12.2.4 Calculation of GHG emission intensities

The GHG emissions for the set of transport chains can be converted into GHG emission intensities (g_T or g_0) for this set, by dividing the GHG emissions calculated in 12.2.2 (G_T or G_0) by the transport activity calculated in 12.2.3 (T_S).

NOTE The hub activities are not included in this calculation, whereas the total GHG emissions of all hub TCEs are included.

12.3 For a transport service

Calculations for one transport service shall be done as specified for a transport chain (see 12.1), considering only the TCEs that form part of this transport service.

12.4 For a set of transport services

Calculations for a set of transport services shall be done as specified for a set of transport chains (see 12.2), considering only the TCEs that form part of this set of transport services.

12.5 For a transport mode

Values can be calculated that consider only the TCEs carried out by one mode of transport for an organization's business or a defined subset thereof. Calculations for one mode of transport shall be done by combining the provisions of 12.1 and 12.2 but considering only the TCEs that are carried out by a single mode of transport.

13 Reporting

13.1 General

The implementation of this document shall lead to the establishment of a report.

This report shall be either at the level of an organization (for GHG emissions of all or a part of transport chains operated and/or purchased by the organization), or at the level of transport or hub services (for GHG emissions of a set of transport or hub services, reported by a service provider to a service user).

Depending on practical issues, the report shall take the form of either a single long report, or a short report complemented with other information made available separately.

13.2 Reporting at the organizational level

13.2.1 Reporting boundaries

Reporting shall cover either all transport chains operated or purchased by the organization, or only a part of them. The reporting may be split as appropriate to the organizational structure (e.g. by business unit, geographical region of operation, subsidiary or any other relevant criteria).

13.2.2 Report

The report shall comprise, as a minimum, the following information:

a) identification of the transport chains covered by this report;

b) a reference to this document, i.e. ISO 14083:2023;

c) the total (operational plus energy provision) GHG emissions (G_T);

d) the total (operational plus energy provision) GHG emission intensity (g_T), specifying the type of transport activity distance used;

e) the total (operational plus energy provision) GHG emissions for TCEs of each mode of transport and for hub operations;

f) the total (operational plus energy provision) GHG emission intensity for TCEs of each mode of transport and for hub operations, specifying the type of transport activity distance used; where alternative units for freight transport activity are used (e.g. number of items, TEUs), the GHG emission intensity may be reported expressed in these terms (e.g. GHG emissions per item or per TEU kilometre);

g) a reference to the location where information as specified in 13.4 is available.

The report may be complemented with corresponding operational GHG emission values.

The report shall be complemented with the supporting information specified in 13.4.

The reporting organization may use any medium appropriate to organizational GHG reporting such as annual corporate reports or reporting to voluntary corporate GHG disclosure programmes.

As specified in 13.1, the report may be divided in two parts, the complementary elements being presented in the second part.

13.2.3 Periodicity

The reporting organization should produce at least an annual report including all operations performed or purchased during a period of 12 consecutive months. In addition, a report over shorter periods, or for specific journeys, can be appropriate.

13.3 Reporting at the level of transport or hub services

13.3.1 Granularity

This report may apply either to a single TCE or to a set of TCEs that comprise a part of or a full transport chain.

The aggregation of transport chains for reporting purposes may be done using various criteria in accordance with contractual agreements with service users and/or period of implementation of these services.

The identification of transport or hub services covered by the report may be done with an exhaustive list of these services, or by specifying the period of occurrence.

13.3.2 Report

The report shall comprise, as a minimum, the following information:

a) identification of the TCE(s) or transport chain(s) covered by this report;

b) a reference to this document, i.e. ISO 14083:2023;

c) the total (operational plus energy provision) GHG emissions (G_T);

d) the total (operational plus energy provision) GHG emission intensity (g_T), specifying the type of transport activity distance used;

e) a reference to the location where information as specified in 13.4 is available;

f) the transport activity, specifying the type of distance used;

g) the hub activity;

h) the operational GHG emissions ($G_{VO,T}$ or $G_{HEO,T}$);

i) the operational GHG emission intensity (g_{VO} or g_{HEO}), specifying the type of transport activity distance used; where alternative units for freight transport activity are used (e.g. number of items, TEUs), the GHG emission intensity may be reported expressed in these terms (e.g. GHG emissions per item or per TEU kilometre);

j) the total GHG, transport activity and/or GHG emission intensities for each mode of transport and for hub operations, specifying the type of transport activity distance used, where appropriate.

The report shall be complemented with the supporting information specified in 13.4.

The reporting organization may use any medium that gives the clearest results and associated basis for calculations to its service user(s), including pages on websites. In cases of reporting by transport service providers to transport service users, the reports shall be effectively communicated to the transport service users.

As specified in 13.1, the report may be divided in two parts, the complementary elements being presented in the second part.

13.4 Supporting information

13.4.1 General

Supporting information shall ensure transparency and a clear understanding of the reporting by the full potential group of users of this document.

The following statement shall be communicated: “These calculation results have been established in accordance with ISO 14083:2023.”

The report shall be easy to access, clearly structured and transparent in its data sourcing and calculation. Additional mode-specific statements may be communicated.

13.4.2 Description of the calculation method

The report shall mention any omissions of GHG sources, transport or hub operations in accordance with 5.2.3. The reasons for and implications of their omissions shall be explained. The description may include, in particular:

— an explicit description of the operational implementation of the transport and hub operations;

— any other general information necessary for the understanding of the method, e.g. noting that the impact of contrails and other non-GHG climate impacts are not included in the calculation for air transport.

The report may follow the templates given in Tables 1 and 2. The tables may be simplified according to the transport chain they refer to, providing the report conforms to the stated requirements.

Table 1 — Examples of reporting details for freight transport

Report elements	Details to be provided	Breakdown
Operations in scope (covered by data)	Indicate what is in and what is out of the report.	All transport services in the system or indicate coverage (e.g. % of total transport activity or production output); all hub GHG emissions.
Total GHG emissions of transport and hubs (CO_2e)	***Reporting at organizational level*** — Aggregated across all transport chains. — Also disaggregated by mode and hubs. — Share of primary and secondary data (for secondary data, distinguish the share of modelled and default): — in cases where the share differs for TOC parameters (e.g. vehicle size category, filling rate, street category/topography), indicate per parameter — Split total operational GHG emissions and energy provision GHG emissions: — disaggregate by energy carrier.	***Examples for reporting at organizational level*** Mode (air/sea/inland waterway/rail/road/cable car/pipeline transport) and hubs: — X tonnes CO_2e by mode across all operations in scope and cumulative at the organization level; — % of reported GHG emissions sourced from each data type (or indicate the main source if details not available): — split into TOC parameters regarding the data source; — routing/street category and topography: 100 % modelled; — load factor: primary data from own operations; — fleet composition: primary data from subcontractors. — Operational GHG emissions split into own assets and third-party assets: — total GHG emissions from, for example, diesel, LPG, sustainable aviation fuel (SAF), electricity. — Energy provision GHG emissions expressed as total GHG emissions.
	Reporting at level of transport or hub service — Split by hub or transport service. — Share of primary and secondary data (for secondary data, distinguish share of modelled and default).	***Examples for reporting at level of transport or hub service*** From a specific hub service or a specific transport service: — X tonnes CO_2e; — % of reported GHG emissions sourced from each data type (or indicate the main source if details not available); — details to be provided, for example:

Table 1 *(continued)*

Report elements	Details to be provided	Breakdown

	— Split total operational GHG emissions and energy provision GHG emissions:
	  — disaggregate by energy carrier.
		— air: (modelled/flight number and routing);
		— road: (primary/fleet data and load factor; default/ routing and topography and reference to data source);
		— rail: (modelled/traction type, engine size, cargo);
		— hub: (primary/energy consumption metered).
		— Operational GHG emissions split into own assets and third-party assets; expressed in total GHG emissions:
		  — total GHG emissions from, for example, diesel, LPG, SAF, electricity.
		— Energy provision GHG emissions expressed in total GHG emissions.

GHG intensity	***Reporting at organizational level*** — Average across modes for the overall organization. — Also disaggregate by mode and hubs.	***Examples for reporting at organizational level*** Overall: g CO_2e/tonne kilometre (tkm) or per tonne of freight for transport service users (aggregated across all operations in scope): — mode (air/ocean/inland waterway/rail/road/cable car/ pipeline transport) and hubs.
	Reporting at level of transport or hub service — Split by hub or transport service. — Indicate granularity of TOC/HOC applied per mode and hub type (as indicated in 6.3).	***Examples for reporting at level of transport or hub service*** From a specific hub service or a specific transport service: — overall: g CO_2e/tonne kilometre (tkm); — air: X g CO_2e/tkm, TOC distance classes and freighter versus belly (or aircraft type); — ocean: Y g CO_2e/tkm, TOC: trade lane specific; — inland waterway: x g CO_2e/tkm, load factor, vessel type; — rail: x g CO_2e/tkm, load factor, GHG emissions factors; — road: Z g CO_2e/tkm, TOC: pick up/delivery versus line haul; — hub: X g CO_2e/tonne of freight; HOC – type of hub.
Sources for GHG emission factors	Provide reference and justification for the use of GHG emission factors in accordance with provisions of Annex J.	Refer to Annex J. Indicate where national and own factors are used for electricity and or other fuels (if certified) including deviation for all factors related to operation and/or energy provision.