

ENVIRONMENTAL PRODUCT DECLARATIONS

Points available: 2

INNOVATION CHALLENGE SUMMARY

To make an assessment of which material is more appropriate from an environmental perspective, designers, architects and engineers require detailed information on the environmental impacts of each. Currently, there is a limited amount of information available, which limits professional's capacity to perform whole of building impact assessments across the building lifecycle.

This Innovation Challenge aims to increase the supply of products and materials with publically available environmental product declarations that have been completed in accordance with recognised international standards. It does so by incentivising the use of such products and materials in Green Star buildings and fitouts.

ELIGIBLE RATING TOOLS

- Green Star rating tools for Design and As Built (legacy rating tools)
- Green Star - Interiors

TO CLAIM THIS INNOVATION CHALLENGE

To claim this Innovation Challenge your project team must:

- Demonstrate that a percentage of the products or materials used in the building or fitout have an environmental product declaration (EPD) that is publicly available
- Show that the percentage of such products is significant in comparison to the project's total cost
- Show that all environmental product declarations comply with recognised international standards

NEXT STEPS

1. Review the credit as outlined below.
2. Sign up for this Innovation Challenge using the Green Star Project Manager.
3. Receive approval from GBCA to use Innovation Challenge.
4. Submit documentation with Round 1 or Round 2 assessment submission.
5. Provide feedback to GBCA on the application of the Innovation Challenge to their project. This feedback is to be provided to the GBCA in written format to help inform improvements to the content of the Innovation Challenge.

It is expected that 500 to 1000 words would suffice and the feedback must include:

- a) The name of the Innovation Challenge claimed;
- b) The time period related to the implementation of the Innovation Challenge (how long it took to implement);

- c) The type of development the Innovation Challenge was applied to (NCC building class or building use);
- d) The perceived or demonstrated benefits to the owner and project team. This should form the core of the feedback provided. Qualitative and quantitative information may be used.
- e) The perceived or demonstrated difficulties with implementing the Innovation Challenge and suggestions for improvements. Qualitative and quantitative information may be used.

AIM OF CREDIT

Increase the availability of building or fitout products that have Environmental Product Declarations publicly available.

CREDIT CRITERIA

Environmental Product Declaration (EPD) Points may be claimed where a percentage of the contract value of the project is accounted towards products and materials for which a publically available Environmental Product Declaration (EPD) has been published (EPD products and materials).

Up to two points are available. One point is available where 4% of the project contract value is represented by EPD products and materials. Two points are available where 8% of the project contract value is represented by EPD products and materials.

COMPLIANCE REQUIREMENTS

Environmental Product Declarations - EPD

Environmental Product Declarations (EPD) are a standardised tool to communicate the environmental performance of a product or system as governed by ISO 14025, EN 15804 and other standards. EPDs support communication of life cycle environmental performance of products, materials and services in a credible and understandable way.

EPD Types

Two EPD types are recognised in this credit, industry wide EPD and product specific EPD.

An industry wide EPD is issued by a group of manufacturers of like products. The manufacturers that participated in the EPD are recognised as participants within the EPD. Category wide EPDs can only be accounted for where the relevant manufacturer of the products or materials claimed is listed within the EPD. An example of a category wide EPD, issued by five rubber flooring manufacturers, can be found at <http://www.burkeflooring.com/pdf/EPD-Rubber-Tile-Download.pdf>.

A product specific EPD reports on specific product(s) from one manufacturer. The products are clearly listed within the EPD. An example of a product specific EPD issued to Interface can be found at www.interfaceflor.co.uk/web/sustainability/epd/certificate.

When accounting for the percentage of contract value represented by EPD products and materials, industry wide EPD products and materials cost shall be counted as half the actual cost. Product specific EPD products and materials cost shall be accounted as the actual cost.

EPD requirements

There are several independent EPD schemes operating globally, providing services associated with the release and publishing of EPDs on behalf of participants. EPDs can differ, amongst other aspects, in the life cycle stages considered, and whether the EPDs are independently verified.

Only EPDs that comply with the following are considered by the credit:

- The EPD is stated to be issued in conformance to ISO 14025 or EN15804
- The EPD is peer reviewed by an independent agent (may also be termed 'critically reviewed', 'Independently Verified' or 'Third Party Reviewed');
- The EPD is based on a cradle-to-gate scope at minimum; and
- In the case of an industry wide EPD only, the manufacturer of the relevant product or material is listed as a participant in the EPD.

EPD Examples

Published EPDs compliant with these criteria include this information. For example

Using the product specific EPD example above,
(www.interfaceflor.co.uk/web/sustainability/epd/certificates.)

Page two of this EPD confirms:

1. the EPD is issued in conformance with EN 15804;
2. the EPD was independently verified; and

Page three of this EPD confirms the following:

3. boundary considered is cradle-to-grave (exceeding the cradle-to-gate requirements of the credit).

These three items confirms this product specific EPD is compliant with the credit criteria.

Using the above example of an industry wide EPD (<http://www.burkeflooring.com/pdf/EPD-Rubber-Tile-Download.pdf>).

The Cover page for this EPD contains the names of the five manufacturers who collaborated on this EPD, this confirm the manufacturer of the relevant product is a participant in the EPD.

Page one of this EPD confirms the following:

1. the EPD is issued in conformance with ISO 14025;
2. the EPD was independently verified; and

Page 10 of the EPD confirms:

3. boundary considered is cradle-to-grave (exceeding the cradle-to-gate requirements of the credit).

In the case of the industry wide EPD, these three items along with the manufacturers name on the cover page confirms the EPD is compliant with the credit criteria.

EPD holders are encouraged to highlight relevant features on published EPD to simplify compliance verification by Green Star project teams and assessors.

EPD Documentation

Projects are required to provide a schedule of all EPD products and materials including the product brand name, the product cost and reference to the product EPD provided. A submission template for the credit is available aimed at aiding the presentation of this information.

Relevant features of submitted EPDs, which establish compliance with the credits EPD requirements, are to be highlighted in order to simplify the process of verification of EPD compliance.

GUIDANCE

Standards noted in this credit

Standards for this credit include:

- EN 15804 *Sustainability of Construction Work - Environmental Product Declarations - Core Rules for the Category of Construction Products.*
- ISO 14025 *Environmental labels and declarations - Type III environmental declarations - Principles and procedures*
- ISO 14040 *Environmental management - Life cycle assessment - Principles and framework*
- ISO 14044 *Environmental management - Life cycle assessment - Requirements and guidelines*

Definitions

Project Contract Value – is the dollar value that will be required to complete the works for the entire Green Star rated project, including site works (landscaping, external paving, etc). The following must be excluded from the project contract value:

- Demolition works;
- Consultants, design fees, project management fees;
- Works outside the Green Star rated site area; and
- Buildings or areas within the site that are not being assessed for purposes of Green Star.

Life cycle Assessment (LCA) – is an evaluation of the environmental effects of a product or activity holistically, by analysing the entire life cycle. LCA consists of four complimentary components: goal and scope definition, inventory analysis, impact assessment and interpretation. Further definitions are found in ISO 14040 and ISO 14044.

LCA terms, frameworks and standards – it is beyond the scope of the credit to introduce the reader to many LCA terms, frameworks and standards used or referenced within this document. Further reading may be necessary.

Notice of upcoming revisions

This credit will be subject to change overtime. Changes will be determined based on the extent of use of the credit and ongoing need for further guidance and clarifications. The following details three changes that may be considered in future.

Contract value based benchmarks

The contract value based benchmarks of the credit will increase over time to accommodate increased availability of EPD products and materials. We expect revisions to benchmarks will occur annually or bi-annually and based on rate of submissions.

Product comparison on the basis of EPD

Once the initial aim of the credit has been achieved, generation of EPDs, opportunity to compare product and materials on the basis of EPDs may be possible. To facilitate this comparison the credit will be revised to include clear guidance on how products can be compared using EPDs, for example considering several alternative materials using EPDs issued against the same product category rules,

boundaries, functional units and other parameters. In this scenario the aim of the credit may change to selection of environmentally preferable products and materials.

Specification of environmental impact categories

It is intended that future changes will require compliant EPDs report a prescribed set of environmental impact categories including: climate change; stratospheric ozone depletion potential; acidification potential of land and water; eutrophication potential; tropospheric ozone formation potential; and mineral & fossil fuel depletion (abiotic depletion).

EPDs issued to EN 15804 should already report these categories, EPDs issued to ISO 14025 do not always contain these. In other cases, using both standards, reference to these categories is made using different names to describe the impact category or abbreviations that may not be clearly referring to a certain impact category. As such this requirement cannot be included within the credit at present. It is anticipated that with time more EN 15804 EPDs will be available thus providing an opportunity to ensure these impact are reported. Reporting of these impacts is intended to align with the Green Star Materials Life Cycle Impacts credit and simplify the application of this credit as well as help facilitate product comparison on an EPD basis.

DOCUMENTATION REQUIREMENTS

DESIGN AND AS BUILT

- Submission Template
 - EPD documentation
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Submission Template:

- The points claimed
- Schedule of EPD products and materials
- The project contract value and relevant percentages
- Reference to submitted documentation

EPD documentation for relevant products or materials with relevant features highlighted.

REFERENCES

ALCAS 2014, 'Australasian EPD Scheme & Committee Launch' Australian Life Cycle Assessment Society, <http://www.alcas.asn.au/news/australasian-epd-scheme-committee-launch>.

ECO Platform 2013, 'The Mission', <http://eco-platform.org>

Envirodec 2014, 'the International EPD System a Communication Tool for International Markets', <http://www.environdec.com/>

Eurime 2012 'Analysis of five approaches to environmental assessment of building components in a whole building context', <http://www.eurima.org>

PE 2013, 'EPD scheme for Australasia' PE International, http://www.pe-international.com/company/newsroom/news-detail/article/epd-scheme-for-australasia/?tx_ttnews%5BbackPid%5D=427&cHash=a2ad3ce7bafafa42be172866a565bf33.

UL 2014, 'Environmental Product Declarations' UL Environment, <http://www.ul.com/global/eng/pages/>.