

CK Hutchison Group Telecom Greenhouse Gas Reporting Criteria (2022)

Purpose of the document

This document sets out the reporting criteria used by CK Hutchison Group Telecom Holdings Limited (**CKHGT**) to calculate its 2022 greenhouse gas (**GHG**) emissions data as published in CKHGT's Annual Sustainability Report for year ended 31 December 2022.

Reporting period

All reported data covers the period from 1 January to 31 December 2022 unless otherwise stated.

Organisational boundary

The reported GHG data has been prepared based on the World Resources Institute and World Business Council on Sustainable Development's GHG Protocol Corporate Standard using the operational control approach.

The organisational boundary comprises CKHGT's operating companies in eight markets:

- Austria
- Denmark
- Hong Kong and Macau
- Ireland
- Italy
- Sweden
- UK

(each a **CKHGT Opcos**).

CKHGT has a number of small entities, with a very small, or no operational footprint (e.g. office-based only). These entities individually comprise less than 1%, and in aggregate comprise less than 5%, of the CKHGT footprint. They have therefore been deemed immaterial and excluded from the GHG footprint.

The UK operating company has a 50% share of joint venture Mobile Broadband Network Limited (**MBNL**). 50% of the GHG emissions associated with MBNL have been included in CKHGT's scope 3 footprint.

Operational boundary – scope 1 and 2

Passive and active (RAN) infrastructure/ network equipment

- Telecommunications operators typically refer to infrastructure as being either 'active' or 'passive'. Active infrastructure refers to the network equipment itself including the radio access equipment and core network. Passive equipment refers to supporting infrastructure, such as power supply and management, air conditioning and other ancillary infrastructure.
 - a) **CKHGT Opcos with Towercos**
 - Across the majority of operating companies, passive equipment is owned by another company (referred to as a 'TowerCo') and used by CKHGT operating companies according to contract.

CKHGT applies the default position outlined in the new Scope 3 Guidance for Telecommunications Operators (published by GSMA, GeSI and ITU-T), whereby it includes all fuel consumption and electricity consumption associated with these assets and attributable to CKHGT, within its scope 2 emissions reporting.

- Any consumption which would be attributed to other operators is out of scope for CKHGT.

b) Private networks

- Hutchison 3G UK Limited (**Three UK**) has developed three private networks which are owned by customers, but leased and operated by Three UK. All energy consumption is included in the Three UK scope 1 and 2 footprint.

Other mobile network assets (core network, backhaul etc.)

- These are owned and operated by the CKHGT Opcos in each country. All emissions associated with electricity consumption are accounted for as scope 2 emissions. Where there are scope 1 emissions, these are also accounted for within the CKHGT footprint.

Fixed network

- A number of CKHGT Opcos offer fixed network services to their customers. This is delivered either using Opcos-owned fixed network infrastructure or using infrastructure leased from another operator. Where fixed network infrastructure is owned by the Opcos, it is deemed to be under operational control and associated emissions are included in scope 2. Where fixed network infrastructure is leased from another operator with no access to, or control of relevant equipment by the Opcos, as can be the case in some instances for example with ‘local loop’ (or ‘last mile’ infrastructure), associated emissions are accounted for in scope 3 category 8.

Data centres

- Some CKHGT Opcos own and operate all data centres. In these circumstances, all emissions are accounted for as scope 1 or scope 2 as appropriate.
- Other CKHGT Opcos own and operate data centre equipment within larger shared data centre facilities. In these circumstances, the emissions associated with energy consumed by the owned and operated data centre equipment is reported as scope 2. Emissions associated with energy consumed by shared parts of the facility (e.g. shared heating and cooling, where the operating company does not have operational control), are excluded from the scope 2 footprint of the CKHGT Opcos but are captured in scope 3 based on supplier spend data (purchased goods and services category).

Retail stores

- Emissions associated with electricity consumption in fully owned / leased and operated retail stores are accounted for as scope 2.
- Where stores are operated by third party dealers, they are generally not considered to be under operational control. Where energy data is not available for a specific store for the current or prior year, consumption is estimated based on an average from other similar stores. Where it is available for a specific store but is not available for the full reporting year, it is extrapolated based on available data or data available from a prior year.
- Some CKHGT Opcos have concessionary stores (i.e. where a small area is occupied as part of a larger store that is not owned or operated by the Opcos). These have been excluded from the reporting boundary.

- Energy consumption and greenhouse gas emissions associated with retail stores under operational control are included in the ‘buildings’ category of the CKHGT scope 1 and 2 carbon footprint.

Office buildings

- CKHGT Opcos fully account for emissions associated with energy consumed in an office building, where it is the sole occupier, whether or not it is owned or leased.
- For any office buildings where the CKHGT Opcos leases only part of the premises, it accounts for the emissions associated with energy consumption in its leased areas, and in some cases a proportion of emissions associated with energy consumption in shared areas, aligned with share of energy bills as per its lease agreement.

Information sources and calculation methods

Diesel reporting

- Fuel consumption in the RAN comprises diesel generators, used in case of need (e.g. as backup, emergency deployment, or in remote areas). In some circumstances the generators are owned and supplied by an external company. In all cases this fuel consumption is accounted for based on volumes used in the reporting period (typically determined through invoices or other fuel use records).
- For main sites (e.g. data centres), CKHGT Opcos own and operate back up diesel generators. Diesel is consumed if and when required for back-up purposes, and also as part of regular maintenance routines. In all cases this fuel consumption is accounted for based on volumes used in the reporting period (typically determined through invoices, meters or other fuel use records). Where data is not available for a full year, data is extrapolated from current year or prior year available data.

Natural gas reporting

- Natural gas is used for heating of premises (typically offices) in some operating companies and is accounted for based on volumes used in the reporting period (typically determined through invoices). Where data is not available for a full year, data is extrapolated from current year or prior year available data. Where the site is shared, emissions are accounted for based on share of energy consumption in line with the lease agreement.

Refrigerant reporting / F-Gases

The following refrigerants are relevant for the CKHGT Opcos and included within the CKHGT footprint:

- R407A
- R407C
- R410A
- R417a
- R32
- R134A
- R22
- HFC-134a
- R-422D

Not all of these refrigerants will be relevant for every CKHGT Opcos within any reporting year.

Most CKGHT Opcos routinely record refrigerant refill volumes as part of maintenance activities, either directly or by appointed contractors. Volumes are taken either directly from these records or using invoices. Refill volumes only are included in reporting. Where data is not available for a full year, data is extrapolated from current year or prior year available data.

Transport

All CKGHT Opcos operate a vehicle fleet with different ownership or leasing arrangements. For some CKGHT Opcos, employees are allowed according to company policy, to use these vehicles for a mix of business and personal use. All fuel consumption is accounted for through fuel refill records.

Electricity consumption is also recorded for electric vehicles, in kWh.

Aggregation at CKHGT level for scope 1 and 2 reporting

For 2022, CKGHT Opcos populated the CK Hutchison Holdings sustainability data management system, Figbytes, with all relevant activity data. The Figbytes tool contains emissions factors to calculate the greenhouse gas emissions associated with this activity.

Operational boundary - scope 3

For the calculation of CKHGT's Scope 3 inventory, the following scope and boundaries have been set.

Boundary:

The Scope 3 calculation considers the full value chain of CKHGT's operations..

Exclusions:

- Downstream transportation & distribution (Category 9): while CKHGT Opcos do sell products, most outbound transportation and distribution emissions are paid for by the CKHGT Opcos and therefore included under category 4.
- Processing of Sold Products (Category 10): As CKHGT Opcos do not sell any intermediary products which require further processing, category 10 has been excluded from the calculations.
- Downstream Leased Assets (Category 13): as CKHGT Opcos do not lease assets to third parties that are not already included in scope 1 and 2 emissions (leased networks), category 13 has been excluded from the calculations.

Scope 3 calculation methodologies

Category 1a – purchased good and services (devices)

- Category 1a includes emissions from all device purchases for resale, not otherwise included in the other categories of upstream scope 3 emissions during the reporting period.
- Supplier specific life cycle analysis (LCA) data was sourced directly from suppliers and / or available in the public domain. This was applied to device procurement data for all operating companies. For devices where no life cycle footprint was available, the following averages were used:
 - Where the LCA was missing for a specific configuration (e.g. different amount of memory or screen size), the available LCA for the same model but different configuration was used.
 - Where the LCA was missing for a specific model, the average available LCA for the relevant vendor was used.
 - Where the LCA for the vendor was not available, the average available LCA was used.

Category 1b – purchased goods and services (non-devices).

- Category 1b includes emissions from all non-product purchases, not otherwise included in the other categories of upstream scope 3 emissions during the reporting period.
- This is a wide category of goods and services, and can include professional services, marketing and advertising, through to network equipment, accessories and telecommunication services. This was calculated using a ‘hybrid’ approach.
- For high value suppliers, where scope 1, scope 2 and scope 3 supplier data was available, a supplier-specific emissions factor was calculated (total supplier GHG emissions for the year / supplier revenue for the year) and applied to CKHGT Opcos spend value. In case no supplier relevant data (emission / revenues) for the reported year was published at the time of the submission, the prior year emissions data was used.
- Where this data was unavailable, a spend-based approach using ‘environmentally extended input output’ (EEIO) factors was used (see page 7). The most appropriate emissions factor has been applied to each expenditure category or sub-category where the type of spend is homogeneous, and down to general ledger code level where spend is heterogeneous. The usage of a spend-based approach where product and supplier specific emissions factors are not available is aligned with the ‘Scope 3 Guidance for Telecommunication Operators’ issued by the GSMA, GeSI and ITU-T.

Category 2 – capital goods

- Category 2 includes all upstream emissions associated with the production of capital goods that have been purchased within the reporting period. Capital goods are those that are treated as fixed assets or as property, plant and equipment, and are typically depreciated over the life of the asset. For CKHGT Opcos this could include, but is not limited to, network and data centre equipment, buildings or facilities. This was calculated using a hybrid approach as for category 1b.

Category 3 – upstream fuel and electricity

- Category 3 includes the upstream emissions relating to the production of fuels and electricity consumed by CKHGT Opcos. This was calculated using appropriate ‘well to tank’ and ‘transmission and distribution’ emission factors, applied to activity data.

Category 4 - upstream transportation and distribution

- Category 4 includes emissions from all purchased (non-owned) transport and distribution services. For CKHGT Opcos this includes inbound logistics (calculated by applying relevant life cycle stage emissions factors to device units procured) and the carbon impact of warehousing (calculated using the spend-based method).

Category 5 - waste

- Category 5 includes all emissions from the third-party disposal and treatment of waste generated by CKHGT Opcos’ owned or controlled operations. Waste arising from manufacture and disposal of products sold is reported in categories 1 and 12 respectively. UK BEIS emissions factors for waste treatment are applied to waste volumes to calculate the associated emissions.

Category 6 – business travel

- Category 6 includes emissions from the transportation of employees for business-related activities in vehicles owned or operated by third parties (air, road, rail and boat) and the emissions associated with hotel stays. For air travel this was calculated using UK BEIS (Department for Business, Energy & Industrial Strategy) emissions factors applied to journeys classified as domestic / short-haul / long-haul. For all other transport modes and for hotel stays this was calculated using the spend-based method.

Category 7 – employee commuting

- Category 7 refers to all emissions arising from the transportation of employees between their homes and their worksites. This was calculated using employee number data multiplied by the average commuting emissions per person by country, based on BEIS emission factors and regional commuting statistics.

Category 8 – upstream leased assets

- Category 8 includes emissions associated with the operation of property or assets that are leased by CKHGT Opcos from a third-party proprietor and are not included in the Scope 1 and 2 inventories. For CKHGT Opcos this relates to electricity and natural gas consumption.

Category 11 – use of sold products

- Category 11 refers to emissions from the use of goods and services sold by CKHGT Opcos to end users. This was calculated using lifetime energy consumption figures (based on lifespan and typical daily consumption) for devices collated from desk research, product datasheets and estimations (as documented for Category 1a) and applied to the volume of units purchased for the reported year. Two CKHGT Opcos have partnerships with external energy companies whereby fees are earned for the referral of customers for renewable electricity and / or gas supply. Since Opcos do not own the contracts for provision of energy with the customers, the emissions associated with these products have been excluded from the scope of reporting.

Category 12 – end of life

- Category 12 refers to emissions from the waste disposal and treatment of the products sold by CKHGT Opcos at the end of their life. This was calculated using the relevant phase of emissions factors from life cycle analysis data applied to units of devices sold (as documented for Category 1a) and applied to the volume of units purchased for the reported year.

Category 14 – franchises

- Category 14 includes emissions from the operation of franchises not included in scope 1 or 2. For CKHGT Opcos, where third party stores are operated under the brand name of the CKHGT Opcos, these are included in this category. Emissions were calculated using electricity or natural gas consumption and appropriate emissions factors (BEIS 2022 for natural gas consumption and IEA 2022 location-based emissions factors for electricity).

Category 15 – investments

- Category 15 contains all emissions associated with CKHGT investments not already included in scope 1 and 2. For MBNL in the UK, this was included as a 50% share of MBNL scope 1 and 2 emissions (market-based). The CO₂e emissions of each investment is calculated applying EEIO emissions factors to the revenues of the investment allocated to the specific Opcos according to equity share.

Emissions factors

The following emissions factors were applied to activity data:

- BEIS (2022) UK Government GHG Conversion Factors for Company Reporting.
- IEA (2022) electricity grid mix emission factors
- AIB (2022) electricity residual mix emission factors
- CKHGT electricity emission factors from suppliers
- IPCC Assessment Report 5 (for refrigerant emissions factors)
- Environmentally extended input output (EEIO) factors which use the OPEN IO database originally developed by the University of Arkansas in 2002 provided by a third party (used for scope 3 spend-based data). EEIO factors have been adjusted for each year by the third party provider using assumptions for global inflation and average global improvements in CO₂e/GDP. The use of more recently developed emissions factors will be explored for future reporting periods.
- GSMA, GeSI and ITU-T (2023) Scope 3 Guidance for Telecommunication Operators¹.

Recalculation policy

CKHGT will recalculate its emissions when a significant change in company structure (e.g. acquisition, divestment, insourcing or outsourcing) or inventory methodology occurs, that results in a change in reported data of 5% or more of CKHGT's total base year emissions. Subsequent publication of supplier emission factors which were not available at the time of the disclosure will not be used for recalculating already reported years.

¹ https://www.itu.int/en/ITU-T/studygroups/2022-2024/05/Documents/Related%20events/InformationSession-Scope3-28March2023/230307_Scope%203%20guidance_PREPUBLISH_Final.pdf