

ENVIRONMENTAL PRODUCT DECLARATIONS



INNOVATION CHALLENGE



POINTS AVAILABLE: 2 POINTS
ELIGIBLE GREEN STAR TOOLS: ALL TOOLS

Aim of challenge

To encourage the use of products and materials for which life cycle information is available.

Why is this Innovation Challenge important?

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 material. Currently there is a limited amount of information available, which limits a professional's capacity to perform whole-of-building impact assessments across the building life cycle. Increasing the supply of products and materials with publically available environmental product declarations (EPDs), which have been completed in accordance with recognised international standards, enables more accurate whole-of-building life cycle analysis to be undertaken.

EPDs are voluntary and provide quantified environmental data based on Life Cycle Assessment (LCA). EPDs examine multiple environmental parameters and provide transparent, verified data of the product's manufacturing, highlighting which areas have the highest environmental impact.

Construction-sector EPDs are typically valid for five years, and include an annual re-evaluation during this period to check that reported impacts in the EPD continue to be representative of the product.

An EPD does not imply environmental superiority; it is solely a transparent declaration of the life-cycle environmental impact. The detailed, transparent environmental data that EPDs provide is an important step towards enabling whole-of-building life cycle assessment.

Credit criteria

Up to 2 points are awarded where a minimum of 2 permanently installed products hold a current EPD.

The benchmarks for achievement are as follows:

- 1 point where 2 different products hold current EPDs (1 product must be a Type 1 product);
- 2 points where 6 or more different products hold current EPDs (a minimum of 2 products must be Type 1 products and a minimum of 1 product must be a Type 2 product).

Type 1 and Type 2 products are defined in the compliance requirements. All products must be sourced from different manufacturers.

**“ PROVIDING NZ-SPECIFIC EPDS
REQUIRES AN INVESTMENT
NOW – BUT WILL PROVIDE MANY
BUSINESSES WITH BENEFITS
SUCH AS COST SAVINGS AND
ACCESS TO NEW MARKETS (OR
CONSOLIDATING EXISTING ONES)... ”**

Pieter Burghout, New Zealand Whole-Building,
Whole-of-Life Assessment Plan 2013

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Compliance requirements

Environmental Product Declarations (EPDs)

There are several independent EPD schemes operating globally, providing services associated with the release and publishing of EPDs on behalf of participants.

Only EPDs published by schemes that consider a cradle-to-gate scope at a minimum, and include independent verification, are recognised within Green Star. Published EPDs shall confirm compliance to listed standards, and include the scope considered and by whom the EPD was verified.

Two options are recognised as follows:

1. Products with a product-specific, third party-verified EPD

- The EPD is issued by an ISO 14025-compliant EPD scheme and is in conformance with ISO 21930 or EN15804
- The EPD must be independently verified to requirements in a published and cited Product Category Rule Document
- The EPD must be based on a cradle-to-gate scope at a minimum, and be geographically representative.

Product-specific EPDs are valued as one whole product in this Challenge for the purposes of demonstrating compliance.

2. Products with an industry-wide, third party-verified EPD

- In addition to the above requirements, the product manufacturer must be recognised as a participant in the EPD.

Industry-wide EPDs are valued as one-half ($\frac{1}{2}$) of a product in this Challenge for the purposes of demonstrating compliance.

Type 1 Products

These products and materials are recognised within the Materials category credits listed below:

- MAT-3 Sustainable Materials
- MAT-4 Low Emitting Products
- MAT-6 Timber
- MAT-7 Concrete and Aggregate
- MAT-8 Steel.

Type 2 Products

If a product does not meet the Type 1 requirements, it will be classified as a Type 2 product. Type 2 products must each represent more than 0.1% of the project's total contract value.

Note: Each product claimed in this credit must be a different product type, ie. if two steel products used both have EPDs, only one may contribute towards the total for this Challenge.

Benchmark Review

The benchmarks in the credit criteria will be reviewed in mid-2016, at which point they may be adjusted. Projects registered prior to this will not be affected by this change.

Submission checklist: Design and Built phases

The following documentation is required to demonstrate compliance:

<p>☐ Copy of the Materials Calculator</p>	<p>Completed copy of the Materials Calculator showing:</p> <ul style="list-style-type: none"> • For each compliant product – the area (m2), volume (m3), litres (L) or mass (kg) (as relevant) • Type 1 or Type 2 product • The means of compliance (ie. Industry-wide or product-specific EPD).
<p>☐ Confirmation from Suitably Qualified Professional</p>	<p>A signed PDF of the Materials Calculator confirming the materials and products and their volumes used in the project are correct, as shown in the Materials Calculator, and that the individual value of each product represents more than 0.1% of the project’s total contract value.</p>
<p>☐ Copy of the Environmental Product Declaration(s)</p>	<p>The EPD(s) should be highlighted to demonstrate that:</p> <ul style="list-style-type: none"> • The EPD is issued by an ISO 14025-compliant EPD scheme and is in conformance with ISO 21930 or EN15804 • The EPD is independently verified to requirements in a published and cited Product Category Rule Document • The EPD is based on a cradle-to-gate scope at a minimum and be geographically representative. <p>AND, for products with an industry-wide, third party-verified EPD:</p> <ul style="list-style-type: none"> • The product manufacturer is recognised as a participant in the EPD.

Geographically representative: This means the EPD must be for the specific product that will be used on the build, as well as representative of where they are manufactured. For example, an EPD for a product manufactured in Europe and transported for use on a New Zealand build is acceptable – but if the same product is made in both Europe and New Zealand and the New Zealand-made product is supplied to the project, providing the European EPD for the New Zealand-manufactured product is not acceptable. In this situation, a New Zealand EPD would be needed.

References and resources

- Australasian EPD Programme www.epd-australasia.com
- New Zealand Whole-Building, Whole-of-Life Assessment Plan www.branz.co.nz/cms_display.php?sn=198&st=1&pg=13292
- Life Cycle Association of New Zealand www.lcanz.org.nz

The New Zealand Green Building Council (NZGBC) is a not-for-profit industry organisation that aims to ensure New Zealanders live, work and play in a sustainable built environment. We achieve this through setting standards of best practice through green building rating tools; education and training across the building industry value chain; and providing access to networks, information and resources for our members to lead the market.

www.nzgbc.org.nz



Green Star is the comprehensive rating scheme that evaluates the sustainability attributes of New Zealand’s commercial buildings. Ratings range from 4 Green Star (best practice) to 6 Green Star (world excellence).