



European Construction Sector Observatory

Policy fact sheet

Ireland

EPD Ireland Programme

Thematic objectives 3, 4 & 5

January 2021



In a nutshell

Implementing body	Irish Green Building Council (IGBC)
Key features & objectives	Ireland’s national Environmental Product Declaration (EPD) programme certifying the lifecycle environmental impact of construction sector products used in the Irish market.
Implementation date	2018 – ongoing
Targeted beneficiaries	Product manufacturers in all sectors and their clients and end users.
Targeted sub-sectors	Commercial, residential, infrastructure and construction products.
Budget (EUR)	Not published.
Good practice	★★★★☆
Transferability	★★★★★

The International EPD® System¹ is the world’s first and leading global Environmental Product Declaration (EPD) programme. It operates in accordance with the ISO 14025, TS/14027, 14040 standards. For the construction sector, manufacturer EPDs also comply with the ISO 21930 and EN 15804 standards.

Environmental Product Declarations (EPDs) present transparent, verified and comparable information about the lifecycle environmental impact of products².

EPDs provide the data that is needed to conduct Life Cycle Assessments (LCAs) and embodied carbon calculations at the building level. They are therefore an important vehicle for delivering the data the market is demanding – product specific and product variation specific LCA data (EPDs) instead of generic

LCA data. When provided in digital form, they are also an integral part of the digital data revolution³.

In 2015, the Irish Green Building Council (IGBC) developed a business plan to mainstream embodied carbon calculation in Ireland. The plan defined a number of steps⁴:

1. Establish an EPD programme to develop quality data;
2. Make generic data available, where specific product information is missing;
3. Develop calculation tools;
4. Provide LCA training to professionals.

IGBC is concurrently working on steps 3 and 4 in partnership with One Click LCA – BIM-enabled LCA software developed by Bionova Ltd⁵. The aim is to ensure that data from EPD Ireland can be integrated into the software. This will make quality data available to Irish construction professionals using building level LCA⁶.

The **EPD Ireland programme** was developed by the Irish Green Building Council in 2017 with the support of the national Environmental Protection Agency’s (EPA) Green Enterprise programme. EPD Ireland went ‘live’ in March 2018⁷.

EPD Ireland is an important initiative that is gradually gaining traction in Ireland.

Nearly 100 EPDs have been certified by the programme and are registered on the IGBC website. They cover a much larger number of products (e.g. series of products within a product family).

20% are published by Irish construction product manufacturers. The other 80% are published by international manufacturers for products used in the Irish market, albeit by a relatively small number of companies.

In the near to medium-term, the main challenge for this relatively new initiative will to be expand its reach and impact nationwide, scale up communication and engagement activities and bring more manufacturers on board.

1.

General description

The Environmental Protection Declaration (EPD) Ireland Programme was launched in 2017. It aims to encourage the development and use of Type III third-party verified EPDs in the construction sector.

EPD Ireland is currently open to any product used in construction, refurbishment, fit out of buildings, and in any built infrastructure, such as road, rail and waterworks.

The EPD Ireland programme has been developed with the financial support of the Environmental Protection Agency's (EPA) Green Enterprise programme⁸.



The **objectives**⁹ of EPD Ireland are to:

- Create visibility for EPD in Ireland and increase awareness of Life Cycle Assessment (LCA);
- Encourage architects, engineers and other construction professionals to label products with transparent environmental declarations;
- Encourage the use of EPD in building life cycle assessment to EN159783 to support the reduction of environmental impacts at all stages of the building lifecycle;
- Encourage suppliers to promote their transparent environmental declarations;
- Encourage manufacturers to carry out LCA on their products, develop transparent declarations, and innovate to reduce the environmental impacts of these products;
- Build the professional capacity within Ireland to carry out Life Cycle Assessment, verification of EPD and participation in national and international technical committees.

The programme is designed to comply with the following **standards**¹⁰:

- **ISO 14025** Environmental labels and declarations – Type III environmental declarations – Principles and procedures (ISO 14025:2006, IDT);
- **ISO 14027** Environmental labels and declarations – Development of product category rules;
- **EN 15804:2012+A1**: Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products;
- **Irish Standard Recommendation S.R. CEN/TR 16970:2016** – Sustainability of construction works – Guidance for the implementation of EN 15804.

Life Cycle Assessment (LCA)

Illustrated in Figure 1, LCA is a method for evaluating the environmental impact of a product and the processes used to produce it throughout its lifecycle, from cradle to grave.

Figure 1: Life Cycle Assessment (LCA)



Source: IGBC¹¹

EPD Process for the manufacturer¹²

Figure 2 shows the three principal steps of the EPD certification process that construction product manufacturers must follow, from an LCA assessment to verification and publication.

Figure 2: EPD Ireland process



Source: IGBC¹³

A company can develop an EPD by itself, if it has sufficient internal expertise. Otherwise, an LCA/EPD expert should be used.

Companies that wish to prepare an EPD for registration and publication are required to:

- Collect LCA data and other relevant environmental information according to the general programme instructions and relevant PCR document;
- Process LCA information required for EPD;
- Prepare an LCA report to be provided to the EPD Ireland programme verifier which will remain confidential;
- Notify EPD Ireland of their intent to have the report verified as an EPD;
- Pay the prescribed fee to the independent verifier appointed by EPD Ireland before verification begins and irrespective of verification outcome;
- Have an independent verifier prepare a verification report in accordance with the EPD Ireland template, complete the prescribed verification checklist, and submit with verified EPD prepared in accordance with the EPD Ireland template to EPD Ireland programme;
- Pay the EPD Ireland registration and publication fee to have the EPD published on EPD Ireland platform (www.igbc.ie/epd-home/);

- Give notice to EPD Ireland of withdrawal or modifications to the EPD.

EPD Verification¹⁴

In compliance with EPD programme specifications, the EPD verification procedure verifies LCA-based data, additional environmental information and the information provided in a single EPD.

The scope of EPD Ireland covers construction products and all EPDs must comply with the EN 15804 standard. An EPD verification checklist / report template is provided as part of the verification process and its use is compulsory.

All EPDs must be verified by an independent, competent and recognised verifier appointed by the EPD Ireland Programme. The verifier must have no direct connection to the company creating the EPD. All EPD verifiers are subject to peer review to ensure consistency in verification and use of report templates and checklists.

EPD Ireland verifiers are required to attend one online meeting per annum. The aim is to ensure that changes in the programme are communicated and to identify any issues with the consistency of the verifications or changes to standards.

EPD validity period¹⁵

An EPD for a construction product that is EN 15804 compliant is valid for a period of five years. At the end of that period, the EPD must be revised and reissued.

If there are no significant changes to the underlying data, the EPD does not need to be re-calculated, but should be reissued. A change is deemed significant if the underlying data for any of the parameters of the EPD has changed by a percentage greater than +/-10%.

2.

Achieved or expected results

The Environmental Product Declaration (EPD) Ireland programme has been in operation since 2018.

To date, nearly 100 EPDs have received certification under EPD Ireland and have been published on the IGBC website. Over the three years since its launch, that equates to an average of just over 30 EPDs per year.

Each EPD can cover a range of individual products, such as a family of products within a single product line. For example, the Irish EPDs that have been published by IGBC cover nearly four times as many individual products than the number of EPDs would suggest.

Table 1 provides a breakdown of the EPDs registered and published by Irish companies under EPD Ireland by broad product type.

To date, 19 EPDs have been published by 13 Irish construction product manufacturers under the EPD Ireland programme. They certify a combined total of 73 Irish construction sector products

The EPDs for building products relate to thermal insulation products (6), concrete products (4), roof coverings (2), wood-based panels (1), windows (1) and glass products (1). The EPDs for basic materials and precursors relate to cement products (2), aggregates (1) and products related to concrete mortar and grout (1).

Table 1: Number of Irish EPDs registered by broad product type

Product type	Quantity
Building products	15
Basic materials and precursors	4
Total	19

Source: IGBC¹⁶

Table 2 provides a breakdown of the EPDs registered by international companies with EPD programmes in other countries and with EPD Ireland. They are grouped by broad product type.

To date, 74 EPDs have been published by 13 international construction product manufacturers. They cover a large number of products used in the Irish market, ranging from insulation to paint products.

Five manufacturers have published 48 EPDs under the German EPD programme that are used in the Irish market. They include 42 EPDs for building products, as well as three for basic materials and precursors and another three for building service engineering. The majority of these EPDs are published by two manufacturers – Smet Building Products (34) and Uzin Utz UK Ltd (9). The remainder are published by Vitra (2), Steico (1) and Ecological Building Systems (1).

Two manufacturers have published 12 EPDs under the UK EPD programme that are used in the Irish market – Sika Group (10) and Kingspan Insulated Panels (2). Five EPDs for building products (paint) have been published by Dulux Paints Ireland Ltd under the Dutch EPD programme. Five other manufacturers have published nine EPDs under the International EPD programme. They cover building products (8) and basic materials and precursors (1).

Table 2: Number of international EPDs for the Irish market by broad product type

Product type	Quantity
Building products	67
Basic materials and precursors	4
Building service engineering	3
Total	74

Source: IGBC¹⁷

Figure 3 provides a visual example of the EPD documents that are published on the IGBC website once a construction product manufacturer has completed an LCA and has had their product(s) independently verified.

Figure 3: Examples of EPDs published by EPD Ireland



Source: IGBC¹⁸

Demand for EPDs in Ireland is growing, albeit rather slowly. This is evidenced by the fact that there are nearly four times as many international EPDs published on the IGBC website than there are Irish EPDs published under EPD Ireland.

A closer inspection reveals a more nuanced picture, however. First, the number of Irish construction product manufacturers that have published EPDs is equal to the number of international producers with EPDs for the Irish market (13).

Second, the **vast majority of the 74 international EPDs** available on the IGBC website have been **published by just three or four international producers**. These manufacturers are clearly very

active in the Irish market and are keen to convey their environmental credentials to Irish customers. In contrast, the **19 EPDs published under EPD Ireland are much more evenly distributed among the 13 Irish manufacturers**. A smaller number of EPDs published by Irish producers may be the result of a smaller product range and/or with a lower carbon footprint.

Moving forward, it is clear that a significant increase in the number of EPD registrations is needed to support the sustainable development of the Irish construction product sector and the success of the EPD Ireland programme. The more that are published, the greater the demand will be.

To increase demand, the broad range of EPD benefits should be continually communicated to construction businesses, clients and end customers. The principal benefits are shown in Figure 4. Communication should also be reinforced by scaling up awareness raising and engagement activities.

Figure 4: Principal benefits of an EPD



Source: IGBC¹⁹

3.

Perspectives and lessons learned

The construction products sector is leading the way in Ireland towards environmental transparency.

The construction products sector is a leader in Ireland as the only manufacturing sector that provides transparent data on the environmental impact of its products.

According to the Irish Green Building Council (IGBC), this leadership should serve as an example of the way forward for all producers: *“This approach needs to be extended to all other sectors, such as food, consumer products and cars. ... Government needs to encourage all producers to provide transparent data as it is not possible to make policy decisions in the absence of data. ... If a small Irish construction product manufacturer is capable of producing 3rd party verified EPD for a concrete roof tile, then large international car manufacturers should be capable of producing data for products costing up to EUR 70,000”*²⁰.

Providing transparent data is both a challenge and an opportunity for the sector, according to the Group Technical Manager and Head of Sustainability at Kilsaran International Concrete Ltd: *“The level and detail of data gathering is very complex and the process of creating an EPD takes considerable time and input. ... EPDs are however being warmly welcomed by specifiers and industry as a progressive step in transparency of the impact of products across their lifecycle, and Kilsaran are delighted to be one of the first to take a step forward in this area”*²¹.

Growing market demand for environmental certification is an incentive for EPD registrations.

Mannok Build Ltd (formerly Quinn Building Products) was one of first three companies to develop and register EPDs in Ireland in 2018. The company gained EPD certification for four products: Quinn Lite Thermal Blocks, Quinn Therm PIR

insulation, Quinn Lite Pac EPS insulation, Quinn Rooftiles, and Quinn Packaging products²².

The company’s Product Development and Specification Manager explains the reasons why the company sought EPD certification for their products: *“We’ve invested in the development of these EPDs because it aligns with our commitment as a company to reduce the environmental impact of our products and ensure we are a sustainable manufacturer. The process involved is rigorous and has taken a lot of commitment, but we believe it’s important for us to be transparent and responsible in our manufacturing process, from the sourcing of raw materials right through to dispatch. There is also a growing demand from the market for robust environmental certification and we’re proud to be among the first in Ireland to commit to this”*²³.

EPDs are a sustainability benchmark and an inspiration for further improvements.

Having been one of the first Irish companies to attain EPDs in 2018, Mannok Build Ltd (formerly Quinn Building Products) subsequently became the first Irish company to attain an EPD for a structural precast concrete product.

For Mannok, EPDs provide a framework for sustainable product and company growth. According to their Product Development and Specification Manager: *“Our key objective is to benchmark where we are as a company in terms of our carbon footprint. These EPDs will allow us to identify materials and processes that have a significant impact on our carbon footprint and therefore set targets for future improvement, to reduce the environmental impact of our products and to ensure we are a sustainable manufacturer”*²⁴.

According to the Group Technical Manager and Head of Sustainability at Kilsaran International Concrete Ltd, the business case for an EPD is strong: *“It allows the purchaser to specifically examine the performance and impact of similar products in an*

accurate way. ... This journey for Kilsaran allowed us to clearly see which materials and production processes have the greatest environmental impact

and to review and adjust where necessary, as well as look at alternative supply chains to improve the performance of our products²⁵.

4.

Conclusion and recommendations

Although still in its infancy, the EPD Ireland programme is a successful initiative that has the potential to grow and expand its reach and impact, both within and beyond the construction product sector.

In its first three years of operation, EPD Ireland has published nearly 100 EPDs for Irish and international construction product manufacturers.

The total number of manufacturers with published EPDs on the IGBC website is evenly split between Irish (13) and international producers (13). However, the number of EPDs published by both groups varies considerably.

EPDs published by Irish manufacturers account for approximately 20% (19) of the total number of EPDs. The majority (74) relate to products used in the Irish market, but which are manufactured by international producers. However, that does not provide a full picture, as a large share of those EPDs are published by just three or four manufacturers.

EPDs are a challenge to many businesses, as they require complex data gathering by those engaging in the EPD process. However, a growing number of Irish businesses are recognising the business value and opportunities that an EPD can provide. Not only do they enable manufacturers to assess and benchmark the sustainability of their products, they provide inspiration for continuous improvement and enable them to meet growing market demand for sustainable products.

As the first initiative of its kind in Ireland, EPD Ireland is enabling the construction product sector to pave the way towards environmental transparency on a national scale.

Looking forward, two recommendations are suggested to help improve the reach and impact EPD Ireland:

- The reach and impact of EPD Ireland should be scaled up to encourage larger numbers of construction product manufacturers to join the programme and certify their products. To achieve that, strong focus should be placed on communicating the business, environmental and social value of EPD certification. Awareness raising and engagement activities should also be run at scale to reinforce communication activities and bring companies on board;
- Consider developing support measures (financial and advisory) to encourage and assist smaller companies in particular to undertake EPD certification.

Overall, EPD Ireland is rated a '4-star good practice measure' on a scale of 1 (low) to 5 (high).

This score is based on positive start made by EPD Ireland and its achievements in its first three years of operation. With nearly 100 EPDs published, EPD Ireland has supported the certification and publication of just over 30 EPDs per year. Positive feedback on the initiative from both manufacturers and the market provide further rationale for this good practice score. In the near to medium-term, there is plenty of scope for EPD Ireland to achieve a higher good practice score, providing that the initiative, its reach and impact are scaled up.

The EPD Ireland is rated a '5-star transferable measure' on a scale of 1 (low) to 5 (high).

This score is based on the fact that EPD programmes are connected to the international EPD system. Similar programmes are in place in many other countries around the world and independent external auditing forms part of the global EPD approach. The initiative is therefore very transferable, by definition and example.

Endnotes

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- 3 Ibid
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