



Greenhouse gas (GHG) accounting report

South Pole

Reporting period: 01/01/2018-31/12/2018

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South Pole

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Acronyms and abbreviations

BEIS	Department for Business, Energy and Industrial Strategy, UK
CH ₄	Methane
CO ₂	Carbon dioxide
CO ₂ e	Carbon dioxide equivalent
GHG	Greenhouse gas
GJ	Giga joule
GRI	Global Reporting Initiative
GWP	Global warming potential
IPCC	Intergovernmental Panel on Climate Change
MWh	Megawatt hour
N ₂ O	Nitrous oxide
pkm	Passenger-kilometre
t	tonne
WBCSD	World Business Council for Sustainable Development
WRI	World Resources Institute

Executive summary

The total greenhouse gas (GHG) emissions of South Pole’s operations for the calendar year 2018 added up to 2,316.7 tonnes (t) of carbon dioxide equivalent (CO₂e).

The distribution of the 2018 GHG emissions by source and by scope is presented in Figure 1 and Figure 2, respectively.

The data inventory in 2018 was extended to include emissions from refrigerants, freight, employee commuting and energy related activities.

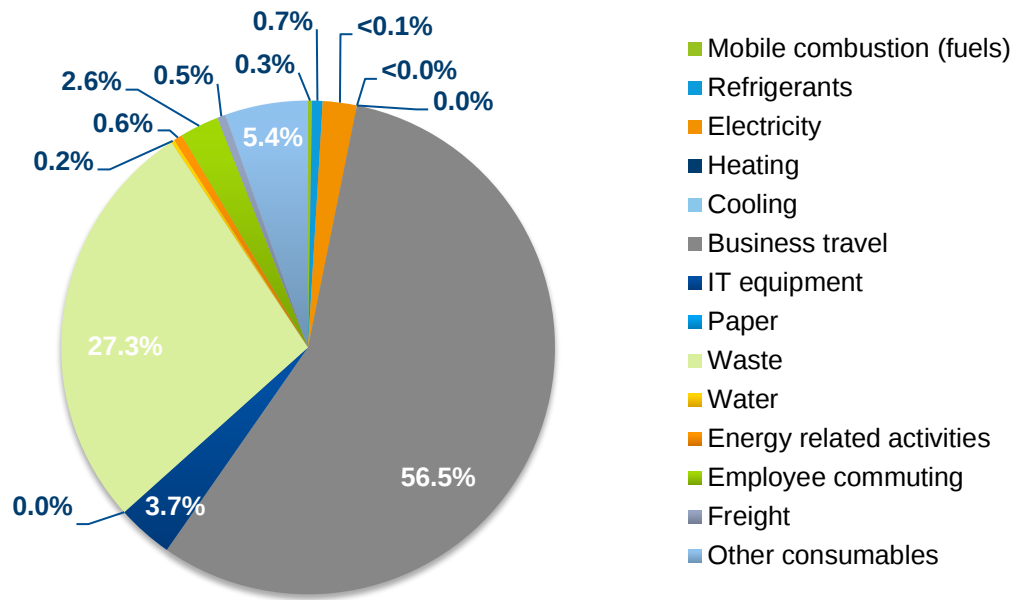


Figure 1: Sources of GHG emissions in 2018

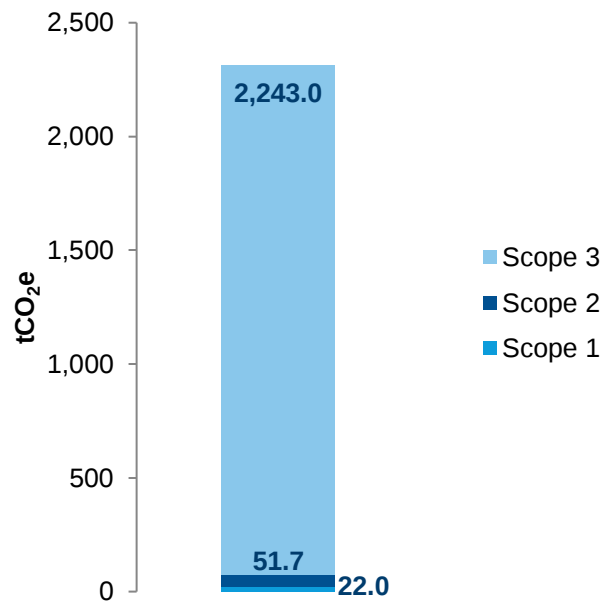


Figure 2: GHG emissions by Scope in 2018

1 Introduction

This report provides a summary of the greenhouse gas (GHG) emissions from South Pole's operations from January 1st to December 31st, 2018.

South Pole is a leading sustainability solution provider. Initially focused on the development of premium carbon emission reduction projects, the company now offers a wide spectrum of sustainability services, including climate policy and strategy advisory. Its expertise covers the areas of climate change, forests and land use, water, and sustainable cities and buildings, as well as renewable energy and energy efficiency. The company is determined to help its clients grow their business with ground-breaking solutions, which positively impact the environment and the needs of society. Table 1 below presents general information about the company and the reporting period.

Table 1: Company information

Company information	
Website	www.southpole.com
Business area	consultancy services
Reporting period	2018
Number of employees	180

1.1 System boundaries

1.1.1 Organisational boundaries

System boundaries were defined by the control approach, i.e. covering all entities where South Pole has operational control. The 2018 accounting included offices in Amsterdam, Australia¹, Bangkok, Beijing, Colombia², Jakarta, London, Mexico City, New Delhi, Singapore, Stockholm and Zurich³.

1.1.2 Operational boundaries

The GHG accounting covers direct emissions from stationary and mobile combustion and leakage of refrigerants (Scope 1), indirect emissions from purchased electricity, heat and cooling (Scope 2) and other indirect emissions from business travel, IT equipment and paper (Scope 3). The 2018 GHG accounting was extended to include emissions from refrigerants, accommodation, freight and other consumables for every office. Emissions from other consumables such as food and catering, telecommunications, printing and publishing, internet, office supply, phone and postage have been estimated.

The GHG accounting and reporting procedure is based on the 'Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard Revised edition (GHG Protocol)', the most widely used international accounting tool for government and business leaders to understand, quantify, and manage GHG emissions. It was developed by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD) in 2004.

According to the GHG Protocol, emissions are divided into direct and indirect emissions. Direct emissions come from owned or controlled sources by the reporting entity. Indirect emissions are

¹ The Australia office includes operations in Melbourne and Sydney.

² The Colombia office includes operations in Bogotá and Medellín.

³ The Zurich office also includes employees based in Addis Ababa, Berlin, Helsinki, Madrid, Paris, Santiago de Chile, Toronto and Valencia.

generated by the reporting entity's activities, yet they occur at sources owned or controlled by another entity.

The direct and indirect emissions are:

- **Scope 1:** all direct GHG emissions, such as combustion of fuels in stationary and mobile sources (vehicles).
- **Scope 2:** indirect GHG emissions from the generation of purchased electricity, heat or cooling consumed by the company.
- **Scope 3:** other indirect emissions, such as business travels, IT equipment, paper usage, waste, water usage, energy related activities⁴, and employee commuting.

1.2 Data inventory

South Pole has provided data on fuel usage for company and leased vehicles, purchased electricity, heating, cooling, business travel, IT equipment, paper use, waste generation, water use and employee commuting.

The choice of assumptions and emission factors has followed a conservative approach. Unless otherwise specified, all emissions in this report are given in tonnes of CO₂ equivalents (tCO₂e). Details of the assumptions and emission factors used in the GHG accounting are included in Annex I.

All the tables and graphs are presented in Section 2. Results have been elaborated based on the calculations conducted using the data provided by South Pole.

Please note that due to the rounding of numbers, the values may not add exactly to the total provided.

⁴ Fuel and energy related activities comprise well-to-tank (WTT) emissions from fuels and emissions associated to electricity transmission and distribution (T&D) losses. WTT emissions account for the upstream emissions associated with extraction, refining and transportation of the raw fuel sources to an organisation's site (or asset), prior to combustion. T&D accounts for the emissions associated with grid losses (the energy loss that occurs in getting the electricity from the power plant to the organisations that purchase it).

2 Results

Based on the information provided by South Pole, the total GHG emissions for 2018 are 2,470.0 tonnes of CO₂ equivalent (tCO₂e).

Table 2 below illustrates key figures in terms of GHG emissions (in CO₂) and energy intensity (in gigajoules (GJ)) relevant to corporate sustainability reporting in accordance with the GHG Protocol.

Table 2: Key figures according to the Global Reporting Initiative (GRI)

GRI G4	GRI standards	Topic	Quantity	Unit
G4-EN3	302-1	Direct energy consumption by primary source:	96.0	GJ
		• diesel ⁵	17.1	GJ
		• petrol ⁶	78.9	GJ
		• natural gas ⁷	<0.1	GJ
G4-EN3	302-1	Indirect energy consumption by primary source:	432.5	GJ
		• renewable electricity	18.3	GJ
		• grid electricity	337.6	GJ
		• district heating	3.5	GJ
		• cooling	0.0	GJ
G4-EN15	305-1	Direct GHG emissions (Scope 1)	22.3	tCO ₂ e
G4-EN16	305-2	Energy indirect GHG emissions (Scope 2)	51.7	tCO ₂ e
G4-EN17	305-3	Other indirect GHG emissions (Scope 3)	2,396.0	tCO ₂ e
G4-EN18	305-4	GHG emission per employee	13.7	tCO ₂ e per employee

Table 3 and Figure 3 below presents the breakdown of the GHG emissions by scope and by source, respectively.

⁵ Fuel for leased vehicles from the Bangkok office.

⁶ Fuel for company vehicles from the Jakarta office and leased vehicles from Bangkok, Mexico City and Zurich office.

⁷ Fuel for leased vehicles from New Delhi office.

Table 3: GHG emissions by Scope 2018

Scope	Emissions (tCO ₂ e)	% of total
Scope 1: direct GHG emissions	22.3	0.9%
Scope 2: indirect GHG emissions from purchased electricity, heat and cooling	51.7	2.1%
<i>Gross emissions without contractual instruments</i>	55.9	
<i>Avoided emissions from contractual instruments⁸</i>	-4.3	
Scope 3: other indirect GHG emissions	2,396.0	97.0%
Total GHG emissions	2,470.0	100.0%

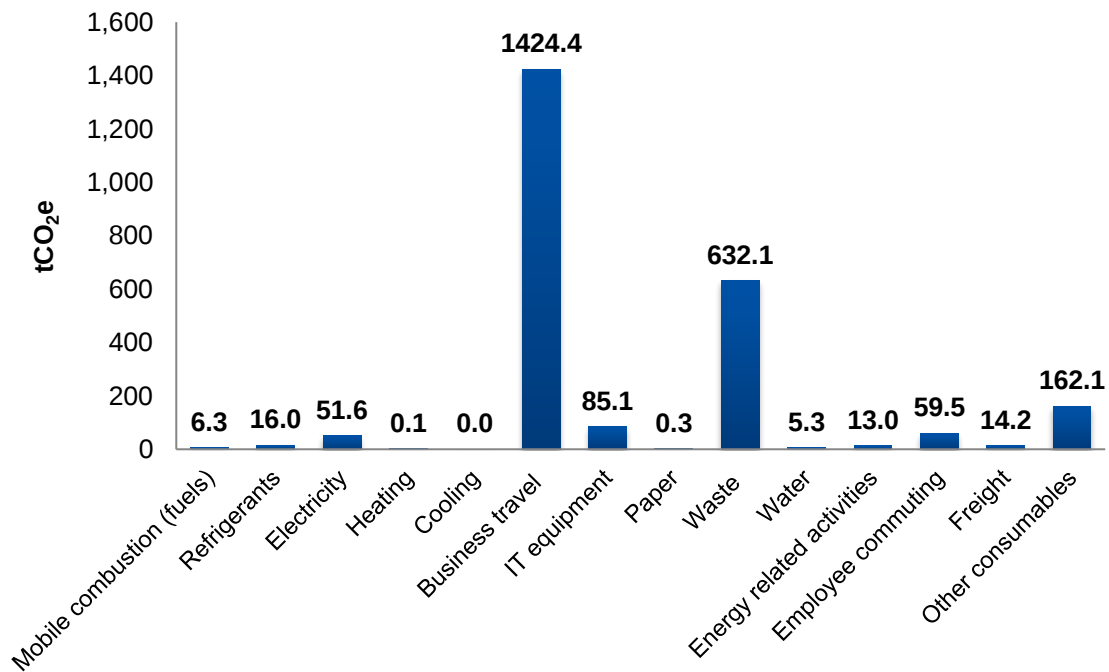


Figure 3: GHG emissions by source 2018

Table 4 presents the GHG emissions by scope and activity, including details of the emission sources. Figure 4 below presents the emissions per employee in the years 2016, 2017 and 2018.

⁸ South Pole has two offices that procure renewable energy: 1) Stockholm office, which procures Green Power, and 3) Melbourne office, which procures a renewable power mix from Australian Green Power.

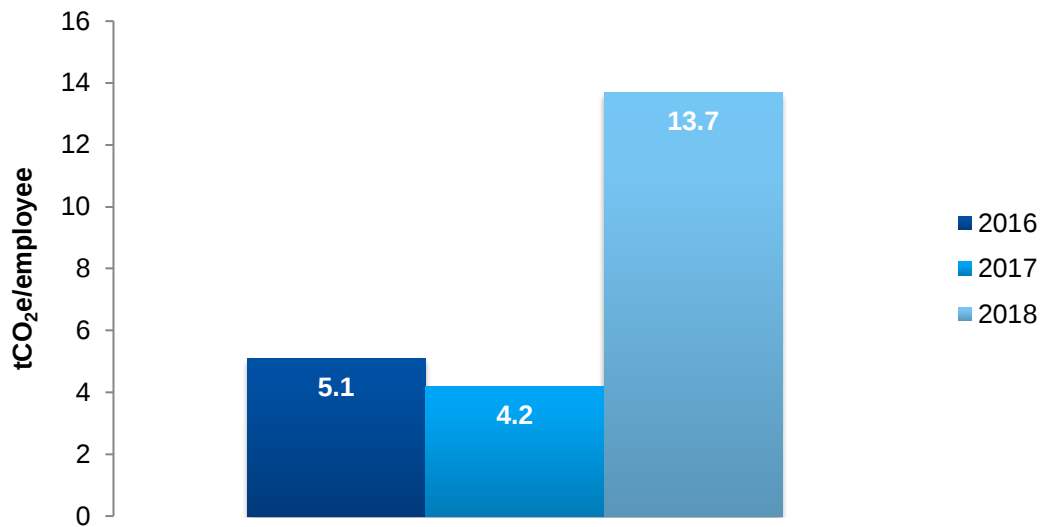


Figure 4: Emissions per employee in 2016, 2017 and 2018

Table 4: GHG emissions by Scope and activity 2018

Activity	Consumption	Unit	Emissions (tCO ₂ e)	Percentage of total (%)
Scope 1: direct GHG emissions			22.3	0.9%
Mobile combustion	2,793.8	Litres	6.0	0.3%
<i>Fuel, directly reported⁹</i>			0.3	<0.1%
Diesel	448.0	Litres	0.8	<0.1%
Petrol	2,288.2	Litres	5.2	0.2%
Natural gas	57.6	Litres	0.1	<0.1%
Refrigerants	22.2	kg	16.0	0.6%
R407C	9.0	kg	16.0	0.6%
R600A	13.2	kg	<0.1	<0.1%
Scope 2: indirect GHG emissions from purchased electricity and heat			51.7	2.1%
Electricity	98.9	MWh	51.6	2.1%
Grid	93.8	MWh	32.5	2.1%
Renewable	5.1	MWh	0.0	0.0%
Heating	1.0	MWh	0.1	<0.1%
District heating ¹⁰	1.0	MWh	0.1	<0.1%
Electricity, grid	0.0	MWh	0.0	0.0%
Cooling	0.0	MWh	0.0	0.0%
Electricity, grid	0.0	MWh	0.0	0.0%

⁹ Emissions offset via the Cornercard Climate Credit Card. All emissions of 0.3 tCO₂e are offset through the credit card provider.

¹⁰ 1.0 tCO₂e has been offset by the building owner, Hufvudstaden. Total net emissions from district heating are 1.0 tCO₂e.

Activity	Consumption	Unit	Emissions (tCO ₂ e)	Percentage of total (%)
Scope 3: other indirect GHG emissions			2,396.0	97.0%
Business travel			1,424.4	57.7%
Flights	6,446,429.0	pkm	1,171.0	47.4%
<463 km	74,598.3	pkm	24.7	1.0%
463-3,700 km	1,340,523.6	pkm	237.5	9.6%
>3,700 km	5,031,307.1	pkm	908.8	36.8%
<i>Flights, directly reported¹¹</i>			73.8	3.0%
<i>Transport, directly reported¹²</i>			17.2	0.7%
<i>Car rent, directly reported¹³</i>			<0.1	<0.1%
Car	27,860.7	km	6.5	0.3%
Taxi	37,965.7	km	7.2	0.3%
Uber	8,133.5	km	1.5	0.1%
Train - local	9,850.8	pkm	0.5	<0.1%
Train - long distance	137,940.0	pkm	1.9	0.1%
Metro / subway	12,164.4	km	0.5	<0.1%
Tram	4,070.6	pkm	0.2	<0.1%
Bus	10,374.3	pkm	1.5	0.1%
Ferry	8,435.1	pkm	0.2	<0.1%
Public transport (unspecified)	91,251.4	pkm	13.5	0.5%
Accommodation			128.7	5.2%
<i>Hotel stay, directly reported¹⁴</i>			24.2	1.0%
Hotel stay	8,033.6	185,886	69.9	2.8%
Hotel stay	77.0	479	34.5	1.4%
IT equipment	385.0	No. of devices	39.6	3.4%
Desktop	1.0	No. of devices	0.1	<0.1%
Laptop	181.0	No. of devices	12.0	0.5%
Server	17.0	No. of devices	0.1	<0.1%
Printer	8.0	No. of devices	0.3	<0.1%
Projector	3.0	No. of devices	<0.1	<0.1%
Monitor	127.0	No. of devices	2.3	0.1%
Mobile phone	5.0	No. of devices	0.1	<0.1%
External hard drive	5.0	No. of devices	0.3	<0.1%

¹¹ Emissions offset via the Cornercard Climate Credit Card. All emissions of 73.8 tCO₂e are offset through the credit card provider.

¹² Emissions offset via the Cornercard Climate Credit Card. All emissions of 17.2 tCO₂e are offset through the credit card provider.

¹³ Emissions offset via the Cornercard Climate Credit Card. All emissions of 0.01 tCO₂e are offset through the credit card provider.

¹⁴ Emissions offset via the Cornercard Climate Credit Card. All emissions of 24.2 tCO₂e are offset through the credit card provider.

Activity	Consumption	Unit	Emissions (tCO ₂ e)	Percentage of total (%)
Television	3.0	No. of devices	0.2	<0.1%
Multifunctional printer (scanner)	1.0	No. of devices	0.1	<0.1%
Office telephone	31.0	No. of devices	24.1	1.0%
Other IT devices	106,936.0	EUR	45.4	2.0%
Paper	57,834.0	No. of sheets	0.3	<0.1%
Paper consumption, unspecified	47,194.0	No. of sheets	0.2	<0.1%
Paper consumption, recycled	10,640.0	No. of sheets	0.0	<0.1%
Waste	1,041.3	Tonnes	632.1	25.6%
General	1,029.7	Tonnes	622.3	25.3%
Paper	7.4	Tonnes	7.7	0.3%
Food	3.3	Tonnes	2.1	0.1%
Metal	<0.1	Tonnes	<0.1	<0.1%
Plastic	0.9	Tonnes	<0.1	<0.1%
Water	10,023.1	m³	5.3	0.2%
Water supply	5,011.5	m ³	2.0	0.1%
Water treatment	5,011.5	m ³	3.4	0.2%
Energy related activities			13.0	0.5%
WTT fuels	2,793.8	Litres	1.5	0.1%
T&D electricity	98.9	MWh	11.5	0.5%
Employee commuting	766,208.1	pkm	59.5	2.4%
Bicycle/walking	120,233.5	pkm	0.0	0.0%
Tram	16,337.2	pkm	0.7	<0.1%
Train	250,316.0	pkm	13.2	0.5%
Bus	91,879.5	pkm	13.6	0.6%
Car	74,514.0	pkm	17.4	0.7%
Motorbike	51,493.2	pkm	7.5	0.3%
Subway/metro	161,082.7	pkm	7.0	0.3%
Taxi	352.0	pkm	0.1	<0.1%
Freight			14.2	0.6%
<i>Mail-order business, directly reported¹⁵</i>			1.6	0.1%
Air freight	49.4	tkm	0.1	<0.1%
Road freight	0.5	tkm	0.0	<0.1%
Air freight	5,558.5	EUR	11.3	0.5%
Road freight	1,548.8	EUR	1.2	0.1%
Other consumables			162.1	6.6%

¹⁵ Emissions offset via the Cornercard Climate Credit Card. All emissions of 1.6 tCO₂e are offset through the credit card provider.

Activity	Consumption	Unit	Emissions (tCO ₂ e)	Percentage of total (%)
<i>Restaurant, directly reported¹⁶</i>			8.0	0.3%
<i>Leisure and entertainment, directly reported¹⁷</i>			1.0	<0.1%
<i>Retail, directly reported¹⁸</i>			17.2	0.7%
<i>Others, directly reported¹⁹</i>			9.9	0.4%
Food and drink products	117,517.4	EUR	85.5	3.5%
Printing and publishing	5,734.0	EUR	1.5	0.1%
Telecommunications	22,791.0	EUR	7.0	0.3%
Internet	5,620.0	EUR	0.9	<0.1%
Office supply	66,877.0	EUR	28.4	1.2%
Phone	6,727.2	EUR	1.8	0.1%
Postage	2,769.4	EUR	0.8	<0.1%
Total GHG emissions			2,470.0	100.0%
Offsets by suppliers (see footnotes)			153.23	
Total net GHG emissions			2,316.7	

Table 5 below presents the difference in GHG emissions reported in 2017 and 2018, including the percentage difference between the years. The emission increase in 2018 is mainly because a few categories are added, such as refrigerants, accommodations, freight, and other consumables. Besides, reporting for 2018 has been made more detailed with refined calculation methodology for several emissions categories.

Table 5: GHG emissions over time 2017-2018

Activity	2017 (tCO ₂ e)	2018 (tCO ₂ e)	Difference 2017-2018 (%)
Scope 1: direct GHG emissions	2.4	22.3	829%
Mobile combustion	2.4	6.3	163%
<i>Fuel, directly reported</i>	-	0.3	-
Diesel	-	0.8	-
Petrol	2.4	5.2	117%
Natural gas	-	0.1	-
Refrigerants	-	16.0	100%
R407C	-	16.0	-
R600A	-	0.0	-

¹⁶ Emissions offset via the Cornercard Climate Credit Card. All emissions of 8.0 tCO₂e are offset through the credit card provider.

¹⁷ Emissions offset via the Cornercard Climate Credit Card. All emissions of 1.0 tCO₂e are offset through the credit card provider.

¹⁸ Emissions offset via the Cornercard Climate Credit Card. All emissions of 17.2 tCO₂e are offset through the credit card provider.

¹⁹ Emissions offset via the Cornercard Climate Credit Card. All emissions of 9.9 tCO₂e are offset through the credit card provider.

Activity	2017 (tCO ₂ e)	2018 (tCO ₂ e)	Difference 2017-2018 (%)
Scope 2: indirect GHG emissions from purchased electricity, heat and cooling	44.7	51.7	16%
Electricity	39.0	51.6	32%
Grid	39.0	51.6	32%
Renewable	0.0	0.0	0%
Heat	0.2	0.1	-66%
District heating	0.2	0.1	-66%
Electricity, grid	0.0	0.0	-100%
Cooling	5.5	0.0	-100%
Electricity, grid	5.5	0.0	-100%
Scope 3: other indirect GHG emissions	779.0	2,396.0	208%
Business travel	724.2	1,424.4	97%
Flights	651.9	1,171.0	80%
Short haul	15.4	24.7	60%
Medium haul	135.2	237.5	76%
Long haul	425.6	908.8	114%
Flights, directly reported	75.7	73.8	-2%
Transport, directly reported	-	17.2	-
Car rent, directly reported	0.1	0.0	-88%
Car	16.3	6.5	-60%
Taxi	17.1	7.2	-58%
Uber	-	1.5	-
Train – local	3.0	0.5	-83%
Train – long distance	-	1.9	-
Metro/subway	0.9	0.5	-41%
Tram	0.1	0.2	225%
Bus	7.0	1.5	-78%
Ferry	0.0	0.2	1,998%
Public transport (unspecified)	4.9	13.5	176%
Accommodation	1.2	128.7	10,664%
Hotel stay, directly reported	-	24.2	-
Hotel stay	0.0	104.5	100%
IT equipment	22.1	85.1	286%
Desktop	0.1	0.1	-44%
Laptop	17.0	12.0	-29%
Server	0.3	0.1	-62%
Printer	0.7	0.3	-59%
Projector	0.0	0.0	-32%

Activity	2017 (tCO ₂ e)	2018 (tCO ₂ e)	Difference 2017-2018 (%)
Monitor	1.5	2.3	52%
Mobile phone	0.6	0.1	-84%
External hard drive	1.6	0.3	-83%
Television	0.1	0.2	152%
Multifunctional printer (Scanner)	-	0.1	-
Office telephone	0.0	24.1	100%
Other IT devices	-	45.4	-
Paper	0.6	0.3	-55%
Paper consumption, unspecified	0.4	0.2	-41%
Paper consumption, recycled	0.2	0.0	-79%
Waste	11.1	632.1	5,620%
General	8.5	622.3	7,211%
Paper	2.5	7.7	207%
Food	0.0	2.1	12,642%
Metal	-	0.0	-
Plastic	-	0.0	-
Water	8.2	5.3	-35%
Water supply	2.7	2.0	-28%
Water treatment	5.5	3.4	-38%
Energy related activities	6.3	13.0	107%
WTT fuels	0.6	1.5	158%
T&D electricity	5.6	11.5	105%
Employee commuting	1.2	59.5	4,861%
Bicycle/walking	0.0	0.0	0%
Tram	0.1	0.7	1,280%
Train	0.5	13.2	2,635%
Bus	0.7	13.6	1,885%
Car	-	17.4	-
Motorbike	-	7.5	-
Subway/ metro	-	7.0	-
Taxi	-	0.1	-
Freight	0.0	14.2	100%
<i>Mail-order business, directly reported</i>	-	1.6	-
Air freight	-	0.1	-
Road freight	-	0.0	-
Air freight	-	11.3	-
Road freight	-	1.2	-
Other consumables	5.4	162.1	2,902%

Activity	2017 (tCO ₂ e)	2018 (tCO ₂ e)	Difference 2017-2018 (%)
<i>Restaurant, directly reported</i>	-	8.0	-
<i>Leisure and entertainment, directly reported</i>	-	1.0	-
<i>Retail, directly reported</i>	-	17.2	-
<i>Others, directly reported</i>	-	9.9	-
Food and drink products	5.3	85.5	1,517%
Printing and publishing	-	1.5	-
Telecommunications	0.1	7.0	12,125%
Internet	0.0	0.9	100%
Office supply	-	28.4	-
Phone	-	1.8	-
Postage	0.0	0.8	100%
Total GHG emissions	826.1	2,470.0	199%

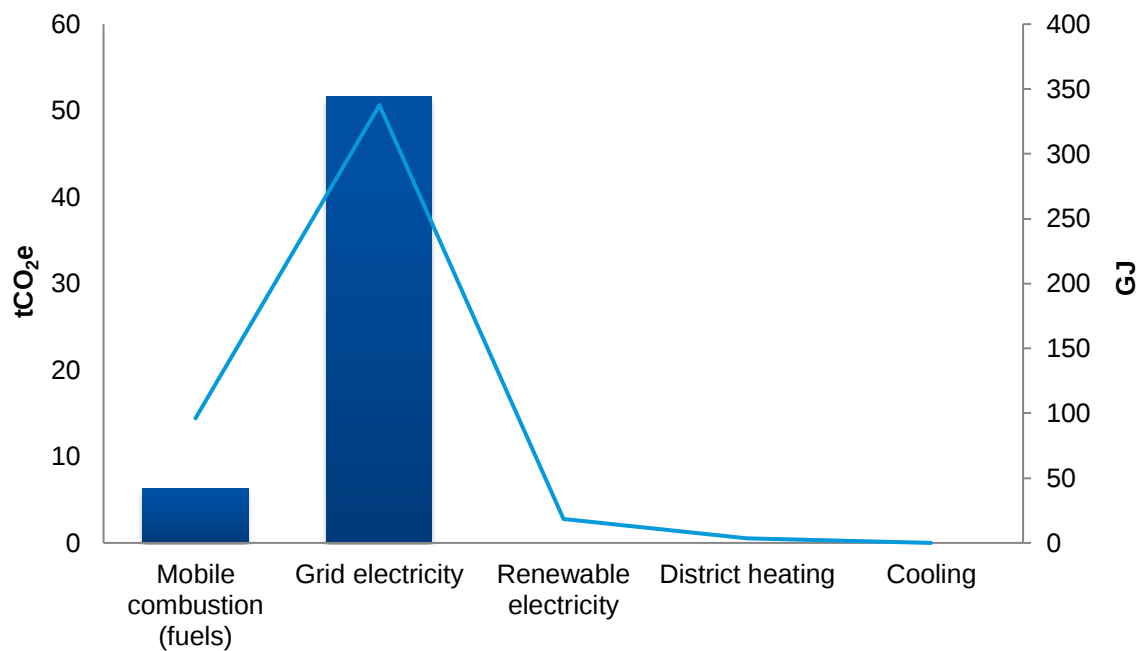


Figure 5: Scope 1 and Scope 2 GHG emissions by source in tCO₂e (blue bars) vs energy intensity in GJ (blue line).

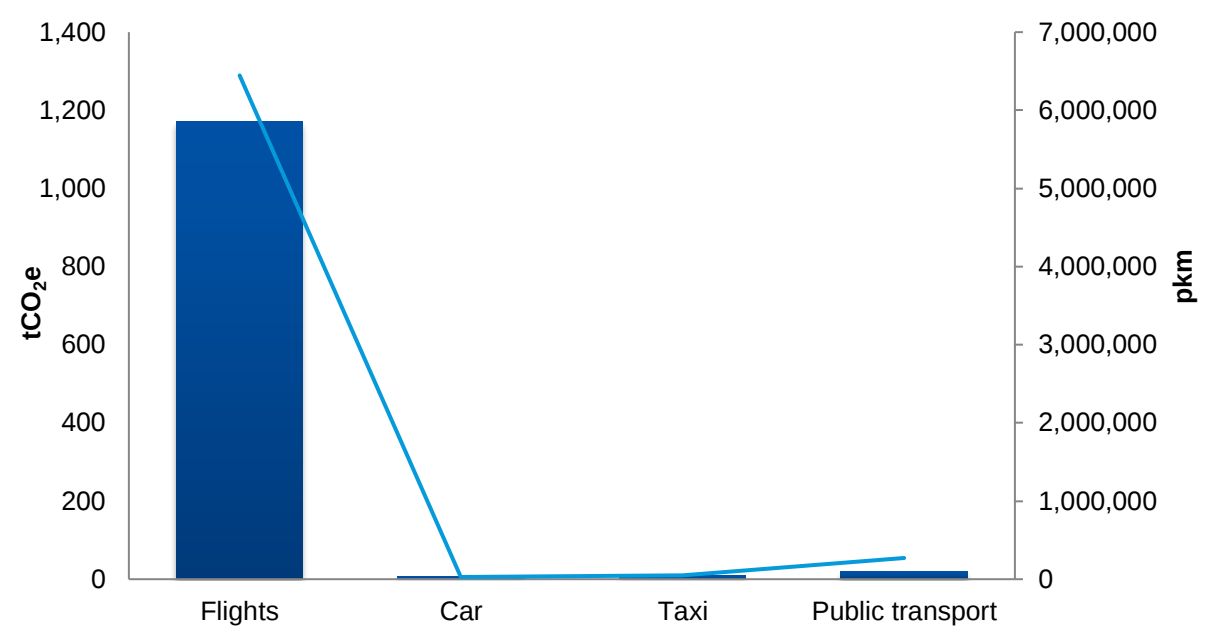


Figure 6: GHG emissions from business travel in tCO₂e (blue bars) and distance travelled in passenger-kilometres (blue line).

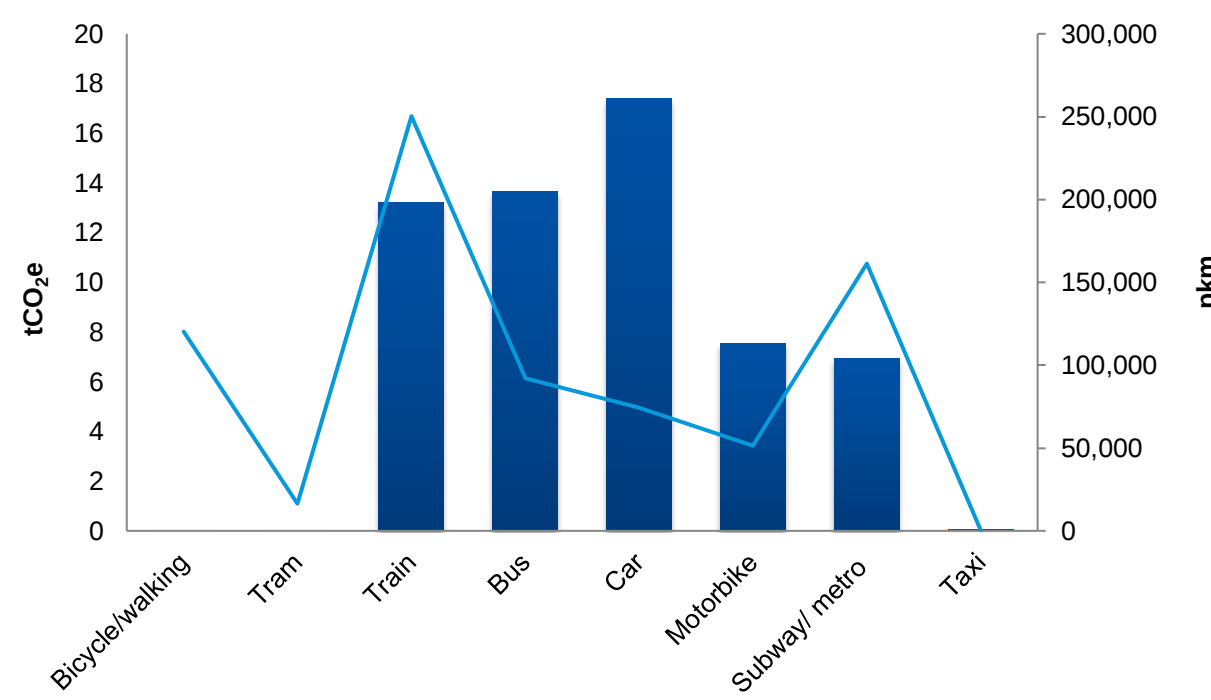


Figure 7: GHG emissions from employee commuting in tCO₂e (blue bars) vs distance travelled per mode of transport in passenger-kilometres (blue line).

Table 6: GHG emissions per office 2018

South Pole – GHG emissions by office (tCO ₂ e)												
	Bangkok	Beijing	Jakarta	Colombia	Mexico	New Delhi	Zurich ²⁰	Singapore	Amsterdam	Stockholm	London	Australia
Scope 1	1.4	0.0	4.6	16.0	0.1	0.1	0.3	0.0	0.0	0.0	0.0	0.0
Mobile combustion (fuel)	1.3	0.0	4.6	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
<i>Fuel, directly reported²¹</i>	0.0	0.0	0.0	16.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
Refrigerants	0.0	0.0	0.0	16.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scope 2	8.1	2.1	5.7	3.9	2.1	2.6	1.9	0.2	0.2	0.5	0.1	22.9
Electricity – grid	8.1	2.1	5.7	3.9	2.1	2.6	1.9	0.2	0.2	0.5	0.0	22.9
Electricity – renewable	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
District heating	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Cooling	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scope 3	142.3	40.4	92.1	225.5	103.8	22.9	1,190.4	41.5	32.8	9.8	384.4	110.1
Business travel	125.6	25.0	70.4	180.4	89.9	18.2	351.1	37.9	25.5	5.6	320.4	59.0
<i>Flights, directly reported</i>	0.0	0.0	0.0	0.0	0.0	0.0	73.8	0.0	0.0	0.0	0.0	0.0
<i>Transport, directly reported</i>	0.0	0.0	0.0	0.0	0.0	0.0	17.2	0.0	0.0	0.0	0.0	0.0
<i>Car rent, directly reported</i>	0.0	0.0	0.0	0.0	0.0	0.0	<0.1	0.0	0.0	0.0	0.0	0.0
<i>Hotel stay, directly reported</i>	0.0	0.0	0.0	0.0	0.0	0.0	24.2	0.0	0.0	0.0	0.0	0.0
Paper	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
IT equipment	3.1	2.8	1.6	2.8	3.3	0.4	36.4	0.4	0.3	1.6	29.6	2.8
Waste	2.5	3.3	0.5	0.1	0.1	0.1	590.8	0.8	1.1	0.2	1.1	31.5
Water	0.0	0.2	4.1	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.3
Energy related activities	2.4	0.5	3.1	0.8	0.7	1.2	0.6	0.0	0.1	0.0	0.3	3.2

²⁰ The Zurich office also includes employees based in Addis Ababa, Berlin, Helsinki, Madrid, Paris, Santiago de Chile, Toronto and Valencia.

²¹ Emissions directly reported via the CornerCard are allocated to the Zurich office

South Pole – GHG emissions by office (tCO ₂ e)												
	Bangkok	Beijing	Jakarta	Colombia	Mexico	New Delhi	Zurich ²⁰	Singapore	Amsterdam	Stockholm	London	Australia
Employee commuting	4.0	4.2	9.9	14.9	1.8	1.6	11.8	0.4	0.8	1.9	6.1	2.0
Freight	0.0	2.3	0.0	0.4	0.6	0.0	9.2	0.0	0.0	0.0	0.0	<0.1
<i>Mail-order business, directly reported</i>	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0
Other consumables	4.8	2.1	2.4	25.5	7.3	1.3	37.4	1.9	5.0	0.5	26.6	11.3
<i>Restaurant, directly reported</i>	0.0	0.0	0.0	0.0	0.0	0.0	8.0	0.0	0.0	0.0	0.0	0.0
<i>Leisure and entertainment, directly reported</i>	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
<i>Retail, directly reported</i>	0.0	0.0	0.0	0.0	0.0	0.0	17.2	0.0	0.0	0.0	0.0	0.0
<i>Others, directly reported</i>	0.0	0.0	0.0	0.0	0.0	0.0	9.9	0.0	0.0	0.0	0.0	0.0
Total GHG emissions	151.8	42.5	102.4	245.4	105.9	25.6	1,192.6	41.7	33.3	9.8	385.9	133.0
No. of employees	13	6	17	48	12	4	40	2	4	5	21	8
Emissions per employee (tCO₂e/employee)	11.7	7.1	6.0	5.1	8.8	6.4	29.8	20.9	8.3	2.0	18.4	16.6

3 Accounting principles

The GHG accounting was based on the GHG Protocol's principles of:

- **Relevance:** an appropriate inventory boundary that reflects the GHG emissions of the company and serves the decision-making needs of users.
- **Completeness:** accounting all emission sources within the chosen inventory boundary. Any specific exclusion is disclosed and specified.
- **Consistency:** meaningful comparison of information over time and transparently documented changes to the data.
- **Transparency:** data inventory sufficiency and clarity, where relevant issues are addressed in a coherent manner.
- **Accuracy:** minimised uncertainty and avoided systematic over or under quantification of greenhouse gas emissions.

4 Global warming potentials (GWP)

Global warming potential (GWP) measures the climate impact of a GHG compared to carbon dioxide over a time horizon. GHGs have different GWP values depending on their efficiency to absorb long wave radiation and the atmospheric lifetime of the gas.

The applied GWP-values in the GHG accounting are from the Fourth Assessment Report (AR4) of the Intergovernmental Panel on Climate Change (IPCC). The use of GWP-values from AR4 is required by the international GHG accounting standards from the United Nations Framework Convention on Climate Change (UNFCCC). They are also commonly used by GHG accounting authorities (e.g. Department for Business, Energy & Industrial Strategy (BEIS) of the United Kingdom and the United States Environmental Protection Agency (US EPA).

Although the GHG protocol recommends GWP-values from Fifth Assessment Report (AR5), it is currently difficult to find corresponding emission factors from third party suppliers.

Table 7: Applied global warming potentials.

GHG	GWP (100 years)
CO ₂	1
CH ₄	25
N ₂ O	298

(Source: IPCC Fourth Assessment Report (AR4), 2007)

Annex I

Emission factors

Activity	Emission factor reference ²²
Fuels	UK Department for Business, Energy & Industrial Strategy (BEIS), 2018
Electricity	International Energy Agency, 2018; Australian Department of Environment and Energy, 2018
Heat	Hufvudstaden, 2018
Business travel	UK Department for Business, Energy & Industrial Strategy (BEIS), 2018
IT equipment	IBM, 2016; Dell, 2010, 2011, 2013, 2014, 2016; LCA LED, 2016; Apple, 2012, 2013, 2016; Projector LCA, 2006; Lenovo, 2016
Paper	UK Department for Business, Energy & Industrial Strategy (BEIS), 2018
Waste	UK Department for Business, Energy & Industrial Strategy (BEIS), 2018; Australian Department of Environment and Energy, 2018
Water use	UK Department for Business, Energy & Industrial Strategy (BEIS), 2018
Energy related activities	UK Department for Business, Energy & Industrial Strategy (BEIS), 2018
Employee commuting	UK Department for Business, Energy & Industrial Strategy (BEIS), 2018

²² South Pole derives its emission factors from reliable and credible sources. South Pole is not responsible for inaccuracies in emission factors provided by third parties.

