

Green Star Environmental Product Declarations (EPDs) for Australian Timber Products

FWPA Webinar, 29 October 2014



Stephen Mitchell

Sustainability Programme Manager
Timber Development Association

**The project & opportunities
for Australian producers**



Barbara Nebel

Managing Director, Australasia
PE International

**Environmental Product
Declarations (EPDs)**



Shlomi Bonet

Technical Manager
Green Building Council of Australia

EPD role within Green Star



PE INTERNATIONAL
SUSTAINABILITY PERFORMANCE



Setting the scene for increased product transparency with EPDs

Barbara Nebel, Managing Director, PE Australasia



Demographics: 2014 to 2030



1.2 billion
more people will be born

1.2 billion
more people will live in cities

Asia, Latin America and Africa will experience the highest growth

Data source: <http://esa.un.org/unpd/wup/>

The built environment is a major hotspot



1/3
CO₂
emissions



40%
energy
consumption



25%
water
consumption





40%
resource
consumption



60%
electricity
consumption

are generated from or consumed in residential and commercial buildings

Trends in 2014

 OUT	IN 
<ul style="list-style-type: none">• Carbon reporting• “Greenwashing”• Self declarations• Excel-based sustainability management	<ul style="list-style-type: none">• Transparency• Demand for sustainable products from public and private purchasers• Verification of “green” claims• New generation of sustainability strategy (net plus)• Building Information Modelling (BIM)

Nutrition Facts

Serving Size 150 15 chips (27g)

Servings Per Container 5.6

Amount Per Serving

Calories 145

	% Daily Values*
Total Fat 9.2g	14%
Saturated Fat 4.3g	22%
Trans Fat 0g	
Sodium 20mg	1%
Total Carbohydrate 13.5g	5%
Dietary Fiber 1.1g	4%
Sugars 0.1g	
Protein 2.2g	4%

* Percent Daily Values are based on a 2,000 calorie diet.

Nutrition Facts

Serving Size 170 30g (30g)

Servings Per Container 5.7

Amount Per Serving

Calories 142

	% Daily Values*
Total Fat 7.5g	12%
Saturated Fat 2.9g	15%
Trans Fat 0g	
Sodium 140mg	6%
Total Carbohydrate 17g	6%
Dietary Fiber 0g	0%
Sugars 0.5g	
Protein 1.8g	4%

* Percent Daily Values are based on a 2,000 calorie diet.

Image: © Erwin Wodicka – deposit photos

Succeed Sustainably 

Sustainability in all phases of the life cycle





Image: © KWK Promes



Image: © Imre CsanyCsany Studio

Nutrition Facts

Serving Size 150 15 chips (27g)

Servings Per Container 5.6

Amount Per Serving

Calories 145

	% Daily Values*
Total Fat 9.2g	14%
Saturated Fat 4.3g	22%
Trans Fat 0g	
Sodium 20mg	1%
Total Carbohydrate 13.5g	5%
Dietary Fiber 1.1g	4%
Sugars 0.1g	
Protein 2.2g	4%

* Percent Daily Values are based on a 2,000 calorie diet.

Nutrition Facts

Serving Size 170 30g (30g)

Servings Per Container 5.7

Amount Per Serving

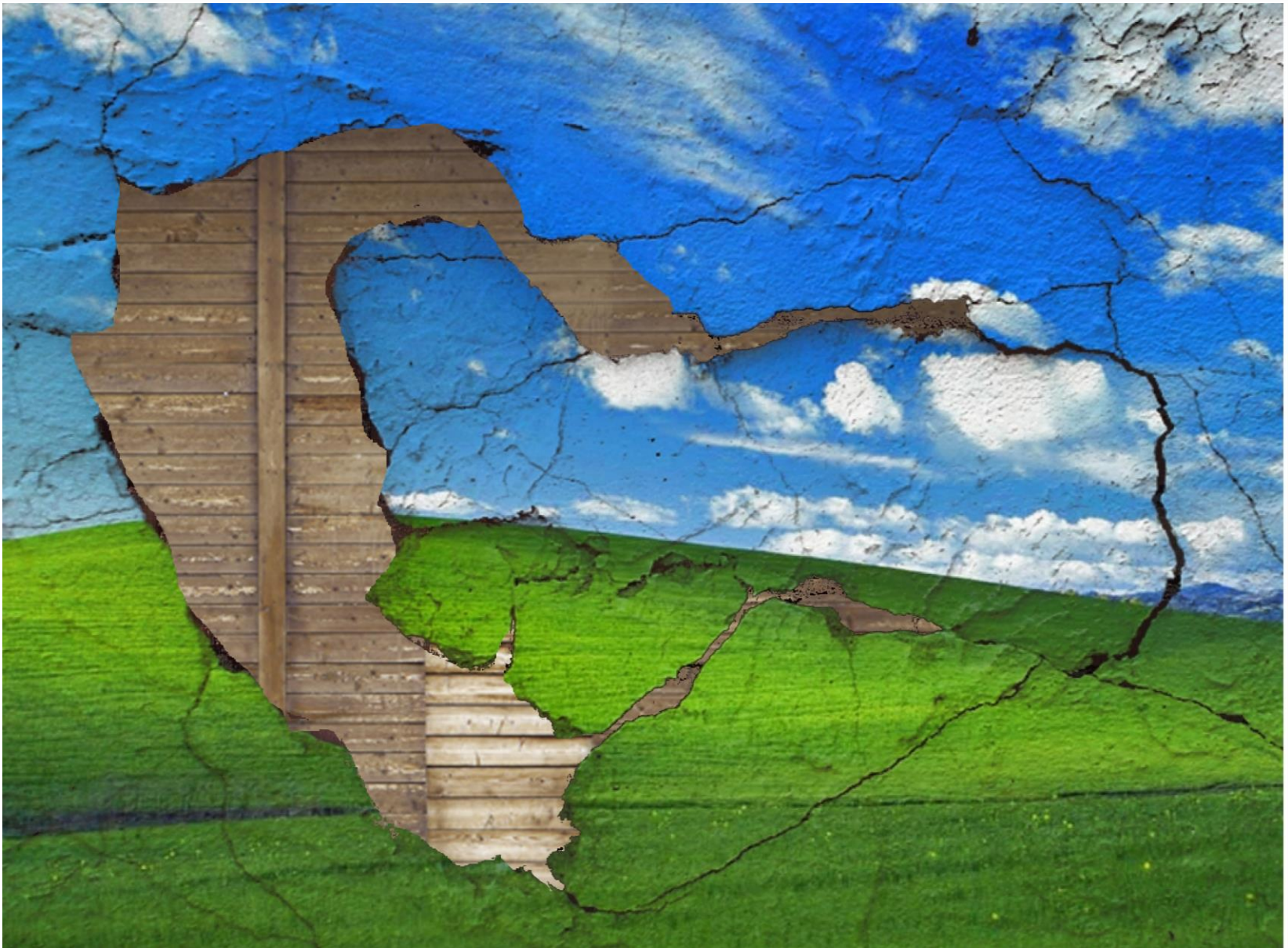
Calories 142

	% Daily Values*
Total Fat 7.5g	12%
Saturated Fat 2.9g	15%
Trans Fat 0g	
Sodium 140mg	6%
Total Carbohydrate 17g	6%
Dietary Fiber 0g	0%
Sugars 0.5g	
Protein 1.8g	4%

* Percent Daily Values are based on a 2,000 calorie diet.

Image: © Erwin Wodicka – Deposit Photos

Succeed Sustainably 



© wallpaperswa.com – modified by M. Nebel

Succeed Sustainably



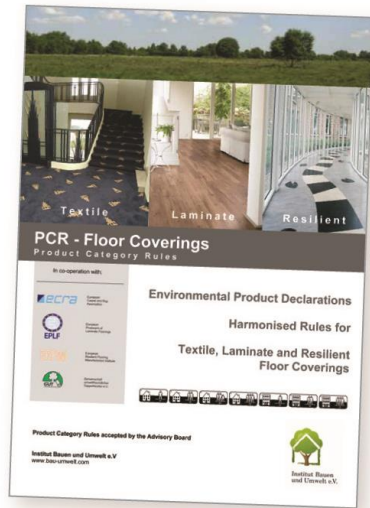


Image: © Mark Venema – Deposit Photos



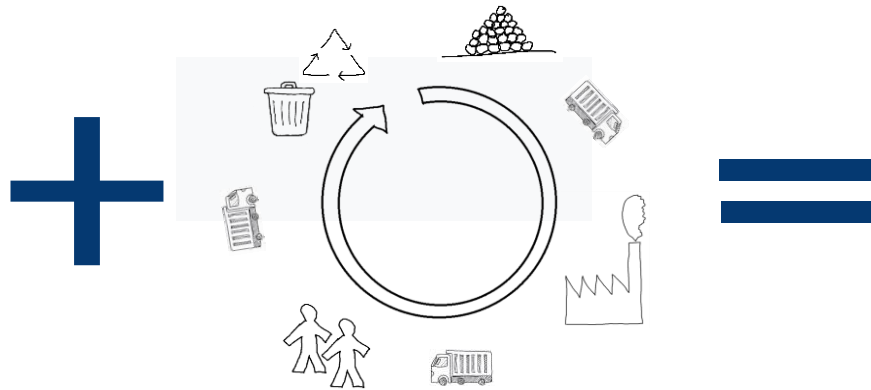
Image: © Cassandra2 – Deposit Photos

What is an EPD?



PCR

Product Category Rule



LCA

Product
Life Cycle Assessment



EPD

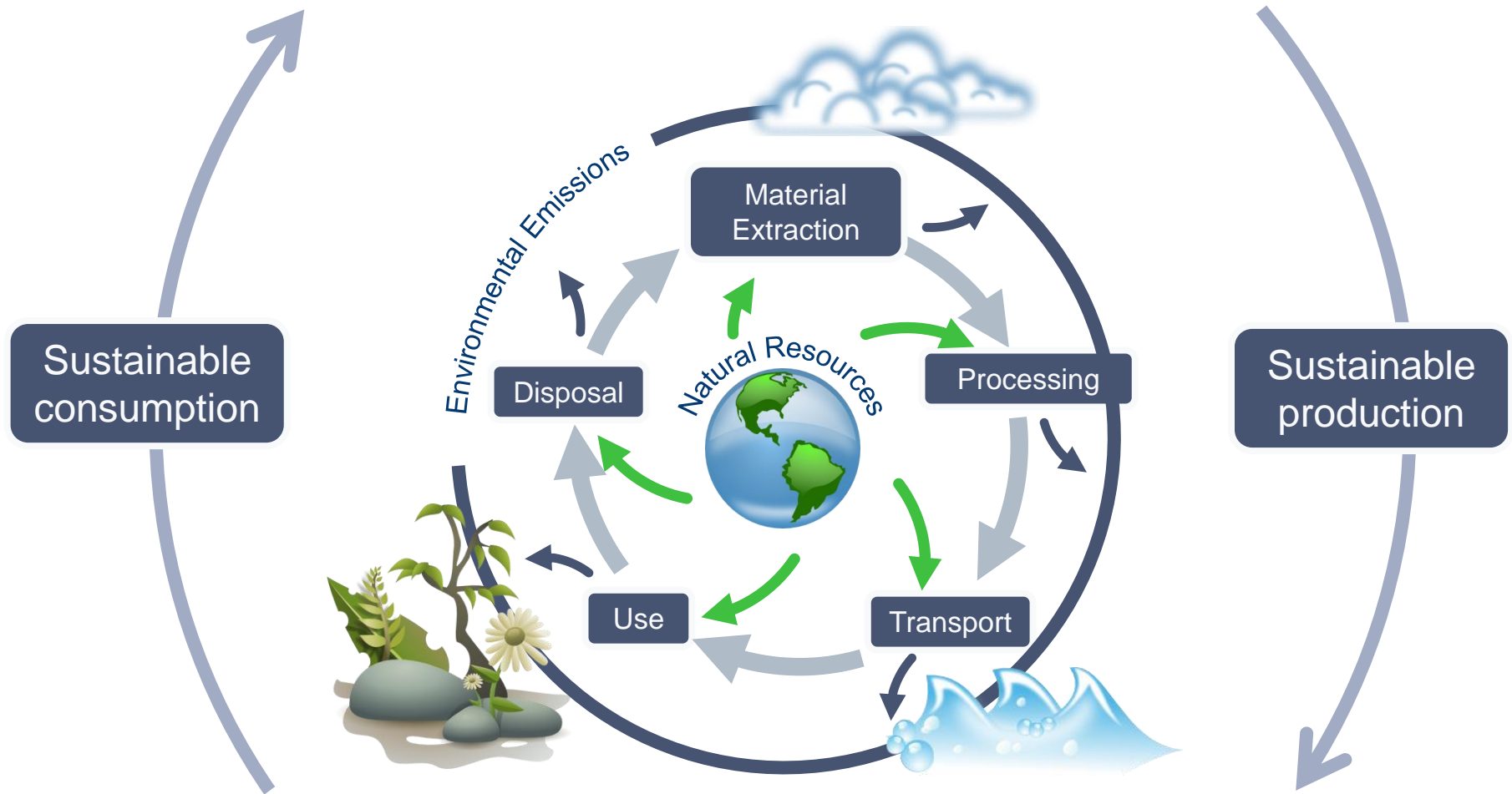
Environmental
Product Declaration

What is included in PCR?

- Product category definition
- Goal and scope definition
 - Functional unit
 - System boundary
 - Criteria for the inclusion of inputs and outputs
- Inventory analysis – data collection and allocation
- Impact category selection and calculation rules
- Additional information
- Period of validity



What is Life Cycle Assessment (LCA)?



Five steps to create an EPD

... and the good news is...



EPDs are not just another type of ecolabel

- An Environmental Product Declaration (EPD) describes a product across its life cycle – all relevant environmental information **from cradle to gate/grave**
- EPDs are **independently verified** and **guarantee reliability** of manufacturers' information
- **Rules** for EPDs are defined by EPD program operators – for construction products the new European standard **EN 15804** provides the core rules in Europe



BRE *Approved Environmental Profile*
 Characterised and Normalised Data for
 1 square metre over 40 Year Life: Floor finish: Hard floor coverings:
 Tarkett Sommer Homogeneous IQ Vinyl flooring

Quantity of Data for Certified Material (Data for other constituent materials are available from BRE)

Issue Characterised Data (last)
 Climate Change 25 kg CO₂ eq (10yr)
 Acid Deposition 6.2 kg SO₂ eq.
 Ozone Depletion 0.00002 kg CFC11 eq.
 Pollution to Air: Human Toxicity 0.32 kg tox.
 Pollution to Air: Photochemical Ozone Creation Potential 0.006 kg ethene eq.
 Pollution to Water: Human Toxicity 0 kg tox.
 Pollution to Water: Ecotoxicity 900 m³ tox.
 Pollution to Water: Eutrophication 0.015 kg PO₄ eq.
 Fossil Fuel Depletion 0.018 toe
 Minerals Extraction 682 tonnes
 Water Extraction 720 litres
 Waste Disposal 682 tonnes
 Transport Pollution & Congestion: Freight 17 tonne.km

Issue Normalised Data (at Climate Impact)
 Climate Change 6.02 1200 kg CO₂ eq. (10yr)
 Acid Deposition 0.0014 50.5 kg SO₂ eq.
 Ozone Depletion 0.000077 0.28 kg CFC11 eq.
 Pollution to Air: Human Toxicity 0.003 907 kg tox.
 Pollution to Air: Photochemical Ozone Creation Potential 0.0012 32.2 kg ethene eq.
 Pollution to Water: Human Toxicity 0 0.17 kg tox.
 Pollution to Water: Ecotoxicity 0.028 17000 m³ tox.
 Pollution to Water: Eutrophication 0.0019 801 kg PO₄ eq.
 Fossil Fuel Depletion 0.0043 400 toe
 Minerals Extraction 0.094 504 tonnes
 Water Extraction 0.007 41000 litres
 Waste Disposal 0.003 7.15 tonnes
 Transport Pollution & Congestion: Freight 0.041 4140 tonne.km
 Primary Energy 6.3 GJ

BRE *Environmental Score* 0.14 *Ecopoints*

Appendix No: 201a Valid From: 15/06/05 Valid To: 15/06/16
 Issue No: 1
 Signed on behalf of BRE Certification: R.A. Zimmitt
 BRE Certification Ltd, 100, Victoria Road, Weybridge, Surrey, TW20 0EX, UK
 The performance data is the property of BRE Certification Ltd and is issued subject to terms and conditions.
 This is a restricted document and is not to be reproduced or used for any other purpose.
 To check the authenticity of this certificate, please visit our website or contact us.



Nutrition Facts

Serving Size 150 15 chips (27g)

Servings Per Container 5.6

Amount Per Serving

Calories 145

	% Daily Values*
Total Fat 9.2g	14%
Saturated Fat 4.3g	22%
Trans Fat 0g	
Sodium 20mg	1%
Total Carbohydrate 13.5g	5%
Dietary Fiber 1.1g	4%
Sugars 0.1g	
Protein 2.2g	4%

* Percent Daily Values are based on a 2,000 calorie diet.

Nutrition Facts

Serving Size 170 30g (30g)

Servings Per Container 5.7

Amount Per Serving

Calories 142

	% Daily Values*
Total Fat 7.5g	12%
Saturated Fat 2.9g	15%
Trans Fat 0g	
Sodium 140mg	6%
Total Carbohydrate 17g	6%
Dietary Fiber 0g	0%
Sugars 0.5g	
Protein 1.8g	4%

* Percent Daily Values are based on a 2,000 calorie diet.

Image: © Erwin Wodicka – Deposit Photos

Succeed Sustainably



Example EPD



Environmental Product Declaration according to ISO 14025



Declaration number
EPD-EHW-2008611-E

**EGGER
DHF / DFF
Wood Fibre Boards**



Institut Bauen und Umwelt e.V.
www.bau-umwelt.com

Institut Bauen
und Umwelt e.V.



Summary Umwelt- Produktdeklaration Environmental Product-Declaration

DHF and DFF boards are board-shaped wood-based materials made out of wood fibre according to EN 622-5 (DHF) and EN 13171 (DFF). They have a tongue and groove profile along the edges. The boards are manufactured using the so-called dry method in a hot press process and with addition of a PMD glue and paraffin wax emulsion for hydrophobising.

DHF boards are used as permeable and, if applicable, supplemental load-bearing cladding in roof and exterior wall structures in accordance with DIBt approval Z-6.1454 according to GfG in accordance with DIN 68800-2.

DFF boards are used as permeable, rigid thermal insulating underlay / cladding in roof and exterior wall structures.

The Life Cycle Assessment (LCA) was performed according to DIN ISO 14040 following the requirements of the ISO guideline for type III declarations. Both specific data from the reviewed products and data from the "Gefü 4" database were used. The life cycle assessment encompasses the raw material and energy production, raw material transport, the actual manufacturing phase and the end of life in a biomass generating plant with energy recovery. One m² of DHF/DFF is declared.

		DHF boards			DFF boards		
Evaluation variable	Unit per m ²	Total	Manu- facturing	End of Life	Total	Manu- facturing	End of Life
Primary energy, non-renewable	[MJ]	-3,904	8,538	-12,443	-420	5,205	-5,824
Primary energy, renewable	[MJ]	11,126	11,271	-144,9	4,826	4,891	-45,7
Global warming potential (GWP 100)	[kg equiv. CO ₂]	-182,2	-508,3	326,2	39,8	-116,8	147,8
Acid equivalent potential (APE)	[kg equiv. HCl]	1,971-01	9,016-03	-3,091-01	1,971-01	2,492-01	-1,386-03
Acidification potential (AP)	[kg equiv. SO ₂]	1,598-00	1,726-00	-1,971-01	9,191-01	1,526-01	-6,885-03
Eutrophication potential (EP)	[kg equiv. PO ₄]	1,871-01	2,225-01	-3,501-02	1,271-01	1,241-01	-2,116-03
Photochemical oxidation potential (POP)	[kg C ₂ H ₄ equiv.]	2,006-01	2,491-01	-4,931-02	1,241-01	1,431-01	-1,391-02

Prepared by: PE INTERNATIONAL, Leinfelden-Echterdingen
in cooperation with Fritz EGGER GmbH & Co. OG



In addition, the results of the following tests are shown in the environmental product declaration:

- Formaldehyde according to EN 120 / EN 717-1
Testing institute: WK Fraunhofer Wilhelm-Gustav-Institute
- MDI according to procurement regulations L2, 78 and MDH (P&CAM 142)
Testing institute: Wessling - Beratende Ingenieure GmbH, Altenberge
- Blauke analysis according to DIN 58404-4 and EN 71-3
Testing institute: MFPA Leipzig GmbH
- EDX (extractable organic halogen compounds) according to DIN 58414-17
Testing institute: MFPA Leipzig GmbH
- Toxicity of the fire gases according to 4102-2 and DIN 53 436
Testing institute: MFPA Leipzig GmbH
- Pre-treatment of the component materials: PCP/Endane (scrap wood provision)
Testing institute: WK Fraunhofer Wilhelm-Gustav-Institute

Evidence and verifications



Environmental Product Declaration EGGER DHF and DFF Sheets

Page 15

Product group: Wood-based materials permeable wood fibre sheets
Declaration holder: Fritz EGGER GmbH & Co. OG
Declaration number: EPD-EHW-2008611-E

Version
15-12-2008

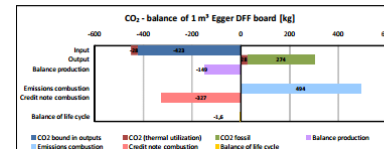
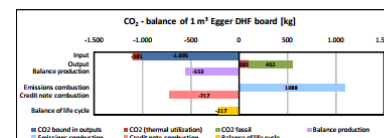


Figure 4: CO₂ balance board for the manufacturing of 1 m² of DHF/DFF board.

Waste

The evaluation of waste produced to manufacture 1 m² of DHF/DFF board is shown separately for the three segments construction/mining debris (including processing residues), municipal waste (including household waste and commercial waste) and hazardous waste including radioactive wastes (table 5).

Table 5: Waste accumulation during the manufacturing and combustion of 1 m² of DHF/DFF board.

Waste (kg / m ² DHF)			
Evaluation	Manufacturing	End of Life	Total
Mining debris	1,372.0	-1,035.9	336.1
Municipal waste	0.341	0.000	0.341
Hazardous waste	1.348	-0.409	0.938
of it radioactive waste	0.575	-0.409	0.166
Waste (kg / m ² DFF)			
Evaluation	Manufacturing	End of Life	Total
Mining debris	576.3	-472.0	204.3
Municipal waste	0.406	0.000	0.406
Hazardous waste	0.929	-0.187	0.743
of it radioactive waste	0.059	-0.034	0.024

Quantitatively, the mining debris is by far the most significant fraction, followed by hazardous waste and municipal waste.

For the mining debris the rubble generated during manufacturing is by far the most significant quantity at > 99 %, followed by deposited or dressing residues with a fraction of < 1 %. Rubble is produced primarily during the mining of mineral raw materials



Beauty Samples - Free

Request Free Skin Care Samples.
Limited Time Offer. Apply Now.

Lesprom info

HOME NEWS COMMENT PRODUCTS RESOURCES THE BOOK MAGAZINE

Companies Events Latest Magazine News Archive Newsletter

Home / News /

Purchasing sustainable timber to become more transparent

8 October, 2014 Nathan Johnson 0 comments



A quest to develop Environmental Product Declarations (EPDs) for Australian timber products has begun, and those responsible believe it will make purchasing sustainable timber in Australia a more transparent and rewarding process.

The Timber Development Association (TDA) and sustainability consultants PE International will lead the seemingly arduous task of obtaining EPDs for sawn hardwood and softwood, particleboard, MDF, plywood and veneered boards.

Each declaration will show average environmental performance across Australia, rather than the performance of a specific process, an approach designed to benefit small and large producers alike.

Both the TDA and PE agree that if achieved, EPDs will be useful for developers and designers

Latest News

OS31 designs cross-shaped restaurant to float on a frozen Canadian river

Alessandro Isola designs cylindrical bathroom vanity with a twist

Five Victorian train stations gain Green Star certification

How to achieve compliance for construction products: APCC releases guide

Acclaimed international architects compete with Australian firms for 'Sydney Modern' art gallery project design

national will

and sustainability
ital Product
press release received

nstrate to users the
like with other
amme Manager. "EPDs
ber in projects seeking a

Product Transparency
ilt rating tool of the
ing credits in the
nt tools.

orest and Wood

as it will be easier to get credit for using timber in projects seeking a rating

international for Australasia said the construction industry around the world

tics Design & Tech Habitat eBooks

er products



cycle Impacts section via the Innovation

help demonstrate to users the strong
e with other construction products," TDA

Why do we need EPDs for timber products?

- Underpin environmental credentials in credible manner
- Prevent assumptions by providing information
- Aggregated results instead of full transparency to protect confidentiality
- Demonstrate leadership in materials sector in Australia
- Achieve points under GreenStar
- Essential for whole building LCAs

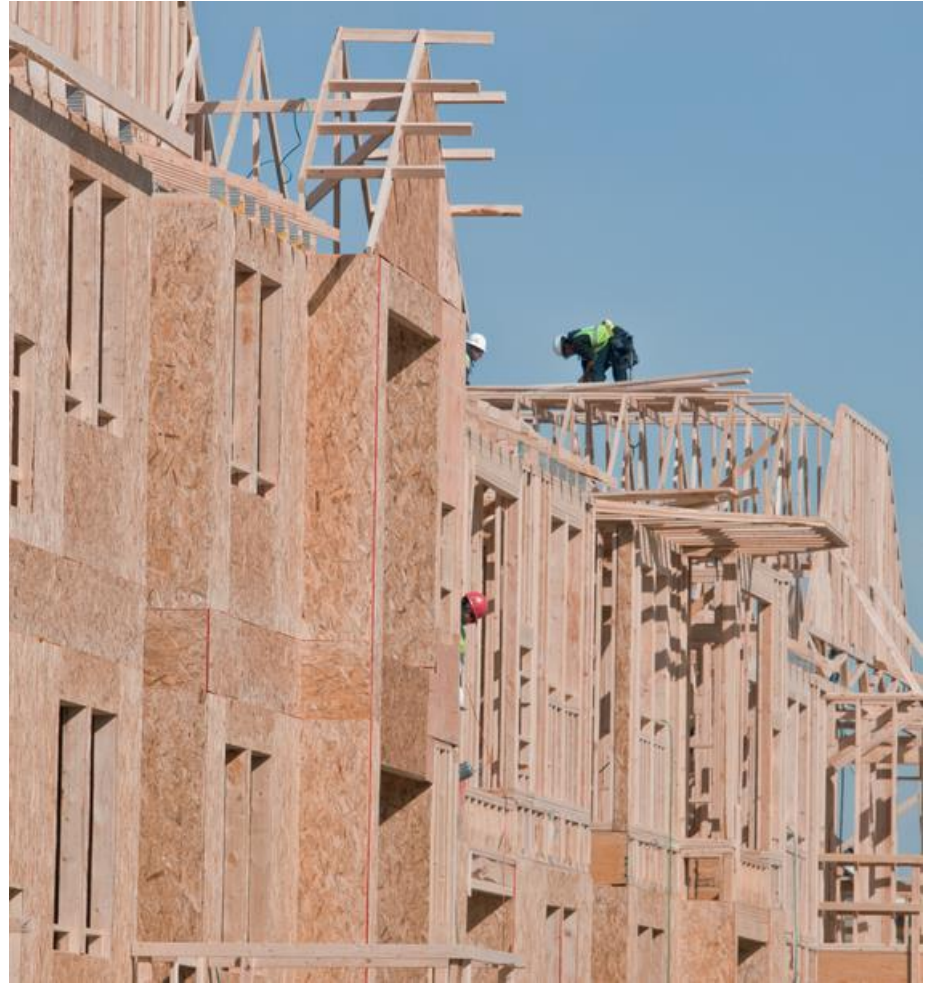


Image: © urban light – Deposit Photos



Barbara Nebel
PE INTERNATIONAL
b.nebel@pe-international.com
+61 3 9015 9455
+64 4 889 2520
www.pe-international.com

Image: © Sonar – Deposit Photos

Succeed Sustainably



Life Cycle Assessment in Green Star

Shlomi Bonet – Technical Manager
Green Building Council of Australia



Developed by the
Green Building Council of Australia



What is Green Star?

Green star is a comprehensive, national, voluntary **rating system** of projects at all stages of the built environment lifecycle.



Communities



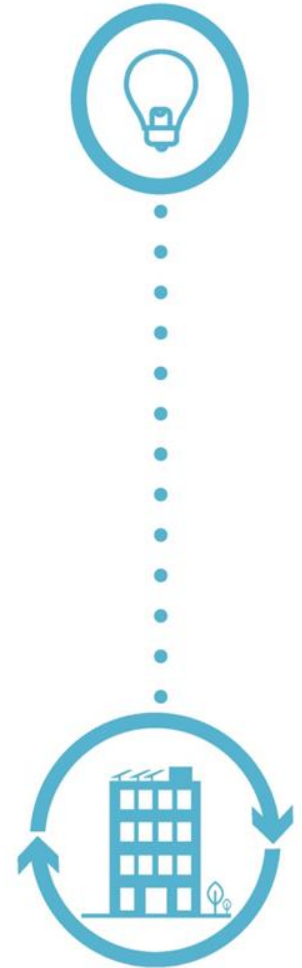
Design



As Built



Interiors



Performance

Rewarding sustainable outcomes





600+

Green Star
projects

480+

registered

85

6 Star
Green Star

Consultation Paper



- Develop a transparent and consistent methodology for assessing the environmental impact of construction materials using life cycle assessment;
- Continue to assist and facilitate the uptake of best environmental practice product and materials selection in the Australian construction market;
- Deliver better environmental outcomes; and
- Deliver these outcomes in a cost-effective manner.

Life Cycle Impacts

AIM OF CREDIT

Assess and reduce the environmental impacts of building materials for the whole building over its entire life cycle.

CREDIT CRITERIA

Three criteria are available only two criteria can be claimed by projects to a total of six points. This means either the 'Project LCA' or the 'Reference Case Comparative LCA' criteria, and the 'Additional Life cycle Impact Reporting' criterion.

Project LCA	One point is available where a whole-of-building, whole-of-life (cradle-to-grave) life cycle assessment (LCA) is undertaken for the project in accordance with the whole-of-building whole-of-life methodology detailed in Compliance Requirements.
Reference Case Comparative LCA -	Up to five points are available where a whole-of-building whole-of-life (cradle-to-grave) life cycle assessment (LCA) is conducted for the project and a reference case. Points are awarded based on the extent of environmental impact reduction against six environmental impacts categories when compared to the reference case.
Additional Life cycle Impact Reporting	An additional one point is available where the LCA conducted by projects includes reporting of five impact categories in addition to those required under the whole-of-building whole-of-life methodology of the credit.

- The credit requires a Whole-of-building whole-of-life comparative LCA is conducted
- Reward on offer where the LCA shows reduction of environmental impact against six impact categories.

Environmental Product Declarations

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 publicly 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.bunkerflooring.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.interfacefor.co.uk/web/sustainability/epd/certificate.

When accounting for the percentage of contract value represented by EPD products and materials,

- The credit requires use of products and materials for which an Environmental Product Declaration (EPD) is available
- EPDs recognised are those issued in accordance with recognised international standards

Why EPDs?

- Life cycle data is valuable, EPDs are the best method of presenting this data
- EPDs are relevant internationally, no need to reinvent the wheel
- With wider availability of EPDs it will be possible to better compare and benchmark products
- Data published in EPDs will also assist in conducting a whole-of-building LCA

Thank You

gbca.org.au



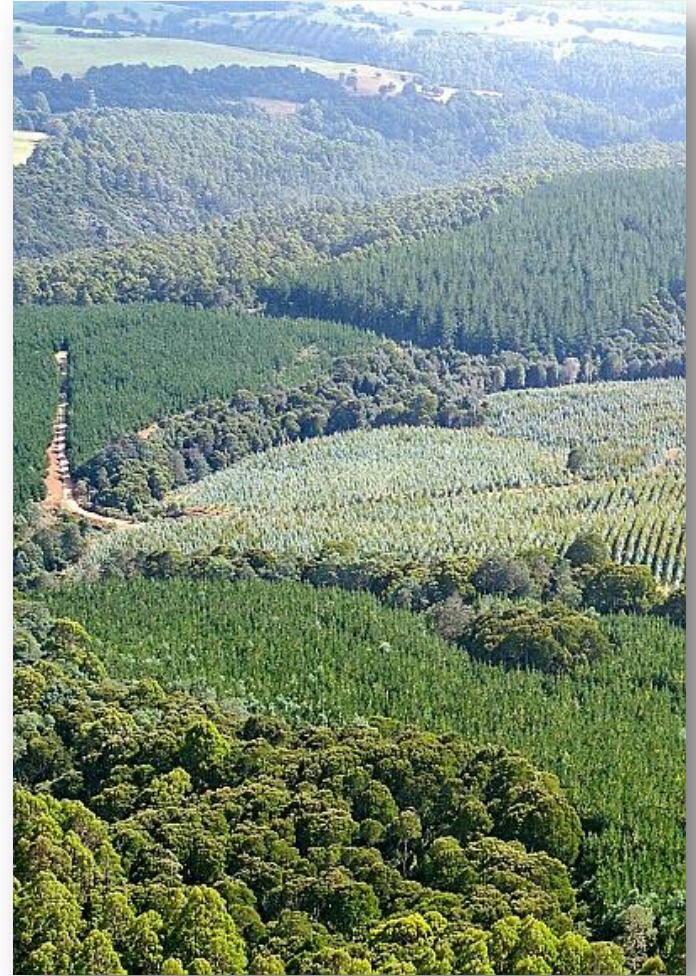
The project & opportunities for Australian timber producers

Stephen Mitchell

Sustainability Programme Manager

Timber Development Association

FWPA Webinar 29 October 2014



The Project

- Green Star EPDs for Australian Timber Products
- Started June 2014 – Complete June 2015
- Project Steering Group:
 - Paul Michael – Weathertex
 - Clinton Skeoch – Boral Timber
 - Jim Bindon – Big River Group
 - Simon Dorries – EWPA
 - Alastair Woodard – Wood Products Victoria
- Engaged PE International

The Project

- Produce six EPDs - utilising existing Australian forest and timber manufacturing data for the following (provisional):
 - Sawn hardwood
 - Sawn softwood
 - MDF
 - Particleboard panels
 - Plywood
 - Veneered panels



Table 9 Products in the LCI database and coverage of Australian production

Category	Products	Coverage of Australian production (approx %)
Logs – Softwood	Peeler log, High quality saw log, Low quality saw log, Chips	50
Logs – Hardwood	Peeler log, Saw log	22
Sawn timber – Softwood	Rough sawn green timber, Rough sawn kiln dried timber, Planed kiln dried timber	40
Sawn timber – Hardwood	Rough sawn green timber, Rough sawn kiln dried timber, Planed kiln dried timber	30
Plywood	Interior Plywood, Exterior Plywood, Formply, Tongue and Groove Flooring, Structural Plywood (each 3 thicknesses)	90
Laminated veneer lumber (LVL)	LVL (3 thicknesses)	60
Particleboard	Raw and Decorated (each 3 thicknesses)	64
Medium density fibreboard (MDF)	Raw and Decorated (each 3 thicknesses)	92
Glued laminated timber (Glulam)	Pine	55
I-beams	Oriented strand board (OSB) web and pine flanges, Plywood web and LVL flanges	65

http://www.fwpa.com.au/images/marketaccess/PNA008-0708_Research_Report_LCI_Timber_0.pdf

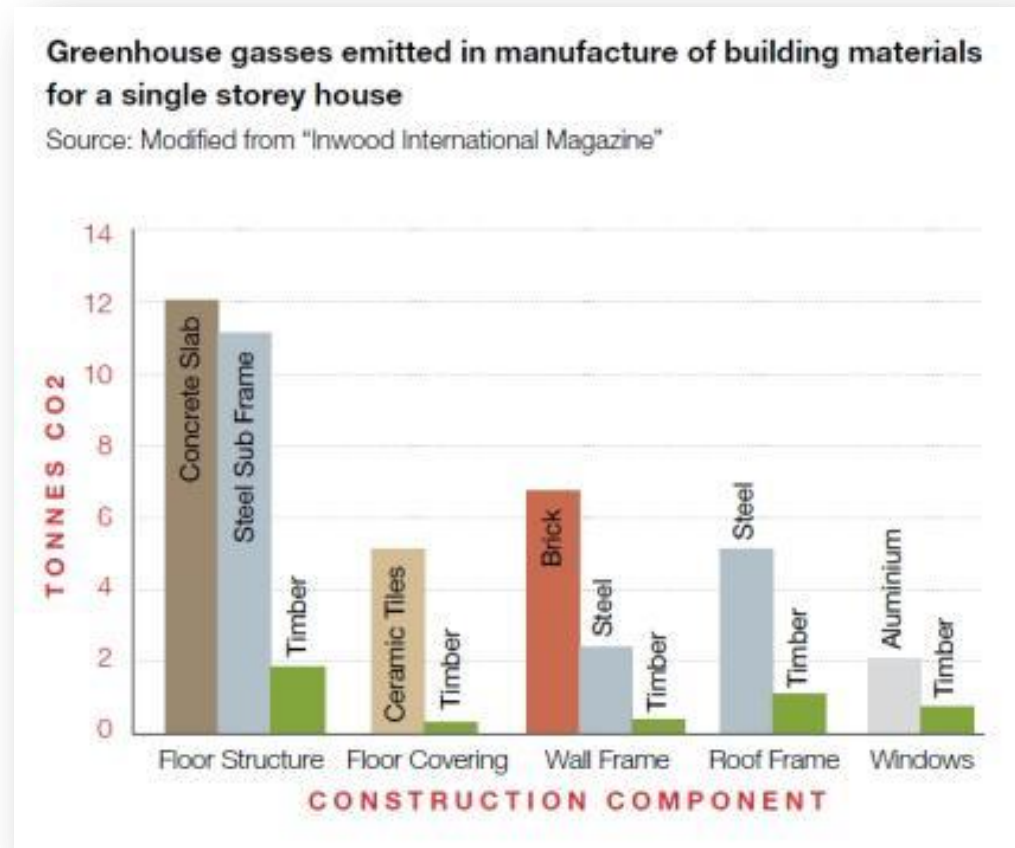
Why Green Star EPDs for Timber?

- FSC / AFS / PEFC CoC – 1 point
- Many Green Star people find the timber point too hard to get
- Requirements for other materials (steel, Concrete, PVC) – 2 points and easier



Why Green Star EPDs for Timber?

- Wood has a low carbon footprint (low GHG emissions)
- Wood stores carbon
- Not currently recognised in Green Star



**V**

Volume of wood used: 950 cubic meters

C

Carbon sequestered and stored: 760 metric tons of CO₂



Avoided greenhouse gases: 320 metric tons CO₂*



Total potential carbon benefit: 1,080 metric tons of CO₂



179 passenger vehicles off the road for a year



Energy to operate a home for 89 years

**Avoided GHG emissions:
320 tonnes CO₂e**

Project :: Stadthaus
Architects :: Waugh Thistleton
Location :: London, UK
Image :: Waugh Thistleton

Project :: Bridport House
Architects :: Karakusevic Carson
Architects
Builder :: EURBAN
Location :: London, UK
Image :: Stora Enso



**Avoided GHG emissions:
893 tonnes CO₂e**

Forte, Melbourne



RMIT LCA: 1,400 tonnes fewer GHG emissions compared to standard reference building.

EPDs: UK Wood for Good



The image shows the homepage of the Wood for Good website. The header is green with the Wood for Good logo and navigation links: Home, About, Why choose wood?, Sustainability, Case Studies, Education, and Contact us. A search bar is also present. The main content area features a large illustration of a tree and a pile of wood, with text asking 'How much carbon is stored in a tree? How does that translate into cut timber and wood products? And how much carbon can be 'banked' by using timber for building houses in the UK?'. Below this is a 'Find out more' link. To the right, there's a 'Wood for Good Lifecycle Database' section with a 'Click here for the data' button. At the bottom, there's a 'Why choose wood?' section with the text 'We believe that increasing the use of wood in construction brings numerous benefits for', a 'Wood First Campaign' section with a 'Wood for Good Wood First' logo, and a 'Connect with us' section with social media icons and a 'View our news section' link.

Wood for Good

News | Events | Videos

Home | About | Why choose wood? | Sustainability | Case Studies | Education | Contact us

How much carbon is stored in a tree? How does that translate into cut timber and wood products? And how much carbon can be 'banked' by using timber for building houses in the UK?

Find out more

Wood for Good Lifecycle Database

Click here for the data

Find out about growing our low-carbon economy

Why choose wood?

We believe that increasing the use of wood in construction brings numerous benefits for

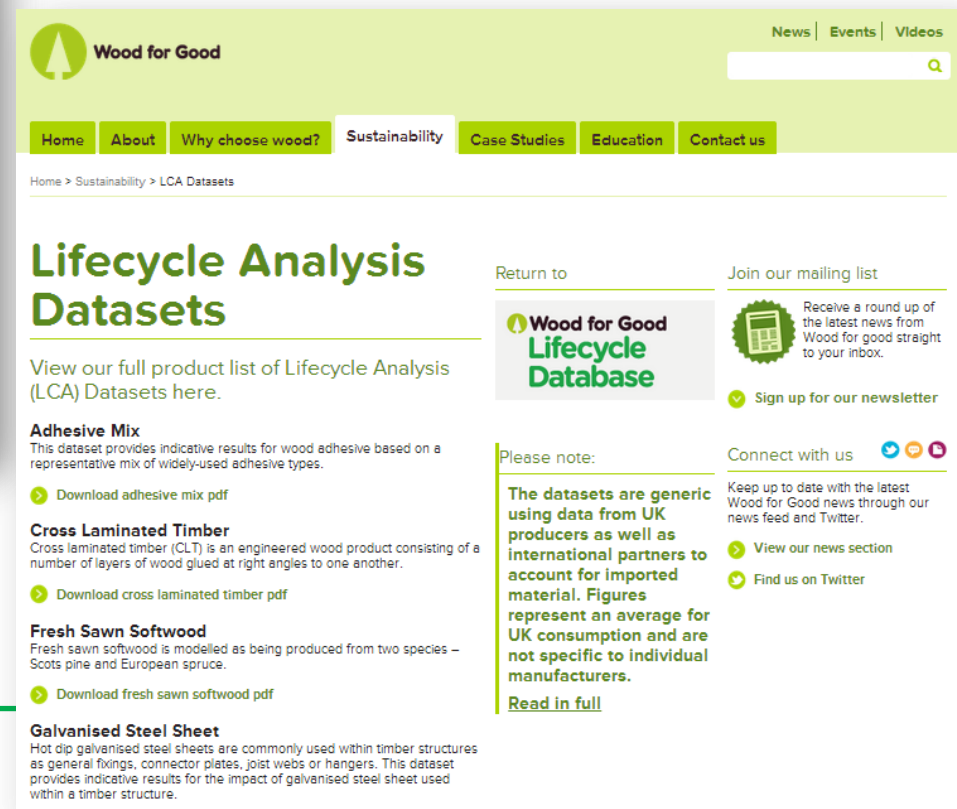
Wood First Campaign

Wood for Good Wood First

Connect with us

Keep up to date with the latest Wood for Good news through our news feed and Twitter.

View our news section



The image shows the 'Lifecycle Analysis Datasets' page on the Wood for Good website. The header is green with the Wood for Good logo and navigation links: Home, About, Why choose wood?, Sustainability, Case Studies, Education, and Contact us. A search bar is also present. The main content area features a large 'Lifecycle Analysis Datasets' title. Below this is a 'View our full product list of Lifecycle Analysis (LCA) Datasets here.' link. The page lists four datasets: 'Adhesive Mix', 'Cross Laminated Timber', 'Fresh Sawn Softwood', and 'Galvanised Steel Sheet'. Each dataset has a brief description and a 'Download' link. On the right side, there's a 'Return to' link, a 'Join our mailing list' section with a 'Sign up for our newsletter' button, and a 'Connect with us' section with social media icons and a 'View our news section' link. A 'Please note:' section states that the datasets are generic, using data from UK producers and international partners, and are not specific to individual manufacturers. A 'Read in full' link is also present.

Wood for Good

News | Events | Videos

Home | About | Why choose wood? | Sustainability | Case Studies | Education | Contact us

Home > Sustainability > LCA Datasets

Lifecycle Analysis Datasets

View our full product list of Lifecycle Analysis (LCA) Datasets here.

Adhesive Mix
This dataset provides indicative results for wood adhesive based on a representative mix of widely-used adhesive types.

Download adhesive mix pdf

Cross Laminated Timber
Cross laminated timber (CLT) is an engineered wood product consisting of a number of layers of wood glued at right angles to one another.

Download cross laminated timber pdf

Fresh Sawn Softwood
Fresh sawn softwood is modelled as being produced from two species – Scots pine and European spruce.

Download fresh sawn softwood pdf

Galvanised Steel Sheet
Hot dip galvanised steel sheets are commonly used within timber structures as general fixings, connector plates, joist webs or hangers. This dataset provides indicative results for the impact of galvanised steel sheet used within a timber structure.

Return to

Join our mailing list

Receive a round up of the latest news from Wood for good straight to your inbox.

Sign up for our newsletter

Connect with us

Keep up to date with the latest Wood for Good news through our news feed and Twitter.

View our news section

Find us on Twitter

Please note:

The datasets are generic using data from UK producers as well as international partners to account for imported material. Figures represent an average for UK consumption and are not specific to individual manufacturers.

Read in full

Green Star: EPD credit

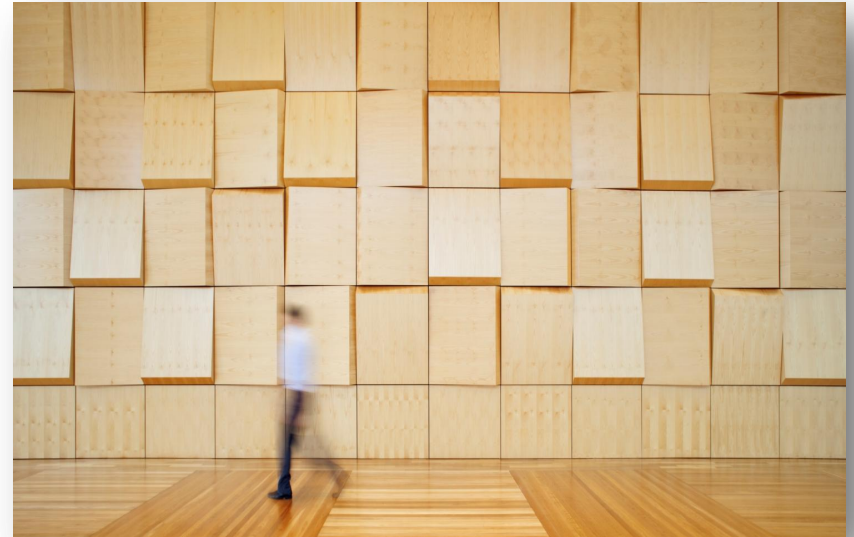
- Up to two points are available
- One point where 4% of the project contract value is represented by products with EPD
- Two points where 8% of the project contract value
- Two EPD types are recognised:
 - industry wide EPD
 - product specific EPD
- When accounting for % of contract value industry wide EPD products counted as half the actual cost

Green Star: LCA credit

- EPDs can be used in whole of building Life Cycle Assessment (LCA)
- Up to 6 points available
- Conduct a whole-of-building, whole-of-life LCA for the project
- Compare LCA results to a reference case over six environmental impact categories
- Show that the project performs better in most, and no worse in any category

Green Star: LCA Credit Impact Categories

- Climate change
- Ozone depletion
- Acidification of land and water
- Eutrophication (water pollution)
- Smog creation
- Mineral and fossil fuel depletion.

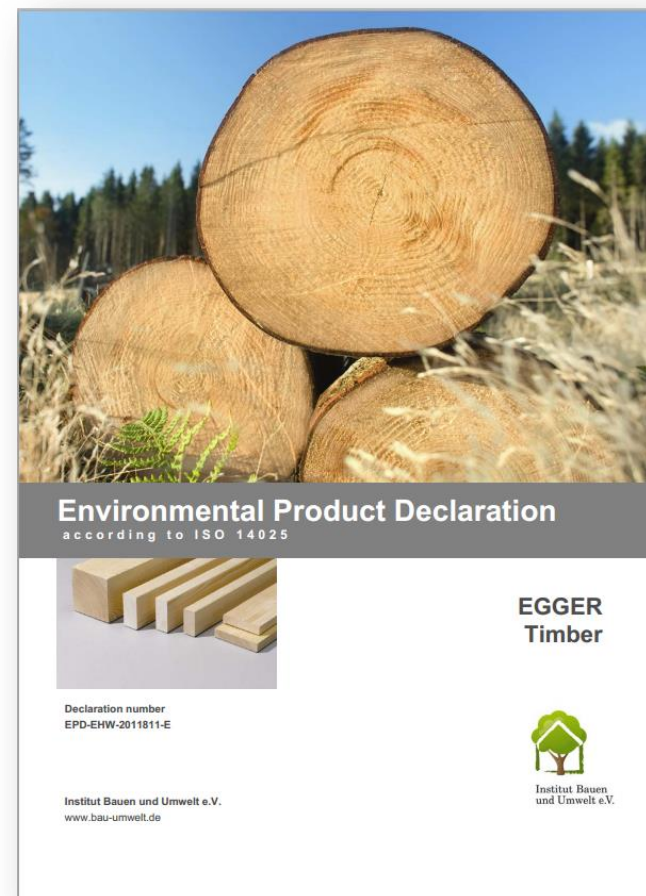
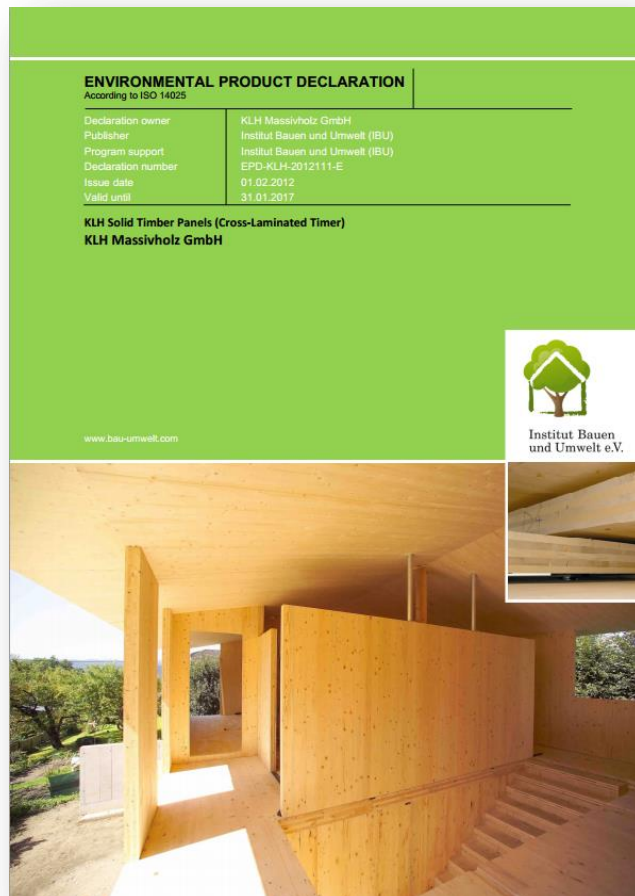


Project :: Knox College and Grammar
Architect :: Jones Sonter Architects
Photographer :: Simon Wood
Panels :: Hoop pine plywood
Flooring :: Select blackbutt

Green Star: EPD Requirements

- EPDs have to comply with the following:
- Conform to ISO 14025 or **EN 15804**
- Independently verified
- Cradle-to-gate scope (at least)
- Industry-wide EPD → manufacturer listed on EPD.

EPDs: European Wood Products



EPDs: American Wood Industry – Industry wide

The screenshot displays the American Wood Council (AWC) website. The header features the AWC logo and a search bar. A green navigation bar contains links: HOME, CODES & STANDARDS, GREEN BUILDING, ENVIRONMENTAL REGULATION, PUBLIC POLICY, EDUCATION, MEMBERSHIP, NEWS, FAQs, and ABOUT US. Below the navigation bar, a green banner reads "Environmental Product Declarations (EPDs) for Wood".

Wood Products Industry Environmental Product Declarations

The North American wood products industry is committed to sustainability in its products and their use. In support of this commitment, we are pleased to share third-party verified Environmental Product Declarations and Transparency Briefs that describe the environmental performance of many of the products we produce.

[American and Canadian Wood Councils Release Wood Environmental Product Declarations](#)

Transparency Briefs

An EPD Transparency Brief summarizes the most critical data presented in an EPD. It provides all critical information about a product from the EPD, including its composition, life-cycle environmental impacts, material content, water and energy usage, and other product information, all in a format standardized by the third-party verifier, UL Environment. The intent of the Transparency Brief is to make it easier for users to see key product details and allow them to focus on just the environmental data.

Third-party Verification

All North American wood industry EPDs shared here have been independently third-party verified by UL Environment (ULE), a business unit of Underwriters Laboratories. ULE verifies that EPDs conform to the requirements of ISO 14025, the global standard governing EPDs. Their review looks at both the underlying life-cycle assessments as well as the data reported in the EPDs.

Environmental Measurements

As required by the international standard, these wood product EPDs provide measurements for:

- Global Warming Potential
- Primary Energy Consumption
- Material Resources Consumption
- Non-hazardous Waste Generation
- Acidification Potential
- Eutrophication Potential
- Ozone Depletion Potential
- Smog Potential

Cradle-to-Gate

The wood products industry has many manufacturers located across North America. Because these EPDs are intended to characterize the environmental performance of individual products, their scope covers "cradle-to-gate," or from raw material harvest through when the finished product is ready to leave the manufacturing facility. As there are too many possible uses for each product after manufacturing to make reasonable assumptions about their use-phase impacts, these EPDs do not cover the gate-to-grave phase of their life cycle.

Who Uses EPDs?

Manufacturers, architects, engineers, or consumer, you want to know about the products you specify and use. We invite you

Resources

- SOFTWOOD LUMBER**
EPD Transparency Brief
- SOFTWOOD PLYWOOD**
EPD Transparency Brief
- ORIENTED STRAND BOARD**
EPD Transparency Brief
- GLUED LAMINATED TIMBERS**
EPD Transparency Brief
- LAMINATED VENEER LUMBER**
EPD Transparency Brief
- WOOD I-JOISTS**
EPD Transparency Brief

Industry-wide EPDs: Example PVC Tiles



Why EPDs for Australian Timber Products?

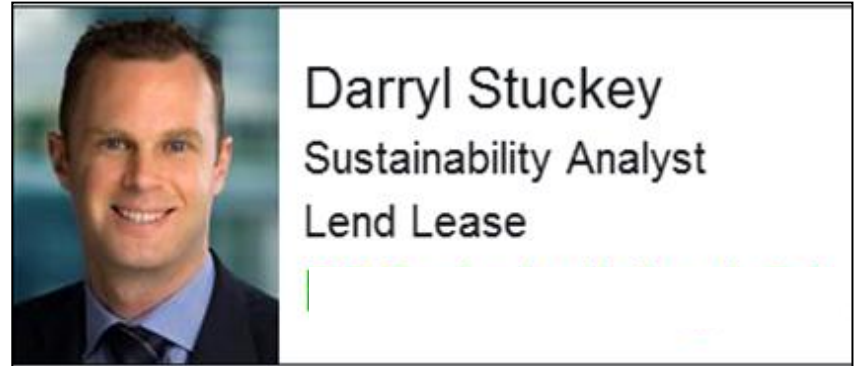
- Some North American and European timber imports have them.
- Our material competitors will soon have them (e.g. BlueScope Steel, PVC flooring).



Forte, Lend Lease – 5 Star Green Star – Multi Unit Residential As Built v1 rating
Cross Laminated Timber Supplier – KLH Austria

Priority wood EPDs for users: E.g.

- Priority Wood / timber
 - MDF
 - Particleboard
 - OSB
 - Glulam and CLT
 - LVL
 - Floorboards and decking
 - Softwood mouldings
 - Formply up their as well



Australian Timber LCI Data

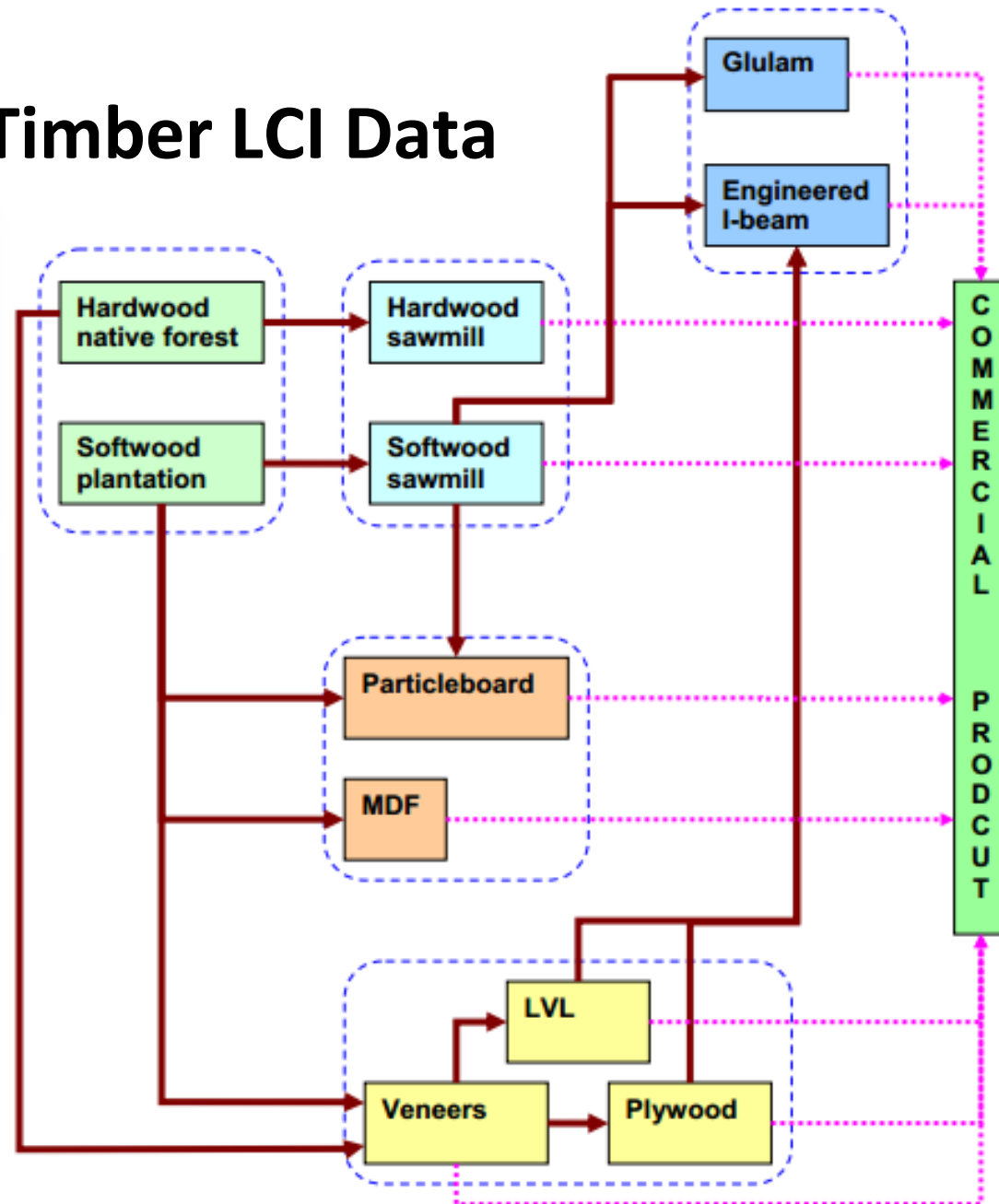


Figure 8 System boundary of LCI product groups and inter-links

Why EPDs important? E.g. Lend Lease

- Shows a suppliers willingness to be transparent & collaborative
- More sustainable choices but not about picking winners
- Supports Green Building & other 3rd Party Certifications
- Makes it easier to verify green marketing claims
- Supports increasing focus on supply chain transparency.

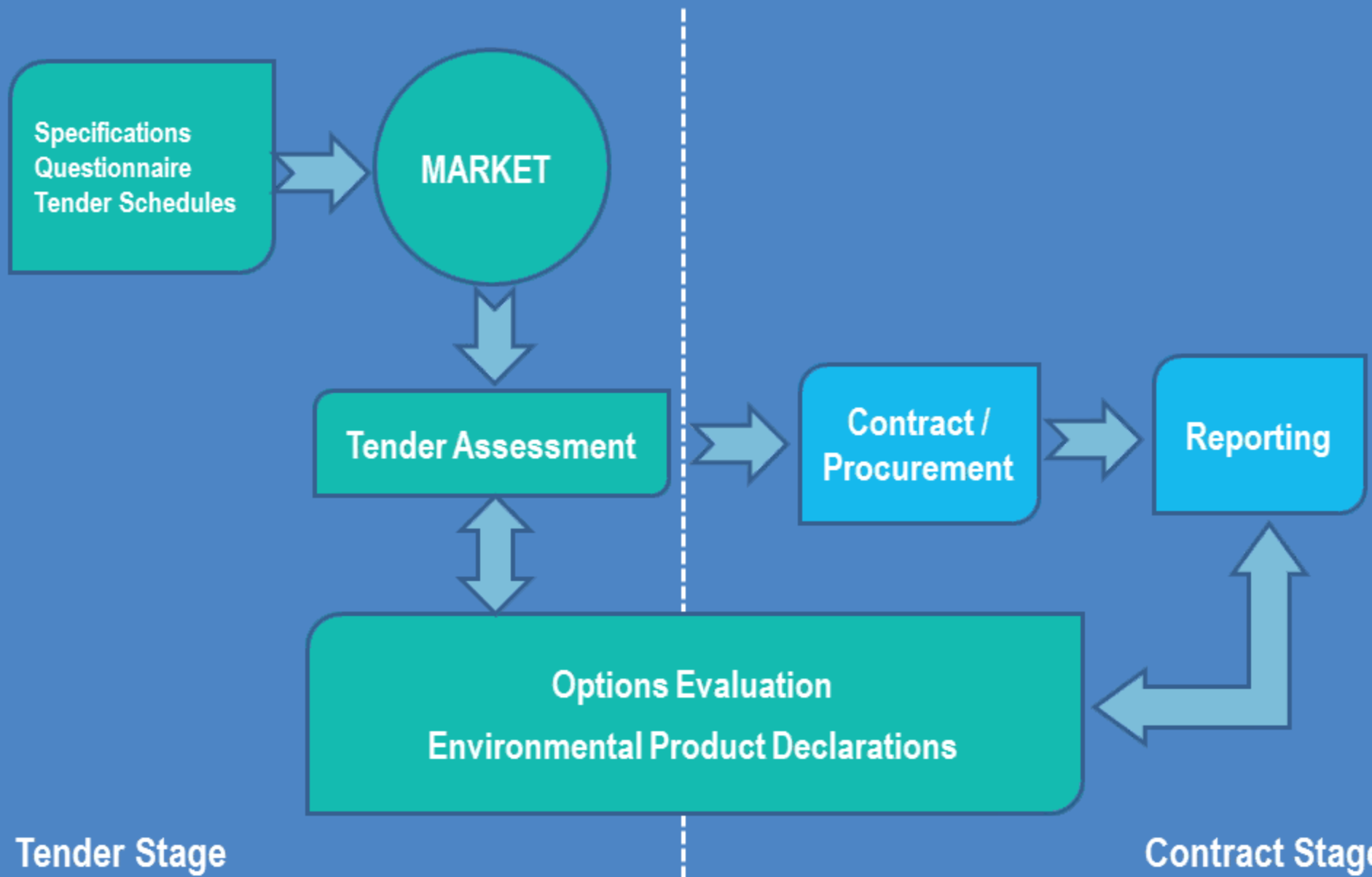
Why EPDs important? E.g. Lend Lease

- Improves accuracy of building LCA
- Example:
- Lend Lease C2 at Barangaroo is focused on reducing embodied carbon (climate change/GHG emissions)



7 Storey Timber Office Building – Barangaroo South, Sydney

Supplier Engagement



Opportunities for Timber

- Way of fair comparison – (LCA) should be a good vehicle to show low carbon emissions benefits of timber
- Industry-wide timber product EPDs make it easier (and cheaper) to produce product specific EPDs.



**Contact me to express interest in listing on
industry-wide EPD (no cost!)**

THANK YOU

Stephen Mitchell

Timber Development Association

stephen.mitchell@tdansw.asn.au

02 8424 3703 / 0432 860 100