



NTT Ltd.

NTT Ltd. Basis of Reporting

20 December 2023 | Document Version 0.01

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The purpose of this document is to outline the process for greenhouse gas (GHG) emissions data collection which is aligned to the GHG Protocol Corporate Accounting and Reporting Standard.

Organizational boundary

NTT Ltd follows the Operational Control approach to defining the organizational boundary for sustainability reporting. This approach covers any operation which NTT Ltd has full authority to introduce or implement its operating policies.

In line with NTT Financial Accounting, in FY22 this includes:

Our Regions:

- Europe
- Americas
- Middle East and Africa (MEA)
- Asia-Pacific (APAC)

Service Divisions and Functions:

- Cloud Services Division (CSD)
- Managed Network and Collaboration Services (MNCS)
- Central Functions
- Data Centers and Infrastructure (DCI, also referred to as GDC)
- Chief Digital Office (CDO)

NTT Security (this service division was restructured and integrated within other parts of our business before 01 April 2022, but there are some accrued financial transactions completed in FY22 which are in scope of reporting)

Reporting period

The reporting period for our GHG data is aligned with our financial reporting period, 1 April 2022 to 31 March 2023 (Financial Year 2022).

Greenhouse Gas Emissions

Under the GHG Protocol Corporate Accounting and Reporting Standard, greenhouse gas emissions are classified into three categories: Scope 1, Scope 2 and Scope 3 with all emissions reported in units of carbon dioxide equivalent (CO₂e).

For non-CO₂ GHGs (CH₄, N₂O, HFCs, PFCs and SF₆), conversions were made using the AR5 published International Panel on Climate Change (IPCC) global warming potentials (GWP) over a 100-year period.

Scope 1

Scope 1 emissions are direct emissions from operationally controlled sources. They are further broken down into three categories:

- Stationary combustions: Onsite combustion for generating electricity, steam or heat.
- Mobile combustions: Combustion of fuels for use of company vehicles.
- Fugitive emissions: Direct emissions of GHGs from refrigeration and air conditioning systems, fire suppression systems, and the purchase and release of industrial gases.

Scope 2

Scope 2 emissions are indirect emissions from the generation of purchased energy. This includes:

- Purchased electricity
- Purchased heat
- Purchased cooling
- Purchased steam

Scope 3

Scope 3 emissions are all indirect emissions (not included in Scope 1 or 2) that occur in the value chain of the reporting company, including both upstream and downstream emissions. There are 15 emission categories under this scope:

Category	Category description
Cat. 1: Purchased goods and services	Extraction, production, and transportation of goods and services purchased or acquired
Cat. 2: Capital goods	Extraction, production, and transportation of capital goods purchased or acquired
Cat. 3: Fuel and energy related activities (not included in Scope 1 or 2)	Extraction, production, and transportation of fuels and energy purchased or acquired by the reporting company, not already accounted for in scope 1 or scope 2
Cat. 4: Upstream transport and distribution	Transportation and distribution of products and services purchased by the reporting company between a company's tier 1 suppliers and its own operations (in vehicles and facilities not owned or controlled by the reporting company)
Cat. 5: Waste generated in operations	Disposal and treatment of waste generated in the reporting company's operations
Cat. 6: Business travel	Transportation of employees for business-related activities
Cat. 7: Employee commuting	Transportation of employees between their homes and their worksites
Cat. 8: Upstream leased assets	Operation of assets leased by the reporting company (lessee)

Cat. 9: Downstream transport and distribution	Transportation and distribution of products sold
Cat. 10: Processing of sold products	Processing of intermediate products sold
Cat. 11: Use of sold products	End use of goods and services sold
Cat. 12: End-of-life treatment of sold products	Waste disposal and treatment of products sold
Cat. 13: Downstream leased assets	Operation of assets owned by the reporting company (lessor) and leased to other entities
Cat. 14: Franchises	Operation of franchises
Cat. 15: Investments	Operation of investments (including equity and debt investments and project finance)

For NTT Ltd. the most material Scope 3 categories are 1, 2, 3, 11, 12 and 13.

Methodology

Scope 1:

Stationary combustion emissions are mainly from the operation of backup power generators within the business and mobile combustion emissions are from the vehicles operated by the company. To estimate the emissions, fuel and gas amounts used for both are collected from the company assets and facilities via facility management teams and an annual data collection survey. These amounts are then multiplied by the respective energy source emission factors gathered from the GHG Protocol Calculation Tool and the Department for Environment, Food and Rural Affairs, UK (DEFRA)

Fugitive emissions are calculated by collecting the quantity of refrigerant gases used during installation, operation and disposal of relevant equipment and multiplying it with their respective Global Warming Potential.

Data Sources:

- Annual data collection survey and activity data collected by facility management teams.
- Emission factors: GHG Protocol tool, DEFRA.

Scope 2:

Due to our Operational Boundaries of control we capture in this category:

- Purchased electricity that power building, lighting, and air conditioning in our Data Centers (referred to non-IT load or non-IT energy).
- Purchased electricity in offices and other facilities.
- We collect the data via annual data collection survey for our offices and other facilities and via facility management teams for our data centers. When the exact amount of electricity purchased is not known for any reason, we extrapolate it based on average kWh per square meter from the rest of the facilities in the same country.

Note that for our data centers, purchased electricity consumed by client equipment (IT load or IT energy) is addressed under Scope 3 Category 13 (downstream leased assets).

We report emissions from purchased electricity using two methods:

1. Location-based method

The emissions are calculated based on the emissions intensity of the local grid area where the electricity usage occurs. The amount of electricity purchased in kWh is multiplied against the grid emission factor for the respective location. We aim to use the most credible local emissions factor we have available. If local or regional emissions factors are not available, we use the respective national emissions factor. Emissions factors come from credible local, regional, or national energy organisations / electricity system operators (e.g., the Environmental Protection Agency's, EPA, Emissions Factors Hub for the USA) or from credible global data providers such as the International Energy Agency's (IEA) Emission Factors list.

2. Market-based method

This method calculates the specific emissions the company is responsible for through its purchasing decisions. This method considers renewable energy purchased and generated as zero emissions provided adequate evidence (contractual or otherwise) is available. The remaining non-renewable energy purchased in kWh is multiplied with the supplying company's emission factor (collected as part of the annual data collection survey and reporting data exercise). Where market-based emissions factors are unavailable, credible residual emissions factors will be used, or failing that local, regional, or national grid emissions factors. As with the location-based method, the most local available emissions factors from credible sources will be used.

Data Sources:

- Annual data collection survey and activity data collected by facility management teams.
- Emission factors: Utility supplier company, local grid authority, IEA, EPA.

Both methods are used for reporting according to the GHG Protocol and Science Based Targets initiative (SBTi). However, the more reliable method and best practice method is the market-based method, and that is the one we have used to report GHG emissions in our annual reporting.

Scope 3

Category	Methodology
Cat. 1: Purchased goods and services	<p>Emissions are estimated based on the spend data for purchased goods and services using the Quantis scope 3 screening tool as recommended by SBTi. The Tool applies the average global factors to produce emissions estimate. A 5% uplift is applied due to the emissions factors being more than 10 years old (to adjust for inflation).</p> <p>Transportation and distribution services that are included in the overall purchase of goods from suppliers remain in this category. See Cat. 4 for further explanation.</p>
Cat. 2: Capital goods	<p>Total NTT Ltd CapEx spend shows us capital investments in data centers (made by GDC division) account for more than 90% of all CapEx. For the construction of new data center facilities under our Global data center business, we used emission factors obtained by a LCA of the whole construction, fit out and lifetime of a DC, which commissioned to ARUP to do one of our new DCs (AMS 1 in Amsterdam, the Netherlands). We then extrapolate the total emissions kg CO2e per square meter and designed power capacity (kg CO2e per MWh) to all other newly build DCs in the period.</p> <p>Same is applied for capital investment on existing DCs per inventory type. For the remaining capital goods procured (less than 10%), we estimated the emissions using Capital Expenditure inputted to the Quantis Scope 3 Screening Tool.</p>
Cat. 3: Fuel and energy related activities (not included in Scope 1 or 2)	<p>For well-to-tank (WTT) emissions, purchased fuels and energies provided by assets are multiplied with their respective WTT emission factors obtained from DEFRA conversion factors 2021 or IEA Emission Factors.</p> <p>For transmission and distribution (T&D), purchased energy for electricity provided by assets are multiplied with their respective T&D loss emission factor obtained from DEFRA conversion factors.</p>
Cat. 4: Upstream transport and distribution	<p>The spend towards logistics supplier are classified as upstream transport and distribution as opposed to Purchased goods. The spend data is then inputted into Quantis Scope 3 Screening Tool to obtain an emissions estimate. A 5% uplift is applied due to the emissions factors being more than 10 years old (to adjust for inflation).</p>
Cat. 5: Waste generated in operations	<p>Non material in FY22, captured within category 1 using spend data and Quantis factors.</p>
Cat. 6: Business travel	<p>Business travel expenditure by mode of transport was collected from the major partner travel agencies. Based on previous year expenditures, we extrapolated the spend data to adjust for the missing spend. We used Quantis scope 3 screening tool to estimate the emissions from spend data.</p>
Cat. 7: Employee commuting	<p>The number of employees by FY22 end (33,948) is inputted into the Quantis Scope 3 Screening Tool to obtain an emissions estimate (estimating that average employee emits 1700 kgCO2e/year).</p>
Cat. 8: Upstream leased assets	<p>Scope 1 and 2 emissions from leased assets are included in Scope 1 and 2 due to operational control of such assets, and therefore not included here.</p>
Cat. 9: Downstream transport and distribution	<p>Transport and distribution services are primarily upstream and therefore relevant spend is categorized in Cat. 4.</p>
Cat. 11: Use of sold products	<p>Because NTT Ltd. re-sell products from suppliers, primary product-level emissions data from main supplier (Cisco, using methodology called PAIA) is utilized. Estimates indicate Cisco products represents 69.58% of all</p>

	hardware products sold. The carbon footprint from Cisco products is then extrapolated to remaining 30.42% in order to obtain an estimate of the total.
Cat. 12: End-of-life treatment of sold products	Because NTT Ltd. re-sell products from suppliers, primary product-level emissions data from main supplier (Cisco, using methodology called PAIA) is utilized. Estimates indicate Cisco products represents 69.58% of all hardware products sold. The carbon footprint from Cisco products is then extrapolated to remaining 30.42% in order to obtain an estimate of the total.
Cat. 13: Downstream leased assets	This is related to our data centers collocation business – to estimate emissions linked to IT load (electricity to power clients’ hardware in our DCs). Data on purchased electricity powering client IT load at the data centers data is collected from all DCs, and then multiplied with the location-based emission factor.
Cat. 15: Investments	Non material in FY22

Power Consumption Data

Power consumption refers to the electricity consumed by NTT Ltd.’s offices and data centers. For data centers, power consumption is classified into IT and non-IT loads. IT loads represents the power used by the servers and racks in the data hall, whereas non-IT loads represent the power used by all the auxiliary systems other than the IT equipment in the data hall.

A major proportion of the power consumption for NTT Ltd. is through its data centers. Actual meter readings were used to record the consumption values where available. In other instances, the consumption values were recorded based on the utility bills for the respective facilities.

Renewable Energy

Energy supply from renewable sources such as solar, wind, hydropower, geothermal and bioenergy are considered as Renewable Energy. NTT Ltd. uses GHG Protocol market-based scope 2 data hierarchy for choosing the emission factors for various types of power supply. Based on that, the following instruments are used to qualify renewable energy:

1. Renewable Energy Certificates (RECs) or Guarantees of Origin (GoOs)
2. Electricity contracts such as Power Purchase Agreements (PPAs) that convey RECs or (GoOs)
3. Contracts that convey attributes to the entity consuming the power where certificates do not exist
4. Green energy tariffs
5. Renewable energy generated at site or near site and directly linked to the site