CK Hutchison Group Telecom
Greenhouse Gas Reporting Criteria (2024)

Purpose of the document

This document sets out the reporting criteria used by CK Hutchison Group Telecom Holdings Limited (***CKHGT***) to calculate its 2024 greenhouse gas (***GHG***) emissions data as published in CKHGT's Annual Sustainability Report for year ended 31 December 2024.

Reporting period

All reported data covers the period from 1 January to 31 December 2024 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 (Revised Edition) (***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 Opco*** during the reporting period).

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. This is considered on an annual basis in the context of any major business changes. For the reporting year there was no change in the scope of the CKHGT footprint with respect to inclusion of immaterial entities.

In August 2024, the Italian Opco, Wind Tre, signed an agreement to purchase a wholesale 5G and fixed wireless access (FWA) operator, OpNet. This acquisition, together with refinements to estimation methodologies where more granular data has become available, prompted a voluntary recalculation and restatement of CKHGT's 2020 baseline and subsequent years' GHG scope 1, scope 2 and scope 3 category 3 and 15 data. Changes to scope 3 category 3 and 15 were directly related to the electricity and fuel adjustments performed on scope 1 and 2, respectively. No other scope 3 categories were recalculated, as the remaining categories were immaterial. (see section 'Recalculation and restatements' below for further detail).

Operational boundary – scope 1 and 2

Passive and active radio access network (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 (akin to an 'operating lease' according to the GHG Protocol). CKHGT applies the default position outlined in the Scope 3 Guidance for Telecommunications Operators, published by GSMA, GeSI and ITU-T (***GSMA Scope 3 Guidance***), whereby it includes all fuel consumption and electricity consumption associated with these assets and attributable to CKHGT, within its scope 1 and scope 2 emissions reporting. In cases where a tower is shared with other operators, CKHGT accounts for its share of consumption either through actual data (e.g. where CKHGT consumption is sub-metered) or a proportional share reflecting underlying commercial agreements.

- Any consumption which would be attributed to other operators (e.g. where other operators have active radio equipment on the same tower) is out of scope for CKHGT.

b) Private networks

- **3** UK has developed two private networks. All energy consumption is included in **3** UK's scope 1 and 2 footprint.

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

- These are owned and operated by the CKHGT Opco 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 Opco-owned fixed network infrastructure or using infrastructure leased from another operator. Where fixed network infrastructure is owned by the Opco, it is deemed to be under operational control and associated emissions are included in scope 1 and scope 2. Where fixed network infrastructure is leased from another operator with no access to, or control of relevant equipment by the Opco, 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 Opco but are captured in scope 3 category 8 (where activity data is available) or category 1 (where the consumption is included in the rental agreement).

Retail stores

- Emissions associated with electricity consumption in fully owned / leased and operated retail stores are accounted for as scope 2.
- 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 CKGHT Opcos have concessional stores (i.e. where a small area is occupied as part of a larger store that is not owned or operated by the Opco). These have been excluded from the reporting boundary because CKHGT does not have operational control in these circumstances and the associated energy consumption and GHG emissions are not material.
- 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 emissions 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 Opco 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 Opco within any reporting year.

Most CKHGT 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, and are deemed to correspond to leakages of refrigerants (i.e. fugitive emissions) during the reporting year. All CKHGT Opcos, excluding Hong Kong and Macau for the RAN, make use of actual data gathered through maintenance logs. For the Hong Kong and Macau RAN, an assumption based on the actual amount of disposed air conditioning units is used, with a leakage estimation of approximately 1.94 kg per unit disposed.

Transport

All CKHGT Opcos operate a vehicle fleet with different ownership or leasing arrangements. For some CKHGT 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.

Purchased heating, cooling and steam

Scope 2 emissions reporting includes purchased cooling and purchased heating, using either supplier-specific emission factors where available or the UK Government Department for Environment, Food and Rural Affairs (DEFRA) emission factors where a supplier-specific emissions factor is not available. None of CKHGT's Opcos purchase steam, so this is not included in CKHGT's scope 2 emissions.

Aggregation at CKHGT level for scope 1,2 and 3 reporting

For 2024, CKHGT Opcos populated the CK Hutchison Holdings sustainability data management system, Figbytes, with activity data for scope 3 categories 3, 5, 6 (not including emissions calculated with spend values), 7, 8 and 14. The Figbytes tool contains emissions factors that are applied to that activity data to calculate the associated GHG emissions. For other parts of the scope 3 footprint, emissions totals were calculated in Microsoft Excel and input directly into the Figbytes tool. Emission factors are updated annually.

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.

Scope 3 GHG emissions are screened and disclosed based on the 15 categories identified in the GHG Protocol Corporate Standard and the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard (2011) (***Scope 3 Standard***). In line with the Scope 3 Standard, CKHGT identifies and discloses significant scope 3 categories based on the magnitude of their estimated GHG emissions and other relevant criteria. Additionally, we do not include any removals or any purchased, sold, or transferred carbon credits or GHG allowances in the calculation of scope 3 GHG emissions.

Exclusions:

- Downstream transportation and distribution (category 9): while CKHGT Opcos do sell products, most outbound transportation and distribution emissions are paid for by the CKHGT Opco and therefore included under category 4. This is in line with the GSMA Scope 3 Guidance.
- 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 as the number of units purchased is assumed to be materially equivalent to the number of units sold and offers more robust and timely data for emissions reporting. The availability of LCA is updated yearly for new devices, whether they are newly released on the market or added to the CKHGT portfolio, within the reporting year. 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 the top 50 suppliers by spend value of each Opco besides Wind Tre, where scope 1, scope 2 and scope 3 supplier data was available, a supplier-specific emissions factor was calculated (total upstream supplier GHG emissions for the year / supplier revenue for the year) and applied to CKHGT Opco spend value. The supplier-specific emissions factors were documented using the data gathered through the Carbon Disclosure Project (CDP) Supply Chain in the 2024 disclosure cycle. Supplier-specific emissions factors that were not available at the original time of publishing emissions data for a previous reporting year have not been used for recalculation.
- In relation to all spend not covered by supplier-specific emissions factors, a spend-based approach using 'environmentally extended input output' (EEIO) factors was used (see page 8). The most appropriate EEIO emissions factor was 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 GSMA Scope 3 Guidance.

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 the same approach as for category 1b, purchased goods and services.

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 International Energy Agency (IEA) 'well

to tank' (WTT) and 'transmission and distribution' (T&D) emission factors, applied to electricity and DEFRA WTT for fuel 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 using EEIO emission factors).

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. DEFRA emissions factors for waste treatment were 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 DEFRA 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 using EEIO emission factors.

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 as at the end of the reporting year multiplied by the average commuting emissions per person by country, based on DEFRA emission factors and regional commuting statistics and also considers emissions generated by remote working.

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. In 2024, CKHGT has reported electricity consumption in non-operationally controlled telecommunication infrastructure and data centres.

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. Since 2023, CKHGT has used refined assumptions for daily energy consumption considering battery capacity of the sold devices, where available for individual models.
- 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. These emissions were calculated using end-of-life emissions data reported by suppliers in the device LCA, or appropriate device averages where necessary. The emissions factors were then applied to the number of devices purchased during the reporting year, as documented for Category 1a.

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 Opco, these are included in this category. Emissions were calculated using electricity or natural gas consumption and appropriate emissions factors (DEFRA 2024 for natural gas consumption and IEA 2024 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 Zefiro Net joint venture, activity data is available. Emissions were therefore calculated using the same methodology applied to CKHGT's scope 1 and scope 2 market-based emissions; by accounting for a 50% share of all scope 1 and 2 emissions (corresponding to ownership share).

- For investments where activity data is not available, emissions were calculated by applying the appropriate EEIO emissions factors to the revenues of the investments, scaled by the ownership share where applicable.

- Zefiro Net accounts for over 95% of scope 3 category 15 emissions, whereas the remaining investments are immaterial for both category 15 and overall scope 3.

Emissions reporting tool

CKHGT uses the sustainability data management system 'Figbytes' to support its GHG emissions reporting. The following points outline the key aspects of the reporting process using this tool:

- **Calculation process:** The GHG emissions calculations for all scope 1, scope 2 and scope 3 data are performed automatically in the Figbytes system leveraging activity data input by Opcos, with the exception of emissions related to spending and devices - which are calculated offline within Microsoft Excel and subsequently uploaded into the Figbytes system.
- **Configuration of emission factors:** For emissions scopes and categories calculated in the Figbytes system, emission factors are pre-configured in the system and updated / re-checked on an annual basis. This ensures that all calculations are consistent with the required standards and methodologies.
- **Documentation and validation:** The documentation within the Figbytes system adheres to the 'four-eyes' principle. This is achieved through predefined roles within the system:
    - Contributors: Responsible for documenting the data.
    - Validators: Responsible for reviewing and approving the entries made by contributors.

Emissions factors

The following emissions factors were applied where appropriate to activity data:

- DEFRA (2024) UK Government GHG Conversion Factors for Company Reporting.
- IEA (2024) electricity grid mix emission factors.

- Most recent supplier-specific electricity provider's emission factors used for Scope 2 market-based calculations, where available.
- AIB (2023) electricity residual mix emission factors.
- 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 using assumptions for global inflation and average global improvements in CO_2e/GDP.
- GSMA, GeSI and ITU (2023) Scope 3 Guidance for Telecommunication Operators[1].

Recalculation and restatements

CKHGT baseline recalculation policy is to recalculate and restate its baseline 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, for either scope 1 and 2 combined, or scope 3. In accordance with good practice, CKHGT also recalculates and restates GHG data for subsequent years in alignment with the baseline year recalculation.

CKHGT may on a voluntary basis recalculate and restate GHG data from the baseline and / or subsequent years when a change occurs that results in a change in reported data of below the abovementioned 5% threshold for combined scope 1 and 2, or scope 3 data.

For the 2024 reporting year, CKHGT performed a recalculation of the 2020 baseline and all subsequent years in relation to the following matters:

1. In August 2024, Wind Tre completed the purchase of OpNet (described above in section 'Organisational Boundary') and therefore gained operational control over the OpNet business. While the change in reported emissions data did not trigger a recalculation in accordance with the recalculation policy, CKHGT has voluntarily recalculated its scope 1, scope 2, and scope 3 category 3 baseline and subsequent years to reflect this transaction. This has added activity data for the following categories into the Wind Tre GHG footprint:
    - Fuel for company cars (increasing scope 1 and scope 3 category 3)
    - Natural gas for office heating (increasing scope 1 and scope 3 category 3)
    - Electricity for mobile networks (increasing scope 2 and scope 3 category 3)
2. During 2024, Wind Tre was subject to an internal audit of its GHG emissions reporting processes by the CK Hutchison internal audit team, which recommended a number of data adjustments. As a result, CKHGT refined its estimation approach for unmetered electricity consumption, where more granular data has become available, causing adjustments to:
    - Electricity for mobile networks in Wind Tre's footprint (increasing scope 2 and scope 3 category 3)
    - Electricity for mobile networks in Zefiro Net footprint (increasing scope 3 category 15)

    While these did not trigger a recalculation in accordance with the recalculation policy, CKHGT has voluntarily recalculated the data for all relevant years in the case of each adjustment.

[1] https://www.gsma.com/betterfuture/resources/scope-3-guidance