

Scope 3 Problem Solving White Paper

Understanding when and how to rebaseline due to methodological changes

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Collaborators

WBCSD would like to thank the following companies and organizations that have supported and contributed to the development of this White Paper:





Background

A crucial part of tracking GHG emissions changes over time is maintaining a comparable baseline – the amount of emissions in a given historical year against which companies track their performance towards established emission reduction targets.

The Greenhouse Gas Protocol (GHG Protocol) and the Science Based Targets Initiative (SBTi) outline rules for establishing a baseline year, as well as when and how to re-calculate it, or “rebaseline”. To apply these rules, companies are instructed to create their own policies governing when and how to rebaseline.¹ These policies must clarify the approach taken by the company when undergoing a rebaseline in four

different scenarios: inventory or target boundary changes, organizational structure changes, significant cumulative calculation errors, and methodology changes (including data changes).

Due to the evolving climate accounting space, rebaselining is a relatively common practice; 70% of companies report revising their baseline in the last 5 years, according to an SBTi study.² As methods improve and data sources are updated in future years’ calculations, the expectation is that rebaselining will continue to be an integral part of tracking performance against targets.



Challenge

While rebaselining is a necessary practice, official guidance on its mechanics remains open for interpretation, particularly in the case of methodology changes. For instance, companies introducing or increasing the share of supplier-specific product emissions data in their GHG inventories, thereby improving their accuracy, encounter two interconnected challenges as a result of this ambiguity.

First, companies are unsure *what* should trigger a rebaseline. The GHG Protocol dictates that re-calculation is required when “changes in calculation methodology or improvements in the accuracy of emissions factors or activity data that result in a significant impact” occur.³ However, as these categories of triggers are broad and the definition of “significant” is not specified, implementing this guidance remains ambiguous. While SBTi specifies a “significance threshold” of 5%⁴, it does not specify the level at which this 5% threshold should trigger the rebaseline (i.e., whether the rebaselining should occur if the 5% threshold is met at the Scope level, at the target coverage level, or for the company’s total emissions). In the absence of additional guidance, companies are left to define their own answers to these important questions, resulting in uncertainty and inconsistency between companies.

Second, there is no guidance on *how* to re-calculate a baseline due to methodology changes. For instance, companies receiving Product Carbon Footprints (PCFs) from suppliers to improve emissions tracking

may be unable to obtain those very same PCFs for their base year, either because the supplier lacks the data for that given year or because the supplier or products may not even have been purchased during the base year. The lack of guidance on the rebaseline steps that companies should follow when dealing with methodological changes has led to a wide range of divergent approaches being followed.

These parallel challenges open the door to major inconsistencies between different companies’ approaches to re-baselining when dealing with methodology changes, particularly when seeking to incorporate PCFs. This poses a reputational risk for companies who may be perceived as not following best practices from an integrity and transparency standpoint. As a result, companies are seeking a consistent approach to methodology-based rebaselining that mitigates these risks and streamlines the process of developing their baseline re-calculation policies with regards to PCFs.

This white paper has been developed to provide clarity on *what* constitutes a methodology change and *when* and *how* a rebaseline should take place, built on the example of PCF incorporation into GHG inventories.

Please note that for the purpose of this white paper, rebaselining refers to updating the GHG Inventory of the existing base year, rather than changing the base year to a different year.



Solution

1. Defining the *what* and the *when*

To determine what should lead to rebaselining and when it should occur, a first step required identifying different kinds of methodology updates, and understanding their implication in the comparability of emissions before and after the update. This process led to the identification of two categories of methodology updates, and the definition of a rebaseline approach for each, as shown in Table 1 below.

Table 1: Types of methodology updates and implications

Category of methodology update/ Mandatory	Detail	Suggested rebaseline approach	Example
1. Methodology changes	Changes in: <ul style="list-style-type: none">• Reporting rules• Emission boundaries• Characterization factors• Calculation approach	Automatic rebaseline	GHG Protocol’s new Land Sector and Removals Guidance superseding previous guidance on biogenic emissions and removals
2. Components of how a methodology is implemented	Improvements in activity data or emission factors, database updates	Rebaseline at a minimum if SBTi-aligned 5% threshold is reached	Using supplier-specific PCFs instead of secondary factors from industry databases

2. Interpreting a 5% threshold

A wide range of interpretations exist on the potential scope of the 5% threshold included in Category 2 above. These interpretations are related to two key aspects:

1. Emission coverage (i.e., should the threshold be triggered by changes across the whole inventory or a more granular scope?)
2. Consolidation of different rebaseline triggers (i.e., should the threshold be assessed individually for structural changes, minor errors, and methodology or should they be consolidated?)

To avoid this, Table 2 provides interpretation recommendations to facilitate a common understanding of the threshold.

These recommendations should be interpreted as a minimum requirement, with companies encouraged to pursue more granular scopes should they be able to (e.g., by applying the 5% threshold to each emissions category of Scope 3).

To avoid different updates cancelling each other out, all changes should be assessed on an absolute basis. For example, if a significant error results in a 7% decrease in total Scope 3 emissions, this should not be cancelled out by structural changes resulting in a 3% increase, leading to a 4% decrease in total and therefore falling below the 5% threshold. Instead, companies should consider absolute variance to determine the need to rebaseline – in this example, total variance would be 10%.

Table 2: Clarification on the scope of the 5% threshold

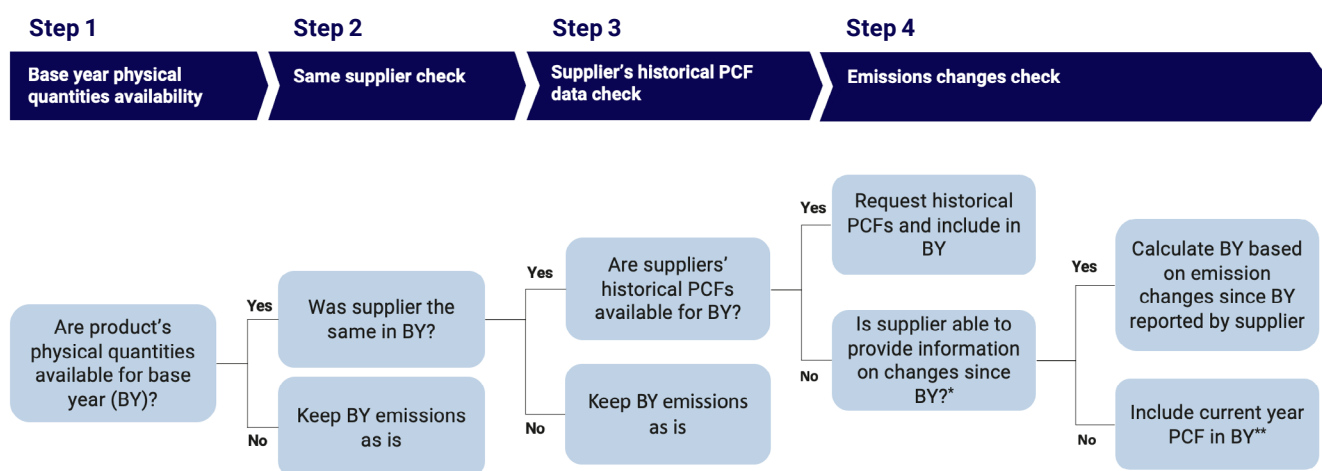
Scope of 5% threshold	Recommendation
On emissions coverage...	Threshold to cover all emissions included in each individual target
On consolidation of different inventory updates...	All rebaseline reasons consolidated (i.e., structural changes, minor errors and methodology changes)
Examples	
Company A has a near-term net zero target covering Scopes 1+2+3. While its Scope 3 emissions inventory has undergone methodology updates that amount to 5% of the Scope, they only amount to 4% of the total target boundary, meaning it does not need to rebaseline.	
Company B has undergone updates to its inventory due to structural changes (3%), significant errors (5%) and methodology components (2%), affecting base year emissions of their Scope 3 target by over 5% and triggering a rebaseline.	
Company C has a near-term net zero target covering Scopes 1+2+3. The following inventory have taken place in its most recent reporting year:	
Scope 1 & 2:	
<ul style="list-style-type: none"> • Significant errors addressed (1% of total emissions covered by target) 	
Scope 3:	
<ul style="list-style-type: none"> • Methodology updates (2% of total emissions covered by target) • Significant errors addressed (1.5% of total emissions covered by target) 	
Outcome: Company C's updates have resulted in a 4.5% change in total emissions covered by target, meaning it does not need rebaseline.	

3. Defining the *how*

Should a rebaseline be required in line with the recommendations above, Figure 1 presents a decision tree that will facilitate greater consistency amongst companies in *how* this rebaseline exercise is performed. The decision tree was designed for

the purpose of PCF incorporation into corporate level GHG inventories, but its process can also be extrapolated to cover additional methodology related components.

Figure 1: Decision tree to determine the best approach to rebaseline as a result of updated PCFs



*At a minimum, suppliers shall demonstrate proof of change by providing the following data points: Scope at which emissions change has been tracked (product or corporate level), confirm cradle-to-gate boundary (for corporate level, S1 + S2 + S3 Upstream), quantitative explanation of emissions change, total change in emissions since BY (%), direction of change (decrease or increase).

**Current year PCFs may be used for base year emissions regardless of their validity period, which only applies on a forward-looking basis (e.g., 2023 PCF valid for 2019 BY but not for 2027 reporting).

Step 1: Determine availability of physical quantities in base year

In order for companies to be able to recalculate base year emissions with existing PCF data, it is essential to have physical quantities (e.g., kilograms) for each studied purchased product available. Should this information not be available, companies are encouraged to find alternative means to improve the accuracy of base year emissions but should at a minimum keep base year emissions as is.

Step 2: Check whether you purchased the product from the same supplier

With physical quantities for studied purchased products available, companies should ensure that the supplier that provided the PCF in the current year is the same supplier as in the base year. Should this not be the case, companies are encouraged to find alternative means to improve the accuracy of base year emissions but should at a minimum keep base year emissions as is.

Step 3: Request historical data from suppliers

If physical quantities are available and the supplier in the current year is the same as the supplier in the base year, companies should request the historical PCF of the studied purchased product. This will successfully allow them to recalculate the base year emissions of this product.

Step 4: Request proof of emission changes since base year

If the supplier is unable to provide a historical PCF, companies may wish to calculate the base year PCF by requesting information from the supplier on any change in emissions recorded since the company's base year. To apply the principle of conservativeness and ensure robust guardrails, suppliers should, at a minimum, provide the following data points to the buying company:

- Scope at which emissions change has been tracked (product or corporate level)
- Confirm cradle-to-gate boundary (for corporate level, S1 + S2 + S3 upstream)
- Quantitative explanation of emissions change
- Total change in emissions since baseline year (%)
- Direction of change (decrease or increase)

Should the supplier be unable to provide this information, companies should update the base year emissions with the current year's PCF. Please note that, although the PACT Methodology requests companies to update their PCFs at a minimum every three years, in line with the principle of conservativeness this rule only applies on a forward-looking basis (e.g., PCFs calculated in 2023 may be used to update 2019 base year, but shall not be used in 2027 PCF reporting).

Vision for the future

While this paper focuses on embedding PCFs into greenhouse gas (GHG) inventories from the perspective of rebaselining, it is equally important to acknowledge the importance of PCFs for forward-looking decision-making.

In a world increasingly concerned about the lack of corporate progress towards emission reduction targets, the key role that PCFs and PCF exchange have in identifying emission hotspots and facilitating the tracking of emission reduction initiatives should not be overlooked.

We therefore encourage all companies to assess the benefits of transitioning towards a more granular accounting approach for the biggest emission sources in their inventories in order to accelerate global value chain transparency and decarbonization.

Endnotes

1. [Greenhouse Gas Protocol \(2004\) Corporate Accounting and Reporting Standard.](#)
2. [Science Based Targets Initiative \(2023\) Catalyzing Value Chain Decarbonization: Corporate Survey Results.](#)
3. Greenhouse Gas Protocol (2004) Corporate Accounting and Reporting Standard, p.37.
4. [SBTI Corporate Near-term Criteria v5.2.](#)

About WBCSD

The World Business Council for Sustainable Development (WBCSD) is a global community of over 225 of the world's leading businesses driving systems transformation for a better world in which 9+ billion people can live well, within planetary boundaries, by mid-century. Together, we transform the systems we work in to limit the impact of the climate crisis, restore nature and tackle inequality.

We accelerate value chain transformation across key sectors and reshape the financial system to reward sustainable leadership and action through a lower cost of capital. Through the exchange of best practices, improving performance, accessing education, forming partnerships, and shaping the policy agenda, we drive progress in businesses and sharpen the accountability of their performance.

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About PACT

PACT offers a streamlined methodology for calculating and exchanging product carbon footprints (PCFs) to promote decarbonization across value chains.

Powered by the World Business Council for Sustainable Development (WBCSD), PACT harmonizes the PCF calculation and exchange through a universal methodology, technical specifications for PCF exchange, and an ecosystem enriched by a network of committed, impact-driven companies.

With participation from more than 150 stakeholders, including businesses, policymakers, and standard setters, PACT collaborates with over 11 industry-specific initiatives. More than 2,500 companies have adopted PACT, striving to accelerate supply chain transparency and foster decarbonization within the private sector, driving sustainable and enduring business practices.

If you would like to find out more about PACT, please contact:

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