



BSI Standards Publication

Greenhouse gases

Part 4: Guidance for the application of ISO 14064-1

National foreword

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A list of organizations represented on this committee can be obtained on request to its committee manager.

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Greenhouse gases —

Part 4: Guidance for the application of ISO 14064-1

Gaz à effet de serre —

*Partie 4: Recommandations relatives à l'application de l'ISO
14064-1*

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents. ISO shall not be held responsible for identifying any or all such patent rights.

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 207, *Environmental management*, Subcommittee SC 7, *Greenhouse gas and climate change management and related activities*.

This first edition cancels and replaces ISO/TR 14069:2013, which has been technically revised.

The main changes are as follows:

- a more systematic structure has been adopted, aligned with the main clauses of ISO 14064-1:2018;
- a more detailed approach to quantification is provided, including step-by-step guidance on source identification, data collection and emission factor selection;
- consistency with other international frameworks has been enhanced, notably the GHG Protocol and IPCC guidelines;
- the conditions of use for this document in potentially more demanding contexts has been clarified, with an emphasis on traceability and justification of methodological choices, supporting more robust application.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

ISO 14064-1 enables organizations around the world to quantify greenhouse gas (GHG) emissions and removals. This document uses the principles and process from ISO 14064-1 to develop guidance on quantification and reporting of GHG for organizations.

This document is consistent with the objective of building on existing International Standards and protocols on corporate GHG inventories. Many key concepts have been developed over a number of years.

ISO 14064-1 identifies six GHG inventory categories:

- a) direct GHG emissions and removals;
- b) indirect emissions from imported energy;
- c) indirect emissions from transportation;
- d) indirect emissions from products used by the organization;
- e) indirect emissions associated with the use of products from the organization;
- f) indirect emissions from other sources.

[Annex B](#) provides a table of correspondence between this document, the GHG Protocol Corporate Standard (2010)^[11] and ISO 14064-1.

In tackling climate change, there is a convergence of interests between organizations, national and regional regulators, and international negotiators on the need to develop methods of quantifying GHG emissions and providing reliable tools to do so.

This document is intended to assist users in the application of ISO 14064-1, using guidance and examples, to provide transparency in the quantification of emissions and their reporting.

This document enables an organization to:

- enhance the transparency and consistency of reported GHG emissions (direct and indirect);
- select categories and determine subcategories for ISO 14064-1 inventories;
- choose or develop the method of calculating emissions;
- differentiate, whenever necessary, the two main types of organization that are addressed in this document:
 - a facility or production site (spatially delimited) providing goods (industry) and/or services (tertiary), belonging to a private or public organization;
 - a private or public organization with several facilities/sites and/or subsidiaries, and needing consolidation procedures;
- report GHG emissions and removals, using a simplified format to make the report easier to understand.

This document is intended to give guidance on the quantification of a GHG inventory within the selected boundaries of an organization. The objective of this document is to offer organizations guidance on the quantification and reporting of their GHG inventory, using a process that incorporates the principles of relevance, completeness, consistency, accuracy and transparency. This kind of GHG inventory is expressed as net global warming potential (GWP) in carbon dioxide equivalent (CO₂e).

Greenhouse gases —

Part 4: Guidance for the application of ISO 14064-1

1 Scope

This document describes the principles, concepts, and methods relating to the quantification and reporting of direct and indirect greenhouse gas (GHG) emissions for an organization. It gives guidance on the application of ISO 14064-1 to GHG inventory at the organization level, for the quantification and reporting of direct emissions and indirect emissions.

This document describes for all organizations, the steps for:

- establishing organizational boundaries, in accordance with either a control approach (financial or operational) or an equity share approach;
- establishing reporting boundaries, by identifying direct and indirect emissions to be quantified and reported; for each category of emission, guidance is provided on specific boundaries and methodologies for the quantification of GHG emissions and removals;
- GHG reporting: the guidance is provided to promote transparency regarding the boundaries, the methodologies used for the quantification of direct and indirect GHG emissions and removals, and the uncertainty of the results.

The examples and case studies presented in this document are not exclusive nor exhaustive. The values of the emission or removal factors mentioned in the examples are given for illustrative purposes only. A non-exhaustive list of database references is provided in [Annex A](#).

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 14064-1, *Greenhouse gases — Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 14064-1 and the following apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

3.1 Terms related to greenhouse gases

3.1.1

replaced emission

greenhouse gas (GHG) emission from producing functionally equivalent products or services replaced by waste to energy or material recovery (recycled) from waste generated by the reporting company

Note 1 to entry: For material recovery, it refers to the emissions from producing the functionally equivalent virgin material that is replaced with the recycled material produced from waste.

Note 2 to entry: For waste to energy, it refers to the emissions from producing the functionally equivalent energy that is replaced with energy recovered from the incineration of waste.

3.1.2

downstream emission

other indirect greenhouse gas (GHG) emissions from goods and services subsequent to sale and/or delivery by an organization and to the end of life of such goods and services

3.1.3

upstream emission

energy indirect greenhouse gas (GHG) emissions and other indirect GHG emissions from goods and services acquired by an organization

3.1.4

double counting

accounting for greenhouse gas (GHG) emissions or removals more than once

Note 1 to entry: Double counting can occur between organizations, resulting in two or more organizations reporting the same GHG emissions or removals. Double counting can also occur inside an organization when GHG emissions or removals are taken into account in different categories (this type of double counting should not occur).

Note 2 to entry: Direct GHG emissions or removals reported by one organization can be reported as indirect GHG emissions or removals by a number of other organizations resulting in two or more reporting organizations taking ownership of the same GHG emissions or removals.

3.2 Terms related to biogenic material and land use

3.2.1

indirect land use change

iLUC

change in the use of land which is a consequence of direct land use change, but which occurs outside the relevant boundary

Note 1 to entry: In this document, the relevant boundary is the boundary of the system under study.

Note 2 to entry: Land use change happens when there is a change in the “land-use category” as defined by the IPCC (e.g. from forest land to cropland).

EXAMPLE If land use on a particular parcel of land changes from food production to biofuel production, land use change can occur elsewhere to meet the demand for food. This land use change elsewhere is indirect land use change.

[SOURCE: ISO 14067:2018, 3.1.7.6]

3.3 Terms relating to organizations, interested parties and verification

3.3.1

product

any goods or service

[SOURCE: ISO 14050:2020, 3.512]

3.3.2

franchisee

organization that operates franchises and pays fees to a *franchisor* ([3.3.3](#))

3.3.3

franchisor

organization that grants licences to other organizations to sell or distribute its goods or services, in return for payments, such as royalties for the use of trademarks and other services

3.3.4

lessor

organization that receives payments from lessees

3.3.5

equity debt

holding of shares of stock on a stock market in anticipation of income from dividends and capital gains, as the value of the stock rises, or the acquisition of equity (ownership) participation in a private (unlisted) company or a start-up company

3.3.6

investment debt

investment in a firm or a project through the purchase of bonds or debentures, instead of through the purchase of common or preferred stock (ordinary or preference shares)

Note 1 to entry: This is in contrast to *equity debt* ([3.3.5](#)).

3.3.7

project finance

long-term financing of infrastructure and industrial projects, under the form of either equity or debt

3.3.8

debt investment

investment in the financing of property or of some endeavour, in which the investor loaning funds does not own the property or endeavour, nor share in its profits

3.3.9

contractual instrument

type of contract between two parties for the sale and purchase of energy bundled with attributes about the energy generation, or for unbundled attribute claims

4 Principles

4.1 General

ISO 14064-1:2018, 4.1, should be applied.

4.2 Relevance

ISO 14064-1:2018, 4.2, should be applied.

For the relevance of appropriate GHGs taken into account: the organization should determine, as appropriate to the needs of user, the GHGs taken into account, by using the GHG definition (see ISO 14064-1) in the same way that is used for the selection of GHG sources, sinks and reservoirs.

This selection of GHGs should also be consistent with the completeness principle (see [4.3](#)). This GHG selection is identified and explained in the report (see [Clause 9](#)). The selection of GHG sources, sinks and reservoirs is independent of GHGs taken into account. This selection of gases should also be consistent throughout all the emission categories considered inside reporting boundaries (see [5.2](#)).

[Subclause 5.2.4](#) provides guidance to the intended user on the relevance and selection of data and methodologies, category by category.

4.3 Completeness

ISO 14064-1:2018, 4.3, should be applied.

Completeness refers to the need for the organization to have identified and understood all its emissions and removals and included them within its organizational and reporting boundaries. This requires an organization to have the necessary competencies, capacity and processes in place to ensure the effective achievement of identification and understanding.

The principle of completeness is used with the principle of relevance to explain the choice of the GHGs included in the GHG inventory.

ISO 14064-1:2018, Annexes B and C, can help to identify all possible sources or sinks.

4.4 Consistency

ISO 14064-1:2018, 4.4, should be applied.

Consistency is necessary both for the organization's internal and external comparisons.

Internal comparisons deal with period-to-period comparisons, in order to evaluate the potential results of decided and/or implemented directed actions. It also deals with internal comparisons between departments or subsidiaries within the organization.

For external comparisons, the GHG inventory should be presented in a manner that enables the users to analyse the changes in the organization's levels of emissions and removals over time.

4.5 Accuracy

ISO 14064-1:2018, 4.5, should be applied.

Accuracy refers to the need for an organization to provide information regarding its emissions and removals that has a high degree of accuracy, a low margin of uncertainty, and is free of bias as far as is practicable in order for users to make decisions with a high degree of confidence. The accuracy of quantitative information may depend on specific sampling methods and qualitative information but is subject to a level of uncertainty.

4.6 Transparency

ISO 14064-1:2018, 4.6, should be applied.

Transparency refers to the need for an organization to disclose sufficient and appropriate GHG-related information relevant to the processes, procedures and assumptions embodied in the reported information to allow users to make decisions with reasonable confidence.

5 GHG inventory boundaries

5.1 Organizational boundaries

5.1.1 General

ISO 14064-1:2018, 5.1, should be applied.

An organization engaged in setting its organizational boundaries first establishes the objective of the GHG inventory and then examines its mission, goals, operations and facilities to determine the GHG sources which it can control and those which it can influence. The objective of its inventory is used to determine the organizational boundaries.

If the objective is to calculate the GHG inventory of the whole organization, the organization should carefully analyse its current organizational boundaries and consolidation methods, which are already in place for financial accounting. If these organizational boundaries are suitable for the GHG inventory objectives and are explained and followed consistently, the organization should consider using these financial boundaries and consolidation methods.

If the organization wholly owns and operates all its operations, its organizational boundaries are the same whichever consolidation method is used. In this case, the organization simply quantifies and reports all emissions from each of its wholly owned operations.

For organizations with jointly owned operations, the organizational boundaries differ depending on the consolidation method used (control or equity share).

5.1.2 Selecting and applying the consolidation method

5.1.2.1 General

Each consolidation method (equity share or control) has advantages and disadvantages. The operational and financial control methods can best facilitate performance tracking of GHG management policies. However, these do not always fully reflect the financial risks and opportunities associated with climate change, compromising financial risk management. On the other hand, the equity share method best facilitates financial risk management by reflecting the full financial risks and opportunities associated with climate change, and is less subject to interpretation, but can be less effective at tracking the operational performance of GHG management policies.

If both methods are equally applicable and meet the organization's objectives, preference should be given to the consolidation approach that follows the financial accounting rules already in place, in order to link GHG emissions reporting with actions to improve GHG management.

NOTE Most companies use the control approach.

In some cases, the consolidation methods already in place for the organization's financial accounting are not always suitable for determining the GHG inventory of the organization. In these circumstances, a specific definition of financial or operational control can be needed and reported in the GHG inventory.

The concepts described in [5.1.2.2](#) and [5.1.2.3](#) are derived from the International Financial Reporting Standards (IFRS)^[9].

If the organization is a franchisor (i.e. an organization that grants licences to other entities to sell or distribute its goods or services, in return for payments, such as royalties for the use of trademarks and other services), then it should include all its franchisees within its reporting boundaries.

5.1.2.2 Equity share consolidation method

Using the equity share consolidation method leads to an account of emissions for the consolidated entities up to the ownership percentage of the reporting organization. This type of consolidation is rarely adopted in financial accounting, so that it is not recommended to adopt it for GHG reporting purposes, in order to remain as consistent as possible with financial reporting.

Equity share reflects the extent of the rights an organization has to the risks and rewards from an operation based on its equity interest. Equity share is therefore the same as the ownership percentage.

NOTE In special cases, if the ownership percentage is below the economic interest, equity share is re-evaluated (see IFRS^[9] rules).

A subsidiary is identified by the share of equity held in it by its parent organization. The equity share communicates the stewardship of management in carrying out its responsibilities related to the subsidiary more clearly than if the investments were accounted for on the basis of direct equity interest.

A parent organization should determine the degree of equity investment (more than 1 %) it has in its subsidiaries to assist in defining its organizational boundaries.

The legal status of a subsidiary is independent of the control affiliation for the purposes of defining the organization's boundaries. Any change in equity share is a reason to reconsider the organizational boundaries. When a subsidiary is excluded from consolidation, its shares are recorded as "equity" in subcategory 5.4 of indirect emissions related to the use of products (see 6.5.5.4).

After the organizational boundaries are defined, the GHG inventory of the reporting organization includes the equity share portion of GHG emissions of the consolidated subsidiaries. Therefore, assuming the reporting organization is the parent organization, its GHG inventory includes the GHG emissions of the parent organization and the emissions from its subsidiaries up to the representative portion of its interests.

EXAMPLE Parent organization A holds 30 % of the shares from organization B. The emissions from organizations A and B are shown in Table 1. The consolidated results are shown in Table 2.

Table 1 — Values of emissions from parent organization A and subsidiary B

Emissions	Parent organization A (emissions in tCO ₂ e)	Subsidiary B (emissions in tCO ₂ e)	30 %
Direct emissions	1 000	500	150
Energy indirect emissions	500	20	6
Other indirect emissions	8 000	7 000	2 100

**Table 2 — Consolidated results for the GHG inventory of organization A
(equity share consolidation method)**

Consolidation	Emissions tCO ₂ e
Direct emissions	1 150
Energy indirect emissions	506
Other indirect emissions	10 100

5.1.2.3 Control consolidation method

Using the control consolidation method leads to the account including 100 % of emissions of consolidated entities which are under the control of the reporting organization.

IFRS defines control as the power to govern the financial and operating policies of an organization so as to obtain benefits from its activities.

This definition of control encompasses both the notion of governance and the economic consequence of that governance (i.e. benefits and risks). "Power to govern" implies having the capacity or ability to govern the decision-making process through the selection of financial and operational policies.

As a general rule, control of an entity is presumed when the parent organization owns more than half of the voting power of the entity either directly or indirectly through subsidiaries.

When the parent organization owns half or less of the shares of an entity, control may occur in the following cases:

- extended voting rights over passing the majority by virtue of an agreement with other investors;
- power to govern the financial and operating policies of the entity under a statute or an agreement (e.g. local authorities' sharing entities or joint venture company);
- power to cast, appoint or remove the majority of the members of the board of directors (and other stewardship committees);
- control based on contracts, where control means the right, under contractual or statutory provisions, to exercise authority in an organization, whether the authority is a majority or minority shareholder of this organization; a parent organization has the ability to use or direct the use of assets in the same way it controls its own assets;

EXAMPLE 1 The parent organization can be a shareholder or a minority shareholder and be entrusted with the effective management of an entity.

— control *de facto*.

In some cases, the organization can run sustainable financial and operating policies of another organization, although it does not hold majority voting rights or does not have a formal contract to exercise a dominant influence. The basis for the control should be explained.

An example of *de facto* control applies when the representatives of the parent organization are the top management leaders of an entity. In such a case, the entity should be consolidated even if the parent organization has no majority voting rights.

Explanation and disclosure should be provided in determining whether an organization controls another. Once the organizational boundaries of the organization are defined, the parent organization should include 100 % of GHG emissions of the consolidated entities.

EXAMPLE 2 Parent organization A holds 70 % of voting rights from organization B (control explained). The emissions from organizations A and B are shown in [Table 3](#). The consolidated results are shown in [Table 4](#).

Table 3 — Values of emissions from parent organization A and subsidiary B

Emissions	Parent organization A (emissions in tCO ₂ e)	Subsidiary B (emissions in tCO ₂ e)
Direct emissions	1 000	500
Energy indirect emissions	500	20
Other indirect emissions	8 000	7 000

**Table 4 — Consolidated results for the GHG inventory of organization A
(control consolidation method)**

Consolidation	Emissions tCO ₂ e
Direct emissions	1 500
Energy indirect emissions	520
Other indirect emissions	15 000

5.2 Reporting boundaries

5.2.1 Establishing reporting boundaries

ISO 14064-1:2018, 5.2.1, should be applied.

GHG emissions and removals should be divided into direct and indirect emissions and removals in order to help the organization to understand better those emissions and removals to better meet the needs of the intended users (e.g. customers, suppliers, investors, governments, NGOs). This facilitates transparency on double counting in the same supply chains that are part of different GHG inventories. Double counting cannot be avoided between reporting organizations having activities on the same supply chain.

Indirect emissions and removals should be broken down into the following five categories that refer to distinct practical items:

- imported energy;
- transportation;
- products (and services) used by the organization;
- use of products (and services) from the organization;

— other sources.

Further subdivision should be done by the organization for both direct and indirect GHG emissions and removals, according to the subcategories detailed in [5.2.2](#) and [5.2.3](#).

GHG emissions and removals are classified into the 22 subcategories detailed in [5.2.2](#) and [5.2.3](#). Each emission can only belong to one subcategory.

Additional information on sector-specific requirements regarding monitoring and reporting of GHG emissions can be available from sector-specific guidelines or standards and can help to achieve the principles of completeness, relevance and consistency.

NOTE Some categories can include emissions that occurred before or will occur after the reporting year (e.g. emissions from previously made purchased products (before) or emissions from the use of sold products (beyond)). With a view to account for all emissions related to the activities of the reporting organization, these emissions are also considered in the reporting year in which the activity is recorded.

[Clause 6](#) gives indications for the quantification of GHG emissions and removals for each of these categories.

5.2.2 Direct GHG emissions and removals

5.2.2.1 General

ISO 14064-1:2018, 5.2.2 and B.2.1, should be applied.

This category may be further subdivided, depending on the intended user or other factors. If so, its subcategories should be given priority.

5.2.2.2 Category 1: Direct GHG emissions and removals

5.2.2.2.1 Subcategory 1.1: Direct emissions from stationary combustion

The consequence of combustion of any type of fuel (fossil or biomass) combusted in stationary (fixed) equipment, such as heaters, gas turbines and boilers. This can be done to generate electricity, heat, mechanical work and steam.

5.2.2.2.2 Subcategory 1.2: Direct emissions from mobile combustion

The consequence of fuel combusted in transport equipment, such as motor vehicles, trucks, ships, aircraft, locomotives and fork lift trucks.

In general, emissions from vehicles not included within the organizational boundaries should be reported as “category 3: indirect GHG emissions from transportation” arising from business travel, employee commuting, client or visitor transport, upstream leased assets, etc., except in the following cases:

- Case 1: For an organization with a core business oriented to transport service that operates vehicles owned by another organization (e.g. in public transport vehicles owned by a local authority but operated by a private company or similar configurations), this activity should be considered as category 5 (indirect GHG emissions associated with the use of products from the organization) because the activity should be predominantly considered as a service provided instead of category 3 (indirect GHG emissions from transportation).
- Case 2: GHG emissions resulting from vehicles and trucks operated by owner-drivers (e.g. a taxi, courier or freight company) should be reported as direct emissions of the company where the vehicles are branded by the company.

5.2.2.2.3 Subcategory 1.3: Direct process emissions and removals from industrial processes

Emissions from biological, mechanical or other activities that are not coming from the direct combustion of fossil fuels, leaks from equipment, storage and transportation systems or leaks from reservoirs and injection wells. The emissions sources are within the organizational boundaries of the reporting organization.

Examples of industrial processes that result in direct process emissions include, but are not limited to, cement and lime production, chemical production, manufacturing, oil and gas refining, and non-combustion processes involving the avoidance, replacement, destruction, decomposition or mitigation of industrial GHG emissions (e.g. N_2O) and purification processes associated with carbon capture and storage (e.g. amine solution capture systems).

5.2.2.2.4 Subcategory 1.4: Direct fugitive emissions from the release of GHG in anthropogenic systems

Direct fugitive emissions can come from:

- systems that extract, process, store and deliver fossil fuels (e.g. flanges, valves, unions and threaded connections);
- equipment leaks (e.g. cooling systems);
- agricultural processes (e.g. putrefaction and fermentation, manure, livestock, application of nitrogen fertilizers);
- the uncontrolled decomposition of waste material from sources such as landfills, composting facilities, wastewater treatment and other waste management processes.

Emissions from flaring or venting are quantified as direct emissions. Emissions from flaring and venting can be unintentional or intentional. Examples include designed releases of CH_4 or CO_2 containing natural gas or hydrocarbon gas (not including stationary combustion flue gas) into the atmosphere through seals or vent pipes, equipment blowdown for maintenance and direct venting of gas used to power equipment (such as pneumatic devices).

5.2.2.2.5 Subcategory 1.5: Direct emissions and removals from land use, land use change and forestry (LULUCF)

This subcategory covers all GHGs, from living biomass to organic matter in soils. According to IPCC Guidelines^[10], emissions can be assessed in six main land-use categories (forest land, cropland, grassland, wetland, settlement, other land) and several carbon reservoirs (living above-ground biomass, living underground biomass, deadwood, leaf litter, soil organic matter).

GHG emissions and removals from LULUCF come from anthropogenic land use activities (controlled biomass burning, restoration of wetlands, forest management), direct land use change (dLUC) (afforestation, reforestation, and deforestation) and managed forests, within the organizational boundary.

Direct GHG removals from the atmosphere increase the carbon stock of one of the following reservoirs: above-ground biomass, below-ground biomass, dead wood, litter and soil organic matter. These removals are due to the uptake of CO_2 during the growth of biomass.

NOTE Carbon stock refers to the total amount of carbon stored on a plot of land at any given time in one or more of the following carbon reservoirs: above-ground biomass, below-ground biomass, dead wood, litter, soil organic matter (see the IPCC Guidelines^[10]).

Direct GHG emissions from one of the following reservoirs decrease the carbon stock: above-ground biomass, below-ground biomass, dead wood, litter and soil organic matter. Reduction in carbon stock in one of the following reservoirs causes direct GHG emissions from LULUCF: above-ground biomass, below-ground biomass, dead wood, litter and soil organic matter. These emissions are caused by the decomposition of the biomass, which can release CO_2 and CH_4 and N_2O .

dLUC emissions and removals occur through anthropogenic interventions that create a change in carbon stocks on that land. A change in carbon stock can occur when land use changes from one category to another

(e.g. converting forest to crop land) or within a land use category (e.g. converting a natural forest to a managed forest, converting from till to no-till). Land use change does not include changes in crop cover or crop rotations that occur within the crop land category.

5.2.3 Indirect GHG emissions

5.2.3.1 General

ISO 14064-1:2018, 5.2.3, should be applied.

Refer to [5.2.4](#) for more details on the process of identifying significant indirect GHG emissions.

This category may be further subdivided, depending on the intended user or other factors. If so, the following subcategories should be used.

5.2.3.2 Category 2: Indirect GHG emissions from imported energy

5.2.3.2.1 General

ISO 14064-1:2018, B.3.1, should be applied.

5.2.3.2.2 Subcategory 2.1: Indirect emissions from imported electricity

This subcategory includes GHG emissions related to the production and consumption of electricity imported by the organization.

This subcategory excludes:

- all upstream (cradle to power plant gate) emissions associated with fuel such as extracting, transporting and processing fuel;
- emissions due to the construction of the power plant;
- emissions allocated to transmission and distribution losses (except when the reporting organization is an electricity generation company).

The inclusion of those indirect emissions should be quantified, documented and reported separately (subcategory 4.1, see [5.2.3.4.2](#)).

Specific case of exported electricity: For utilities or organizations that supply power to users outside the organizational boundaries, direct GHG emissions from electricity generated and exported should be reported in subcategory 1.1 (see [5.2.2.2.1](#)). In addition, they may be reported separately, but should not be deducted from the organization's total direct GHG emissions (this applies also if the organization distributes power).

The incremental increase in the use of energy by employees in telecommuting should be counted as the use of other services (subcategory 4.5, see [5.2.3.4.6](#)).

5.2.3.2.3 Subcategory 2.2: Indirect emissions from imported energy other than electricity

Emissions related to the production of energy consumed by the organization through a physical network (steam, heating, cooling and compressed air), excluding electricity.

This subcategory excludes:

- all upstream (cradle to gate) emissions associated with fuel such as extracting, transporting and processing fuel;
- emissions due to the construction of the power plant;
- emissions allocated to transmission and distribution losses (except when the reporting organization is an energy generation (steam, heating, cooling, compressed air) company).

The inclusion of those indirect emissions should be quantified, documented and reported separately (subcategory 4.1, see [5.2.3.4.2](#)).

Considering the growing interest for hydrogen for the perspective of decarbonizing the economy, it is valuable to put a focus on it in terms of GHG reporting.

Only direct emissions from the production of hydrogen (in the sense of the hydrogen producer's direct emissions) should be reported in subcategory 2.2 (indirect emissions from imported energy other than electricity), and only if hydrogen is delivered through a network. These emissions will not be zero for H₂ produced through natural gas reforming but will be zero for H₂ produced through water electrolysis.

All other emissions related to the production/transport/distribution of hydrogen should be reported in subcategory 4.1 (indirect emissions from purchased goods).

See [5.2.3.4.1](#) for more details.

5.2.3.3 Category 3: Indirect GHG emissions from transportation

5.2.3.3.1 General

These GHG emissions result from sources located outside the organizational boundaries. Those sources are mobile and are mostly due to fuel combusted in transport equipment. If relevant, the category also includes emissions associated with:

- refrigeration gas leaks (e.g. chilled transport, air conditioner);
- upstream emissions arising from fuel generation and fuel transportation/distribution;
- construction of the transport equipment (vehicle and infrastructure).

This category includes transport for persons and goods, and all modes (rail, maritime, air and road). If transport equipment is owned or controlled by the organization, the emissions should be taken into account in category 1 (see [5.2.2.2](#)) as direct emissions.

Options for quantification methodologies: According to the consolidation approach chosen by the organization (control or equity share), emissions from leased vehicles can be reported either as direct emissions in category 1 or in the category for indirect GHG emissions from products used by an organization (see [5.2.3.4](#)).

EXAMPLE When the reporting organization is leasing the fleet (as the lessee):

- if financial control approach is chosen, then fleet emissions are reported as indirect;
- if operational control approach is chosen, then fleet emissions are reported as direct.

In countries where the IFRS^[9] standard applies as the accounting referential, it can be justified by the fact that, since 2019, the IFRS^[9] norm stipulates that leased assets are now being consolidated in the financial reporting when choosing the financial control approach. It means that there are no longer differences between operational and financial control for leased assets. Both approaches are equivalent and, practically speaking, it means that emissions from leased vehicles (which are controlled by the organization) should be taken into account in category 1 (see [5.2.2.2](#)) as direct emissions.

In respect to which option is chosen, attention should be paid to omission or double-counting issues.

5.2.3.3.2 Subcategory 3.1: Indirect emissions from upstream transport and distribution for goods

Emissions from freight services that are paid for by the organization.

In order to take into consideration the existing practices, the reporting organization can choose between the following two options:

- Option 1 (conforming to ISO 14064-1:2018, Annex B): GHG emissions from freight services that are paid for by the organization.
- Option 2 (more aligned with the LCA way of thinking): GHG emissions related to transport happening from the supplier's gate to the reporting organization's gate.

The reporting organization should specify which option is used and follow the same for subcategory 3.2.

Options for quantification methodologies: GHG emissions can include either the latest transport activity from the supplier to the organization, or all transport activities throughout the supply chain.

In respect to which option is chosen, attention should be paid to the interaction with the category for indirect GHG emissions from products used by an organization (see [5.2.3.4](#)) (namely omission or double-counting issues).

5.2.3.3.3 Subcategory 3.2: Indirect emissions from downstream transport and distribution for goods

Emissions from freight services that are due to the first purchasers or other purchasers throughout the supply chain but not paid for by the organization.

In order to take into consideration the existing practices, the reporting organization can choose between the following two options:

- Option 1 (conforming to ISO 14064-1:2018, Annex B): Emissions from freight services that are not paid for by the organization.
- Option 2 (more aligned with the LCA way of thinking): GHG emissions related to transport happening from the gate of the reporting organization to the market (e.g. distribution of products produced by the organization).

The reporting organization should specify which option is used and follow the same for subcategory 3.1.

This subcategory uses the same methodology and concept as described in the previous category.

As for upstream transport and distribution for goods, the same options for quantification methodologies apply.

5.2.3.3.4 Subcategory 3.3: Indirect emissions from employee commuting

Emissions related to the transportation of employees from their homes to their workplaces, mainly due to fuel combusted in transport equipment that is neither owned nor controlled by the reporting organization, such as motor vehicles and public transport.

Telecommuting may incur a greater use of energy for heating or cooling from part of the employee's energy consumption at home. This incremental increase of the use of energy by employees in telecommuting should be counted as the use of other services, see subcategory 4.5.

5.2.3.3.5 Subcategory 3.4: Indirect emissions from client and visitor transport

Emissions associated with the travel of clients and visitors to the reporting company's facility. They are mainly due to fuel combusted in mobile sources of combustion that are neither owned nor controlled by the reporting organization, such as motor vehicles, aircraft and public transport.

Emissions related to the transport of the reporting company's service providers (such as cleaning activities, security, consultancy, etc.) should be reported in this subcategory.

5.2.3.3.6 Subcategory 3.5: Indirect emissions from business travel

Emissions mainly due to fuel combusted in mobile sources of combustion that are neither owned nor controlled by the reporting organization, such as motor vehicles, aircraft and public transport.

Hotel nights can be included when linked to business travel, i.e. a layover for flight connections, when attending a conference or for other business purposes. The indirect emissions generated during the journey should also be included, if such data are available and significant.

5.2.3.4 Category 4: Indirect GHG emissions from products used by the organization**5.2.3.4.1 General**

GHG emissions result from sources located outside the organizational boundaries associated with goods used by the organization. Those sources can be stationary or mobile and are associated with all types of goods purchased by the organization during the reporting year. Emissions are mostly due to the following phases in a cradle to supplier output gate approach:

- extraction of raw materials, agricultural activities;
- transportation of raw materials/products between suppliers;
- manufacturing and processing of raw materials.

NOTE This includes all types of purchased goods whether they are used or not by the reporting organization during the reporting year. For example, a good purchased in the reporting year but actually used one year or several years after is accounted for the reporting year.

The organization should pay attention to ensure there is no double counting with other categories/subcategories, such as indirect GHG emissions from transportation and services purchased by the organization.

Indirect GHG emissions from services used by the organization occur from sources located outside the organizational boundaries. Those emissions can cover a very wide range of services and associated process. Emissions should be calculated in a cradle to supplier output gate approach.

Subcategorization may be used by the user to differentiate and quantify emissions linked to different types of services used by an organization as described in [5.2.3.4.2](#) to [5.2.3.4.6](#).

5.2.3.4.2 Subcategory 4.1: Indirect emissions from purchased goods

Emissions associated with the manufacturing of purchased goods.

As this can encompass a wide range of goods, further subcategorization may be defined by the user. For example, subcategorization may distinguish goods by type of materials (steel, plastic, glass, electronic, etc.) or by function in the value chain (production-related product versus non-production-related product).

This subcategory also includes emissions associated with the production of energy purchased (i.e. upstream emissions associated with fuels and electricity production) that are not otherwise included in category 2 for indirect GHG emissions from imported energy (see [5.2.3.2](#)). Upstream emissions of the energy sources are produced during all stages that occur before fuel combustion or energy consumption (extraction production, transport, distribution). The emissions can be due, for example, to the combustion of fuels during the transport stage or due to losses as fugitive emissions during the transport (due to leaks in the pipes), etc. Additional emissions may also be included due to those produced by the construction of energy producing, transport and distribution infrastructures.

Considering the growing interest for hydrogen for the perspective of decarbonizing the economy, it is valuable to put a focus on it in terms of GHG reporting. Hence, the following applies:

- If the organization purchases hydrogen for feedstock purposes (e.g. chemistry), then the purchase of hydrogen should be accounted for in subcategory 4.1, like for any other feedstock.

- If the organization purchases hydrogen for energy purposes, either:
 - as direct combustion of hydrogen: in this case, the GHG emissions occur upstream, during the production and transport/distribution phase (e.g. as for biofuels), and therefore these emissions should be accounted in subcategory 4.1 (however, direct combustion is rare); or
 - as an intermediate energy carrier to produce electricity (through a fuel cell, e.g. a fleet of taxis that buys hydrogen from an H₂ station);
- If the fuelling station is part of a network, then the analogy with steam/heating/cooling/compressed air can be made, and direct emissions from the production of hydrogen (in the sense of the hydrogen producer's direct emissions) should be reported in subcategory 2.2 (indirect emissions from imported energy other than electricity). These emissions will not be zero for H₂ produced through natural gas reforming but will be zero for H₂ produced through water electrolysis. Indirect emissions from the production of hydrogen (as defined by the hydrogen producer's indirect emissions) should be reported in subcategory 4.1 (indirect emissions from purchased goods). These emissions will cover, for example, emissions from the electricity consumed by the H₂ producer in its electrolyser, but all emissions linked to transport, distribution and infrastructure should also be accounted there.
- If the fuelling station is not part of a network, then all direct and indirect GHG emissions related to the production/transport/distribution of hydrogen should be reported in subcategory 4.1 (indirect emissions from purchased goods).

5.2.3.4.3 Subcategory 4.2: Indirect emissions from capital goods

Emissions from goods that are purchased and amortized by the organization. This includes goods used by the organization to manufacture a product, provide a service or sell, store and deliver merchandise. Generally, capital goods have an extended lifetime and are neither transformed nor sold to another organization or to consumers. This subcategory includes all upstream emissions from the production of capital goods purchased or acquired by the reporting organization.

Examples of capital goods include equipment, machinery, buildings, facilities and vehicles. In financial accounting, capital equipment is treated as fixed assets or plant, property and equipment.

The main difference between the subcategories "purchased goods" and "capital goods" is reflected in the differing duration in use. Purchased goods often referred to as "consumable" are acquired for transformation or sale in a short period of time (sometimes a matter of days and usually less than one year), whereas capital goods are used for much longer periods (perhaps from 5 years to 50 years). In some cases, there can be an ambiguity over whether a particular type of purchased good is a capital good. If so, the organization clearly describes and justifies its choice, and ensures there is no double counting between subcategory 4.1 (purchased goods) and subcategory 4.2 (capital goods).

This extended lifetime of capital goods, compared to the time period of the organization's GHG inventory (typically one year), leads to a choice of an amortization method in order to allocate upstream GHG emissions incurred for production of capital goods.

The recommended amortization method should be the one used in the organization's financial accounting and this ensures consistency with financial accounting rules. The organization may also amortize the emissions from the item of equipment based on the real life of that equipment. This approach makes it easier to communicate to internal and external stakeholders about the comparison of the GHG emissions inventory between years.

A third solution may be not to amortize. The organization takes into account the full emissions related to the capital equipment in the GHG emissions inventory of the year in which the equipment has been bought. For internal and external communication, this way of counting makes it difficult to have a consistent view of the comparison of GHG emissions inventory between years. In this case, there is no more difference between category 9 (purchased products) and category 10 (capital equipment) GHG accounting.

The chosen amortization method should be described and reported by the organization.

5.2.3.4.4 Subcategory 4.3: Indirect emissions from the disposal of solid and liquid wastes

These emissions depend upon the characteristics of the waste and its treatment. The typical type of treatment is landfill, incineration, biological treatment or recycling process. The principal emissions are CO₂ and CH₄ and N₂O, which occur in incineration or biological treatment.

In some cases, waste treatment can generate energy (heat and/or electricity) or recycled materials. This particularity introduces the concept of replaced emissions. Then two types of replaced emissions can be taken into account in the GHG inventory:

- those due to the energy recovery with which an identified energy mix is replaced;
- those due to the material recovery with which virgin material has been replaced.

Replaced emissions from waste management are accounted for and reported separately.

5.2.3.4.5 Subcategory 4.4: Indirect emissions from the use of assets

Emissions generated through equipment leased by the reporting organization in the reporting year.

This subcategory is only applicable to an organization that operates leased assets (i.e. lessees). Leases depend on the nature of item(s) leased, length of the lease, and financial and contractual arrangements. Three main types of leasing can be identified: finance leasing, operating leasing and contract hire. The organization should pay attention to ensure there is no double counting with direct emissions (e.g. vehicle fleet).

Nevertheless, in countries where the IFRS^[9] standard applies as the accounting referential, the IFRS^[9] norm implemented in 2019 stipulates that leased assets are now being consolidated in the financial reporting when choosing the financial control approach. It means that there are no longer differences between operational and financial control for leased assets. Both approaches are equivalent and, practically speaking, it means that emissions from leased assets (which are controlled by the organization) should be taken into account in category 1 (see 5.2.2.2) as direct emissions or category 2 (see 5.2.3.2) as indirect emissions from imported energy. For such countries, this subcategory 4.4 is therefore not applicable.

In all cases, an organization using the operational control method of consolidation should quantify these emissions as direct emissions (category 1) or indirect emissions from imported energy (category 2).

NOTE An example is provided in 5.2.2.2, Case 2.

The word “lease” has varied meanings, and it is useful to understand the different types of lease: finance leasing, operating leasing and contract hire.

Finance leasing (quite frequent for buildings):

- a long-term lease over the expected life of the equipment, usually three years or more, after which the reporting organization pays a nominal rent or can sell or scrap the equipment as the leasing company does not want it anymore;
- the leasing company recovers the full cost of the equipment, plus charges, over the period of the lease;
- the reporting organization is responsible for maintenance and insurance of the leased equipment.

The reporting organization should show the leased asset on its balance sheet as a capital item, or an item that has been bought by the company. Therefore, GHG emissions from this type of leased equipment (e.g. its manufacture, the construction of the building) are recorded together with GHG emissions of category 10 (capital equipment).

Operating leasing:

- usually the case when the reporting organization does not need the equipment for its entire working life;
- the leasing company takes the asset back at the end of the lease, and is responsible for maintenance and insurance;

- the reporting organization does not have to show the asset on the balance sheet.

Contract hire:

- usually the case for short-term hire, and is often used for company vehicles or short-term rentals;
- the leasing company takes some responsibility for management and maintenance, such as repairs and servicing;
- the reporting organization does not have to show the asset on the balance sheet.

The organization should carefully avoid double counting with emissions already taken into account in:

- direct emissions and energy-related indirect emissions (categories 1 and 2);
- subcategories 4.1 (indirect emissions from purchased goods) and 4.5 (indirect emissions from the use of other services) that include purchased services;
- subcategory 4.2 (indirect emissions from capital goods);
- subcategory 4.3 (indirect emissions from the disposal of solid and liquid wastes);
- subcategory 5.3 (indirect emissions from end-of-life stage of the product) for some consumables.

5.2.3.4.6 Subcategory 4.5: Indirect emissions from the use of other services

Emissions related services not described in the above subcategories, including consulting, cleaning, maintenance, mail delivery, bank services, etc.

The use of other services includes upstream franchises. A franchisee reports the franchisor's activity in this category, including all activities of the franchisor. The franchisor is asked to specify how it has allocated the GHG emissions of its services.

5.2.3.5 Category 5: Indirect GHG emissions and removals associated with the use of products from the organization

5.2.3.5.1 General

GHG emissions or removals associated with the use of products from the organization result from products sold by the organization during life stages occurring after the organization's production process. Those emissions or removals can cover a wide range of services and associated processes.

In most cases, the organization does not know the product's exact destiny through its life stages and, thus, should define plausible scenarios for each life stage.

The scenarios should be clearly explained in the report.

5.2.3.5.2 Subcategory 5.1: Indirect emissions or removals from the use stage of the product

This subcategory includes the total expected lifetime emissions from all relevant products sold, by the reporting organization in the reporting year. These emissions result from either the processing of the product before the final consumer or from the end consumer use of the product. The emissions from this subcategory are very closely linked to the life stage scenarios that the organization should clearly explain in its report.

From a general point of view, the closer the product is to a final product, the easier it is to define scenarios. For example, it is easier for a motor vehicle manufacturer to define vehicle use scenarios (in order to evaluate motor vehicle energy consumption) than for a steel supplier who has a wider range of application scenarios for its products.

5.2.3.5.3 Subcategory 5.2: Indirect emissions from downstream leased assets

Emissions from the operation of assets that are owned by the reporting organization and leased to other entities during the reporting year. This subcategory is applicable to the lessors.

The main sources and sinks are:

- production stage of the leased asset;
- transport and distribution of the leased asset;
- use stage of the leased asset;
- end of life of the leased asset;
- maintenance of the leased asset;
- consumables.

It is possible that some of the sources and sinks in the list above have already been counted by the lessee organization. There is no risk to double counting except when lessees and lessors are within the same organizational boundaries.

When the whole life cycle of the goods is already taken into account in the purchased products or in the capital equipment, it should not be reported in this category. However, in most cases, it is likely that GHG emissions of the purchased goods or capital equipment were assessed on a cradle-to-gate basis, and that downstream emissions from the use stage and/or maintenance, end of life, would be missing. In such a case, missing emissions of leased assets are reported in this subcategory. As a lease is a way to generate income for the reporting organization, the logic here is quite similar to the one applied for subcategories 5.1 or 5.3 (use stage and end of life of the product).

5.2.3.5.4 Subcategory 5.3: Indirect emissions from end-of-life stage of the product

This subcategory includes the emissions associated with the end of life of all products sold by the reporting organization in the reporting year.

Generally, the emissions sources and sinks are those concerned with the disposal of solid and liquid waste (see [5.2.3.3](#)). However, for the use stage of the product (see [5.2.3.4](#)), the organization should define end-of-life scenarios. Consequently, the emissions from this subcategory are closely linked to these scenarios.

5.2.3.5.5 Subcategory 5.4: Indirect emissions from investments

These emissions are mainly targeting private or public financial institutions. Emissions can result from four types of operations: equity debt, investment debt, project finance and others.

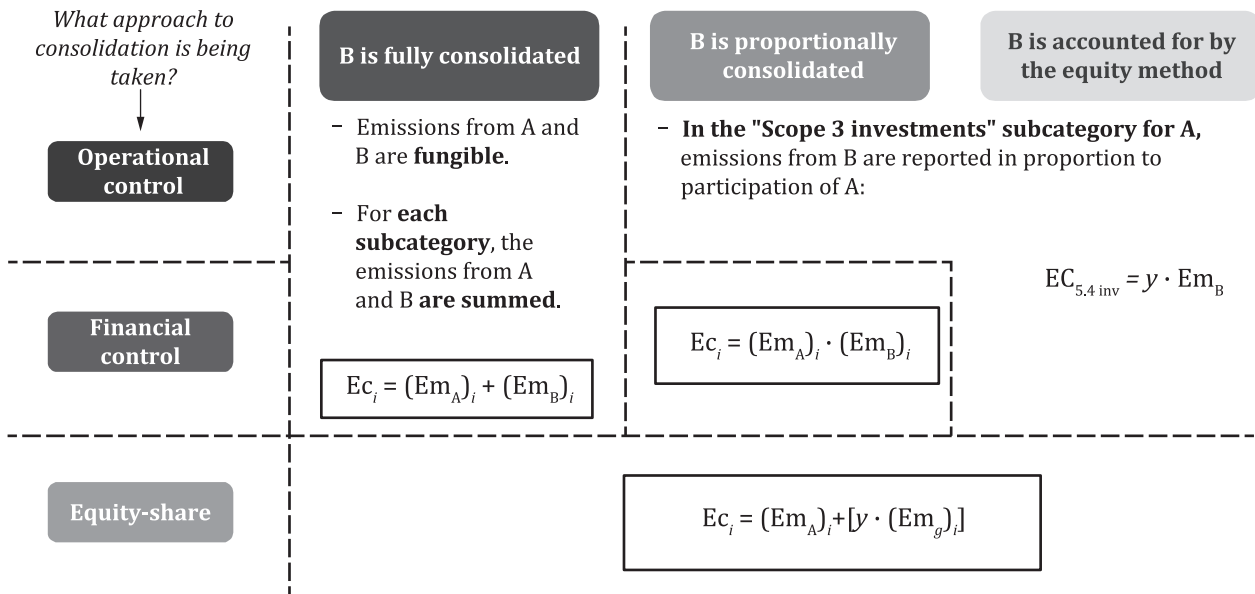
Using its equity share and duration of ownership, the reporting organization should estimate the indirect emissions generated during the GHG inventory period.

In the case of financial organizations, debt investments may be added to equity investments.

In other words, subcategory 5.4 emissions consist of emissions related to a large part of the reporting organization's financial assets that can be found in the "intangible assets" section of its balance sheet.

More precisely, when reporting GHG emissions, the organization should take care to be consistent with the way it performs the financial reporting of its investments. [Figure 1](#) gives an overview of what should be done in order to ensure this consistency between GHG and financial reportings.

Company A owns a share y of company B: how is B's inclusion in A's carbon footprint achieved?



Key

- EC_i are the GHG emissions of the corporation "A including B", with i an index representing any subcategory of the reporting;
- $(Em_A)_i$ are the GHG emissions of the company A, with i an index representing any subcategory of the reporting;
- $(Em_B)_i$ are the GHG emissions of the company B, with i an index representing any subcategory of the reporting;
- $EC_{5.4\ inv}$ are the GHG emissions of the corporation "A including B" in subcategory 5.4 (indirect emissions from investments);
- Em_B are the total GHG emissions of the company B;
- y is the share of company B hold by company A.

Figure 1 — Summary table to make financial and GHG reportings consistent

EXAMPLE In particular, applying these principles means the following:

- Company A financially consolidates using the fully integrated method and chooses control as its GHG reporting approach. Then all emissions of company B are counted by adding them in the different subcategories of company A.
- Company A financially consolidates through the equity method (case of a joint venture) and chooses control as its GHG reporting approach. Emissions of company B are then counted pro rata to participation of company A, and then included in subcategory 5.4 (indirect emissions from investments) (nuance: not only direct and indirect energy-related emissions are taken into account, but all emissions of company B including its scope 3 emissions).
- Company A financially consolidates using the proportional integration method (rare), so GHG reporting can take two different forms (either 100 % in the case of operational control or pro-rata otherwise).

Whatever their nature, emissions from investments should be accounted for according to the type of consolidation approach: either control or equity share. As previously mentioned in 5.1.2.2, the equity-share approach is rarely adopted in financial accounting, so that it is not recommended to adopt it for GHG reporting purposes, in order to remain as consistent as possible between financial and extra-financial reporting. Therefore, the control approach is recommended, in which case reporting should be done accordingly with either the operational or financial option.

For investment debt or project finance, the calculation rules are the same as for equity debt.

Confusion should not occur between subcategory 5.4 and the following:

- emissions from capital equipment, the latter often being associated with the term "capital expenditures"/ investments of the reporting organization, but these investments are those (plant, machinery etc.)

physically needed and used by the reporting company for production purposes: emissions are reported in subcategory 4.2;

- emissions due to operations of organizations that are already included in organizational boundaries and therefore are directly consolidated into all relevant emissions categories (direct emissions with subcategories 1.1 to 1.5 and energy indirect emissions as described in subcategories 2.1 and 2.2).

5.2.3.6 Category 6: Indirect GHG emissions from other sources

The purpose of this category is to capture any organization-specific emission (or removal) that cannot be reported in any other category. It is the organization's responsibility to define the content of this particular category.

Defining content means the description of the sources and sinks as well as the methodology to calculate the emissions or removals.

5.2.4 GHG inventory categories

5.2.4.1 General

ISO 14064-1:2018, 5.2.4, should be applied.

According to ISO 14064-1, the organization:

- includes in its inventory 100 % of its direct emissions and removals; however, absolute completeness in reporting is not always possible and exceptions may be made for trivial emission sources;
- determines, according to a documented process, which of the other indirect emissions are quantified and reported.

Regarding other indirect emissions, the organization may decide to concentrate its effort on the quantification and reporting of a limited number of categories instead of spreading its efforts across all categories. Indeed, in the subcategories covering the other indirect emissions, some of the other indirect emissions are in practice always more significant. For this reason, it is important to approximate the magnitude of other indirect emissions, in order to be able to better decide which categories of these emissions should be considered.

ISO 14064-1:2018, Annex H, provides guidance to identify significant indirect GHG emissions for any organization performing its GHG inventory. [Figure 2](#) depicts the four main steps of the recommended process.

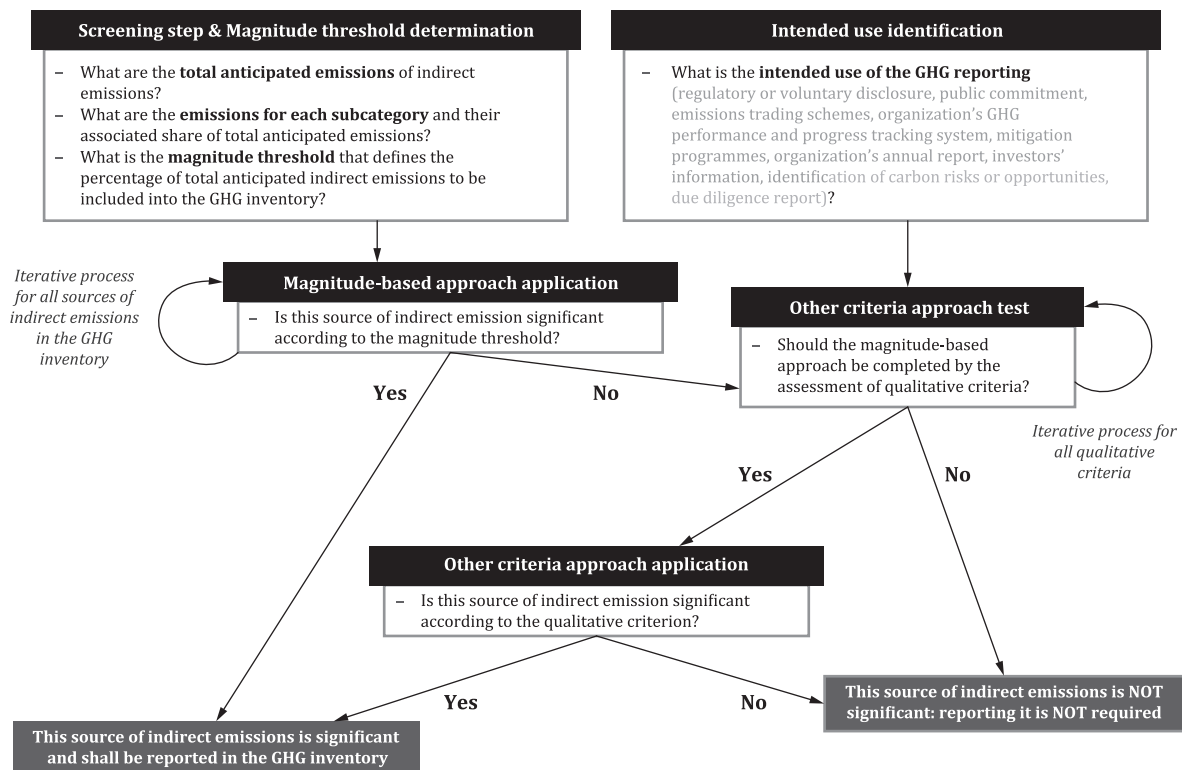
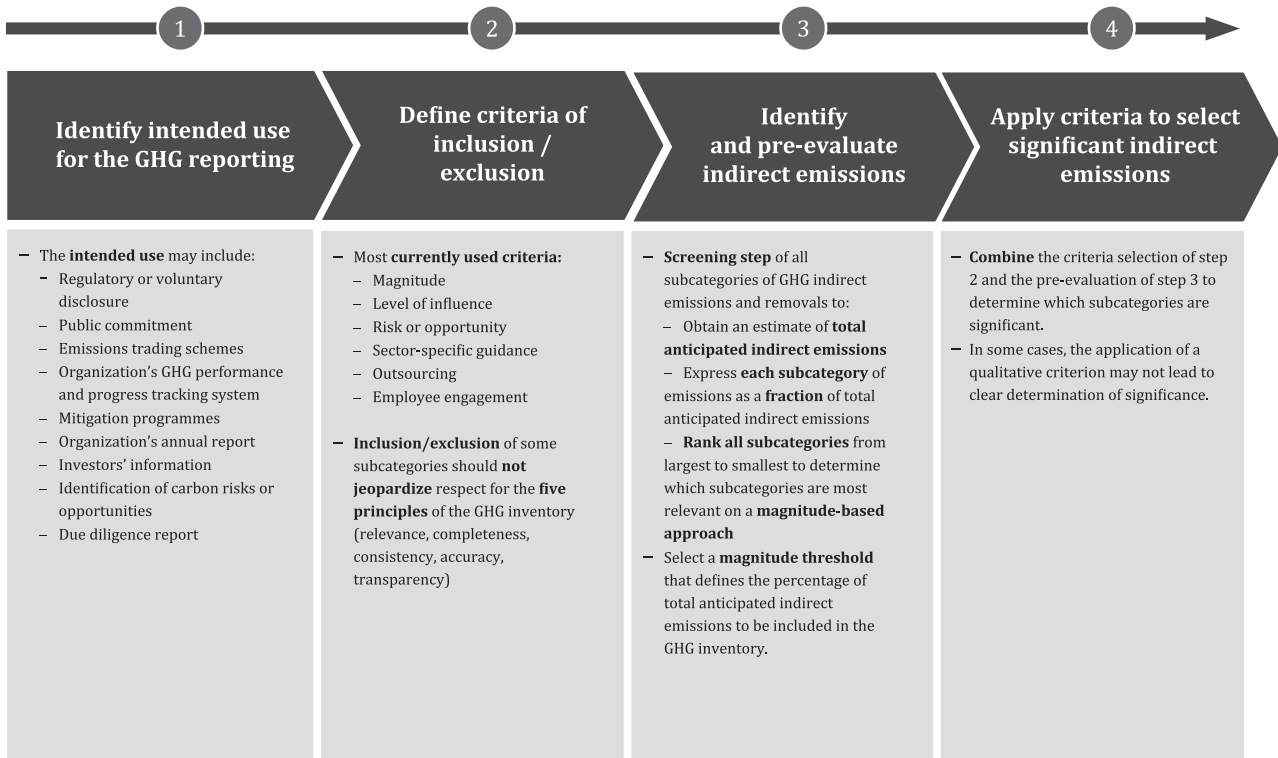


Figure 2 — Main process steps for identifying significant indirect emissions

5.2.4.2 Step 1: Identify the intended use of its GHG inventory

An organization can perform a GHG inventory for different reasons. Most often, the reason for performing the GHG inventory depends on intended users' expectations. The intended use of a GHG inventory may include regulatory or voluntary disclosure schemes, public commitment, emissions trading schemes, an organization's performance and progress tracking system for the reduction of emissions and/or removals,

mitigation programmes, an organization's annual report, investors' information, the identification of carbon risks or opportunities, and a due diligence report.

For these various uses, it is easily conceivable that expectations are not the same, thus requiring adapted answers in terms of GHG reporting.

Therefore, the first step for identifying significant indirect GHG emissions is to define cautiously the intended use.

5.2.4.3 Step 2: Define criteria of evaluation

Once the intended use is clearly defined, the organization should define criteria to evaluate the significance of indirect emissions, consistently with the intended use of the GHG inventory.

The most currently used criteria are as follows:

- Magnitude: Are these emissions a substantial amount relative to the total?
- Level of influence: Has the organization the ability to reduce these emissions?
- Risk or opportunity: Do these indirect emissions contribute to risk exposure or, on the contrary, opportunity for business?
- Sector-specific guidance: Is there guidance in the sector to include/exclude these emissions?
- Outsourcing: Do these emissions correspond to a core activity of the business?
- Employee engagement: Can the inclusion of these emissions foster motivation and/or favour team building within the organization?

The choice of one or several criteria is then contextual, depending on the intended use which influences the application of the five principles of the GHG inventory (relevance, completeness, consistency, accuracy, transparency), as described in [Clause 4](#). Inclusion/exclusion of some subcategories should not jeopardize respect for these principles.

5.2.4.4 Step 3: Identify and pre-evaluate indirect emissions

Considering the requirements of ISO 14064-1, a screening step of all subcategories of GHG indirect emissions and removals is needed to ensure no substantial quantities of indirect emissions are excluded.

Whether an individual subcategory of indirect emissions is relevant in magnitude is a function of:

- a) total anticipated other indirect emissions;
- b) the emissions from any single other indirect emissions category.

Initial estimates should be conducted for each individual subcategory and rolled up to obtain an estimate of total anticipated indirect emissions.

Each subcategory of indirect emissions requires a separate screening method to estimate emissions.

This screening method will aim to assess orders of magnitude for all subcategories.

Simple approaches may be used, based upon simplified calculations using rough assumptions, internal expert judgement, sector-specific guidance, literature review, etc. For this exercise, the results of previous GHG inventories are a valuable resource. Once completed, the organization may follow these steps:

- express each subcategory of emissions as a fraction of total anticipated indirect emissions;
- rank all subcategories from largest to smallest to determine which subcategories are most relevant on a magnitude-based approach.

After completing the above steps, the organization should select a magnitude threshold that defines the percentage of total anticipated indirect emissions to be included into the GHG inventory.

5.2.4.5 Step 4: Apply criteria to identify significant indirect emissions

Combining the criteria selection of step 2 and the pre-evaluation of step 3, the organization determines which subcategories of indirect emissions are significant for its GHG inventory.

In some cases, the application of a qualitative criterion does not lead to a clear determination of significance. Either the organization improves the accuracy of the estimated magnitude by dedicating more time to data collection, or the organization uses another criterion to determine whether the indirect emissions source is significant or not.

Eventually, the organization should disclose in the public report the percentage of total anticipated indirect emissions that have been accounted for and reported. While the organization should strive for the GHG inventory to be as complete as possible, it is acknowledged that some activities are likely to contribute only to a small portion of total other indirect emissions.

The process for quantification of GHG emissions and removals is given in [Figure 3](#).

