

# Scope 3 Guidance of the International Platinum Group Metals Association

Guidance for the Calculation of Greenhouse Gas Emissions for  
PGM fabricators with a specific lens on Scope 3 Category 1  
emissions

IPA and Sphera collaboration

International Platinum Group Metals Association e.V.  
Leopoldstrasse 8-10, 80802 Munich, Germany  
\*Email: [tania.bossi@ipa-news.com](mailto:tania.bossi@ipa-news.com)

Sphera Solutions GmbH, Hauptstraße 111-113, 70771,  
Leinfelden-Echterdingen, Germany  
\*Email: [spremer@sphera.com](mailto:spremer@sphera.com)

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## Table of Contents

1. Introduction.....	3
2. Objectives .....	4
3. Current Methodological Frameworks .....	5
3.1 GHG Protocol (GHGP) .....	5
3.2 The International Platinum Group Metals Association (IPA) .....	5
3.3 Together for Sustainability (TfS).....	5
3.4 International Council on Mining and Metals (ICMM).....	7
4. Case studies.....	8
4.1 Paper trading .....	8
4.1.1 Case 1- “Swaps” .....	9
4.2 Tolling services for refining materials .....	10
4.2.1 Case 2 – “Loco transfer” .....	12
4.2.2 Case 3 - “Location Swap” .....	12
4.2.3 Case 4 - “Buy-toll-Sell” .....	13
4.2.4 Case 5 - “Hybrid Consignment”.....	14
5. Data Quality: Activity data collection and emission factor selection.....	15
6. Conclusion .....	16
7. Contributing companies.....	18
8. List of acronyms .....	19
9. References .....	20

## 1. Introduction

According to the GHG Protocol, Scope 3 Category 1 (Scope 3.1) emissions are indirect greenhouse gas emissions from purchased goods and services (GHGP technical guidance, 2013). This category includes all upstream emissions from the production of products purchased or acquired by the reporting company in the reporting year.

In the platinum group metals (PGM) sector, Scope 3.1 involves a complex network of upstream activities in the supply chain, from the energy-intensive extraction of raw materials to the production of purchased goods and services. The processing phase of precious metals (materials) alone can significantly influence category 1 emissions. The upstream emissions for materials include:

1. Extraction of raw materials
2. Production of purchased materials, fuels and energy feedstock
3. Manufacturing processes
4. The inbound logistics of purchased material
5. Any other activities related to materials entering the reporting company's operations.

Scope 3.1 emissions are particularly relevant when precious metals are involved. Therefore, the accuracy of the data and an aligned calculation method are crucial for tracking and comparing the Scope 3 emissions in this sector (GHGP technical guidance, 2013).

However, the accurate attribution of emissions in cases such as paper trading and tolling presents challenges for companies dealing with precious metals (materials).

There are distinctive use cases for each of these activities that are addressed in this guidance, as the complexity of emissions attribution has in some cases led to the high degree of double counting by the parties involved. The complexity arises from several factors such as emissions attribution methods, mandatory versus optional accounting of those emissions, and conditions for potential exclusion.

### Activities in spotlight:

**Tolling** (or toll refining) refers to the refinement or processing of raw materials delivered to the reporting company (refiner) by customers or through third-party service providers. Refining often occurs without change of ownership.

**Paper trading** typically involves the purchase and sale of materials with change of ownership but with no physical delivery of the materials by the trader itself. In this case, materials are counted as “non-tangible assets” by the trader.

Fabricators in the PGM sector have employed different approaches to calculate Scope 3.1 emissions. While many of these approaches are valid, they lack comparability. Indeed, the

industry-specific attributions of paper trading and tolling emissions are not specified in the GHGP.

The absence of guidelines for those activities has resulted in different accounting and reporting methods in terms of:

- Including or excluding paper transactions/trading
- Including or excluding tolling/toll refining
- Differences in organizational boundaries: Challenges to align different Scope 3 organizational boundaries (financial and operational control)
- Data quality: Considering supplier-specific (primary data) emissions factors or only secondary data with a conservative approach
- Identifying the ownership of materials/by-products for toll refining and paper trading activities

These sector-specific challenges highlight the need for precise methodologies to ensure consistent and transparent accounting and reporting.

## 2. Objectives

The purpose of this document is to provide guidance for an aligned approach for the members of the International Platinum Group Metals Association (IPA) and a methodology for the specific use cases of paper trading and tolling activities. It aims to address how emissions resulting from these activities are accounted and reported under the Scope 3.1 category – “Purchased goods and services”, in alignment with the GHGP principles.

This guidance addresses the potential approaches to the use and application of activity data and the attribution of emissions to the reporting company's inventory, scope and category. The uncertainty regarding the inclusion or exclusion of emissions associated with processing of materials for the reporting company (trader, refiner) is addressed through different use cases.

To support industry-specific needs, the guidance aims to address specific challenges faced by companies in the industry, particularly members of the IPA. The objective is also to define the accounting of “optional information” as part of the main two cases of “paper trading” (section 4.1) and “tolling services” (section 4.2).

The GHGP requires that optional information should be reported separately from the main required emissions disclosures to maintain clarity, transparency, and relevance for stakeholders. Therefore, optional cases under this guidance should also be reported separately from the inventory.

In addition, existing sector-specific principles and standards (see § 3.1, 3.2, 3.3) have been reviewed to find common practices for addressing the above topics.

## 3. Current Methodological Frameworks

### 3.1 GHG Protocol (GHGP)

When it comes to specific cases for paper trading and toll refining of materials, the GHGP does not provide specific guidance to set boundaries for refiners and paper traders on whether or not they should include the emissions associated with the upstream production (cradle-to-gate emissions) of the inbound materials in their Scope 3.1. category.

Since the GHGP refers the concept of a “minimum boundary” and allows for the reporting of optional emissions separately from the GHG inventory, companies may choose to account for emissions from tolling and paper trading activities as optional and report them independently of their main inventory. The GHGP emphasizes the importance of clear boundary setting and minimizing double counting, especially for complex value chains. This could result in more transparent communication and overall accounting in the industry (GHGP technical guidance, 2013).

Regarding the use of emission factors for GHG accounting, the GHGP emphasizes prioritizing supplier-specific data to improve accuracy. It recommends prioritizing high-impact suppliers and materials for data collection and suggests using a combination of primary data from suppliers and secondary data from life cycle databases (GHGP technical guidance, 2013, p.21).

### 3.2 The International Platinum Group Metals Association (IPA)

To ensure consistency and accuracy, the IPA guidance “The Carbon Footprint of Platinum Group Metals” emphasizes the use of a cradle-to-gate system boundary, covering emissions from mining, concentration, smelting, and refining processes. It also includes emissions from the transport of raw materials and upstream production of auxiliary materials and energy. The guidance aligns with ISO standards and the GHGP, ensuring that data collection and reporting methodologies are standardized across the sector (IPA, The Carbon Footprint of Platinum Group Metals, V2, 2026).

For emission factors the guidance recommends prioritizing primary data whenever viable. Primary data refers to site-specific or supplier-specific data, i.e. based on activity data collected directly from production facilities, such as annual electricity or fuel usage. This ensures higher accuracy in calculating emissions. However, when primary data is unavailable, secondary data from life cycle inventory databases can be used as a fallback (IPA, V2, 2026).

Most IPA members currently refer to the regularly conducted industry life cycle assessment of Platinum Group Metals studies, whose results can be obtained from the official [IPA website](#). This dataset is recognized for its robustness and consistency, making it a preferred source for members of the IPA.

### 3.3 Together for Sustainability (TfS)

TfS categorizes tolling activities similar to contract manufacturing. A contract manufacturer (or toll manufacturer) is a company that conducts the tolling activity on behalf of the “customer”. The

customer in this case has outsourced production to the toll manufacturer (TfS PCF Guideline, Version 2.1, 2024, P.28).

TfS recommends that the “customer” should account those emissions related to the tolling activities requested in Scope 3.1. In other words, TfS suggests that raw materials need to be accounted in Scope 3.1 by the one who pays the tolling service, here the “customer”. The tolling manufacturer (refiner) needs to account for materials in Scope 3.1 only if those materials are exclusively purchased by them.

From a GHG accounting perspective, contract manufactured products (CMP) for which raw materials, energy and utilities are exclusively purchased by the contract manufacturer shall be treated like trading goods or any other purchased raw materials (TfS PCF Guideline, V2.1, 2024, P.28).

According to TfS, double counting of emissions from the contract manufactured product should be avoided but is generally acceptable. However, this standard also refers to the general emissions reporting principles that the outsourcing of production steps shall not lead to outsourcing of product-related emissions, while ensuring that double counting is minimized at the same time (TfS PCF Guideline, V2.1, 2024, P.29).

For paper trading not associated with any physical delivery or distribution of a material, TfS suggests that trading companies may exclude the cradle-to-gate emissions from the production of traded materials from their Scope 3.1 inventory.

If the trading activity is a “trade on paper” (i.e., purchase and sale are carried out shortly one after the other) and not connected to any physical delivery or distribution of a material, the trading company may exclude the respective GHG emissions from its Scope 3 inventory for the reasons below:

- Supplier-specific information is difficult or impossible to obtain because a long-term supply relationship normally does not exist and hence, the supply chain is not traceable.
- The frequent change of “owner” of the material and subsequent reporting of each owner would lead to a high degree of double counting in Scope 3 emissions.
- The effort of data collection is not justified for the purpose of this trade which is to achieve financial benefit.

(TfS PCF Guideline, V2.1, 2024, P.30)

In its latest product carbon footprint guideline for the chemical industry, TfS emphasizes the use of primary data for emission factors in PCF calculations and specifies if primary emission factors cannot be obtained, secondary emission factors shall be used. (TfS PCF Guideline, V.3, December 2024)

TfS has specific guidance on emission factor quality for PCF calculation, emphasizing the use of datasets with higher accuracy. Further information can be found in TfS PCF Guideline Version 2.1, 2024, on page 43.

### 3.4 International Council on Mining and Metals (ICMM)

The ICMM Guidance provides a standardized framework for calculating and disclosing value chain emissions, including Scope 3.1. Emissions accounting and reporting should aim to incorporate the best available data while recognizing limitations regarding activity data availability.

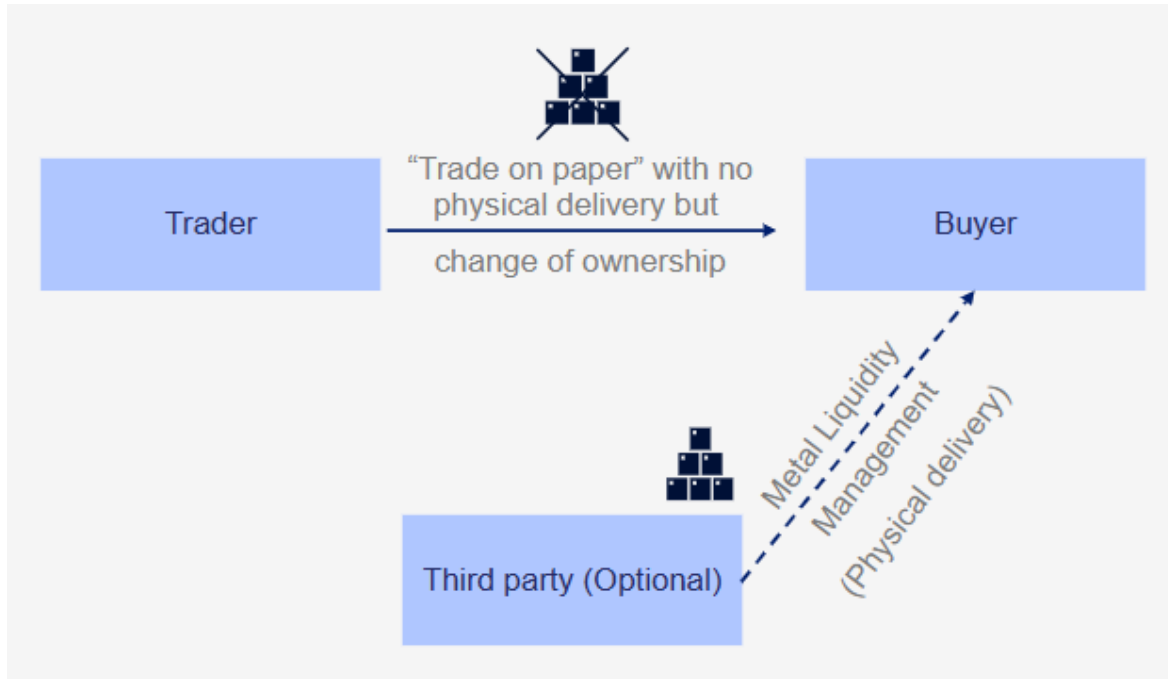
The ICMM categorizes Scope 3.1 as a hot spot for precious metals. If a category appears likely to be a hot spot and thus material, it should be calculated using best available data (ICMM, Scope 3 Emissions Accounting and Reporting Guidance, p.40).

As a minimum boundary, the ICMM suggests that companies must account for all upstream emissions from the extraction, production and transportation of products purchased or acquired by the reporting company in the reporting year.

Corresponding to the GHGP and the TfS approach, the ICMM is recommending using the best available data while recognizing limitations regarding activity data availability. The ICMM also emphasizes that supplier data quality may not be better than industry-average depending on supplier maturity in calculating emissions for their products.

## 4. Case studies

### 4.1 Paper trading



Paper trading is a trading activity which typically involves the purchase and sale of material with change of ownership but with no physical delivery of the material by the trader itself. In this case the trader conducts a purchase and sale (transaction/trading) with the same business partner at the same point in time to change capital against metal liquidity.

The actual metal liquidity occurs optionally through a third party. The delivery through this third party might not happen at the same time or location of the trader, and the third party might not be directly involved in the trade. The paper trade may cause a frequent change of ownership which could result in a high degree of double counting across the trading parties as two or more companies may account for the same emissions in their Scope 3 inventory.

In some cases, paper trading involves more than a trading activity – it may also include physical handling or logistical arrangements of the material by the trader. Therefore, it is challenging to distinguish where raw materials should be accounted under Scope 3.1 due to the double counting and limited influence of the trader over materials.

Thus, it is important to set clear boundaries with criteria for paper trading. Criteria can be a single criterion or a combination of several criteria such as time and delivery rights, purpose, or the clear identification of a supplier and a customer.

Following an extensive review with IPA members, a consensus has emerged that paper trades should in general be excluded from the trader’s Scope 3.1. However, if the paper trade is traceably connected to the physical delivery or distribution of the material, or if a change of state of the

physical material is involved within the paper trading transaction, the upstream raw material shall be accounted under Scope 3.1.

The TfS Guideline is also supporting this method suggesting that only if the trading activity is a “trade on paper” (i.e., purchase and sale are carried out shortly one after the other) and not connected to any physical delivery or distribution of a material, the trading company may exclude the respective GHG emissions from its Scope 3 inventory (TfS PCF Guideline V2.1, 2024, p.30).

To set clear boundaries and minimize the risk of double counting by two parties in one value chain, the criteria of minimum boundary and optional reporting are defined below:

<b>Minimum boundary</b>	<p>In the case of paper trading, the cradle-to-gate emissions of the raw material shall be accounted for by the trading company, if:</p> <ul style="list-style-type: none"> <li>• The paper trade is traceably connected to physical delivery or distribution of the material.</li> <li>• And/or the paper trader is also involved in further processing the material.</li> </ul> <p>*This is applicable in both Operational and Financial Control.</p>
<b>Optional</b>	<p>Cradle-to-gate emissions of the raw material are optional to be accounted for by the trading company, if:</p> <ul style="list-style-type: none"> <li>• The paper trade is a “trade on paper” (i.e. purchase and sale are carried out shortly one after the other or at the same point of time).</li> </ul> <p>The paper trade is not connected to any traceable physical delivery or distribution of the material by the trader.</p> <p>*This is applicable in both Operational and Financial Control. *Optional emissions should be reported separately from GHG Inventory.</p>

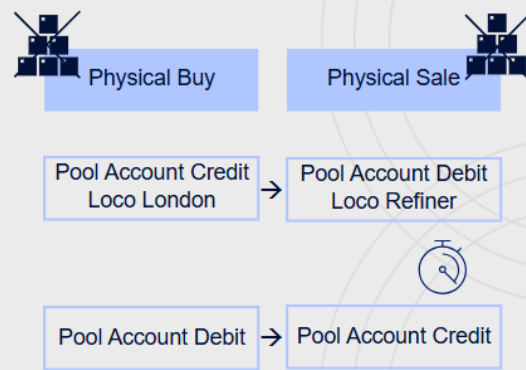
### 4.1.1 Case 1- “Swaps”

Refiner concludes a **purchase and a sale** transaction with the same business partner at the **same point in time** in order to **exchange delivery rights** to precious metal between locations, qualities or to change cash against metal liquidity and vice versa. → no net purchase

**Location Swap\***: A customer has metal liquidity Loco London but would like to get delivery rights "Loco Refiner" to source bars. Refiner has metal on site but needs liquidity Loco London to settle a deal → Refiner **sells the metal "Loco Refiner"** and at the same time **acquires the same quantity of metal Loco London**.

\* Without the need of physical transfer

**Finance Swap**: Refiner has excess cash liquidity but needs metal financing, a business partner has metal liquidity but is looking for cash. Refiner **buys metal spot and at the same time a forward deal is concluded** to re-sell the metal.



Swaps are a specific use case which can be seen under the paper trading case. Swaps refer to exchanging materials between companies without any physical purchase or sale with the purpose of managing their inventories.

In this case, the transaction (purchase and sale) between the customer and the refiner is conducted at the same point in time to exchange delivery rights to swap location/finance. Such transactions do not generate any fee for the refiner from the material involved.

According to TfS, these mutual delivery transactions are generally carried out as they are beneficial for the swap partners, e.g., due to:

- Optimization of logistics (e.g., savings in freight, tank, and customs costs) or
- Compensation for temporary product bottlenecks or surpluses.

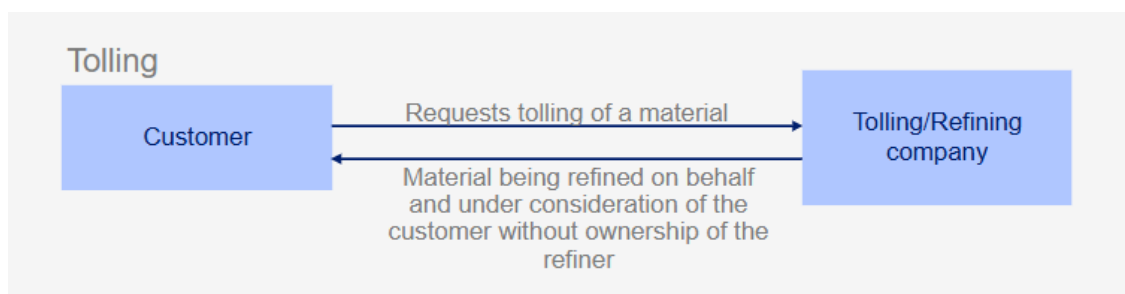
(TfS PCF Guideline V 2.1, 2024, p. 30, p. 39&40)

Therefore, in the case of swaps the trader should not account for the raw materials in Scope 3.1. However, if the trader organizes traceable physical transportation and further processing of the material, they should report the emissions linked to such activities.

This approach is aligned with TfS Guideline, which advises that traders should not account for the raw materials linked to products they receive through a swap from other companies. However, the emissions for the transportation from the swapping partner to the customer shall be reported by the selling company in their Scope 3.9 inventory (TfS PCF Guideline V2.1, 2024, p. 30, p. 39&40).

The swap use case described under paper trading (4.1.1.) may also apply as a use case under tolling, depending on the specific operational context.

## 4.2 Tolling services for refining materials



Tolling services, also referred to as toll refining, involve a refining company receiving material from a customer to process further on behalf of the customer. This case is described as “pure consignment” by some fabricators. In such cases, the material remains in the ownership of the customer that has outsourced the production to the refiner (TfS PCF Guideline V2.1, 2024, p. 28).

As a rule, the emissions from raw materials should be allocated to the customer’s Scope 3.1 inventory as they are purchased and processed on their behalf. Therefore, the refiner should not account for the raw materials under Scope 3.1. This exclusion applies because the refiner does

not obtain any ownership of the materials and only conducts the processing services on behalf of the customer.

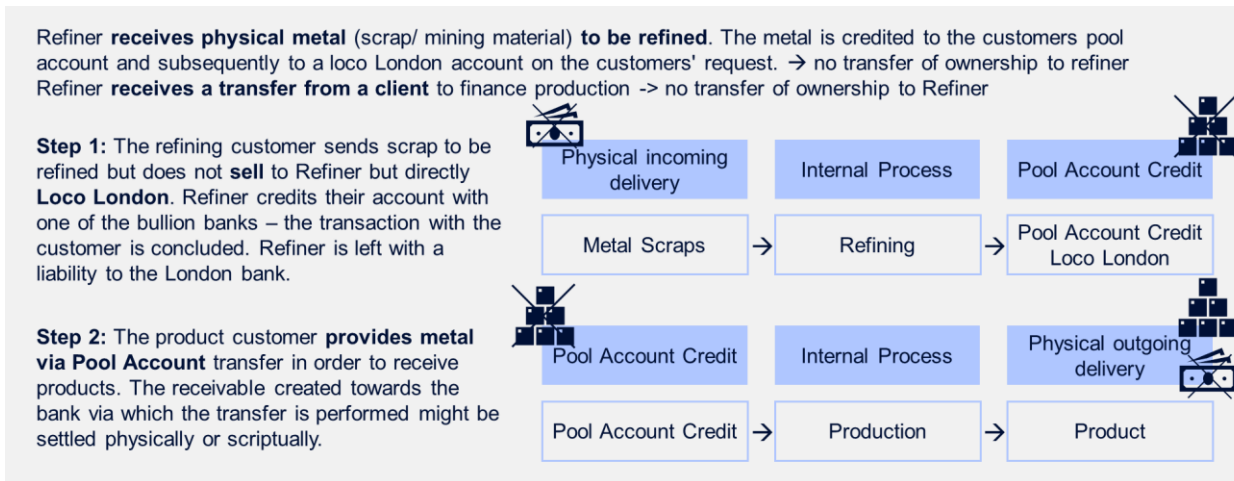
It is important for the refiner to distinguish the fee generated from providing refining services and a fee generated from the materials themselves. When acting solely as a service provider for the tolling service, the refiner does not need to account for those raw materials in its Scope 3.1 inventory. However, if the refiner also purchases the materials itself and subsequently charges a fee for both the refining service and the materials, the emissions associated with the raw material should also be accounted under the refiner’s Scope 3.1.

If a refiner also organizes the physical transportation linked to the tolling service, it should account for those emissions under its transportation inventory (Scope 3.4/9), as stated in the TfS PCF Guideline (V2.1, 2024, p.30). To set clear boundaries and minimize the risk of double counting by two parties in one value chain, the criteria of minimum boundary and optional reporting are defined below:

<b>Minimum boundary</b>	<p>Cradle-to-gate emissions of materials shall be included in Scope 3.1 by the refiner, if at least one of the following conditions is met:</p> <ol style="list-style-type: none"> <li>1. The raw material is directly purchased from a third party, not from the end customer, by the refiner for further refinement</li> <li>2. The refiner charges the end customer a separate fee for the raw materials, in addition to the tolling service fee.</li> <li>3. The refined material is sold directly by the refiner to a third party.</li> </ol> <ul style="list-style-type: none"> <li>• Independent of the accounting of the materials, all energy-related emissions for refining process should be accounted in the refiner’s Scope 1 (fuel, etc.) &amp; Scope 2 (purchased energy) and in the end customer’s Scope 3.1 inventory.</li> </ul>
<b>Optional</b>	<p>Cradle-to-gate emissions of the raw material are optional to be accounted for by the refiner, if:</p> <ul style="list-style-type: none"> <li>• Raw material is not purchased or a fee charged by the refiner.</li> <li>• The refined material is not sold to a third party by the refiner.</li> <li>• If there is no transfer of ownership of the material and it remains under the tolling customer’s ownership.</li> </ul>

The following use cases illustrate four specific additional scenarios under tolling services, demonstrating how the accounting of emissions between the refiner and the customer can vary based on different arrangements.

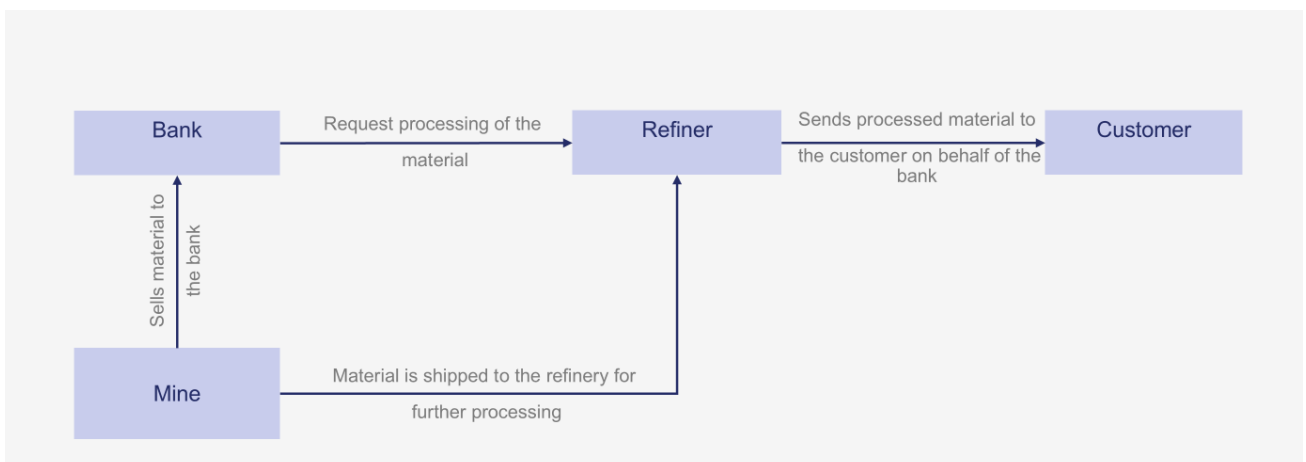
### 4.2.1 Case 2 – “Loco transfer”



In the first step, the metal scrap is sent to the refiner for refining activities without any change of ownership (purchase or sale) as this metal is directly sold to the pool account credit. In the second step, the metal is provided via the credited pool account, and it is physically transferred to the refiner after the processing and production. The refiner receives a transfer to finance the production. There is no change of ownership, while the material is provided by the customer for refining processes. The intended use of the purchase and sale transaction is not the interest in the ownership of the physical product (e.g. traceable physical delivery, etc.) (TfS PCF Guideline V2.1, 2024, p.39).

Therefore, in loco transfer the raw materials for refining should not be accounted under Scope 3.1 of the refiner. In this case the customer should account for Scope 3.1 and for Scope 3.4 (upstream transportation and distribution).

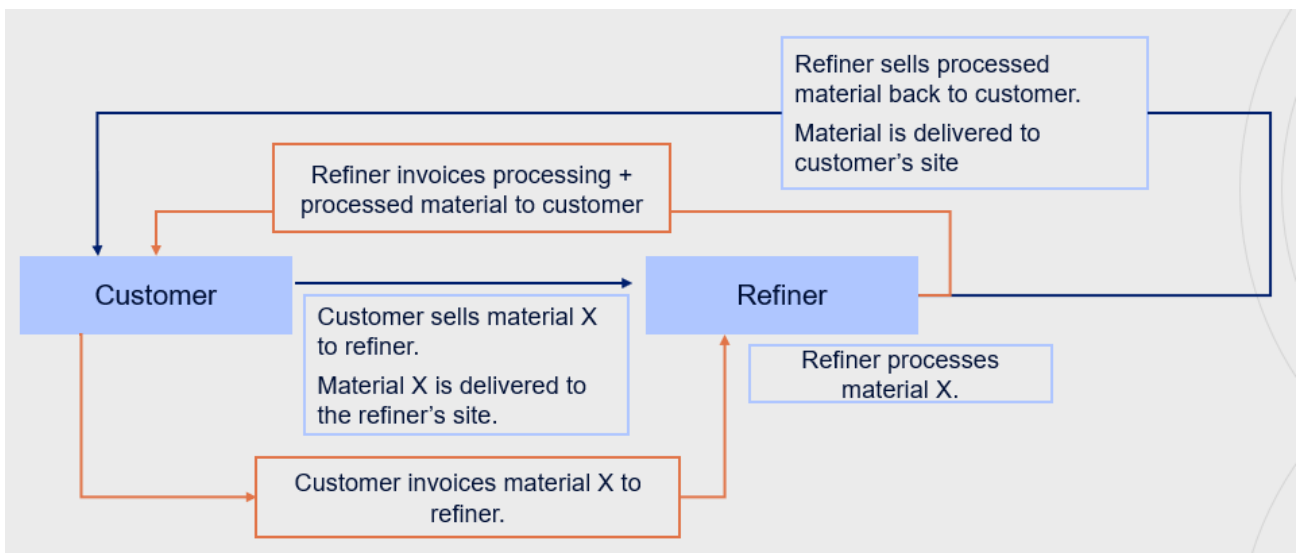
### 4.2.2 Case 3 - “Location Swap”



In the case of a location swapping, the mine sells the material to the bank. The material is then shipped from the mine to the refinery for further processing. The refiner further acts as an intermediary to help transfer the processed material to the customer. Reasonably, the refiner also organizes logistics on behalf of the bank and is performing a location swap to facilitate the final transfer of ownership from the bank to the customer.

In this case, the bank will need to account for the material in their Scope 3.1 inventory (when it purchases from the mine). The refiner is not purchasing or selling the material itself and thus should not account for it under Scope 3.1. However, any traceable physical transportation conducted by the refiner should be accounted in its Scope 3 transport related category (TfS PCF Guideline V2.1, 2024, p.39&40).

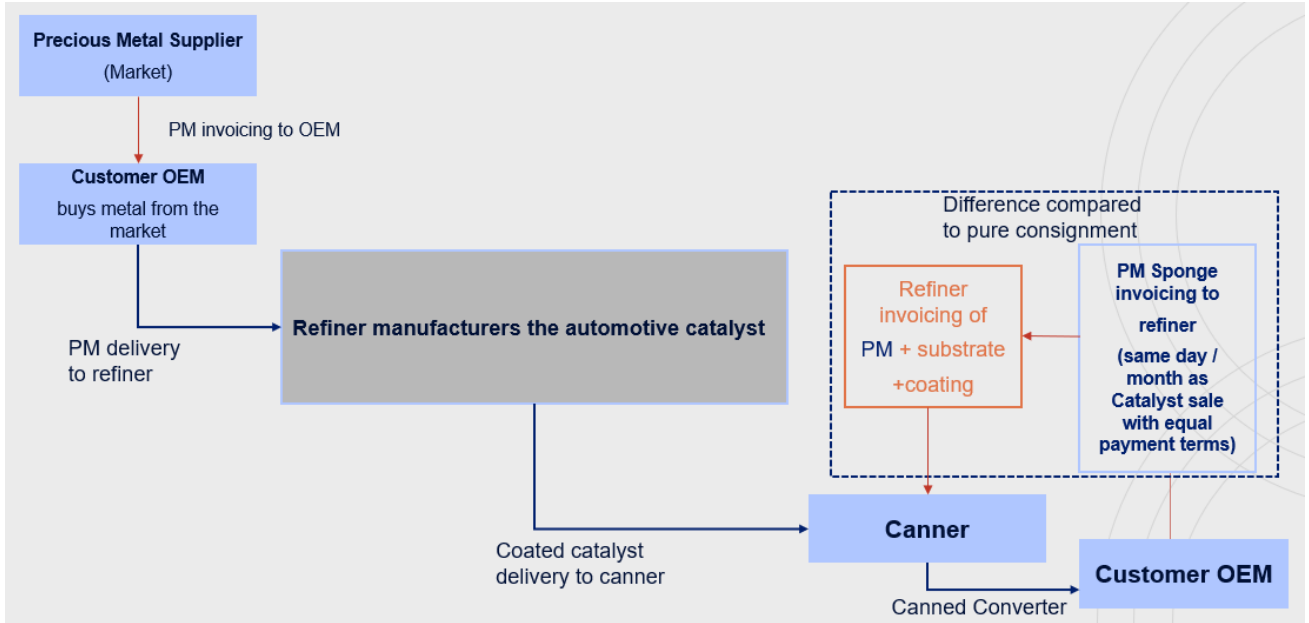
### 4.2.3 Case 4 - “Buy-toll-Sell”



In a buy-toll-sell arrangement, the customer asks the refiner to buy material X. The refiner then refines the material that is requested to be bought by the customer. The refiner has no influence on the purchasing of the raw material. The material is further processed and sold back to the same customer for the refining process. There is revenue generated from the tolling process, but there is no additional fee charged on the initial price paid for the raw material by the refiner. The refined product is not sold to a third party but back to the customer. This activity is known as “buy-toll-sell”.

In this case the upstream raw materials provided by the customer should not be accounted under Scope 3.1 of the refiner as they have no influence on purchasing the raw material. However, any traceable physical transportation should be accounted under the Scope 3 transportation related categories (3.4 or 3.9).

### 4.2.4 Case 5 - “Hybrid Consignment”

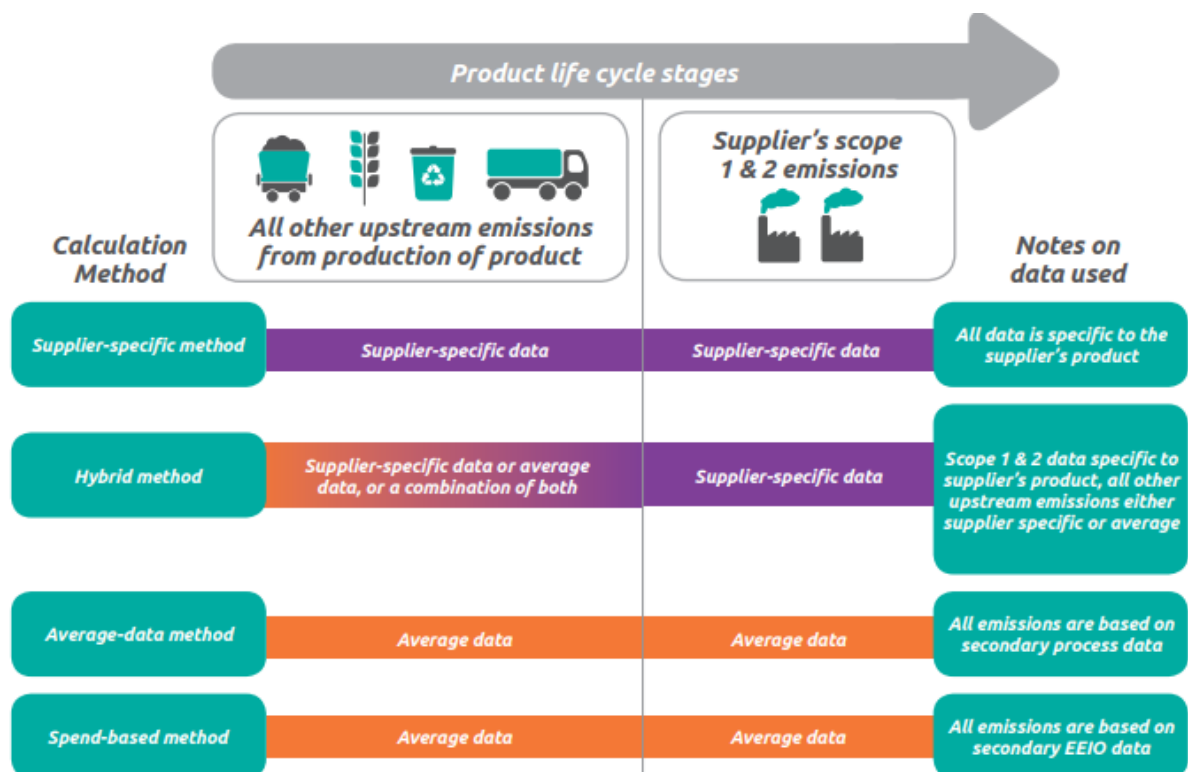


Hybrid consignment is similar to buy-toll-sell, with the key difference being the involvement of a third party, the canner. In buy-toll-sell cases, transactions occur solely between the customer and the refiner. The hybrid consignment arises when the customer requests the refiner to purchase the material and further invoice it to the third party.

The purpose of a hybrid consignment case is to exchange delivery rights between the customer and the refiner as well as with the third-party canner. As in this case the refiner purchases, sells, or transports materials, these activities should be accounted for in its Scope 3 emissions. The raw material needs to be accounted for under Scope 3.1 and transportation under the Scope 3 transportation related category (3.4 or 3.9), regardless of whether the purchase is directed by the OEM (minimum boundary).

## 5. Data Quality: Activity data collection and emission factor selection

The GHGP follows a clear hierarchy of which emission factor sources shall be used for Scope 3.1. accounting. Hereby, the GHGP encourages the use of primary (supplier-specific) data where possible for accuracy and transparency but allows the use of industry-average (secondary) data when primary data is not available, or of lower quality, or for less significant emission sources. The figure below from GHGP demonstrates the different data types used for different calculation methods.



Source: GHGP, Technical Guidance for Calculating Scope 3 Emissions, Version 1.0, p.21.

Also, the TfS Guideline emphasizes that using primary data (actual, supplier-specific data collected directly from operations) improves the accuracy and transparency of Product Carbon Footprint (PCF) calculations. The guideline recommends prioritizing primary data collection for suppliers and materials that contribute the most to overall emissions (“hotspots”) (TfS PCF Guideline V2.1, 2024, p.21&91).

The GHGP further highlights that in some cases, primary data may not be available or may not be of sufficient quality. In such cases, secondary data may be of higher quality than the available primary data for a given activity.

According to GHGP, companies should collect secondary data for:

- Activities not prioritized based on initial estimation methods or other criteria

- Activities for which primary data is not available (e.g., where a value chain partner is unable to provide data)
- Activities for which the quality of secondary data is higher than primary data (e.g., when a value chain partner is unable to provide data of sufficient quality)

(GHG Protocol Scope 3 FAQ, p.12)

Enhancing data quality (e.g., switching from secondary to primary data) can also result in a significant change in previously reported emissions. Therefore, it is recommended by the GHGP to follow the recalculation guidance outlined in the GHG Protocol Corporate Standard (Chapter 5: Tracking Emissions Over Time). Specifically, companies should recalculate base-year emissions when methodological changes or new, more accurate data would significantly affect reported results. Additionally, organizations are expected to clearly disclose any changes in methodology or data sources and explain the impact of these changes on reported emissions, ensuring transparency and enabling meaningful comparisons over time (GHG Protocol Corporate Standard Revised Edition 2004, Chapter 5, pages 35–37).

The TfS Guideline and the GHGP principle both align that recalculation is only required if the change in data (e.g., moving from secondary to primary) leads to a significant change in reported emissions. TfS Guideline also mentions if the change leads to a significant difference in the PCF, the reason for the change should be explained. From 2025 onwards, it will also be mandatory to report the share of primary data used and the data quality rating (TfS PCF Guideline V2.1, 2024, p.14).

Primary datasets are generally more precise and accurate than industry average-weighted data (weighted according to each source's contribution to total output). Therefore, the industry average emission factors should only be used when primary data is unavailable or uncertain, and members are unable to provide more precise quantification. In this case the industry average emission factors can be used as a conservative approach assuming that all members have access to this information.

Given the variability in data quality and availability across different scenarios, it is recommended to select the most representative, realistic and therefore accurate emission factor for each specific case. The goal is to utilize emission factors that closely reflect the actual environmental impact of the goods or services in question, balancing accuracy with practicality.

## 6. Conclusion

By setting a clear methodological framework for these industry-specific practices, this guidance aims to provide a standardized approach to Scope 3.1 emissions accounting for PGM fabricators that aligns with established standards while accommodating sector-specific challenges.

Considering this, in paper trading where there is no connection to the physical material or its transportation, raw materials are excluded from the trader's Scope 3.1 inventory. However, paper trades with a traceable connection to physical delivery or processing of the material by the trader should be accounted for under Scope 3.1.

In the context of tolling services, emissions accounting must be carefully considered to ensure appropriate attribution between the toll manufacturer and the customer. Generally, emissions from raw materials should be allocated to the tolling customer's inventory, as the tolling customer purchases those materials. The refiner's role is to process and refine materials on behalf of the customer without influencing the material selection or ownership. As a result, emissions from raw materials should not be accounted for in the refiner's Scope 3.1 emissions.

However, there are exceptions such as hybrid consignment where the refiner is required to account for emissions from raw materials in Scope 3.1. This occurs when the raw materials are directly purchased and/or sold (invoiced) by the refiner. Additionally, any traceable transportation that is organized by the refiner should be accounted under their Scope 3 transport-related categories.

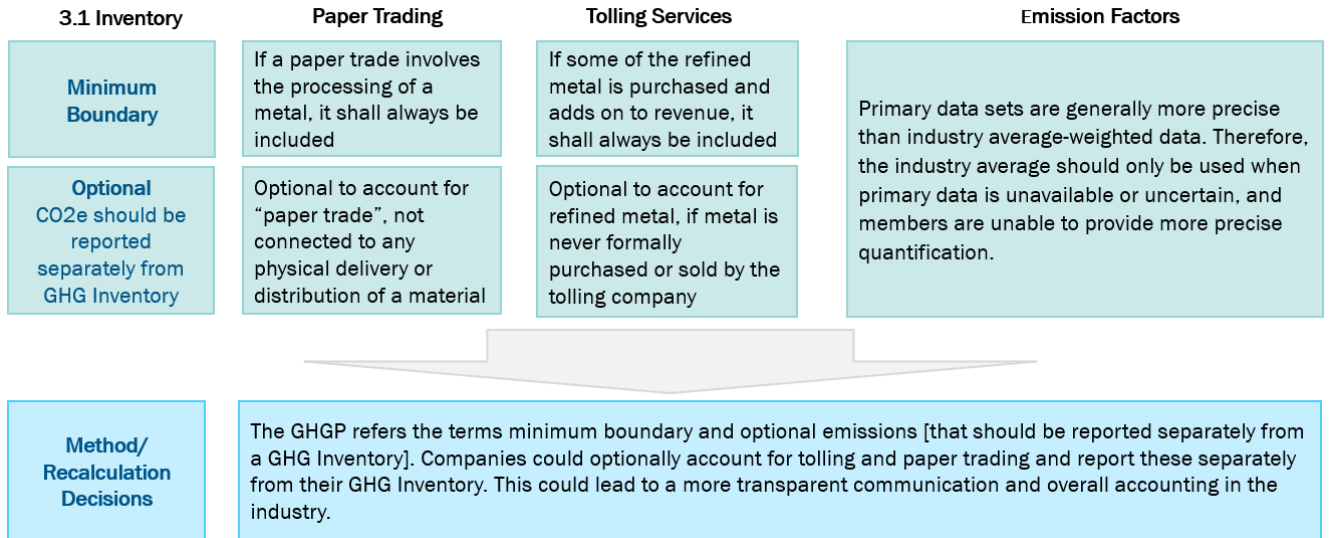
The key goal is to establish clear boundaries for emissions accounting, particularly in cases such as swaps, loco transfers, location swap, buy-toll-sell and hybrid consignment, where ownership, control, and revenue generation influence how emissions are accounted for. As the PGM industry continues to evolve, it remains essential to define these boundaries carefully to avoid double counting, ensuring alignment with the GHGP, TfS, and other evolving industry standards.

Companies could optionally account for discussed tolling and paper trading cases and report these separately from their GHG inventory (optional/minimum boundaries). The proposed minimum boundary and optional reporting criteria for paper trading and tolling services provide a balanced, transparent methodology that aims to capture relevant emissions and minimizes the risk of double counting where the same emissions are recorded more than once in carbon inventories or reports by the parties involved (GHGP Scope 3 Frequently Asked Questions, p.21).

The granular assessment of these emissions provides insights into the environmental performance of upstream suppliers and enables more strategic procurement. This guidance sets a foundation for improved consistency across the industry, potentially enhancing the comparability and reliability of Scope 3.1 inventories. Moving forward, companies should focus on continuous improvement in data collection and reporting methodologies.

This guideline will be re-evaluated once the updated version of the relevant standards such as GHG Protocol, ISO 14064, TfS, ESRS and SBTi are published to ensure consistency with the generally accepted principles. Further revisions may be made to reflect any changes or clarifications in the new standards.

**One page summary:**



**Scope 3 category 1 accounting - reporting responsibility:**

Scope 3.1 Case	To be reported by the trader	To be reported by the refiner	To be reported by the customer
Paper trading (4.1)	X	N/A	✓
Swap (4.1.1)	X	X	✓
Tolling (4.2)	N/A	X	✓
Loco Transfer (4.2.1)	N/A	X	✓
Location Swap (4.2.2)	N/A	X	✓
Buy-toll-Sell (4.2.3)	N/A	X	✓
Hybrid Consignment (4.2.4)	N/A	✓	✓*

\*Both, the canner and the OEM must report as customers.

## 7. Contributing companies

The following IPA Member companies have been involved in drafting this guideline:

BASF SE / BASF ECMS

Heraeus Precious Metals

Johnson Matthey

Umicore

## 8. List of acronyms

**IPA:** The International Platinum Group Metals Association

**GHGP:** Greenhouse Gas Protocol

**Scope 3.1:** Scope 3 Category 1, purchased goods and services.

**EF(s):** Emission factor(s)

**PM(s):** Precious metal(s)

**PG&S:** Purchased goods and services.

**TfS:** Together for Sustainability

**PGM(s):** the global platinum group metals (PGMs) industry, comprising platinum, palladium, rhodium, ruthenium, iridium, and osmium.

**ICMM:** International Council on Mining and Metals

**LCA:** Life Cycle Assessment

**PCF:** Product Carbon Footprint

## 9. References

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