

Sustainability Reporting Alert

SCOPE 3 GHG EMISSIONS

NOVEMBER 2023

CPA Canada's series of Sustainability Reporting Alerts (the **Alerts**) introduce concepts within sustainability disclosure and assurance standards. The **Alerts** are meant for preparers and auditors of sustainability information, typically CPAs or other sustainability professionals.

Sustainability disclosures are not yet required in Canada; however, the newly formed Canadian Sustainability Standards Board (**CSSB**) is working with the International Sustainability Standards Board (**ISSB**) to support the adoption of International Financial Reporting Standards (**IFRS**) Sustainability Disclosure Standards (the **Standards**) in Canada. Until the Standards are required, they may be applied voluntarily.

IFRS **S1 General Requirements for Disclosure of Sustainability-related Financial Information (IFRS S1)** and IFRS **S2 Climate-related Disclosures (IFRS S2)** were issued in June 2023 effective for annual reporting periods beginning on or after January 1, 2024. Transitional relief in IFRS S1 allows an entity to disclose information on only climate-related risks and opportunities (as set out in IFRS S2) in the first year it applies IFRS S1 and IFRS S2.

IFRS S1 and IFRS S2 disclosures are meant to be complementary to both IFRS accounting standards and other generally accepted accounting principles and will form part of an entity's general purpose financial reports.

Background

As we move to a financial reporting landscape that considers sustainability-related disclosures, CPAs will play a key role in transforming climate and other sustainability-related data into high-quality, investor-focused information. As described in CPA Canada's [Sustainability Reporting Alert Scope 1 & 2 GHG Emissions](#), reporting of greenhouse gas (**GHG**) emissions is a fundamental requirement of the Standards.

To improve the consistency and comparability of GHG emissions disclosure, paragraph 29(a)(i) of IFRS S2 requires an entity to disclose its absolute gross GHG emissions by scope. In addition, IFRS S2 outlines acceptable methodologies to measure GHG emissions and requires disclosures on the methodologies applied and inputs used. With the exception of specific methods required by a jurisdictional authority or an exchange on which it is listed, an entity is required to disclose its GHG emissions measured in accordance with the Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (2004) and the Corporate Value Chain (Scope 3) Accounting and Reporting Standard (**GHG Protocol**). The GHG Protocol separates the source of emissions into three different categories, known as scope 1, 2 and 3 GHG emissions, which are summarized below:

CATEGORY	DEFINITION AS PER IFRS S2	EXAMPLE
Scope 1	Direct GHG emissions that occur from sources that are owned or controlled by an entity.	Emissions of carbon dioxide (CO ₂) from an entity's manufacturing process.
Scope 2	Indirect GHG emissions that occur from the generation of purchased electricity, heat or steam consumed by an entity.	Emissions of CO ₂ from a natural gas power plant, which are attributed to the purchase of electricity used in the manufacturing process.
Scope 3	Indirect GHG emissions (not included in scope 2 GHG emissions) that occur in the value chain of an entity, including both upstream and downstream emissions.	Upstream emissions: emissions of CO ₂ generated in the course of production of inputs used by an entity in producing its own finished goods (e.g., emissions from electricity used in the manufacture of supplied components). Downstream emissions: emissions of CO ₂ related to the use of the entity's products (e.g., emissions from combustion of produced gasoline)

Scope 3 includes indirect emissions resulting from value chain activities, providing an understanding of the full value chain impact of an entity. Scope 3 is therefore the broadest category of GHG emissions reporting, as indirect emissions occur in an entity's value chain outside of the scope of the entity's organizational boundary. Depending on the industry/sector or even business model, scope 3 GHG emissions may be the most significant balance of an entity's GHG emissions inventory (a calculation of total direct and indirect emissions). For example, a financial institution, such as an asset manager or insurance company, likely does not have significant direct emissions, but there are significant emissions associated with assets under management, or financed emissions, which are scope 3.

Scope 3 GHG emissions are also generally considered to be the most challenging to measure as they often require entities to estimate data points throughout their entire value chain. As this information is not solely comprised of direct emissions it is often not readily available or attainable on a timely basis. Entities are meant to use reasonable and supportable information without undue cost or effort to measure and report on scope 3 GHG emissions (which is discussed further below), and it is generally expected that entities will refine and improve their estimates over time as capabilities develop.

It is also important to note that even entities that do not apply the Standards may be impacted by the requirement to disclose scope 3 GHG emissions if they are within the value chain of a reporting entity, or as a result of financed emissions (further described below). For example, Company A supplies raw materials to Company B, who applies the Standards. Company A is within Company B's value chain and may be requested to provide their emissions data to Company B. As a result, entities that are not required to apply the Standards by securities law or otherwise should still be prepared to produce emissions data.

The purpose of this *Alert* is to:

- raise awareness of factors relevant to scope 3 GHG emissions measurement and disclosure requirements;
- identify aspects of the scope 3 GHG emissions requirements of the GHG Protocol that are anticipated to be challenging;
- provide CPAs with the basic knowledge to begin their scope 3 reporting journey; and
- help preparers get their organization ready for IFRS S2 reporting requirements.

Overview

With the exception of specific methods required by a jurisdictional authority or an exchange on which it is listed, IFRS S2 requires entities to apply the GHG Protocol in measuring and disclosing GHG emissions. The GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard sets out some of the requirements to be applied in preparing and reporting scope 3 GHG emissions.

Scope 3 GHG emissions are stratified into upstream and downstream emissions, with eight categories of upstream emissions and seven categories of downstream emissions. Upstream emissions are those generated in the course of producing inputs an entity uses in producing its own finished goods (i.e., purchased or acquired goods and services) and downstream emissions are those related to the use of the entity's products (i.e., sold goods and services).

The 15 categories of scope 3 GHG emissions are:

Upstream scope 3 GHG emissions:

1. purchased goods and services
2. capital goods
3. fuel- and energy-related activities (not included in scope 1 and 2)
4. upstream transportation and distribution
5. waste generated in operations
6. business travel
7. employee commuting
8. upstream leased assets

Downstream scope 3 GHG emissions:

9. downstream transportation and distribution
10. processing of sold products
11. use of sold products
12. end-of-life treatment of sold products
13. downstream leased assets
14. franchises
15. investments

Certain scope 3 GHG emissions are simpler to understand and quantify than others. For example:

- Category 6: Business Travel; when an entity's employees travel via plane to a business meeting, the consequential emissions from their air travel are included in the entity's scope 3 GHG emissions.
- Category 7: Employee Commuting; when an entity's employees commute to work via public transit, employee-owned automobile, etc., the consequential emissions are included in the entity's scope 3 GHG emissions.

Other categories are more challenging to understand and quantify. For example:

- Category 1: Purchased Goods and Services; for a manufacturer, this would include emissions resulting from the production of components used in manufacturing (e.g., for an electronic component used in a finished good this might include emissions from the mining of metals, manufacture of hydrocarbons used in plastics and from the assembly of the electronic component, etc.)
- Category 2: Capital Goods; for a mining company, this would include the emissions from the production of equipment used in mining operations such as dump trucks (e.g., the emissions associated with the production of steel, computer systems, tires, etc.).

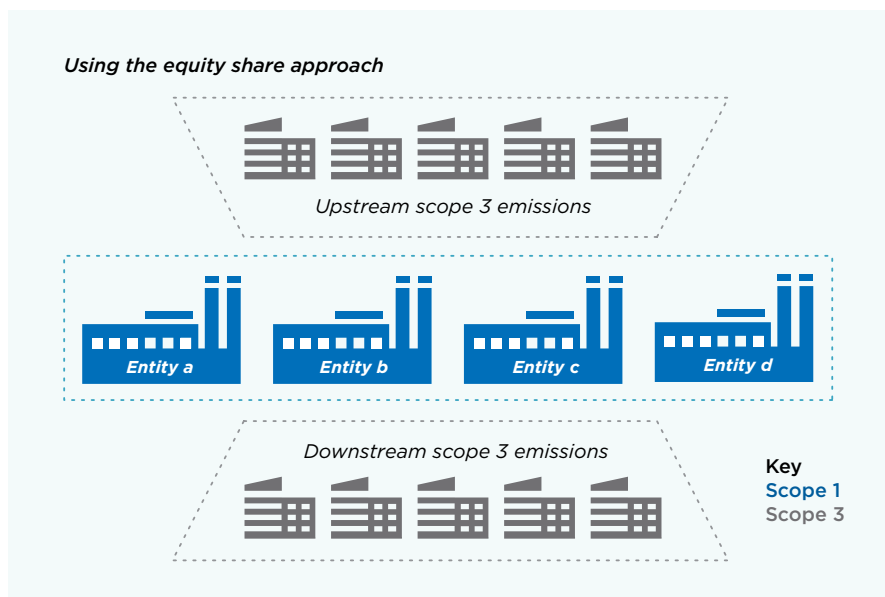
Detailed analysis and calculation guidance

The following sections highlight certain aspects of the measurement and reporting of scope 3 under IFRS S2, including examples of calculations using different methods.

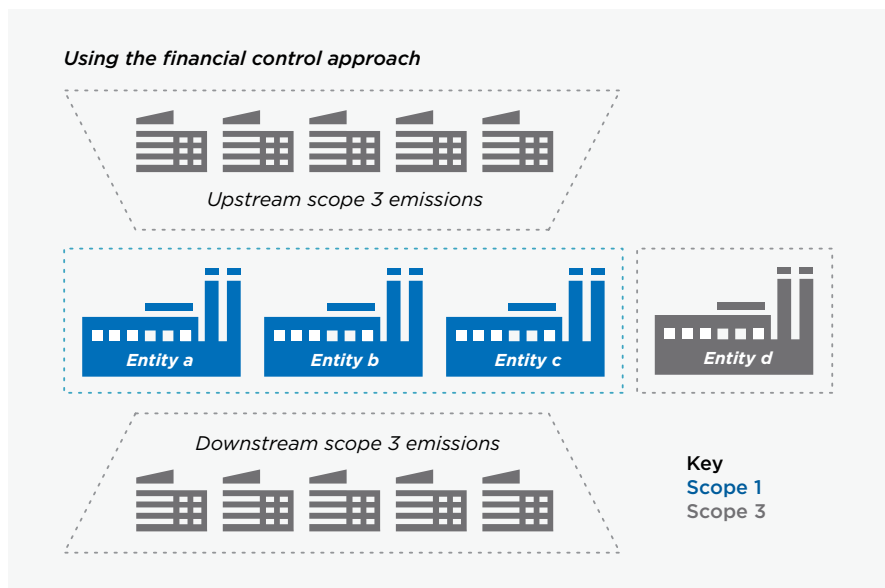
Classification of emissions based on the organizational boundary

In certain cases, whether emissions are captured in scope 3 or scopes 1 or 2 will depend on the organizational boundary selected by the reporting entity (see [Sustainability Reporting Alert Scope 1 & 2 GHG Emissions](#) for further information on establishing the organizational boundary). For example, if a reporting entity uses the equity share approach, the entity's share of its investee's emissions will be reported as part of its own GHG inventory (e.g., if an investor owns 10 per cent of an investee, the investor accounts for 10 per cent of the investee's GHG emissions in its own respective scope and category).

On the other hand, if the reporting entity uses the financial control approach, which in certain situations aligns with the financial accounting definition of control, the entity would only include scope 1 and 2 GHG emissions from entities it controls, with other emissions arising from investments being included in scope 3 (e.g., the investor's 10 per cent share of its investee's total GHG emissions would be reported in the investor's scope 3 - Category 15: Investments). If the financial control approach is used, the reporting entity is required to include emissions from its non-controlled investees in scope 3 - Category 15 regardless of whether the investee is a portfolio investment, an associate, etc. Under IFRS S2 (paragraph 29(a)), inclusion of these emissions in scope 3 is also required even though the entity may not carry out activities involving asset management, commercial banking, or insurance, which are subject to the additional disclosures for financed emissions. In the below example, the company owns 22 per cent of Entity d, and as such, using the financial control approach, entity d's emissions would be reported as scope 3 GHG emissions.



Source: GHG Protocol - [Corporate-Value-Chain-Accounting-Reporting-Standard_041613_2.pdf](#) (ghgprotocol.org)



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Measuring scope 3 GHG emissions

The measurement of scope 3 GHG emissions is often more challenging compared to the measurement of scope 1 and 2 GHG emissions because many categories of scope 3 require the estimation of activities that are not directly undertaken by the reporting entity. Many of the challenges relate to data availability and data quality as certain data may not be available from third parties, such as suppliers, if they are unwilling or unable to share data about their activities with their customers. As a result, entities may have to rely on estimates that may have considerable measurement uncertainty.

IFRS S2 recognizes these challenges and does not specify the inputs an entity is required to use to measure scope 3 GHG emissions, but rather allows for management's professional judgement to determine what data can be obtained without undue cost or effort in the entity's value chain. Paragraphs B38-B42 of IFRS S2 outline the scope 3 measurement framework, which requires that an entity prioritize inputs and assumptions using certain identifying characteristics (further described below). Generally, the prioritization of inputs and assumptions ranges from the most reliable source (direct measurement) to estimation using secondary data.

It is important to remember that the scope 3 reporting journey – collecting data, assessing data quality and improving data quality – is an iterative process that will improve over time. Although data quality and data availability pose challenges, IFRS S2 allows for a range of measurement methods that address issues with data availability.

The characteristics of the inputs and assumptions that should be prioritized in measuring scope 3 GHG emissions include:

- a. quantification based on direct measurement (paragraphs B43–B45 of IFRS S2);
- b. data from specific activities within the entity’s value chain (primary data) (paragraphs B46–B49 of IFRS S2);
- c. timely data that faithfully represents the jurisdiction of, and the technology used for, the value chain activity and its greenhouse gas emissions (paragraphs B50–B52 of IFRS S2); and
- d. data that has been verified (paragraphs B53–B54 of IFRS S2).

Direct measurement refers to the direct monitoring of GHG emissions, and, in theory, provides the most accurate evidence. However, in most cases, entities do not have the ability to directly measure scope 3 GHG emissions, and will have to calculate, or estimate, scope 3 GHG emissions using data inputs from different sources. Paragraphs B46–B49 of IFRS S2 require that an entity prioritize the use of primary data, which includes data provided by suppliers or other value chain partners. In situations where primary data is not available, entities are permitted to use secondary data, which includes industry-average data (e.g., from published databases, government statistics, literature studies and industry associations), financial data, proxy data and other generic data.

Entities also need to prioritize timely data that faithfully represents the jurisdiction of, and the technology used for, the value chain activity and its GHG emissions, and data that has been verified. These factors are important as management will need to use professional judgement to assess the highest quality data. For example, an entity may use secondary data if the quality of secondary data is higher than primary data (e.g., data from a value chain partner can only be provided two years after the reporting period, and therefore, does not represent timely data).

The GHG Protocol’s [Technical Guidance for Calculating Scope 3 Emissions](#) (**Technical Guidance**) provides detailed guidance and practical examples of how to approach and calculate scope 3 GHG emissions within each category of scope 3. The guidance provides different calculation approaches specific to inputs that would be associated with each category. Generally, the approaches range from the use of more specific data related to activities within an entity’s value chain to estimates that may be based on industry emission factors (or, from higher quality to lower quality data). For example, some categories of upstream supply chain activities include the spend-based method in situations where specific data is not available. The spend-based method estimates emissions by multiplying the amount spent on a certain activity (e.g., purchased goods or services, transportation, etc.) by the relevant emission factor. The emission factors used in these situations are environmentally-extended input output (**EEIO**) data (secondary data), which estimates energy use and/or GHG emissions resulting from the production and upstream supply chain activities of different sectors and products in an economy. EEIO data can be found on the GHG Protocol’s website.

In the initial years of scope 3 data collection, entities may need to use data of relatively low quality due to limited availability. Over time, entities should seek to improve the data quality of the inventory by replacing lower quality data with higher quality data as it becomes available.

The GHG Protocol recommends that entities identify which scope 3 activities are expected to have the most significant GHG emissions, offer the most significant GHG reduction opportunities and are most relevant to the company's business goals. Entities should begin by conducting a screening process, using less specific data, to determine the size of GHG emissions in each of the 15 categories. Then each category can be examined to determine whether to further refine its emission estimates. Further, screening may assist in assessing the materiality of the emissions in each category, which is important as IFRS S1 only requires disclosure of material information (paragraphs 17 -19).

Example

Category 6: Business Travel includes emissions from the transportation of employees for business-related activities in vehicles owned or operated by third parties, such as aircraft, trains, buses and passenger cars. Direct measurement is not possible, so entities need to estimate the GHG emissions associated with business travel. Examples of primary data include activity-specific data from transportation suppliers (e.g., airlines) and carrier-specific emission factors, and an example of secondary data includes estimated distance travelled.

Company B is beginning its scope 3 journey and is seeking to measure its GHG emissions associated with business travel. It has assessed the data available and determined that it does not have access to the quantities or cost of fuels consumed during travel but does have the distance travelled in the year. Through an employee questionnaire and information provided by travel agencies, Company B's employees flew 45,000 kilometres in 2022, broken down in the table below.

FLIGHT TYPE (A)	# OF PASSENGERS/ EMPLOYEES (B)	TOTAL DISTANCE TRAVELLED (KM) (C)	EMISSION FACTOR* (KG CO ₂ E / PASSENGER-KM) (D) ¹	=B×C×D
Long haul	10	35,000	5	1,750,000 kg CO ₂ e
Short haul	20	10,000	6	1,200,000 kg CO ₂ e
Total		45,000		2,950,000 kg CO₂e

* Emission factors are published by third party service providers, NGOs, governments and other organizations for a variety of activity metrics.

1 The emission factor will differ depending on the length of the flight to account for higher emissions from the landing/take off cycle or the additional weight of fuel.

Time boundary of scope 3 GHG emissions

Scope 3 GHG emissions may include emissions generated outside of the reporting period. For example, Category 1: Purchased Goods and Services requires all upstream emissions of purchased goods and services to be included. Therefore, if scope 1 and 2 GHG emissions arising from the production of raw materials were emitted in a previous reporting period, the purchasing entity would still be required to include those emissions in its scope 3 inventory in the current reporting period.

Scope 3 GHG emissions may also include emissions that are expected to be generated in the future, both from the use of the product and the disposal of the product. For example, if an entity manufactures and sells refrigerators, measuring its scope 3 GHG emissions would include the following:

- Category 11: Use of Sold Products; emissions resulting from the use of the refrigerators, such as emissions from the generation of the electricity to power the refrigerators over their expected life.
- Category 12: End-of-life Treatment of Sold Products; emissions resulting from the disposal of the refrigerators, such as transportation, recycling and the release of greenhouse gases from refrigeration units that are expected to be disposed of in landfills.

Estimating these components of scope 3 GHG emissions are complicated by the fact that the entity selling the refrigerators may not have information on the expected source of electricity to power the units, how long they will be used or how they will be disposed of.

This method results in the reporting of all emissions arising as a result of the organization's activities in that related reporting period, even if those emissions have already occurred, or may occur in the future.

Double counting across scopes

Scope 3 GHG emissions are often criticized as leading to “double counting” of total global GHG emissions. Consider for example the manufacturer of a piece of electronic equipment that contains hundreds of electronic components. The manufacturer of the equipment would include the scope 3 GHG emissions from the underlying components. For the components that contain metal this would include the emissions generated by mining such metals and the emissions from processing the metal into the components. Along the value chain, all of these emissions would have been reported as scope 1, 2 or 3 by various suppliers. Therefore, the same emissions can be reported multiple times by different entities within the value chain. That being said, despite leading to “double counting,” it is important to have a holistic view of an entity's GHG emissions profile for effective decision-making.

Category 15: Investments and treatment of financed emissions

Financed emissions are indirect emissions of investees where the reporting entity has made a debt or equity investment. Financed emissions are likely to be significant for banks and credit institutions, insurance companies, asset managers, investment funds and other entities that own material financial assets (e.g., loans receivable, equity shares, etc.). Financed emissions are included in scope 3 on the premise that the investments made by the investor contribute to the emissions of the investee by funding operations and capital expenditures.

IFRS S2 (paragraphs B58-B63) requires additional disclosures for certain entities that carry out activities involving asset management, commercial banking, or insurance beyond quantifying scope 3 GHG emissions, such as exposure to emissions by industry or asset class for commercial banking.

For example, Bank X lends \$50 million to Company Z, with the funds to be used for general corporate purposes. Bank X's proportionate share of Z's scope 1, 2 and 3 emissions would form part of Bank X's scope 3 – Category 15: Investments. There are various techniques that may be used to estimate the financed emissions of a lender. Many entities refer to the Partnership for Carbon Accounting Financials standards, which set out numerous calculation methods depending on the type of financing provided.

The requirement to disclose financed emissions will have a knock-on impact on other entities and their ability to access capital. For example, investors will require GHG emissions data from their investees, which will be an ongoing reporting obligation even if the investee does not apply the Standards themselves. If an investee does not have the information readily available to provide, this may be factored into an investor's investment decision. In addition, asset managers and other financial institutions are likely to be more cognisant of their own total GHG emissions inventory, as such, a key factor in their investment decision may be an investee's emissions profile/data.

Practical expedients and transition reliefs available in IFRS S2

Acknowledging the challenges in providing sustainability disclosures, and scope 3 GHG emissions disclosure in particular, the ISSB is providing several practical expedients and reliefs to entities that apply the Standards. Those related to scope 3 GHG emissions include:

- In the first annual reporting period, an entity is not required to:
 - use the GHG Protocol if in the annual reporting period immediately preceding the date of initial application of IFRS S2, another method was used; and
 - disclose scope 3 GHG emissions (including information on financed emissions for certain financial institution entities), only scope 1 and 2.
- As mentioned above, in applying the Standards, entities are required to use 'reasonable and supportable information that is available at the reporting date without undue cost or effort' when applying value-chain related requirements. Applying this principle will require the use of judgement. Entities will need to apply judgement in assessing to what extent reasonable and supportable information is or is not available without undue cost or effort. The intent of this relief is not to relieve entities from this requirement altogether, but rather to carefully consider what information may be obtained without placing undue hardship on the entity.

In addition to the above transition reliefs and the concept of 'undue cost and effort,' entities must consider the materiality of information to be disclosed. IFRS S1 (paragraphs 17-19) describes the concept of materiality, similar to the materiality assessment in applying an entity's accounting policies.

Reporting scope 3 GHG emissions

An entity is required to disclose its absolute gross scope 3 GHG emissions, including the categories that are included in its scope 3 GHG emissions disclosures. In addition, given the measurement uncertainty and variations in inputs used, an entity is required to disclose information about the measurement approach, inputs and assumptions used to measure its scope 3 GHG emissions. This helps users of the general-purpose financial reports to understand the quality of the data used and understand the relevance of the inputs and measurement approach used.

Getting your organization ready for the new Standards

While the concept of measuring and reporting scope 3 GHG emissions may be daunting, entities are encouraged to start the process sooner rather than later. This will allow you the time to assess the material balances/categories and put into place standard calculation methods for those categories given your current situation. As you progress, you can identify data collection that can be refined, but the key takeaway is that entities can get started today with data that is already available.

As scope 3 GHG emissions capture the entire supply chain of an entity, an important process that entities should undertake is to map out their entire value chain. This requires the identification of material suppliers, sources of purchased goods and services, and the use of sold goods and services and how they are provided to customers. Once the value chain is mapped, entities should make initial estimates of the categories of scope 3 GHG emissions that are expected to be the most significant, which should consider a combination of economic factors (i.e., which products and suppliers are the most economically significant) and emissions factors (i.e., which products and suppliers generate the most significant emissions in the value chain). In addition, keep an open dialogue with suppliers regarding GHG emissions – for a supplier measuring its own GHG emissions, primary data may be easily attainable – one entity's scope 1 or 2 is another entity's scope 3.

CPAs will play a crucial part in this exercise, as finance departments are intimately familiar with the procurement and sales processes and store the key data about the scope of the entities' operations. However, it will require the efforts of many departments in an organisation to complete the measurement of scope 3 GHG emissions, including product design, law/contracting, operations, finance, senior leadership and customer relations. External consultants may be required to supplement an organization's skillset.

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Additional resources

CPA Canada (2022) [A Closer Look at the GHG Protocol](#)

CPA Canada (2020) [GHG Emissions Management](#)

CPA Canada (2023) [Climate Impacts of Value chains: Tackling Scope 3 GHG Emissions](#)

CPA Canada (2023) [Sustainability Reporting Alert: Scope 1 & 2 GHG Emissions](#)

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