

EPD Australasia Technical Advisory Group Feb 2024.

GUIDANCE ON ADDITIONAL INDICATOR GWP-GHG (IPCC AR5)

1. PURPOSE

To align EPD reporting with national greenhouse gas reporting frameworks (in Australia and New Zealand) and previous versions of the Construction Products PCR (IEPDS 2023b), EPD owners can add an optional GWP100 indicator to their EPDs "GWP-GHG (IPCC AR5)" that is aligned with the Intergovernmental Panel on Climate Change (IPCC) 2013 Fifth Assessment Report (AR5).

2. BACKGROUND

EPDs of construction products include several climate change indicators as outlined in PCR 2019:14 (IEPDS 2023b). There have been changes to the references used for underlying characterisation factors and methods used to quantify climate change indicators which are not fully aligned with national greenhouse gas reporting frameworks (of Australia and New Zealand) and previous versions of the PCR 2019:14 (see Table 1). However, it should be noted that in practice, depending on the product, the difference may be negligible.

PCR 2019:14 uses the characterisation factors listed by the JRC which includes indirect radiative forcing, as explained by Fazio et al. (European Commission. Joint Research Centre. 2018), resulting in higher numerical Characterisation Factor (CF) values than the default CFs in IPCC AR5 (2013) or IPCC AR6 (2021). Depending on the product, the difference in practice between using AR4, AR5 and AR6 may be negligible.

Please refer to Table 1 which summarises the differences in characterisation factors used in the different versions of PCR 2019:14.

PCR 2019:14 v1.0 (IEPDS 2019) introduced the GWP-GHG indicator, which provided an opportunity to align climate change reporting with the default IPCC factors since the GWP-total (i.e. GWP-fossil and GWP-biogenic required by EN15804+A2 (2019)) indicators were no longer aligned with a default IPCC method.

With the implementation of PCR 2019:14 v1.2 (IEPDS 2022), the update to v1.11, the climate change indicators GWP-total as well as GWP-GHG both became aligned to European emission factors (EFv3.0), which use non-default IPCC Global Warming Potentials (GWP) for greenhouse gases.

In the update to PCR 2019:14 v1.3.0 (IEPDS 2023a), the update to v1.2.5, GWP-total and GWP-GHG remained aligned to European emission factors EFv3.0 with the added option to also align with EFv3.1.

For additional context and background information, please refer to PCR2019:14 v1.3.2 (IEPDS 2023b) section 5.4.5 and ANNEX 1: Comparison of GWP Characterisation Factors in Different Frameworks.

3. GUIDANCE

- GWP-GHG (IPCC AR5) can optionally be included in EPDs as additional information to facilitate comparison to existing EPDs that are published following PCR2019:14 v1.11 and to support alignment with Australian and New Zealand national greenhouse gas reporting frameworks.
- When the GWP-GHG (IPCC AR5) indicator is included, it is also recommended to include the following text description of the indicator in the EPD:
 - *“GWP-GHG (IPCC AR5) is an additional GWP100 indicator that is aligned with the Intergovernmental Panel on Climate Change (IPCC) 2013 Fifth Assessment Report (AR5) (IPCC 2013), national greenhouse gas reporting frameworks in Australia and New Zealand and previous versions of the Construction Products PCR (PCR2019:14v1.11). It excludes biogenic carbon and indirect radiative forcing.”*

Table 1 Summary of the differences in characterisation factors used in the different versions of PCR2019:14 (based on values from several versions of PCR2019:14 Annex 1)

| European standard | | EN 15804+A1 | EN 15804+A2 | | | | | | | | | | |
|---|--------------|-------------|-------------------------|--------------|------------|---|--|---------|---|--------------------|---------|-----------------------|---|
| PCR version | | PCR 2012:01 | PCR 2019:14 v1.11 | | | | PCR 2019:14 v1.2.x and PCR 2019:14 v1.3.x | | | PCR 2019:14 v1.3.x | | | PCR 2019:14 v1.3.x Recommended additional indicator |
| Source for GWPs | | (IPCC AR4) | (not aligned with IPCC) | | (IPCC AR5) | (based on EF 3.0) (not aligned with IPCC) | | | (based on EF 3.1) (not aligned with IPCC) | | | (IPCC AR5) | |
| Abbreviation | | GWP | GWP-fossil | GWP-biogenic | GWP-GHG | GWP-fossil | GWP-biogenic | GWP-GHG | GWP-fossil | GWP-biogenic | GWP-GHG | GWP-GHG (IPCC AR5) | |
| Global Warming Potentials for key greenhouse gases | CO2 fossil | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | |
| | CO2 biogenic | 0/1* | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | |
| | CH4 fossil | 25 | 36.8 | 0 | 30 | 36.8 | 0 | 36.8 | 29.8 | 0 | 29.8 | 30 | |
| | CH4 biogenic | 25 | 0 | 36.8 | 28 | 0 | 36.8 | 36.8 | 0 | 29.8 | 29.8 | 28 | |
| | N2O | 298 | 298 | 0 | 265 | 298 | 0 | 298 | 273 | 0 | 273 | 265 | |

4. FURTHER INFORMATION

For additional context and background information on the GWP factors, please refer to PCR2019:14 v1.3.2 (IEPDS 2023b) section 5.4.5 and ANNEX 1: Comparison of GWP Characterisation Factors in Different Frameworks.

5. REFERENCES

- EN. 2019. 'EN 15804:2012+A2:2019 Sustainability of Construction Works - Environmental Product Declarations - Core Rules for the Product Category of Construction Products'. The European Committee for Standardization (EN).
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- European Commission. Joint Research Centre. 2018. *Supporting Information to the Characterisation Factors of Recommended EF Life Cycle Impact Assessment Methods: Version 2, from ILCD to EF 3.0*. LU: Publications Office.
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