Guidance for carbon footprint accounting in the TowerCo industry

Aligned with Greenhouse Gas Protocol and ISO 14064-1:2018

EWIA

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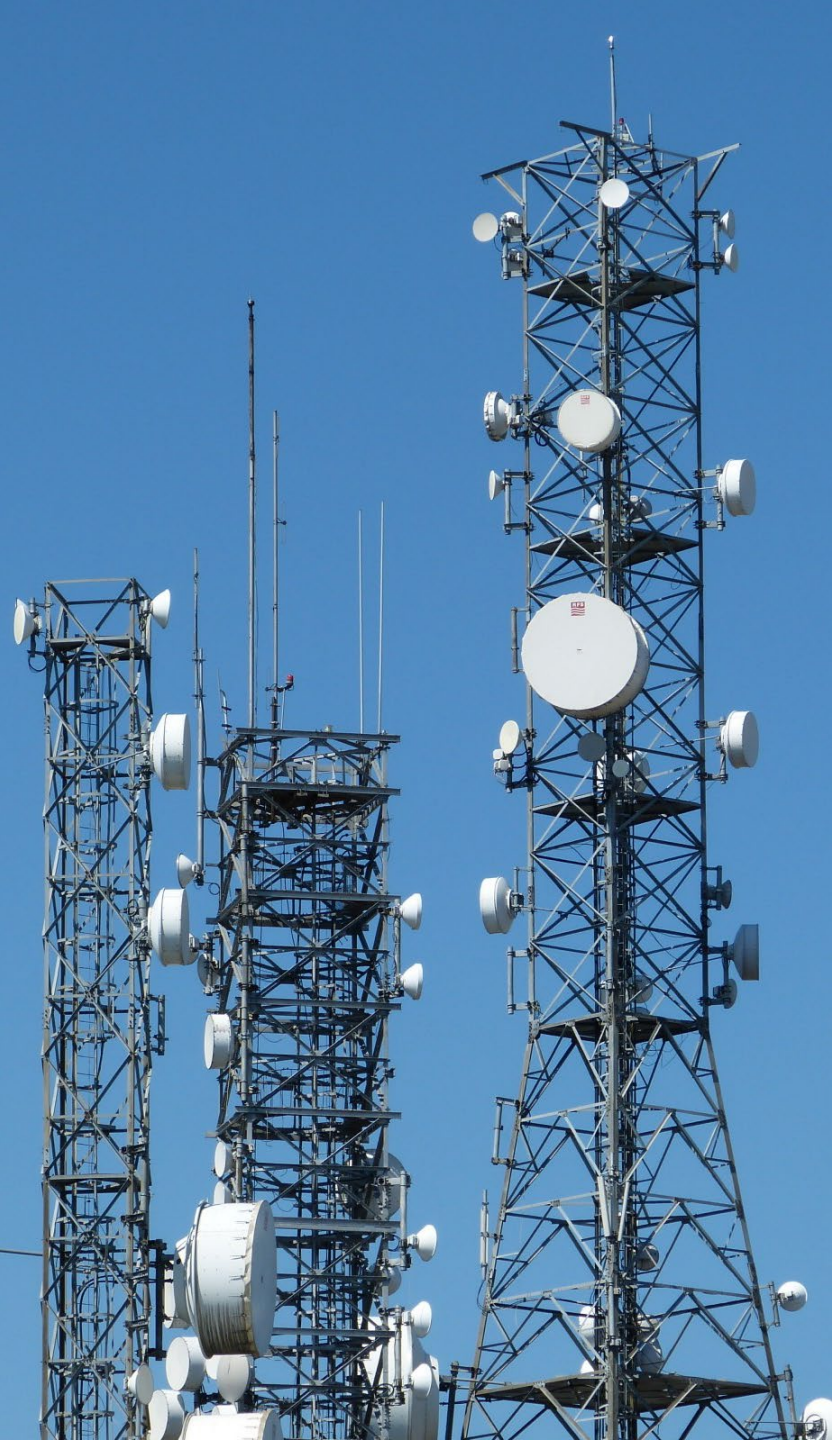


Context and target

EWIA ESG Working Group has united **leading TowerCo** companies in Europe to **develop** a **framework** to **clarify the distinctions** in **accounting for material GHG[1] emissions** in the **TowerCo** industry.

EWIA represents TowerCos operating a neutral-host, open-access, shared-infrastructure model, enabling multiple operators to co-locate on the same sites. **This shared model supports TowerCos' positive environmental contribution** by reducing duplicated assets and improving site-level resource efficiency.

TowerCos provide **passive telecommunications infrastructure**—primarily telecom towers—that **enable connectivity** for mobile network operators and other service providers. While **TowerCos** themselves have **limited direct energy consumption**, the **majority of emissions associated** with their **towers** come from **electricity used by tenants' active equipment**. This **indirect nature of energy use** makes **carbon footprint calculation complex**, requiring **clear boundaries** grounded in the **GHG Protocol** and **ISO 14064:2018** principles.

> Built on the individual carbon footprint calculation approaches, this guidance aims to clarify the different methods carbon footprint accounting is approached in the TowerCo industry.

The **transparent accounting** outlined in this guide **ensures accurate interpretation** of **carbon footprint inventories** across different **TowerCos**, fostering **consistency** and **comparability** within the **industry.**

1: Greenhouse Gas

Material GHG[1] emission scopes for the TowerCo industry

Greenhouse Gas Protocol is the most widely adopted framework for developing corporate GHG emissions inventories. Complementing this, the International Organisation for Standardisation provides additional guidance through ISO 14064-1:2018.

For TowerCo, reporting of scope 1 emissions is generally well established and relatively straightforward. However, scope 2 and scope 3 emissions, which cover the value chain and occur outside the company's direct control, are far more complex and less consistently reported.

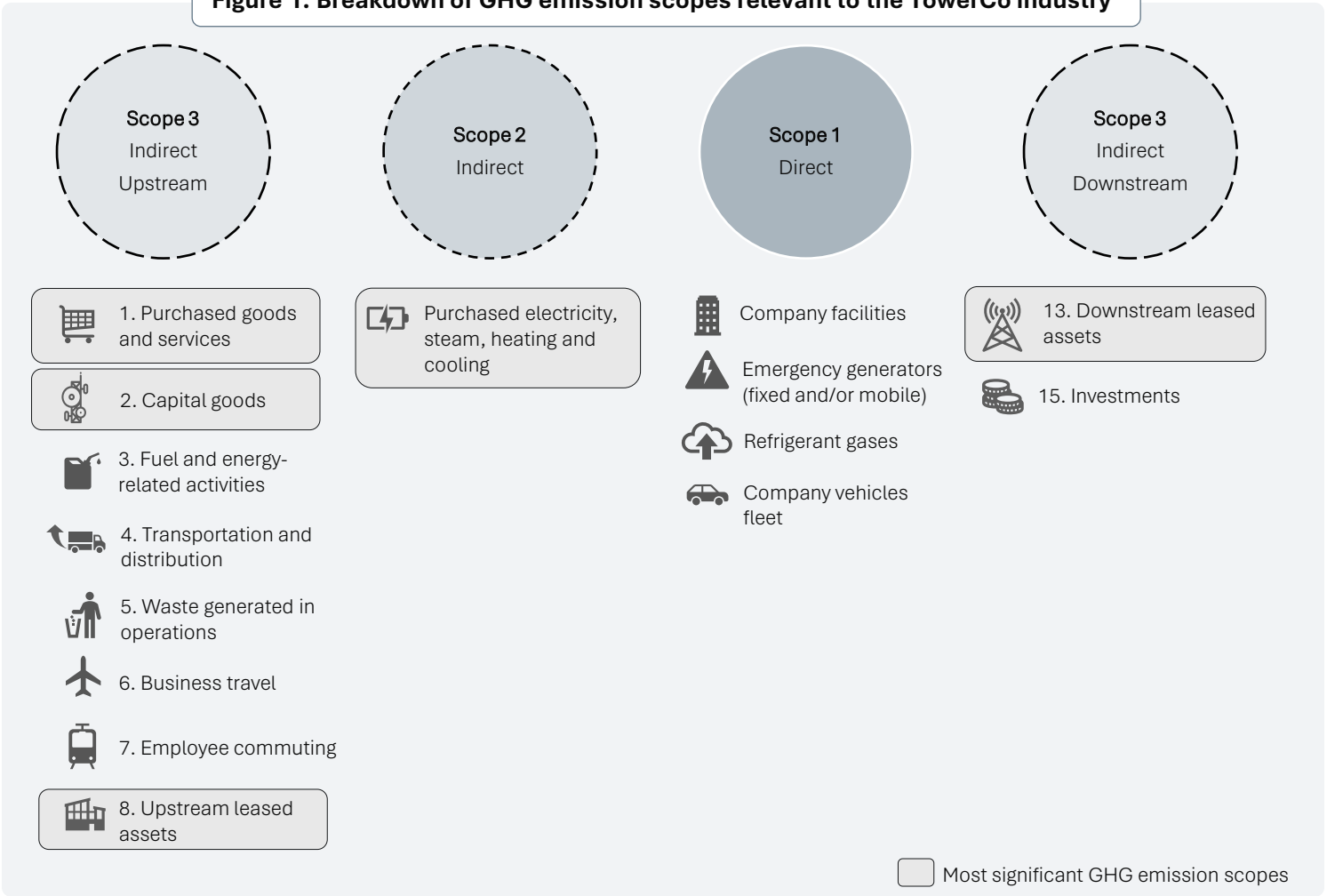
This complexity leads to significant variation in coverage and transparency across the industry, making it difficult to compare data or identify trends. Scope 2 and scope 3 emissions often represent the largest share of a TowerCo carbon footprint.

Figure 1 presents the emission scopes relevant to TowerCo industry, with those exerting the most significant impact highlighted in gray.

This guide is dedicated to detailing the methodology for accounting emissions from TowerCo activities for within these key scopes.

It is important to note that electricity purchased by TowerCos but consumed by their clients may be considered under both scope 2 and scope 3.

Figure 1: Breakdown of GHG emission scopes relevant to the TowerCo industry



1: Greenhouse Gas

Methodology for accounting the most significant GHG[1] emission scopes in the TowerCo industry

Scope Category		Main emission sources	Calculation method	Challenges
Scope 1	Stationary and mobile combustion fugitive emissions	• Vehicles • Emergency generators • Refrigerant gases	• **Emergency generators (fixed and/or mobile):** when possible, estimates consumption based on hours of operation and the characteristics of the generator • **Vehicles:** 1) Refueling card registers 2) Registers of kilometers travelled and type of fuel • **Refrigerant gases:** 1) Leakage control registers (F-gas) 2) Gas leakage estimate 3) Air conditioning maintenance registers	• Move forward using actuals and stop calculating feedstocks • Improve the availability of data in inventories and from maintenance registers
Scope 2	Electricity (market-based method)	• Electricity purchase including pass-through • Electric vehicles • District heating/cooling	• **Electricity purchase for own operations and clients' consumption (pass-through):** consumption models based on meters, invoices and estimates • **Electric vehicles:** 1) Charging card registers 2) Registers of km travelled • **District heating/cooling**: invoices and meters	• For invoices, billing gaps of the electricity companies • Use data activity rather than expenditure data
Scope 3	3.1 Purchased good and services	• Professional services, infrastructure maintenance, repairs & maintenance, decommissioning	• **Input-output approach**: estimate emissions by applying sectorial emission factors (e.g., sector averages) to economic activity data • **Supplier-level allocation approach** collects upstream emissions data directly from suppliers to build supplier-specific emission factor combined economic activity data	• **Input-output method** relies on industry-average emission factors, which may not accurately reflect the actual emissions associated with the products and capital goods purchased by the company. Using industry averages creates a direct, linear link between activity data and estimated emissions • **Supplier-level allocation method** often results in a single average emissions value per supplier, which does not always provide an accurate representation of the emissions from the products and capital goods purchased by the company
	3.2 Capital goods	• Infrastructure construction, equipment, decommissioning, maintenance capex		
	3.8 Upstream leased assets	• Electricity without operational control (sites, offices)	• **Leased offices**: meters, invoice and estimates (when it is not included in scope 2) • **Leased sites landlords**: meters, invoice and estimates • **Leased generators:** estimates and filling (when it is not included in scope 1)	• **Reduce and/or improve estimates:** better estimate of landlord energy consumption based on geographical location and energy uses and improve in disaggregating landlords' scope 1 information for air conditioners and generators • Engage with landlords to purchase renewable energy (offices and sites)
	3.13 Downstream leased assets	• Clients' electricity consumption pass-through or not	• **Electricity purchase for clients' consumption:** consumption models based on meters, invoices and estimates • **Clients' electricity data**: Estimates based on active equipment installed per tower and clients 'data	• Reduce and/or improve estimates: get actuals from clients • Engage with the customer to purchase renewable energy

1: Greenhouse Gas

Industry trends and challenges

Clients' energy-related emission allocation

GHG Protocol allows energy-related client emissions to be reported under scope 2 or scope 3 at the discretion of each TowerCo, creating major challenges for industry-wide comparability.

Challenges in automation and data

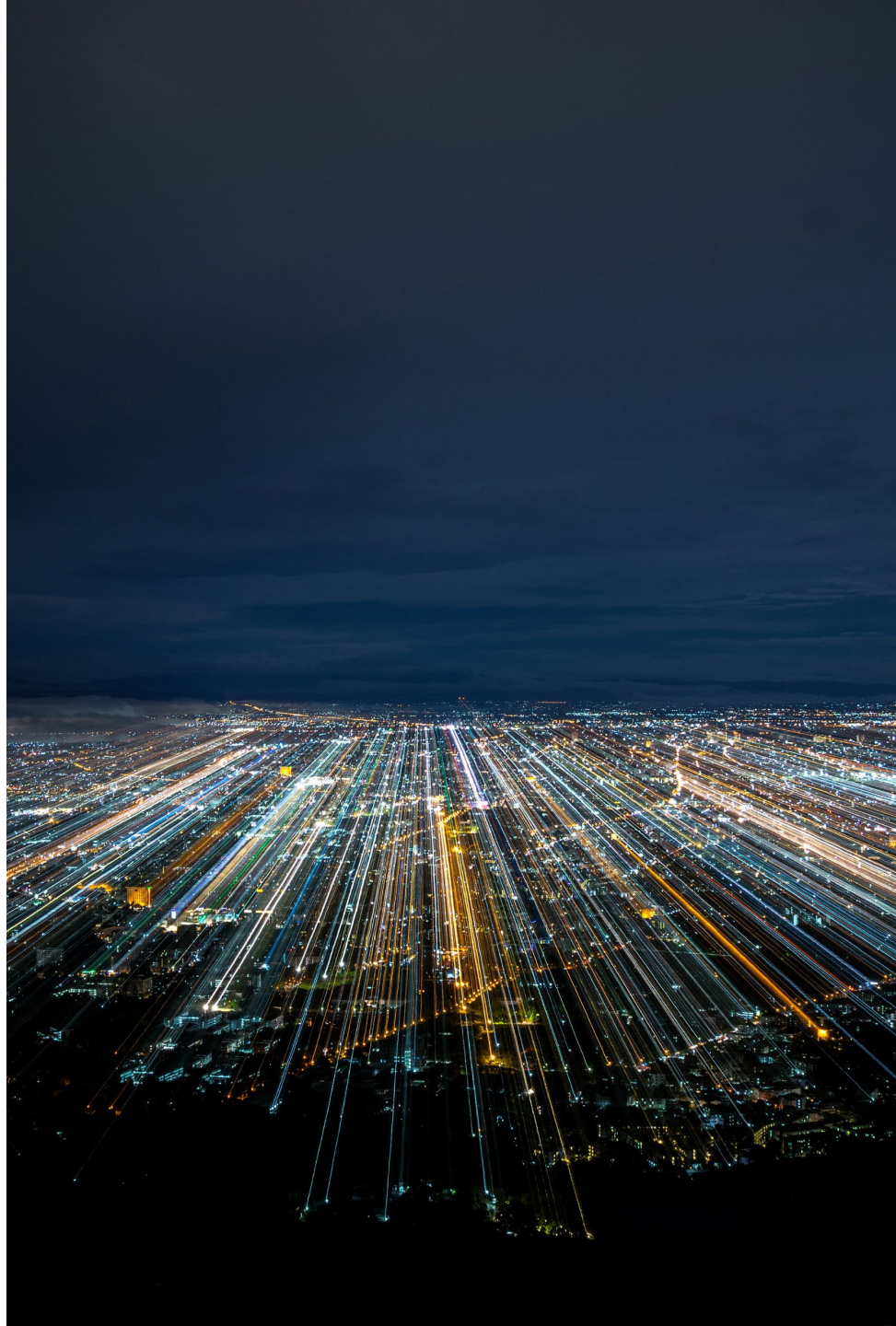
Automation and data acquisition challenges must be addressed to fully integrate value chain activities into decarbonisation frameworks.

Transition to data-driven methods

The industry is shifting from spend-based to primary data and supplier activity for better accuracy in carbon calculations. This evolution aims to improve accuracy and enable more effective decarbonisation strategies.

Focus on quality and value chain engagement

Industry-wide efforts are focused on enhancing data quality, fostering value chain (clients, suppliers and landlords) collaboration, and implementing advanced tools for automated emissions tracking.

Water's limited impact

Water is considered a non-material resource in the carbon footprint calculations due to the minimal use and consumption associated with the lifecycle of a tower site.