

# Just the facts guide

*Interface* FLOR

**How to choose the most sustainable products  
and what to ask the manufacturers**

The marketing world has woken up to sustainability and the result is a blizzard of claims for products from cars to carpets: 'carbon neutral', 'recyclable', 'natural', 'fair-trade', 'organic', 'environment friendly', etc.

But sustainability is too complex to be explained by a single product benefit or green label.

This guide explains how to assess the sustainability of different products and the companies that make them.

just the facts...

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## Just the facts guide

As the world's environmental and social problems become more apparent, there is great pressure on companies to demonstrate that they are part of the solution, not part of the problem.

More and more clients want to purchase the most sustainable products they can. But working out which is the best can be a challenge, especially when manufacturers make many conflicting claims and display a range of different green labels.

To really know which product is most sustainable, you need to compare the environmental impact of different products over their full life-cycle.

Carpet may seem an unlikely test-bed for sustainability, but in fact the commercial carpet tile marketplace has become more aware of sustainability issues than most others. The whole building industry has finally woken up to environmental impacts and how to reduce them, and many architects and designers routinely try to select the most sustainable products and materials.

We hope this guide helps you make the right choice.

**“Cut the fluff and send me an EPD”**



**Ramon Arratia**  
Sustainability Director EMEA, InterfaceFLOR

\* EPD = Environmental Product Declaration (see page 26)

## Understand the product life-cycle

To understand which product has the lowest environmental impact, you have to assess the impacts at each stage, from beginning to end of the life-cycle.



# Understanding product environmental performance

A typical manufactured product contains a number of components. Each component may contain several materials.

Most products are manufactured by a chain of suppliers, processing the material or assembling components prior to their final delivery to the customer. If you imagine the roots of a tree feeding towards the trunk, you have a visual impression of a typical manufacturing supply chain.

Environmental impacts occur at each stage of the supply chain from the extraction or growing of the raw material, throughout its processing and manufacture; transporting components between processing stages, and the finished product to the consumer or final user, also has environmental impacts.

Many products have impacts in use and almost all do during disposal. To understand which product has the lowest environmental impact, you have to assess the impacts at each stage, from beginning to end of the life-cycle.

Basing a judgement solely on one part of the life-cycle can be misleading.

**“Companies are waking up to the full range of impacts in the life-cycle of their products. They may start with carbon but we are seeing greater awareness of water footprinting and other impacts as well.”**



**Simon Aumonier**  
Partner, Product Stewardship, ERM

Environmental impacts occur at each stage of a product life-cycle. The accepted method for life-cycle assessment (LCA) is defined by the International Standards Organisation (ISO14040 and ISO14044).

An LCA calculates the environmental footprint at each stage of manufacture, use and disposal. It assesses all the significant environmental impacts associated with the product, including the impact on water, air, land and climate change.









**“Twenty years ago we developed the first models for life-cycle assessment (LCA). The methodology, data and tools are now so operational that an LCA can be created quite easily for almost any product in the market. Once you know the substances, chemicals and raw materials of a product, you can map its full environmental impacts.”**



**Henrik Wenzel**  
Professor, Environmental Engineering Developer of EDIP methodology used in leading LCA software worldwide

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## Categories of environmental impact used in LCA

Icon	Name	Description	Units of measurement
	Embodied energy – not renewable	Energy from fossil fuels	MJ
	Embodied energy – renewable	Energy from renewable sources	MJ
	Greenhouse potential	Emissions that contribute to climate change	kg CO <sub>2</sub> equivalent
	Acidification potential	Emissions that damage vegetation, buildings, aquatic life, and human health	kg SO <sub>2</sub> equivalent
	Ozone depletion potential	Emissions that cause thinning of the earth's stratospheric ozone layer adversely affecting human health, natural resources and the environment	kg R11 equivalent
	Eutrophication potential	Emissions that increase the nutrients in water or soil affecting the natural biological balance	kg phosphate equivalent
	Photochemical ozone creation potential	Emissions of chemicals that cause smog, adversely affecting human health, ecosystems and crops	kg ethene potential
	Human toxicity potential	Emissions of materials toxic to humans, animals or plants	kg DCB equivalent

## Typical LCA Impact Profiles

Different products have different impact profiles. For example, for physical products such as a pencil or a carpet tile, the main impacts occur in the supply chain from extraction and processing of raw materials. For machines that consume energy, however, such as a car or a washing machine, the major impacts usually occur when the product is in use.

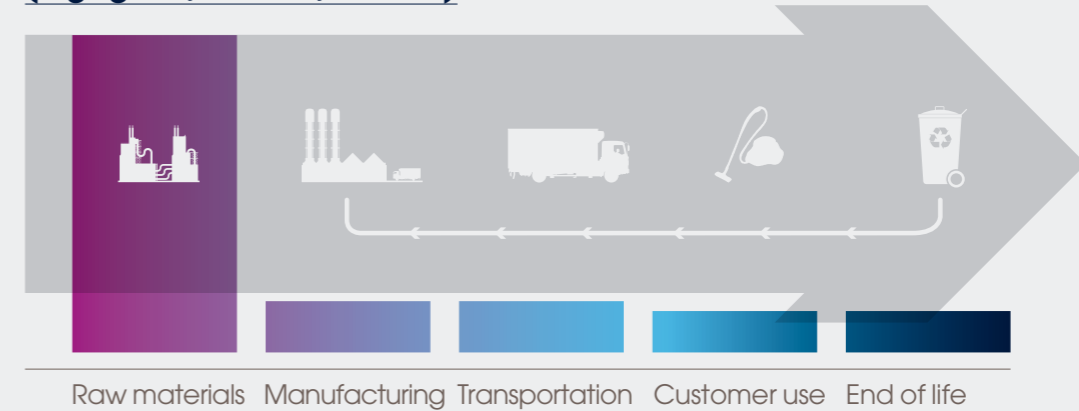
The LCA of a washing machine shows that our main concern when purchasing a washing machine should be the energy and water efficiency achieved by the machine in use. Features such as cold wash and load sensing are designed to improve efficiency and benefit the environment.

**“LCA provides the best framework currently available for assessing the potential environmental impacts of products.”**



**European Commission**  
Communication on  
Integrated Product Policy –  
COM (2003)302

**Typical LCA of a simple physical product that does not consume energy in use  
(e.g. glass, tomato, cement)**



**Typical LCA of a machine product that consumes energy in use  
(e.g. vacuum cleaner, car, boiler)**



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# LCA

## of a carpet tile

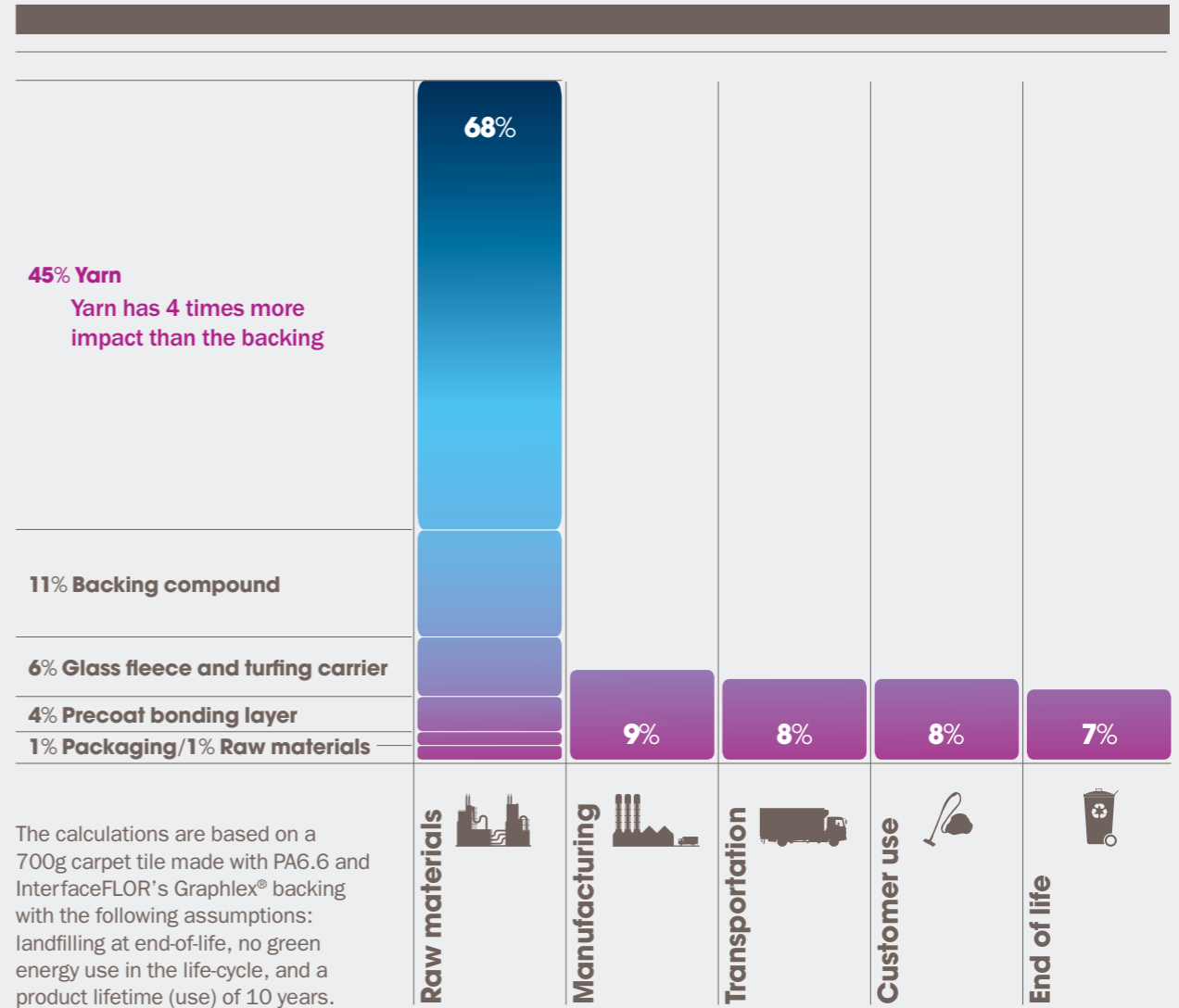
InterfaceFLOR conducts LCAs on our whole range of carpet tile products. We use LCAs to identify the parts of our process and supply chain that cause the biggest environmental impacts. We then research and innovate to find alternative materials and processes to reduce these impacts

The graph shows the LCA results for our standard carpet tile made with 700g of virgin nylon yarn. This illustrates that most of the impact across the whole product life-cycle is connected to the production of the raw materials we use to make carpet.

Of all the raw materials we use, it is the nylon yarn that has the greatest impact

Conducting LCAs showed us that the critical question for carpet manufacturers is how to reduce the environmental impact of the yarn.

The reason yarn has such a high impact is because the production of nylon requires energy-intensive chemical reactions to transform raw materials derived from oil into yarn.



## How LCA can be used to re-design products: example of a carpet tile

### There are three ways to decrease the impact of a carpet tile:

1. Use less yarn per square metre
2. Use recycled yarn which is less energy-intensive than virgin yarn
3. Find low-impact natural alternatives to nylon yarn with similar quality and durability performance.

If you are concerned about choosing the most sustainable carpet tile, the most important thing to ask about is the type of yarn used, the weight of yarn per square metre and the percentage of recycled content (if any).

### The 3 main ways to reduce the impact of a carpet tile are:

### Examples of possible sustainable design actions

**1 Reduce**  
The amount of yarn

A carpet tile with 50% less yarn

**2 Increase**  
Yarn recycled content

A carpet tile with 100% recycled content

**3 Create**  
A smarter yarn

A carpet tile with a low carbon yarn, e.g. bio-based

## Why embodied energy is important



Architects and engineers are increasingly accustomed to designing energy-efficient buildings. But rarely is consideration given to the energy used to manufacture the raw materials that go into the building.

According to The Concrete Centre it takes between six and eleven years for the operational CO<sub>2</sub> savings achieved by using concrete in a building to exceed the CO<sub>2</sub> emissions from producing concrete and aggregate materials.

That's why it matters what you put into your building, not just how energy-efficient it is in use. Understanding the LCA for these materials will help you choose those with the lowest embodied energy.

**“The key aim of Life Cycle Thinking is to avoid ‘burden shifting’. This means minimising impacts at one stage of the life cycle, or in a geographic region, or in a particular impact category, while helping to avoid increases elsewhere. For example, saving energy during the use phase of a product, while not increasing the amount of material needed to provide it.”**



**European Joint Research Centre**  
Life Cycle Thinking and Assessment

**“Each European has a footprint equivalent to 125 kWh of primary energy per day. But these official figures don’t include the embedded energy from the imported stuff, i.e. the products we consume in Europe but are made elsewhere. This is at least another 40 kWh per person per day.”**

**David J MacKay**  
Author of Sustainable Energy – without the hot air

## Just the facts guide

Which **one**  
do you choose?

Public concern about the environment is leading to a wave of green claims in marketing. Some are clear and accurate, but others are designed to give a good impression of the product without explaining the environmental benefit adequately.



## Beware of green claims

**Conventional marketing is about strong, simple claims like 'cheapest', 'fastest' and 'biggest'. That's why it is very tempting for marketers to come up with single benefit claims about a product and the environment.**

### So which one would you choose?

Imagine you want to buy a T-shirt based on the best environmental performance. Three 'green' brands all make different claims:

- 1 100% organic cotton
- 2 100% natural dyes
- 3 Carbon neutral

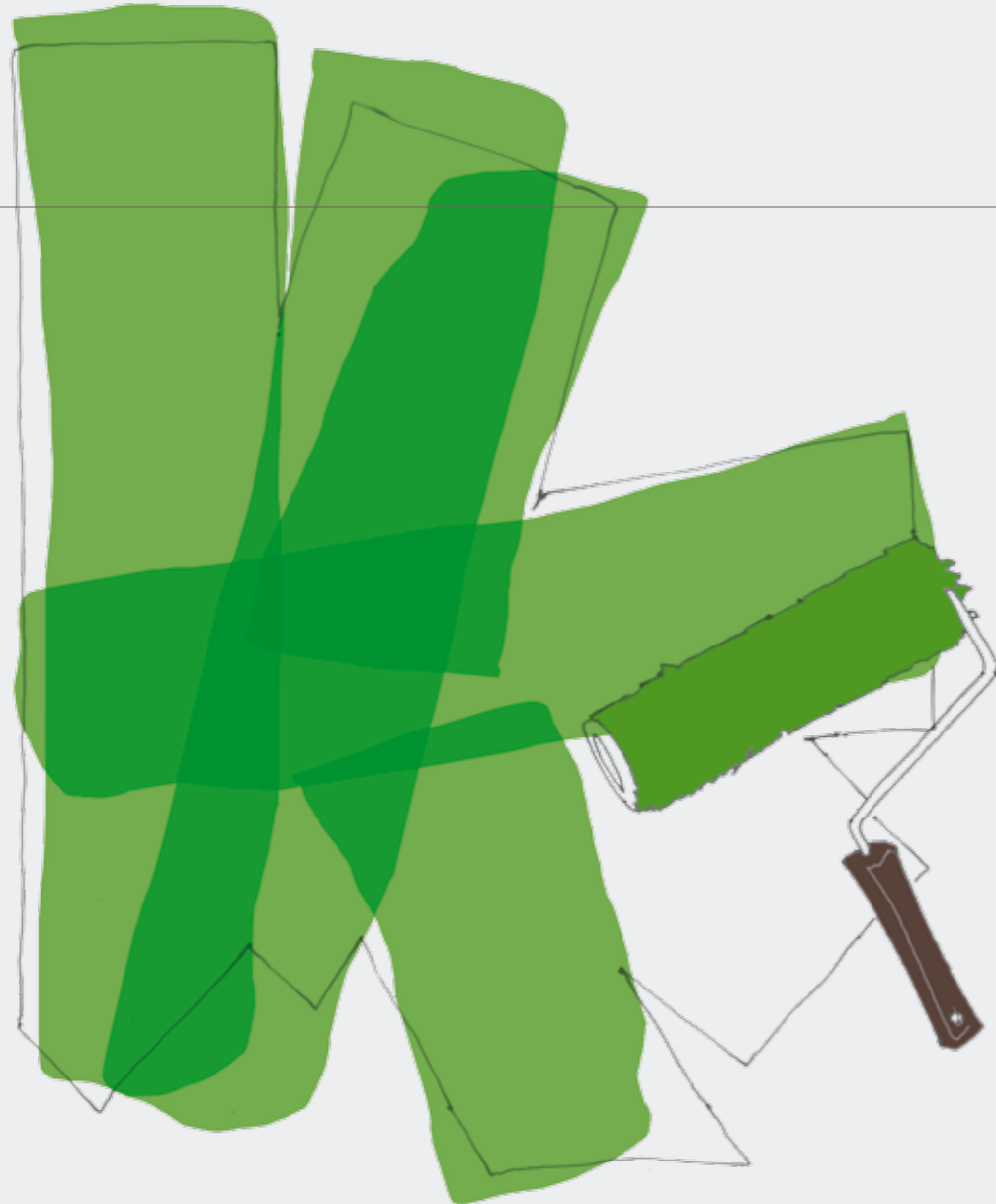
The only way to know which T-shirt is the best is to look at the LCA results where all these factors can be measured up and compared. The best T-shirt may well be one that doesn't make any '100%' claims, but is carefully sourced, manufactured and shipped to minimise its environmental footprint at all stages of its life.

### Some typical green claims seen in the building sector

- 100% natural
- Free from X, Y or Z
- 100% recyclable
- 100% recycled
- Carbon neutral
- Sustainably produced
- Produced locally
- Non-toxic

All these claims might be technically correct but their narrow scope makes them mislead in the bigger picture. See the greenwash glossary on the next page for examples of claims that may not be all that they seem.

## Greenwash glossary



Public concern about the environment is leading to a wave of green claims in marketing. Some are clear and accurate, but others are designed to give a good impression of the product without explaining the environmental benefit adequately. In the UK, for example, the Advertising Standards Authority has reported a rise in complaints about 'greenwash' and published guidelines for making green claims.

### **Here are some common claims to watch out for:**

#### **Climate change impact claims Carbon offset**

Paying others to balance your net carbon emissions. Meaningless unless carbon credits are validated and verified to ensure they are real, additional, measurable,

permanent, not subject to double-counting, and retired in a public registry. Not everybody does so...

#### **Carbon neutral**

Offsetting precisely as much carbon as you emit. The scope of operations covered by the claim is a critical factor – is the whole life-cycle of the product covered or just its manufacture?

#### **Carbon negative**

Offsetting more carbon than you emit. Sounds saintly but owes more to marketing than science.

#### **Low carbon**

Meaningless without numbers. How low is low?

**“Advertisers have every right to promote their green credentials and many have been quick to reassure consumers about the efforts they are making to be greener. However the ASA needs to see robust evidence to back up any eco-friendly claims. We will continue to ensure that the public are not misled and that advertisers are operating in a climate of truth.”**

**Christopher Graham**  
Director General,  
UK Advertising  
Standards Authority

## Greenwash glossary

### **General environmental claims Environmentally or eco-friendly / Kind to the environment / In tune with nature, etc**

General and vague statements that mean nothing specific are almost all misleading without explanation attached. You may see flowers but you should smell a rat.

### **Free from X, Y or Z**

Only valid when the product concerned would be expected to contain material X, Y or Z and that material is environmentally harmful. In some cases 'X' is replaced by a different material which causes other environmental problems, such as paperfree tissues made from cotton (which has its own environmental impact). Free from A is usually pushed by the manufacturers of B (and the other way around...)

### **Non-toxic**

As for 'free from' above. Only meaningful if a toxic substance, such as lead, has been eliminated from the product.

### **Produced locally / Made in (country X)**

This is supposed to suggest support for the local economy and low transport impact. It often just means 'repackaged nearby'.

### **Natural**

Gives a nice warm feeling inside? Just because something's natural doesn't necessarily mean it's more sustainable. It may seem counterintuitive, but some natural products actually have a higher environmental impact than their synthetic counterparts. Oil is natural, earthquakes too.

### **Award claims**

The desperate flag-waving of companies. Laugh or cry.

### **Recycled content**

Industrial manufacturing waste is routinely swept up and recycled in many industries. For example, printers often put paper trimmings straight back into the pulping process. Much more significant is the use of post-consumer waste in products because this avoids disposal to landfill.

### **Post-consumer recycled content**

Should refer only to material previously used by consumers and recovered after use.

### **Recycling claims Recyclable**

One of the most misused terms. Many materials are technically able to be recycled but it is not always economically viable to do so. Will the material actually be recycled? Other grey areas include:

- 'down-cycling' where the second use is of lower value – glass, for example, is usually 'recycled' into aggregate for roads, not new glass
- energy from waste is sometimes described as 'recycling' but in fact means burning the waste to recover some of the energy.

## Cut the fluff and send me your EPD. **Beyond complicated supplier questionnaires**



Of course you cannot possibly conduct an LCA on every purchase you are considering. But it is entirely reasonable to ask the manufacturer to supply LCA information about their products, especially when planning a major purchase decision. If they are unable or unwilling to do this, it suggests a lack of attention to environmental factors in their design process.

LCA should ideally be conducted by an independent third party because there is too much scope for manufacturers to favour their own products. LCA involves a number of assumptions, such as the useful life of a product, that influence the results if not approached objectively. To be comparable LCAs need to be conducted by an independent organisation using a common methodology.

Objectivity and comparability are the main purpose of the Environmental Product Declaration (EPD). An EPD includes an LCA conducted by an independent third party to a standardised methodology. An EPD also includes additional information about the product including its ingredients. EPDs are the most reliable way of comparing products – ask manufacturers of products you are interested in if they have an EPD.

**“As architects, we can design very energy-efficient buildings. The problem we face is being able to select the most appropriate materials from a whole life perspective. Getting clear and consistent LCAs for a range of materials such as concrete structures, ceilings and floor finishes, furniture and fittings is now essential.”**



**Colin Campbell**  
Director, Capita Architecture

## EPDs: Example of how it works in the European construction sector

“Environmental Product Declarations (EPDs) are issued by a Programme Operator, following rules known as Product Category Rules (PCR). The PCRs ensure that products are assessed in a robust and consistent manner within each EPD Programme and are independently verified. Historically, the EPD Schemes for construction products in Germany, France, the UK, Netherlands, Norway, etc and those developed by Trade Associations such as the European Aluminium Association have each developed their own PCRs, so they have different rules, formats and procedures, even though they are all

compliant with the relevant ISO Standards (ISO 14025 and ISO 21930). This has led to considerable confusion in the market. A new suite of European Standards, developed by CEN TC350, will now ensure compliant EPD programmes being developed by construction EPD Schemes such as IBU in Germany or the International EPD® scheme, use the same, consistent, transparent and industry accepted methodology,

and compliant EPDs will have a common structure and format. The TC350 standards will also cover the use of EPDs at the building level, encouraging the consideration of embodied impacts alongside operational impacts within schemes such as DGNB or BREEAM, and enabling robust and consistent comparison of products at the building level irrespective of the EPD Scheme used.”



**Jane Anderson**  
Principal Consultant  
PE International

### Criteria



LCA  
Life Cycle Assessment



PCR  
Product Category Rules



EPD  
Environmental Product Declaration

### Standard

ISO 14040

EN15804

ISO 14025  
ISO 21930  
EN15804

### Who

Manufacturer

Industry-wide  
standard

Programme Owner  
(e.g. IBU in Germany)

## Can't I just look for a green label

**It's not surprising people look for shortcuts to help them decide. After all, few of us have the time to study every purchase we make. That's why there are so many labels offering quick assurance about product sustainability credentials.**



## Can't I just look for a green label?

You may well be asking 'Why does it have to be this complicated to choose the most sustainable product? Can't I just look for a product with a green label?'

It's not surprising people look for shortcuts to help them decide. After all, few of us have the time to study every purchase we make. That's why there are so many labels offering quick assurance about product sustainability credentials.

**"In a world in which customers are increasingly looking for evidence of the sustainability credentials of products, and increasingly confused by the proliferation of claims and labels that they find, we need as much clarity and simplicity as possible. We need the facts, presented in a credible, independent and standardised way, that takes into account the full life cycle impacts. And that's what we'll get with EPDs."**



**Paul King**  
Chief Executive,  
UK Green Building Council

But when you look carefully at how some labels are administered, you realise that you cannot just rely on labels.

Some are too easy to obtain or focus on a narrow range of issues. Others lack independent certification or may even be administered by the manufacturers themselves. Many labels duplicate each other, confusing clients and obliging manufacturers to certify the same product several times. Unfortunately, some of the best marketed labels are the least robust.

To judge the value of a label it is important to understand who is behind it, how it is certified, what factors it covers and whether it conforms to recognised international standards. You need to look behind the label.

**"It is great to see more suppliers working to report the environmental and social performance of their products, but the wide range of methods being used can lead to some dangerously misleading or ambiguous claims. We need clarity and standardisation on metrics so that design decisions and performance monitoring can be based on sound evidence and transparent benchmarking"**

**And the supply chain needs to respond with consistent and reliable information, a multitude of different approaches will only confuse specifiers and ultimately hinder sustainable design."**



**Lorna Pelly**  
Principal Sustainability  
Advisor, Forum for the Future

## Who is behind the **label**?

Type	Who is behind and main motive	Key issues
<b>Private</b>	A commercial entity seeking to earn money	Faster to develop Motivated by need to recruit paying participants Might not allow open competition for certification
<b>Semi-private</b>	Industry group with common interests	Has vested interests favouring one industry or material over another
<b>Third party</b>	Independent entity responding to a public issue	Focus on technical aspects Might be bureaucratic

## Who certifies **the label**?

Type	Who is certifying	Key issues	Examples
<b>First party</b>	The company self-declares	Claims have not been independently tested or verified	Most marketing claims, product specifications
<b>Second party</b>	Involves a trade association or consulting firm setting the standard or verifying claims	Offers little assurance against conflict of interest because the company pays the assessor	Carbon neutrality claims verified by auditors, private labels
<b>Third party</b>	Independent third party conducts testing or verification	Certifiers can be ANSI (American National Standards Institute) approved to demonstrate objectivity	Green Seal, Sustainable Carpet Assessment Standard ANSI/NSF 140-2007

## What is the scope of the label?

Type	Who is the scope?	Key issues	Examples
<b>Single attribute</b>	Recycled content, Volatile organic compound (VOC) emissions, Carbon neutral, Toxicity	Narrow scope might miss other key issues	GUT test on VOCs
<b>Multi - attribute</b>	Complete or partial LCA	The wider the scope, the more reliable it is	EPDs

## International standards for environmental labels and declarations: ISO 14020 series

Type	LCA needed	Third party required	What the label means	Suitability for B2B
<b>Type I - Certified ecolabels</b>	No	Yes	Product complies with the conditions set by the label – usually single benefit	Average
<b>Type II - Self-declarations</b>	No	No	Improvement of one environmental aspect	Average
<b>Type III - EPDs</b>	Yes	Yes	Life-cycle information	Good

## Our opinion on labels: We prefer the geeks to the geezers

InterfaceFLOR believes most of the labelling schemes currently available fail to fully assess product sustainability. The schemes generally aim to attract wide participation by manufacturers and therefore set the bar for qualification at a level that is too easy to achieve. The result is that instead of distinguishing between products, most labels tend to lump them together in one category. We are also concerned that privately owned labels are frequently expensive and not technically rigorous, especially if they are 'paid for'.



**Simon Propper**  
Managing Director, Context

**“Unfortunately a product’s sustainability performance cannot be reduced to a label. To understand the implications of a purchasing choice, you have to be willing to look a little deeper at the environmental and social impacts throughout the product life-cycle. I don’t see a future for environmental labels in product marketing.”**

In our view, these are the principles of a fair and reliable label:

- Label should be owned by an independent not-for-profit organisation
- Certifiers should be independent
- The label criteria should be based on full LCA
- Consultants advising on label applications should not be linked to certifiers
- Labels should be independently certified as ‘Type III’ under ISO14025

A label may be the starting point in your search but it will rarely provide a reliable and thoroughly researched answer to the question: ‘Which is the most sustainable?’

## Nice product, shame about the company

**“We do a great deal of reputation research for global companies across the world. What we have observed is that demonstrating a commitment to responsibility that goes beyond the gates of their factories counts when it comes to building trust. Companies working to make a positive difference across their sector, country or the world is an important indicator of differentiated leadership.”**



**Chris Coulter**  
Senior Vice President,  
GlobeScan Incorporated

- 1 Is sustainability critical to business strategy? See if the annual report includes sustainability risks and opportunities.
- 2 Does the CEO discuss sustainability personally? Search the web for key speeches.
- 3 Data history – at least five years?
- 4 Look at the sustainability report. Are the carbon targets absolute or normalised, e.g. divided by income or units sold?
- 5 How are carbon reductions being achieved? Efficiency and in-house renewable energy are usually more sustainable than green electricity purchases and offset schemes.
- 6 Are other environmental impacts reported and addressed, e.g. waste, water, toxicity?
- 7 Does the company report and address social impacts, e.g. human rights, employment, labour conditions in the supply chain?
- 8 Does the company offer services and advice to support customers’ sustainability aims? For example, does it collect and recycle its products at the end of their life?
- 9 Is the company’s sustainability material objective? Do they discuss challenges and difficulties?
- 10 How do NGOs and the media view the company? Search for articles and campaigns. These may not be accurate or unbiased but enable you to evaluate the quality of the company’s response.

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## **References and Further reading**

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### **InterfaceFLOR**

[www.interfaceflor.eu/epd](http://www.interfaceflor.eu/epd)

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### **European Commission – Joint Research Centre. Life Cycle Thinking and Assessment.**

<http://lct.jrc.ec.europa.eu/>

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### **Buildings Common Carbon Metric by UNEP SBCI**

<http://www.unep.org/sbcipdfs/UNEPSBCICarbonMetric.pdf>

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### **EPDs information about building materials**

<http://bau-umwelt.de/hp481/Environmental-Product-Declarations-EPD.htm>

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### **ISO14040**

[www.iso.org/iso/catalogue\\_detail?csnumber=37456](http://www.iso.org/iso/catalogue_detail?csnumber=37456)

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### **ISO14020**

[www.iso.org/iso/catalogue\\_detail.htm?csnumber=34425](http://www.iso.org/iso/catalogue_detail.htm?csnumber=34425)

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### **Reference for Embodied Carbon in concrete**

[www.sustainableconcrete.org.uk](http://www.sustainableconcrete.org.uk)

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### **Reference for International EPD® System**

[www.environdec.com](http://www.environdec.com)

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**If you want to know more,  
please go to**

[www.interfaceflor.eu/letsbeclear](http://www.interfaceflor.eu/letsbeclear)

**and our blog**

[www.interfaceflorcutthefluff.com](http://www.interfaceflorcutthefluff.com)

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