PACT
PARTNERSHIP FOR CARBON TRANSPARENCY

TOGETHER FOR SUSTAINABILITY

PACT and TfS: Navigating Methodological and Technical Differences

A consolidated guide for companies calculating PCFs and assessing supplier PCF alignment with the PACT Methodology

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Context and objective

Since 2021, PACT and TfS have worked to align PCF calculation methods and data exchange models. While the approaches are compatible and mostly aligned, this document summarizes what still differs and what to do next.

Industry-agnostic methodology

- PACT is designed to work across all industries
- PACT also works closely with industry-specific initiatives, like TfS for chemicals, to ensure consistency while allowing for sector-specific accounting needs
- PACT acknowledges the TfS PCF Guideline as sector-specific rule for the chemical sector

Active collaboration

- PACT and TfS have been working together since 2021 to maximize alignment
- The areas covered in this document represent the remaining differences (not areas of disagreement, but those not yet fully resolved)

Why differences remain

- TfS addresses specific needs of the chemical sector that differ to cross-sector requirements covered in PACT
- The differences are lower in materiality than those already aligned
- In most cases, workable bridging solutions already exist. This document makes those solutions explicit

Objective: Enable PCF producers using TfS PCF Guidelines to create PACT-aligned PCFs and help recipients verify alignment.
We do so by providing practical guidance where PACT and TfS still differ.

PACT welcomes feedback on the document's technical accuracy and usefulness. Please contact us at pact@wbcsd.org

This guide's purpose

PACT and TfS approaches to PCF calculation and exchange are compatible and closely aligned, but a small number of methodological and technical differences remain. This guide helps two audiences navigate the differences.

Audience 1: PCF Builders

You are calculating a PCF following TfS Guideline and want to ensure it is also consistent with the PACT Methodology.

This guide tells you:

- Where TfS and PACT follow different approaches
- What to do to produce a PACT-aligned PCF
- Where flexibility exists and where it does not

Audience 2: PCF Recipients

You have received a PCF calculated following the TfS Guideline and need to assess how well it aligns with the PACT Methodology.

This guide tells you:

- What to look out for in supplier PCFs
- How to interpret differences
- When conversion or restatement may be needed

Note: PACT and TfS continue to collaborate actively. The differences described here are lower in materiality than areas already fully aligned.

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01

Calculation Guidance

- Biogenic Emissions and Removals
- Material Recycling
- Energy Recovery

Internal

1.1 Biogenic Emissions and Removals

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Status: Substantially aligned – methodologies aligned plus TfS data model v3.0 is interoperable with PACT data model v3.0

PACT Methodology v3.0

Biogenic emissions and removals guidance is set out in Chapter 3.3.2.4 of the PACT Methodology v3.0. The data model v3.0 defines how these values should be structured and exchanged.

TfS PCF Guideline v3.0

Biogenic emissions and removals are addressed in 5.2.10.1 of the TfS PCF Guideline v3.0. TfS PCF data model v3.1 is interoperable with PACT data model v3.0 and includes provisions on GWP contributions from land management in line with PACT's.

A future revision (likely in 2027) may add further detail on GWP assessments and their reporting.

What to do:

PCF Builders: Follow the guidance in Chapter 3.3.2.4 of the PACT Methodology v3.0 when creating your PCF, ensuring your calculations and documentation align with PACT requirements. Additionally, follow the guidance in chapter 5.2.10.1 of the TfS PCF Guideline v3.0 and the TfS PCF data model v3.1.

PCF Recipients: Use Chapter 3.3.2.4 of the PACT Methodology v3.0 to assess whether the received PCF is aligned with PACT. As part of your review, ask your suppliers to confirm whether they applied the PACT Methodology guidance in their calculations.

1.2 Material Recycling

Status: Substantially aligned – full methodological alignment if cut-off approach or USE approach is employed (for chemical recycling only).

PACT Methodology v3.0	TfS PCF Guideline v3.0
Cut-off approach (recycled content method).	Cut-off approach as standard, with option to provide additional 'cut-off plus' data. The USE (Upstream System Expansion) approach is permitted for chemical recycling specifically.

What to do:

PCF Builders: Use the cut-off approach as set out in Chapter 3.3.2.2 of the PACT Methodology. Exception: the Upstream System Expansion (USE) approach is accepted for chemical recycling processes as defined by TfS in chapter 5.2.8.4 (p.75-76) of the TfS PCF Guideline v3.0.

PCF Recipients: Check the respective method followed by the declaring company (described in the TfS data attribute “allocationRecycledCarbon”). Confirm use of either Cut-off or of the USE approach (applicable in TfS only in the case of chemical recycling).

1.3 Energy Recovery (Waste to Energy)

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Status: Minor difference - TfS allows additional approaches alongside the standard cut-off method

PACT Methodology v3.0	TfS PCF Guideline v3.0
Recommends the cut off approach.	Recommends three options, including cut-off approach. Method must be declared via the data model.

What to do:

PCF Builders: Use the cut-off approach as set out in Chapter 3.3.2.2 of the PACT Methodology, if overall methodological consistency is desired.

PCF Recipients: Check the respective method followed by the declaring company (described in the TfS data attribute “allocationWasteIncineration ”).

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02

Data Integrity

- Primary Data Share
- Data Quality Rating
- Validity Period

Internal

2.1 Primary Data Share (PDS)

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Status: Difference in scope of overall PDS calculation - conversion formulas are available

PACT Methodology v3.0	TfS PCF Guideline v3.0
Calculates PDS excluding biogenic CO_2 uptake. Biogenic CO_2 uptake PDS & quantity is not included in the overall PDS calculation	Calculates PDS including biogenic CO_2 uptake, from assimilation according to ISO 14067. Biogenic CO_2 uptake PDS & quantity is part of the overall PDS calculation

What to do:

PCF Builder: Apply the below conversion formula to convert PDS between PACT and TfS aligned calculation approach

PCF Recipient: Apply the formula below or ask your supplier to convert the PDS figure before sharing.

Conversion formulas - assuming PDS_{BCC} is 100%, and absolute PCF can be calculated with all attributes available

PDS_{TfS} = ((PDS_{PACT} × PCF excl. biogenic CO_2 uptake) + (100% x BCC × 44/12)) / ((PCF excl. biogenic CO_2 uptake + (100% x BCC × 44/12))

PDS_{PACT} = ((PDS_{TfS} × (PCF excl. biogenic CO_2 uptake) + (100% x BCC × 44/12)) – (100% x BCC × 44/12)) / PCF excl. biogenic CO_2 uptake

2.2 Data Quality Ratings

Status: Difference in scope of overall DQR calculation - conversion formulas are available

PACT Methodology v3.0	TfS PCF Guideline v3.0
Calculates DQR excluding biogenic CO_2 uptake. Biogenic CO_2 uptake DQR and quantity is not part of the calculation scope	Calculates DQR including biogenic CO_2 uptake. Biogenic CO_2 uptake DQR and quantity is part of the calculation scope

What to do:

PCF Builder: Apply the below conversion formula to convert DQR between PACT and TfS aligned calculation approach

PCF Recipient: Apply the formula below or ask your supplier to convert the DQR figure before sharing

Conversion formulas - assuming DQR_{BCC} is 1, and absolute PCF can be calculated with all attributes available

$$DQR_{TfS} = ((DQR_{PACT} \times \text{PCF excl. biogenic } CO_2 \text{ uptake}) + (1 \text{ x BCC} \times 44/12)) / ((\text{PCF excl. biogenic } CO_2 \text{ uptake} + (1 \text{ x BCC} \times 44/12))$$

$$DQR_{PACT} = ((DQR_{TfS} \times (\text{PCF excl. biogenic } CO_2 \text{ uptake} + (\text{BCC} \times 44/12)) - (1 \text{ x BCC} \times 44/12)) / \text{PCF excl. biogenic } CO_2 \text{ uptake}$$

2.3 Validity Period

Status: Minor difference - trigger threshold to update a new PCF version is different (10% vs 20%)

PACT Methodology v3.0	TfS PCF Guideline v3.0
Update PCFs at least every 3 years, or earlier if production process changes cause a >10% impact on the original PCF value.	Update PCFs at least every 3 years, or earlier if production process changes cause a >20% impact on the original PCF value.

What to do:

PCF Builder		PCF Recipient
Most material products	**Other products**	**When assessing a received PCF**
Apply the 10% threshold (PACT / conservative approach)	20% threshold is acceptable	Ask your supplier which threshold they applied and their reasoning for that product

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03

Verification

Internal

3.1 Verification

Status: Evolving space - no mandatory prescription; recommendations only at this stage

PACT Methodology v3.0

Includes a recommended verification roadmap, aligned with TfS terminology. No specific verification level is mandated at this stage.

TfS PCF Guideline v3.0

TfS and Catena-X have developed joint guidance for PCF calculation verification and PCF program certification. No specific verification level is recommended at this stage.

What to do:

This area is still developing. At this stage, there is no mandatory ruling, mostly recommendations. The suggested approach is to:

- Engage both downstream and upstream stakeholders to understand their verification needs
- Assess which verification routes are most practical, now
- Provide feedback to PACT and TfS to help shape future requirements

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04

Data Model

- Fossil Emissions – Land Management
- GWP Biogenic Emissions other than CO2 | Biogenic non-CO2 Emissions
- Land Occupation

Internal

4.1 Data model attribute differences

Note: Differences in reporting rules do not block PCF exchange. See: PACT Data Exchange Protocol for full details.

Attribute	PACT v3.0	TfS v3.0	What to Do
Fossil GHG Emissions from Land Management	Mandatory from 2027 (if biogenic emissions involved and value known)	Optional (fossil total attribute is mandatory from 2027)	PCF Builder: Provide this attribute if targeting alignment with PACT, GHG Protocol LSRS, and SBTi. PCF Recipient: Request inclusion of this data attribute from suppliers.
Biogenic Non-CO_2 Emissions (GWP Biogenic Emissions other than CO_2 in TfS)	Mandatory (if biogenic emissions involved and value known)	Optional	PCF Builder: Provide this attribute if targeting PACT alignment. PCF Recipient: Request inclusion of this data attribute from suppliers.
Land Area Occupation	Optional (if biogenic emissions involved and value known)	Not included in TfS data model	No action required at this stage.

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Summary

Internal

Overarching criteria for achieving PACT conformance from PCFs built following TfS PCF Guideline

1

Use compatible methodological choices (or declared, allowed alternatives)

2

Feature mandatory PACT data plus full attributes required for conversion of PDS and DQR (if required)

3

Meet exemption rules for scope of emissions

4

Transparently documented using TfS and PACT PCF meta-data

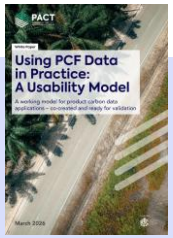
PACT and TfS key differences at a glance

Topic	PACT v3.0	TfS v3.0	Alignment Status	Action Required
Biogenic emissions	Chapter 3.3.2.4 guidance	Interoperable with PACT v3.0 data model	Substantially aligned	No: confirm method used
Material recycling	Cut-off only	Cut-off + optional USE for chemical recycling	Substantially aligned	Use cut-off; USE accepted for chemical recycling
Energy recovery	Cut-off only	Multiple options; cut-off is one	Minor difference	Use cut-off; ask supplier which applied
Primary Data Share (PDS) formula	Excludes biogenic carbon uptake	Includes biogenic carbon uptake	Formula difference	Apply conversion; or request from supplier
Data Quality Rating	Excludes biogenic carbon uptake	Includes biogenic carbon uptake	Formula difference	Apply conversion; or request from supplier
Validity period	Update if >10% process change	Update if >20% process change	Minor difference	Use 10% for material products; 20% for others
Verification	Roadmap recommended; no mandate	Guidance available; no mandate	Aligned in principle	Engage stakeholders; give feedback to PACT/TfS
Land mgmt. emissions	Mandatory from 2027	Optional	Reporting rule differs	Include attribute to align with PACT & SBTi
Biogenic non-CO_2	Mandatory (if relevant)	Optional	Reporting rule differs	Include attribute to align with PACT; request from suppliers
Land area occupation	Optional	Not included	Minor gap	No action required

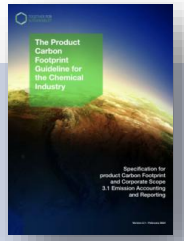
PACT and TfS offer support and resources for companies throughout the typical PCF Journey

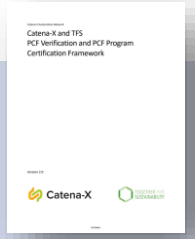
Steps	#1 Set up PCF program	#2 Calculate PCF	#3 Exchange PCF	#4 Verify, Certify & Validate PCFs	#5 Use PCFs	#6 Reduce emissions
Company needs	Use cases, supplier prioritization & engagement, software selection (PACT-only)	Standardised and clear PCF calculation methodology	Secure ways to exchange PCFs efficiently, consistently, confidentially	Be able to trust the exchanged PCFs	Be able to use the exchanged PCFs	ROI from PCF journey, concrete decarbonisation pathways

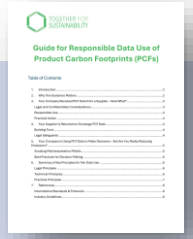
Cross-industry:



Chemical industry:







NEW *GHG Emissions Reduction Actions*

Overall summary

High overall alignment exists

PACT and TfS are substantially aligned at both the methodology and data model level.

Companies using either methodology are working from a common foundation.

Remaining differences manageable

The differences described in this document are lower in materiality than areas already fully resolved and aligned.

In most cases, workable solutions (conversion formulas, clear questions for suppliers, and practical thresholds) already exist.

Clarity, not confusion

The purpose of this guidance is to remove ambiguity over remaining differences.

Knowing exactly where differences sit - and what to do about them - is what enables consistent, credible PCF exchange across value chains.

This is a live space

PACT and TfS continue to collaborate to reduce remaining differences.

Verification guidance is expected to evolve.

Both initiatives welcome feedback.

For further technical guidance documents, visit: docs.carbon-transparency.org

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Want to share feedback with us?

Please reach out to PACT: pact@wbcsd.org

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