125
	Paper, 100% recycled		-	0.794	DEFRA 2019	0.000
2020	**Total**	**4,500**	**49**			**0.045**
	Paper, virgin	4,500	49	0.919	DEFRA 2020	0.045
	Paper, 100% recycled			0.739	DEFRA 2020	0.000
2020	**Total**	**3,000**	**33**			**0.030**
	Paper, virgin	3,000	33	0.919	DEFRA 2021	0.030
	Paper, 100% recycled			0.739	DEFRA 2021	0.000

How many trees are needed to meet your paper requirements?



24 ⓘ	Cambrigde MA, 1992	# of trees equiv.
trees/tonne paper		**3**

Source: How many trees for a tonne of paper?

Supporting Data

6/4/22 email from Eoin Cleary: We asked our supplier for a breakdown but they haven't got back to us. You could assume we go through onex250 colour pages per month post March 2020. You can multiple this by four per month before March 2020.

	Unit		Qty
2019	colour pages		12,000
2020	colour pages		4,500
2021	colour pages		3,000

Scope 3.1: CONSUMABLES

Light green cells - for data entry
Blue cells - Carbon footprint calculation
Assumptions

Year	Material type	Quantity [kgs]	EFs [kgCO2e/ unit]	Source	tCO2e
2020	**Totals**	**57.5**			**0.22**
	Batteries - Alkaline	-	4.63	DEFRA	-
	Batteries - Average	-	12.12	DEFRA	-
	Cotton	0.3	4.53	EI	0.0
	Electrical items - IT	11.9	1.15	DEFRA	0.0
	Paper and board: board	-	0.75	DEFRA	-
	Paper and board: paper	-	0.92	DEFRA	-
	Plastics: average plastics	-	3.12	DEFRA	-
	Plastics: LDPE and LLDPE (incl. forming)	-	2.60	DEFRA	-
	Soap	27.8	5.36	EI	0.1
	Sodium Hypochlorite	11.4	2.54	EI	0.0
	Surfactant	6.1	4.01	EI	0.0
2021	**Totals**	**116.9**			**0.31**
	Batteries - Alkaline	1.6	4.63	DEFRA	0.0
	Batteries - Average	0.2	4.63	DEFRA	0.0
	Cotton	0.3	4.53	EI	0.0
	Electrical items - IT	-	24.87	DEFRA	-
	Paper and board: board	4.0	0.82	DEFRA	0.0
	Paper and board: paper	50.0	0.92	DEFRA	0.0
	Plastics: average plastics	-	3.12	DEFRA	-
	Plastics: LDPE and LLDPE (incl. forming)	13.3	2.60	DEFRA	0.0
	Soap	29.6	5.36	EI	0.2
	Sodium Hypochlorite	11.4	2.54	EI	0.0
	Surfactant	6.5	4.01	EI	0.0

Supporting Data

14/4/22 EC email: spreadsheet "spanish point2"

		55	144			
Item #	Item Description	2020 Qty	2021 Qty	Units	kg/unit	Material Type
2W00270	2Work 2-Ply Flushable Hand Towel Whit	0	2	unit	6.2	Paper and board: paper
55060	Alvodex Hand Sanitiser Gel 70% 60ml	0	30	unit	0.8	Soap
ABHSU	Automatic Bulkfill Hand Sanitiser Unit	4	0	unit	0.75	Soap
CPD01621	Fiesta White Jumbo Kitchen Roll 600 She	0	6	unit	1.27	Paper and board: paper
CPD97307	Maxima Mini Jumbo Toilet Roll 200 Met	0	3	unit	6.9	Paper and board: paper
CT300	Cotton Re-Usable Face Masks (Asstd Col	25	30	unit	0.01	Cotton
DU01975	Duracell Plus AAA Battery (Pack of 16) 8	0	2	unit	0.19	Batteries - Alkaline
DU14132	Duracell Plus AA Battery Alkaline 100% I	0	2	unit	0.59	Batteries - Alkaline
HGVC50	ViraPro 50ml Alcohol Gel Hand Sanitiser	24	0	unit	0.8	Soap
HGVC5LTR	ViraPro Hand Sanitiser Gel clear 5 Litre	1	0	unit	5.58	Soap
KF10500	Q-Connect Quick Notes 38 x 51mm Yello	0	2	unit	0.17	Paper and board: paper
KF10502	Q-Connect Quick Notes 76 x 76mm Yello	0	2	unit	0.49	Paper and board: paper
KF10503	Q-Connect Quick Notes 76 x 127mm Yel	0	2	unit	0.08	Paper and board: paper
KF17447	Q-Connect Equipment Cleaning Kit AECK	0	1	unit	0.37	Surfactant
KF20001	Q-Connect Lever Arch File A4 Black KF20	0	1	unit	4	Paper and board: board
KF73380	White Square Bin Liners 30 Litres (Pack o	0	1	unit	2.78	Plastics: LDPE and LLDPE (incl. f
KF76961	2Work Black Extra Heavy Duty Refuse Sa	0	1	unit	10.55	Plastics: LDPE and LLDPE (incl. f
MXOR100	Orcagel 100ml Alcohol Gel Hand Sanitise	0	50	unit	0.112	Soap
RH00203	HP Color Choice LASER A4 120gsm Whit	0	3	unit	1.85	Paper and board: paper
URW80	Anti-Bacterial cleaning wipes 99.9% safe	0	5	unit	0.45	Paper and board: paper
US196-EU-BK	POWER BANK 6000 MAH BLACK	0	1	unit	0.2	Batteries - Average
XEN001	Xenon Fever Defense System	1	0	unit	11.9	Electrical items - IT

4/4/22 EC email: spreadsheet "Green Start request list 04.04.22", Tesco worksheet detailing food purchases for Mar 2022

Non-Food Item	Monthly kgs	Annual kgs	Material Type	EF [kgCO2e/kg]	Source
March 2022 Totals	**1.5**	**17.5**			
Bleach	0.75	9.00	Sodium Hypochlorite	2.54	EcoInvent v3.7
Toilet Cleaner Tablets	0.20	2.40	Sodium Hypochlorite	2.54	EcoInvent v3.8
Recycling Bag	-	-	Plastics: average plastics	3.12	DEFRA 2021
Dishwasher Tablets	0.51	6.12	Surfactant	4.01	EcoInvent v3.8
Handy Bags	-	-	Plastics: average plastics	3.12	DEFRA 2021

Scope 3.1: WATER SUPPLY

Light green cells - for data entry
Blue cells - Carbon footprint calculation
Assumptions

Year	Connection	Quantity [m3]	EFs [$kgCO_2e$/unit]	Source	tCO_2e
2019	Mains Water	4,940	0.34	DEFRA 2019	1.7
2020	Mains Water	1,440	0.34	DEFRA 2020	0.5
2021	Mains Water	1,235	0.15	DEFRA 2021	0.2

Supporting Data

6/4/22 email from Eoin Cleary: our water usage was 1440m3 in 2020 and 1234.96m3 in 2021. They don't have figures for 2019, I would imagine 2019 would be approximately 4 x times the 2021 figures based on the number of staff in the office
no bills provided
Sense check: is this water usage for the entire building or just Spanish Point?
If for the entire building, suggest take 9.75% of this as per gas usage**. See also Wastewater treatment under "Waste"**

Scope 3.3: GAS (Landlord pays)

Light green cells - for data entry
Blue cells - Carbon footprint calculation
Assumptions

Year	Energy Type	Qty	Units	EFs [$kgCO_2e$/unit]	Source	TTW Scope 3 tCO_2e	WTT Scope 3 tCO_2e*	Outside of Scopes tCO_2e (biogenic)**
2019	**Totals**					**4.5**	**0.6**	
	Natural Gas	24,595	kWh (GCV)	0.185	SEAI	4.5	0.6	-
2020	**Totals**					**4.5**	**0.6**	
	Natural Gas	24,595	kWh (GCV)	0.185	SEAI	4.5	0.6	-
2021	**Totals**					**4.5**	**0.8**	
	Natural Gas	24,595	kWh (GCV)	0.185	SEAI	4.5	0.8	-

*DEFRA UK factors for Well to Tank (WTT) Scope 3 indirect emissions have been used here. SEAI does not report WTT emission factors for any energy types.

**Outside of Scopes (biogenic emissions) not accounted for. SEAI provides a single emission factors for forecourt fuels regardless of annual changes in biofuel blend.

Supporting Data

27/4/22 email from Eoin Cleary: 2021 Heating: It's gas heating, we only have the data for 2021 from our landlord. You could assume similar levels in 2019 and 2020, I don't there was any adjustment made to heating post-March 2020.

14/4/22 email Eoin Cleary: Total building gas usage data

2021: 252,257 kWh

I believe the total building floor area is 57,427 sqft so your office would represent approx. 10% or 9.75% to be precise.

9.75%	252,257	kWh	24,595

Scope 3.5: WASTE

Light green cells - for data entry
Blue cells - Carbon footprint calculation
Assumptions

Year	Waste Type	Waste [tonnes]	units	EFs [kgCO_2e/ unit]	Source	tCO_2e
2019	**Totals**	**0.045**				**3.5**
	Compost	-	tonnes	10.20	DEFRA 2019	-
	Recycling	0.045	tonnes	21.35	DEFRA 2019	0.0
	General Waste	0.168	tonnes	99.76	DEFRA 2019	0.0
	Wastewater	4,940	m3	0.71	DEFRA 2019	3.5
2020	**Totals**	**0.014**				**1.0**
	Compost	-	tonnes	10.20	DEFRA 2020	-
	Recycling	0.014	tonnes	21.32	DEFRA 2020	0.0
	General Waste	0.062	tonnes	458.18	DEFRA 2020	0.0
	Wastewater	1,440	m3	0.71	DEFRA 2020	1.0
2021	**Totals**	**0.001**				**0.3**
	Compost	-	tonnes	8.95	DEFRA 2021	-
	Recycling	0.001	tonnes	21.29	DEFRA 2021	0.0
	General Waste	0.010	tonnes	467.05	DEFRA 2021	0.0
	Wastewater	1,235	m3	0.27	DEFRA 2021	0.3

Supporting Data

4/4/22: spreadsheet "Green Start request list 04.04.22" received from Eoin Cleancy email

6/4/22 EC email: This is based on 120L bin lifts. We asked the landlord for the waste in kg, however they can only provide recent data for our entire building – see attached pdf. Spanish Point only represent a small portion of this building, I don't think we can accurately apportion Spanish Point's usage.
Note that we did not use the "Advanced Waste Report The Plaza" pdf as this was an incomplete data set for the Plaza covering Nov 2021 to Feb 2022. It illustrated 0.411t Mixed Municipal Waste and 0.305t mixed Dry Recyclables with 93.1% recycled, 6.9% landfilled and 0% energy recovery.

			MSW	Compost	Recycling	
Assumptions	140	L bin lift	20	38	8	kg / lift
		2019	1,720	-	464	total kgs lifted
		2020	640	-	144	total kgs lifted
		2021	100	-	8	total kgs lifted
% floor area occupied of building	9.75%	as per natural gas				

Month	Supplier	EUR	General Was	Compost	Recycling	TOT
2019 Total		**€ 1,865.8**	**86.0**	**0.0**	**58.0**	**144.0**
Jan-19	EastPoint Management Limited	€ 170.9	8	0	5	13
Feb-19	EastPoint Management Limited	€ 184.9	8	0	7	15
Mar-19	EastPoint Management Limited	€ 164.4	8	0	4	12
Apr-19	EastPoint Management Limited	€ 194.7	9	0	6	15
May-19	EastPoint Management Limited	€ 177.4	8	0	6	14
Jun-19	EastPoint Management Limited	€ 153.6	7	0	5	12
Jul-19	EastPoint Management Limited	€ 194.7	9	0	6	15
Aug-19	EastPoint Management Limited	€ 140.6	7	0	3	10
Sep-19	EastPoint Management Limited	€ 129.8	6	0	4	10
Oct-19	EastPoint Management Limited	€ 112.5	5	0	4	9
Nov-19	EastPoint Management Limited	€ 129.8	6	0	4	10
Dec-19	EastPoint Management Limited	€ 112.5	5	0	4	9
2020 Total		**€ 670.6**	**32.0**	**0.0**	**18.0**	**50.0**
Jan-20	EastPoint Management Limited	€ 136.3	6	0	5	11
Feb-20	EastPoint Management Limited	€ 153.6	7	0	5	12
Mar-20	EastPoint Management Limited	€ 88.7	4	0	3	7
Apr-20	EastPoint Management Limited					0
May-20	EastPoint Management Limited	€ 17.3	1	0	0	1
Jun-20	EastPoint Management Limited	€ 34.6	2	0	0	2
Jul-20	EastPoint Management Limited	€ 58.4	3	0	1	4
Aug-20	EastPoint Management Limited	€ 41.1	2	0	1	3
Sep-20	EastPoint Management Limited	€ 58.4	3	0	1	4
Oct-20	EastPoint Management Limited	€ 41.1	2	0	1	3
Nov-20	EastPoint Management Limited	€ 17.3	1	0	0	1
Dec-20	EastPoint Management Limited	€ 23.8	1	0	1	2
2021 Total		**€ 93.0**	**5.0**	**0.0**	**1.0**	**6.0**
Jan-21	EastPoint Management Limited	€ 17.3	1	0	0	1
Feb-21	EastPoint Management Limited	€ 17.3	1	0	0	1
Mar-21	EastPoint Management Limited	€ 17.3	1	0	0	1
Apr-21	EastPoint Management Limited					0
May-21	EastPoint Management Limited					0
May-21	EastPoint Management Limited					0
Jun-21	EastPoint Management Limited	€ 6.5	0	0	1	0
Jul-21	EastPoint Management Limited					1
Aug-21	EastPoint Management Limited					0
Sep-21	EastPoint Management Limited					0
Oct-21	EastPoint Management Limited	€ 17.3	1	0	0	0
Nov-21	EastPoint Management Limited	€ 17.3	1	0	0	1
Dec-21	EastPoint Management Limited	€ 6.5	0	0	1	1

EPA source: National Waste Statistics: Guidance for estimating quantity of waste generated on-site

Type of waste generated	Bin size	Typical weight when full
General residual waste	240 litre	30 kg
General residual waste	140 litre	20 kg
General residual waste	80 litre	18 kg
Recyclables (highly variable)	1100 litre	60 kg
Recyclables (highly variable)	240 litre	16 kg
Recyclables (highly variable)	140 litre	8 kg
Organic bin	140 litre	38 kg
Organic bin	240 litre	100 kg
Bag of mixed waste	240 litre	3.5-6.5 kg

Scope 3.6: FLIGHTS

Light green cells - for data entry
Blue cells - Carbon footprint calculation
Assumptions

Emission factors by DEFRA UK as per categories

				Well to Tank (WTT)	Tank to Wheel (TTW)			Well to Wheel (WTW)
Year	Category	# of flights	p.km	tCO2e	tCO2	tCH4	tN2O	tCO2e
Grand Total								
2019	**Total**	**67**	**189,331**	**3.52**	**31.99**	**0.00**	**0.16**	**35.51**
2019	DEFRA 2019|Domestic|I	1	583	0.02	0.15	0.00	0.00	0.16
	DEFRA 2019|Short|Ecor	39	57,625	0.98	8.93	0.00	0.04	9.91
	DEFRA 2019|Long|Econ	21	113,867	1.87	16.97	0.00	0.08	18.84
	DEFRA 2019|Short|Busi	4	7,612	0.19	1.77	0.00	0.01	1.96
	DEFRA 2019|Long|Busir	2	9,644	0.46	4.17	0.00	0.02	4.63
2020	**Total**	**6**	**17,938**	**0.29**	**2.65**	**0.00**	**0.01**	**2.94**
2020	DEFRA 2020|Short|Ecor	4	5,664	0.09	0.86	0.00	0.00	0.96
	DEFRA 2020|Long|Econ	2	12,274	0.20	1.78	0.00	0.01	1.98
2021	**Total**	**12**	**20,604**	**0.34**	**3.07**	**0.00**	**0.02**	**3.41**
2021	DEFRA 2021|Short|Ecor	10	11,872	0.20	1.78	0.00	0.01	1.98
	DEFRA 2021|Long|Econ	2	8,732	0.14	1.28	0.00	0.01	1.43

Supporting Data

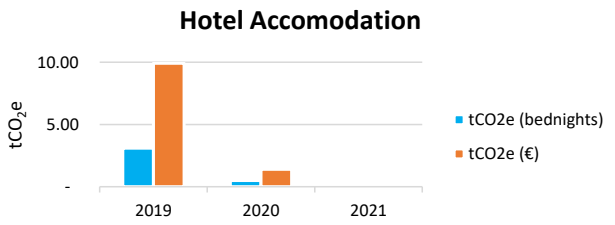
6/4/22 EC email: data from "Travel expenses - Green project, Sustineo" spreadsheet

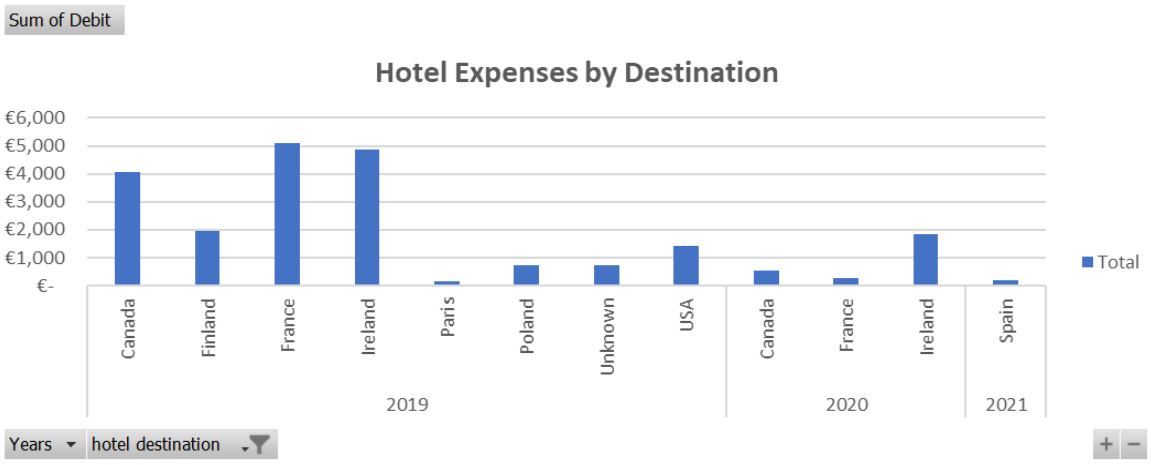
Scope 3.6: HOTEL

Light green cells - for data entry
Blue cells - Carbon footprint calculation
Assumptions

Destination	No of Pax	# of bednights	€ Total	EFs [kgCO2e/ bednights]		tCO2e
2019	**31**	**157**	**€ 19,054**			**3.1**
Canada	5	33	€ 4,047	17.4	DEFRA 2020	0.57
Finland	2	9	€ 1,952	11.8	DEFRA 2020	0.11
France	3	43	€ 5,103	7.3	DEFRA 2020	0.31
Ireland	12	43	€ 4,881	27.1	DEFRA 2020	1.17
France	1	1	€ 167	7.3	DEFRA 2020	0.01
Poland	2	9	€ 742	40.9	DEFRA 2020	0.37
Unknown	3	7	€ 745	43.4	DEFRA 2020	0.30
United States	3	12	€ 1,418	21.7	DEFRA 2020	0.26
2020	**6**	**21**	**€ 2,678**			**0.5**
Canada	1	4	€ 544	17.4	DEFRA 2020	0.07
France	1	2	€ 274	7.3	DEFRA 2020	0.01
Ireland	4	15	€ 1,860	27.1	DEFRA 2020	0.41
2021	**1**	**2**	**€ 207**			**0.04**
Spain	1	2	€ 207	18.7	DEFRA 2021	0.04

Year	€ spent	tCO_2e (bednights)	tCO_2e (€)
2019	€ 19,054	3.10	9.92
2020	€ 2,678	0.49	1.40
2021	€ 207	0.04	0.11





Supporting Data

6/4/22 EC email: data from "Travel expenses - Green project, Sustineo" spreadsheet

Assumed 1 person per transaction and estimated bednights to be around €100 per night, unless noted otherwise.

Scope 3.6: Business Travel - Land

Light green cells - summary data provided
Blue cells - Carbon footprint calculation
Assumptions

Year	Activity	Qty	Units	EFs [kgCO2e/ unit]	Source	tCO_2e
2019	**Total**					**12.2**
	Bus (average*)	40	p.km	0.13	DEFRA 2019	0.0
	Car Rental (average car, fossil fuel*)	5,247	km	0.22	DEFRA 2019	1.2
	Mileage (average car, fossil fuel*)	3,615	km	0.22	DEFRA 2019	0.8
	Taxi (road transport)	€ 10,914	€	1.00	DEFRA 2019	11.0
	Train (national rail*)	9,219	p.km	0.05	DEFRA 2019	0.5
2020	**Total**					**2.5**
	Bus (average*)	308	p.km	0.13	DEFRA 2020	0.0
	Car Rental (average car, fossil fuel*)	389	km	0.22	DEFRA 2020	0.1
	Mileage (average car, fossil fuel*)	1,382	km	0.22	DEFRA 2020	0.3
	Taxi (road transport)	€ 2,198	€	1.01	DEFRA 2020	2.2
	Train (national rail*)	342	p.km	0.04	DEFRA 2020	0.0
2021	**Total**					**0.5**
	Bus (average*)	208	p.km	0.13	DEFRA 2021	0.0
	Car Rental (average car, fossil fuel*)	-	km	0.22	DEFRA 2021	-
	Mileage (average car, fossil fuel*)	230	km	0.22	DEFRA 2021	0.1
	Taxi (road transport)	€ 440	€	1.00	DEFRA 2021	0.4
	Train (national rail*)	1,078	p.km	0.04	DEFRA 2021	0.0

*DEFRA Well to Wheel (WTW) emission factors

Supporting Data

6/4/22 EC email: data from "Travel expenses - Green project, Sustineo" spreadsheet

Bus - origin and destination provided from which we worked out p.km (see below)

Car Rental - origin and destination provided for 40% of car rental expenses from which we worked out p.km and then extrapolated for each year (see below).

Mileage - km provided by client

Taxi - trips unknown, only € spend provided

Train - origin and destination, # of passengers provided from which we worked out p.km

Category	Origin	Destination	Trip distance	One-way(1)/ # of passeng	p.km	€ balance	Year
Bus Total					**556**	**€ 140.50**	
Bus	East point business plaza	Airport	12	1	1	12	€ 14	2019
Bus	Airport	City Centre	14	2	1	28	€ 14	2019
Bus	Ballycullen	Christchurch	11	28	1	308	€ 93	2020
Bus	Dublin	Galway	208	1	1	208	€ 20	2021
Extrapolate to full € Amt 2019					**5,247**	**€ 1,783.60**	
Extrapolate to full € Amt 2020					**389**	**€ 132.20**	
Extrapolate to full € Amt 2021					**0**	**€ -**	
Car Rental Total (where origin destination provided)					**2,260**	**€ 768.19**	
Car Rental	Rialto	Naas	29	2	1	58	€ 55	
Car Rental	Rialto	Cork	251	2	1	502	€ 84	
Car Rental	Dublin	Belfast	166	2	1	332	€ 191	
Car Rental	Dublin	Belfast	166	2	1	332	€ 85	
Car Rental	Dublin	Cork	251	2	1	502	€ 63	
Car Rental	Dublin	Tullamore	101	2	1	202	€ 161	
Car Rental	Dublin	Belfast	166	2	1	332	€ 130	

Client: Spanish Point Technologies Ltd (55 FTEE, Dublin-based office)
Boundary: The Plaza EastPoint Business Park, Clontarf -Dublin 3, Dublin, D03 E5R6
Base Year: 2019 calendar year
Date of request: 22-Mar-22
Last date for receipt of data: 22-Apr-22

We aim to gather maximum carbon data on your business including direct emissions (under your direct control) and indirect emissions (not under your control but resulting from the day-to-day operation of your business). Suggest we focus on 2019 calendar year as your baseline, to avoid the effects of Covid-19. Please advise if you wish to have an alternative base year period, or if the boundary above is incorrect. Suggest you provide the following information below, but further information may be required depending on the depth and direction of the analysis you wish to pursue:

Count 15 /19

Item	Description	Years required	Complete	Date rec'd	Comments
1. Expenditure Report	Account expenditure excluding salaries: this will help us identify potential carbon hotspots before we drill into the detail. Include all purchases and business travel. We use this for a Scope 3 screening exercise for your base year only, and it helps us ascertain if anything significant has been overlooked.	2019-2021	Yes	11/04/2022	
2. Refrigerants	Top up quantities and type, e.g. kg of R404A	2019-2021	N/A		Two fridges in office, no extra top ups etc.
3. Utility Bills					
Electricity	Online access for electricity and gas. Submetered data for any renewable contributions, e.g. solar PV, wind, etc	2019-2021	Yes	04/04/2022	"Green Start request list 04.04.22" client spreadhseet analysis
Heating	Please confirm with Landlord that no natural gas boilers serve the building and are used to heat your office, i.e. electric only. If natural gas, can landlord estimate kWh attributable to your office, e.g. 1/6th floor area x annual kWh gas billed?	2019-2021	Yes	14/04/2022	Email EC: Gas heating confirmed with building qty and % floor area occupied by client company
Waste	Waste collections in spreadsheet format. Can landlord provide data and allocation to your premises? WEEE and batteries annually?	2019-2021	Yes	04/04/2022	Number of 120L binlifts provided in "Green Start request list 04.04.22". Also more recent pdf analysis from Thorntons for Nov 21-Feb 22 (latter not used)
Water	Water bills can be pdf scans. Can landlord provide data and allocation to your premises?	2019-2021	Yes	06/04/2022	email from Eoin Cleary with quantities
4. Business Travel		2019-2021			
Flights	If you have a travel agent, ask for a statement detailing flight details with passenger kilometres.	2019-2021	Yes, p.km	06/04/2022	email from Eoin Cleary with € spent
Fuels	Fuelcard statement for forecourt diesel and petrol for company fleet in spreadsheet format; deliveries of bulk fuels to site including LPG, biomass, etc	2019-2021	Yes, €		We don't have this data. Only have diesel purchases from various petrol stations. € spend provided
Company Electric Cars	2 x Battery Electric Vehicles (BEVs): can we get kWh used annually for both vehicles? Might be on vehicle trip computer, or from EV charge point data. Please confirm BEVs have been in place since Jan 2019 and therefore no petrol/diesel used since this time.	2019-2021	Yes, €		Director 1 has had a Tesla from 2018 onwards. Eoin is waiting for his data. Director 2 had a BMW diesel car from 2018 to Mar 2021 - the annual mileage was 15k per annum. Director 2 now has an electric car from June 2021 - annual mileage of 15k per annum, he's not sure of the kWh data.
Public Transport	Consider also taxis, trains, buses, etc	2019-2021	Yes, p.km (€ for taxis)	06/04/2022	email from Eoin Cleary with quantities
Expensed mileage	€ spend by engine size if possible	2019-2021	Yes, km	06/04/2022	email from Eoin Cleary with € spent
5. Staff commute	We can provide a commuter questionnaire. Online response is best if this can be shared with your staff via email or WhatsApp.	2019-2021	no		
6. Supply chain consumal	Quantities of consumables in litres, numbers, kgs: e.g., office paper, etc. Ask your suppliers for a spreadsheet of deliveries itemising products, #, kg, etc	2019-2021	Yes	14/04/2022	We can't get to this level of detail
Paper	Office paper / dividers	2019-2021	Yes	06/04/2022	email from Eoin Cleary with quantities
Janitorial	Cleaning products	2019-2021	Yes	14/04/2022	EC email: spreadsheet "spanish point2"
Food	Canteen purchases – preferably kg of food rather than €. If Tesco deliveries, maybe provide us with a typical week of purchases or annual € spend	2019-2021	Yes	04/04/2022	EC email: spreadsheet "Green Start request list 04.04.22"
7. Outputs	Client data emissions could be most significant, so please give this item some consideration! e.g. TBs of data storage used, # of licenses, server hr usage, etc	2019-2021	No		27/4/22 EC email: I looked into the Azure and its not based on GB or TB storage, its mainly based on types of services/operations which customers choose to have open at any given time. The Microsoft billing gives quantity of units (e.g. 5 units of one particular service were used for the period) rather than hours or GB/TB stats. There could be 1000+ data categories, it means that the data provided by Microsoft can't easily be interpreted for energy consumption. 25/4/22 EC email: We spoke with Microsoft again as their app can't be used to measure our Azure usage. We've gone back to them to ask for a specific Sustainability report, it's unclear if they'll provide one free of charge but we're waiting for a response. It might be a few more weeks before this is cleared up, we might have to go with your best estimates. I'm not sure how you've calculated the cloud costs per your report? In the meantime Microsoft have sent us a presentation about sustainability reports. It doesn't provide much detail and is very
8. Environmental Initiath	Before and after activity metrics on any environmental savings you believe you have made we will endeavour to work out carbon savings, e.g. eliminating the use of disposable cups would require material type and # of disposable cups purchased in previous year versus # of reusable cups currently purchased	2019-2021	No		First action is to remove disposable cups in the office