

Supplement to the Reference Guide for the GRESB Infrastructure Asset Performance Component

Guidance on Scope 3 Greenhouse Gas Emissions Reporting

Disclaimer: Supplement to the 2022 GRESB Infrastructure Asset Assessment Reference Guide

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How to Use This Guidance Document

This document is a supplement to the GRESB Infrastructure Asset Assessment Reference Guide, specifically to the indicator Greenhouse Gas Emissions (“GH1”). It should be used in conjunction with the Reference Guide.

Scope 3 emissions relate to any indirect GHG emissions in the value chain of an entity - both upstream and downstream, as defined by the *GHG Protocol Corporate Accounting and Reporting Standard* (“GHG Protocol”).

Understanding emissions in the value chain is an important part of an entity’s ability to reduce its carbon footprint and communicate such efforts to its stakeholders. Moreover, initiatives such as the SBTi require entities to map and report scope 3 emissions.

The GHG Protocol divides scope 3 emissions into categories to clarify where significant emissions in the value chain occur. GRESB reporting under the indicator GH1 in the Performance Component of the Infrastructure Asset Assessment is aligned with the GHG Protocol approach.

To help participants identify which sources of scope 3 emissions might be relevant and provide guidance on how to report certain activities under the GHG Protocol’s categories, GRESB has created this Scope 3 guidance document.

The table in the Appendix of this guidance document provides a summary overview of the relevant categories for each sector. Entities can review whether a category might be relevant for their sector.

Note that all guidance is based on whether a source of emissions is *likely* to be relevant for an entity in certain circumstances. It is the responsibility of each entity to review this guidance, as well as that of the GHG Protocol, in the light of its own circumstances and value chain activities to determine whether to report scope 3 emissions relating to that category.

How to Assess Scope 3 Emissions Sources

The GHG Protocol prescribes the following principles for determining whether an emissions source should be reported:

- 1 Relevance** - The GHG emissions should be of interest to internal and external stakeholders and users, for example in decision making. This document should help participants make an initial assessment of which sources might be relevant to their particular sector or situation.
- 2 Completeness** - Any exclusions to the GHG emissions inventory should be explicitly explained and justified. Participants can use the question on “Exclusions” under GH1 or the open text box below the indicator to do so.
- 3 Consistency** - The methodology and approach to tracking emissions should be consistent over time. If changes do occur, they should be disclosed and explained. GRESB participants can use the open text box below GH1 to do so.
- 4 Transparency** - All assumptions, methodologies and issues should be documented and disclosed. GRESB purposefully includes several questions under GH1 to facilitate such transparency.
- 5 Accuracy** - The reported emissions should be as close to actual emissions as possible and uncertainties in reporting should be reduced where possible to allow data users to make well-informed decisions. Participants can use third parties specializing in GHG emissions reporting, such as assurers or consultants, to help them with this. Participants have the option to report whether the data provided was reviewed by a third party under GH1.

How are scope 3 emissions different from other scopes?

The GHG Protocol distinguishes between three emissions scopes in reporting:

- Scope 1 - Direct emissions from sources controlled or owned by the reporting entity
- Scope 2 - Indirect emissions from purchased or acquired electricity, steam, heating or cooling used by the reporting entity (in other words, direct emissions of the energy generator that supplies the energy used by the entity).
- Scope 3 - All other indirect emissions that occur in the value chain of the reporting entity, both upstream and downstream.

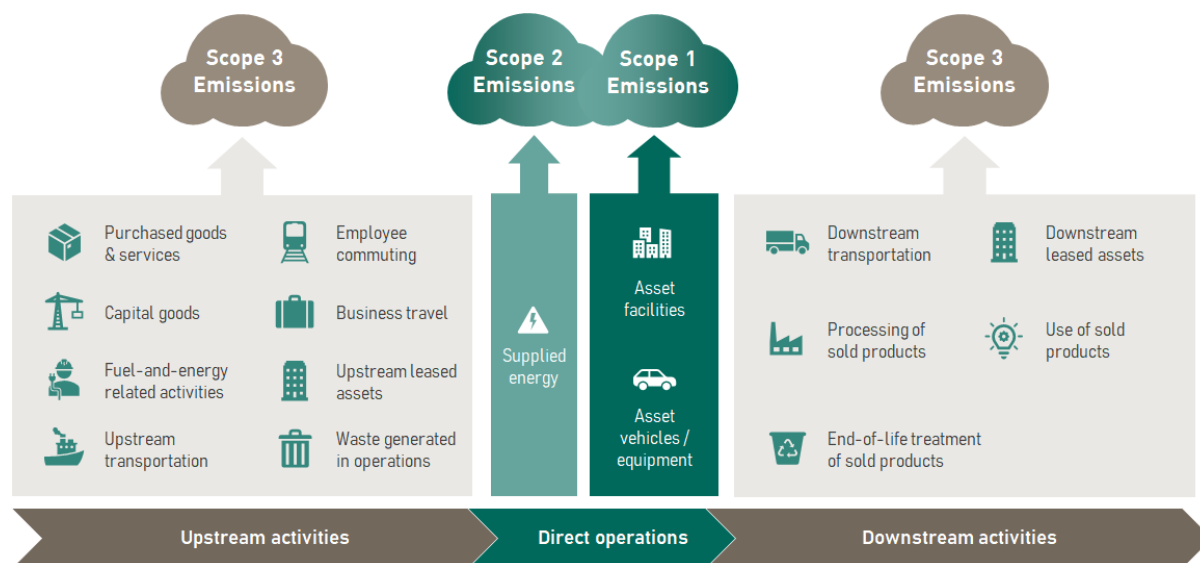


Figure 1 - Scope 3 Emissions Categories. After the GHG Protocol.

There is no overlap between the three scopes for the reporting entity. Adding up scope 1, 2 and 3 emissions gives a full picture of the carbon footprint of the reporting entity.

Products vs. Asset services

The GHG Protocol has named several categories from the perspective of goods or products in a supply chain. From an infrastructure perspective, this may cause confusion as some assets don't produce a typical "product" but provide a service instead. GRESB has taken this into account, treating the asset's service as its "product" where applicable.

Note that, from a scope 3 reporting perspective, "energy" is considered as neither a product nor a service. Rather, all emissions from energy use arise at the extraction and generation level and are included either in the entity's scope 1, 2 or category 3 ("Fuel- and energy-related activities") scope 3 emissions. A worked example is given under the Fuel- and energy-related activities section below.

How to report Scope 3 emissions in the GRESB Asset Assessment

Entities can report their emissions per category in the Scope 3 reporting table in indicator GH1. It is recommended to include a brief description of the reporting approach and any methodologies in the open text box below the indicator to provide additional context.

Scope 3 Categories Explained

The GHG Protocol divides scope 3 emissions into fifteen categories. Below, each category is briefly explained and put into the context of infrastructure and the GRESB Asset Assessment.

1 Purchased goods and services

What is it: “Extraction, production, and transportation of goods and services purchased or acquired by the entity, not otherwise included in Categories 2 - 8” (GHG Protocol). In other words, the cradle-to-gate emissions of products purchased by the entity as part of its operations and maintenance. Examples include chemicals for wastewater treatment, bitumen for repairing potholes and office supplies.

Relevant when: An entity has significant operational expenditure on physical goods and services (i.e. excluding software, energy and employee costs). For most infrastructure assets, operational expenditure that isn’t energy or employee-related will be relatively small, or the emissions from this source relatively minor compared to other scope 3 categories.

How to calculate: Entities can use supplier or industry data such as EPDs (Environmental Product Declarations) of goods to identify upstream emissions.

2 Capital goods

What is it: “Extraction, production, and transportation of capital goods purchased or acquired by the entity” (GHG Protocol). In other words, the cradle-to-gate emissions of capital goods purchased by the company. Examples include industrial equipment, asphalt for road construction and company vehicles.

Relevant when: The asset is in development and/or has significant capital expenditure on physical goods during the reporting year, for example, as part of new constructions or renovations.

How to calculate: Entities can use supplier or industry data such as LCAs (Life Cycle Assessments) and EPDs (Environmental Product Declarations) of goods to identify upstream emissions.

3 Fuel- and energy-related activities

What is it: “Extraction, production, and transportation of fuels and energy purchased or acquired by the entity not already accounted for in scope 1 or scope 2” (GHG Protocol).

Relevant when: An entity generates, distributes or uses a substantial amount of energy. Note that these are emissions relating to fuels and generated energy such as electricity and steam, heating and cooling. This category will be relevant for many infrastructure assets, especially those in energy generation or transmission and distribution.

How to calculate: There are many emission factors freely available to calculate emissions associated with extraction and transmission and distribution losses, that can be multiplied by kWh of energy imported. For fuels used in equipment and vehicles, well-to-tank emissions should be reported as scope 3, whereas burning of the fuels falls under scope 1 (if the equipment/vehicles are within the asset’s reporting boundary). For generated energy, the asset should report the emissions of extraction and transmission and distribution losses for the energy that it has imported.

The GHG Protocol provides some guidance to help entities navigate the various emission sources and whether these are an entity's scope 1, 2 or 3 emissions. GRESB has adapted an example below.

Reporting energy-related emissions

In this example, fuel is extracted by Entity A. The fuel is used for power generation by Entity B. The power generated by B is distributed by Entity C to end user Entity D. Entity C consumes 10% of the power generated by B and Entity D consumes the remaining 90%.

The total reported emissions in the value chain is 105 tCO₂e (i.e. the value chain's total scope 1 emissions). Each entity's total scope 1, 2 and 3 emissions should therefore equal 105 tCO₂e, although emissions will be classified under different scopes for each entity.

	Extraction, processing and transport	Power generation	Transmission & distribution	End user consumption
	Emissions associated with extraction	Emissions from combustion of fuels in power generation	Power losses & consumption of power by utility (10% of total generated power)	Consumption of power by end user (90% of total generated power)
Mining / extraction company	Scope 1 (5 tCO ₂ e)	Scope 3 (use of sold products) (100 tCO ₂ e)	-	-
Power generator	Scope 3 (fuel- and energy- related activities) (5 tCO ₂ e)	Scope 1 (100 tCO ₂ e)	-	-
Utility	Scope 3 (fuel- and energy- related activities) (10% * 5 tCO ₂ e = 0.5 tCO ₂ e)	(reported as scope 2)	Scope 2 (10% * 100 tCO ₂ e = 10 tCO ₂ e)	Scope 3 (fuel- and energy- related activities) (4.5 tCO ₂ e + 90 tCO ₂ e = 94.5 tCO ₂ e)
End user	Scope 3 (fuel- and energy- related activities) (90% * 5 tCO ₂ e = 4.5 tCO ₂ e)	(reported as scope 2)	Scope 3 (fuel- and energy- related activities) (0.5 tCO ₂ e + 10 tCO ₂ e = 10.5 tCO ₂ e)	Scope 2 (90% * 100 tCO ₂ e = 90 tCO ₂ e)

Utilities should report all emissions of the end user as “fuel- and energy-related emissions”, minus the end user's scope 3 emissions from transmission and distribution losses (these are, after all, the utility's scope 2 emissions, so that would be double counting). They also report the emissions from the extraction process proportional to the energy they have consumed.

End users should report all the emissions of the utility as “fuel- and energy-related emissions”, except those that relate to the end user's scope 2 emissions (again, that would be double counting). Like the utility, they also report the emissions from the extraction process proportional to the energy they have consumed.

4 Upstream transportation and distribution

What is it: “Transportation and distribution services of products purchased by the entity from its tier 1 suppliers and transportation and distribution between the entity's facilities (in vehicles or facilities not owned or controlled by the entity)” (GHG Protocol).

Relevant when: The entity procures significant amounts of products and goods, in other words, if category 1 (Purchased goods and services) is relevant.

How to calculate: Emissions factors for fuel use of third-party vehicles that provide transportation and distribution between suppliers or between asset facilities are widely available.

5 Waste generated in operations

What is it: “Disposal and treatment of waste generated in the entity's operations (in facilities not owned or controlled by the entity)” (GHG Protocol). Generated waste includes both solid waste and wastewater.

Relevant when: The entity generates significant amounts of solid waste or wastewater. Only waste treated by third parties falls under this category. Entities where the ESG issue ‘Waste’ is of medium or high materiality and that are not in waste or wastewater treatment sectors should likely report the carbon impact of their disposed waste. If waste(water) is treated by the entity onsite, the associated emissions should be reported as scope 1 or 2.

How to calculate: Emission factors are available for waste amounts and waste type. Entities may also request information on waste or wastewater processing from their service providers.

6 Business travel

What is it: “Transportation of employees for business-related activities (in vehicles not owned or operated by the entity)” (GHG Protocol). An entity might also include emissions arising from accommodation. Commuting-related emissions should be reported under the next scope 3 category, ‘Employee commuting’.

Relevant when: The entity has significant business travel, because employees travel extensively or the entity's workforce is large, or both. Note that air travel is highly carbon intensive and can be a substantial contributor to an entity's scope 3 emissions.

How to calculate: Information on the emissions from business travel might be obtained from travel agencies or airlines (in case of air travel). Alternatively, emissions factors are available on for example the emissions per kilometer or mile travelled.

7 Employee commuting

What is it: “Transportation of employees between their homes and their worksites (in vehicles not owned or operated by the entity)” (GHG Protocol).

Relevant when: The entity has a large workforce. Many businesses can influence the impact of commuting by offering employees subsidies for low-carbon transportation, such as public transit or bicycles, so this category is likely relevant if the entity employs a large number of workers.

How to calculate: Emission factors for vehicles and public transportation are widely available, typically expressed in tCO₂e/km travelled. Entities can use information from employee surveys or use proxy data to estimate travel distances.

8 Upstream leased assets

What is it: “Operation of assets leased by the entity (lessee) not included in scope 1 and scope 2 – reported by lessee” (GHG Protocol).

Relevant when: The entity has leased assets from third parties. Note that GRESB recommends entities to report all emissions associated with the operation of the asset under scope 1 and 2.

9 Downstream transportation and distribution

What is it: “Transportation and distribution services or T&D of products sold by the entity from the entity's operations to the end consumer, including retail and storage (in vehicles or facilities not owned or controlled by the entity)” (GHG Protocol). This also includes emissions from users travelling to the entity.

Relevant when: The entity distributes or supplies goods, or if many users travel to the asset to use its services. Note that energy is not considered a good or service; transportation and distribution of energy should be reported under category 3 (Fuel- and energy-related activities). Entities with many users, such as in the transport and social infrastructure sectors, should likely report the emissions associated with this category, as well as entities that supply goods such as water suppliers.

How to calculate: Entities that transport goods should work with suppliers to estimate the carbon footprint of the distribution process. Entities that have lots of users that travel to the asset should estimate the travel mode and distance of its users (for example, through surveys) and apply emission factors accordingly.

10 Processing of sold products

What is it: “Processing of intermediate products sold in the reporting year by downstream companies (e.g., manufacturers)” (GHG Protocol). Note that sold energy should be reported under category 3 (‘Fuel- and energy-related activities’).

Relevant when: The entity produces goods that are processed further downstream. This category is likely irrelevant for most infrastructure assets, which typically provide services rather than tangible goods used in manufacturing. However, it is potentially relevant to some waste processors and water resources companies if they produce by-products that are used in downstream manufacturing (e.g., recycled plastics).

How to calculate: The entity should work with downstream customers to identify the emissions associated with the processing of their supplied goods.

11 Use of sold products

What is it: “End use of goods and services sold by the entity (i.e. scope 1 & 2 emissions of end users from the use of the products, such as the use of energy, fuels and feedstocks and the release of emissions from the product directly)” (GHG Protocol).

Relevant when: The entity provides a service or good that has emissions associated with its use. Entities that provide a service, such as roads, should consider how their asset is used and what the resulting emissions are. This also applies to ports and airports, who might consider the approach to their location (e.g. descent from 3,000 feet and taxiing of airplanes, as required by the Airport Carbon Accreditation for level 3 certification) into this category. Entities that produce feedstocks or generate large by-product streams can report emissions associated with their use phase here as well.

How to calculate: This depends on the use of the services or goods provided by the asset. A road might estimate the emissions of its users using usage models and fuel emission factors.

12 End-of-life treatment of sold products

What is it: “Waste disposal and treatment of products sold by the entity at the end of their life” (GHG Protocol).

Relevant when: This category is not likely relevant for any infrastructure assets, as they typically provide services rather than goods. Note that operational waste should be reported under category 5.

13 Downstream leased assets

What is it: “Operation of assets owned by the entity (lessor) and leased to other entities, not included in scope 1 and scope 2 – reported by lessor” (GHG Protocol).

Relevant when: The entity has leased assets to third parties. Note that GRESB recommends entities to report all emissions associated with the operation of the asset under scope 1 and 2.

14 Franchises

What is it: “Operation of franchises, not included in scope 1 and scope 2 – reported by franchisor” (GHG Protocol).

Relevant when: This category is not likely relevant for most infrastructure assets. If the entity has a franchise that is involved in providing the asset’s service, its emissions should be reported as scope 1 or 2.

15 Investments

What is it: “Operation of investments (including equity and debt investments and project finance), not included in scope 1 or scope 2” (GHG Protocol).

Relevant when: This category is not relevant for infrastructure assets. If the entity has an investment that is involved in providing the asset’s service, its emissions should be reported as scope 1 or 2.

References

[Airport Carbon Accreditation Application Manual \(Issue 12\)](#)

[WRI & WBCSD - The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard](#)

[WRI & WBCSD - Corporate Value Chain \(Scope 3\) Accounting and Reporting Standard](#)

[WRI & WBCSD - Technical Guidance for Calculating Scope 3 Emissions](#)

Contact

This guidance document has been created by GRESB for use by participants and is a supplement to the Infrastructure Asset Assessment Reference Guide. Any comments or feedback can be provided to GRESB via <https://gresb.com/nl-en/about-us/contact/> or info@gresb.com.

Appendix I – Reference Table

How to use it: All sectors in the Infrastructure Assessment are listed in the first columns of the table. Each scope 3 category is covered in the first rows. Entities can use the table to look up whether a category is likely relevant:

- **Not likely relevant** – The scope 3 category is probably not applicable to the entity's scope 3 emissions reporting
- **Likely relevant** – The scope 3 category is probably relevant to the entity's scope 3 emissions reporting. The entity should review its activities and reference against the guidance in this document and the guidance provided by the GHG Protocol to determine whether it should report scope 3 emissions for this category.
- **Very likely relevant** – The scope 3 category is almost certainly relevant to the entity's scope 3 emissions reporting. The entity should review its activities and reference against the guidance in this document and the guidance provided by the GHG Protocol to determine whether it should report scope 3 emissions for this category.

Some categories depend on specific entity context during the reporting year; for example, category 2, Capital Goods, depends on whether the entity acquired capital goods. Entities should always assess whether these categories apply to their specific circumstances and/or activities.