

# GREEN PUBLIC PROCUREMENT CASE STUDY

## Contracting Authority: The Office of Public Works (OPW) Procurement of Carpet Tiles

### Background

The OPW is a government body that delivers public services for flood protection, managing government properties and heritage services.

The mission of the OPW is to use their experience and expertise to fulfil their role and responsibilities with effective, sustainable and innovative services to the public and to their clients, with competence, dedication, professionalism and integrity.

The Furniture Division of the OPW is a specialised unit within the OPW's Property Maintenance section, located in Dublin. The division's primary function is to implement programs and projects that provide fit-out solutions for government and state clients, including government departments, offices, and agencies. A key aspect of the division's work involves the procurement of furniture and furnishings. The Furniture Division is committed to sourcing items that are not only high-quality and functional, but also suitable for the specific needs of each client. In addition, the division places a strong emphasis on ensuring value for money and sustainability in its procurement practices.

The Furniture Division has always striven to implement the most up-to-date sustainability criteria in all procurement competitions. The approach has been to iterate on previous tender competitions, adding and adjusting criteria as needed. The Furniture Division has been procuring carpet tiles for Government buildings for many years, and specifications have evolved over time. In this most recent carpet tile tender, thirteen green criteria were included. Ten of these criteria were used in previous competitions and were developed over many years of market analysis and engagement. The three new criteria were prompted by insights gained from market research. The OPW regularly meets with various suppliers and manufacturers of the products it procures – this type of market engagement is recommended to support GPP. In conversation with one of Europe's leading carpet tile manufacturers, the OPW was made aware of the prevalence of third-party verified Environmental Product Declarations (EPDs) in the carpet tile industry. EPDs are based on a standardised approach to life-cycle analysis, meaning they allow the environmental impacts of different products to be compared. EPDs provide data on the Global Warming Potential (GWP) of products, as well as other impacts such as air, water and soil pollution. Further investigation showed that there was sufficient uptake in the use of EPDs to use them as a point of comparison in upcoming tender competitions. The three new criteria were directly related to the EPDs.

### Procurement Objective

The Furniture Division's aim in this tender was to:

- quantify and minimise the GWP of the tiles installed in Government buildings through this contract
- procure carpet tiles that would have a long service life and offer an end-of-life take-back option.

The RFT requested that the successful tenderer would:

- supply and install carpet tiles in Government buildings located throughout the country
- supply three ranges of carpet tiles with pile weights of 600g/m<sup>2</sup>, 750g/m<sup>2</sup>, and 1300g/m<sup>2</sup>
- install the tiles in locations where the floor is clear, as well as in buildings where there is an existing floor that needs to be removed and disposed of in an environmentally suitable way.



## Procurement Approach

The Furniture Division has always taken an iterative approach to adding and altering criteria in procurement competitions, and the carpet tile RFT is a good example of this approach.

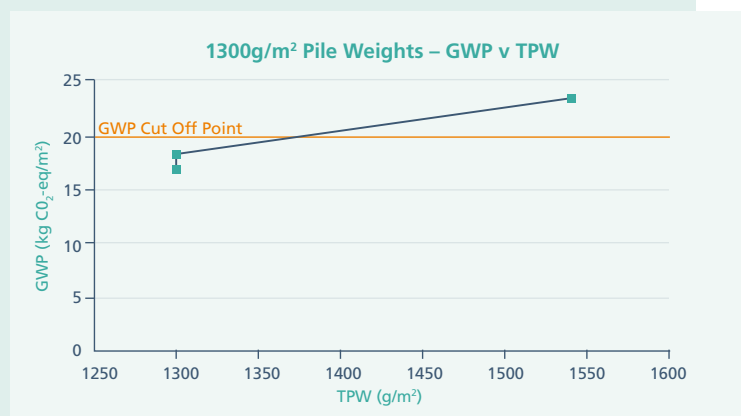
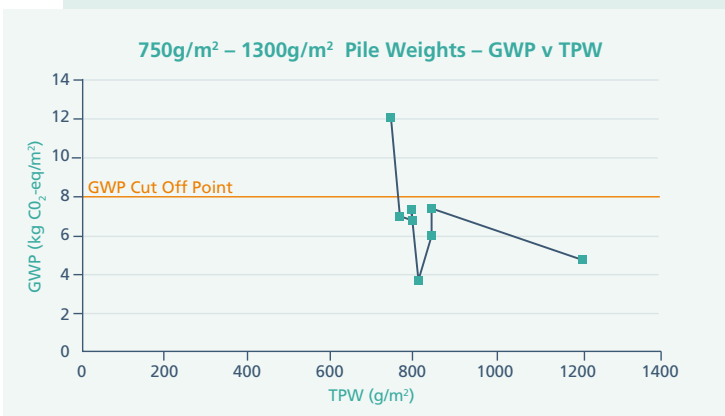
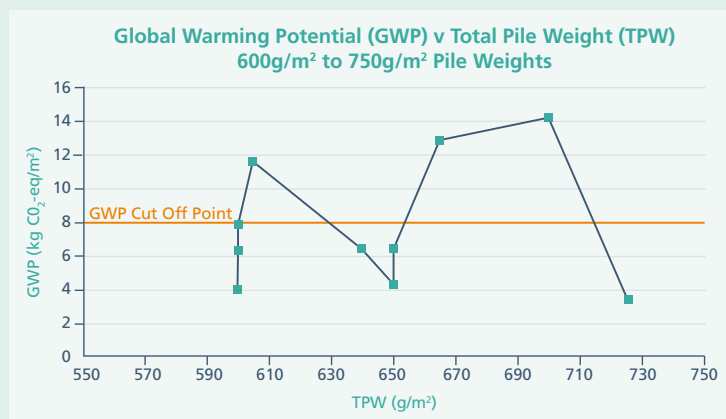
In this iteration of the carpet tile RFT, two new technical specifications and one new award criterion were added. These additions were inspired by a conversation with one of OPW's suppliers and then solidified by desk research.

Once the Furniture Division understood the value of EPDs as a means of quantifying the environmental impact of the tiles, they assessed the prevalence of EPDs in the market.

The approach was simple: a list of the largest carpet tile producers in the EU was developed and each of the relevant carpet tile ranges produced by the manufacturers that were relevant to the RFT were reviewed, namely tiles that have a total pile yarn weight in the following ranges: 600g/m<sup>2</sup>, 750g/m<sup>2</sup>, and 1300g/m<sup>2</sup>. Six of the largest manufacturers were compared by plotting the GWP (Global Warming Potential) of each of their tile offerings in the ranges above and a GWP cut-off point for each of the ranges was decided on. For the 600g/m<sup>2</sup> and 750g/m<sup>2</sup> ranges, the limit was set at 8kg CO<sub>2</sub> Equivalent (CO<sub>2</sub>e), and for the 1300g/m<sup>2</sup> range, it was set at 20kg CO<sub>2</sub>e.

The limits were established by examining the plots below and selecting a point that would allow for competition without including the outlier tiles. The aim of the upper limits was to exclude the tiles with the highest environmental impact on the market, while the goal of the award criteria was to reward the best-performing tiles. This was accomplished by awarding progressively more points to tiles that had lower GWP, with the points ranging from 100 for tiles with a GWP of 3.99kg CO<sub>2</sub>e to 40 points for tiles with a GWP of 7kg/m<sup>2</sup> CO<sub>2</sub>e.

In addition to the EPDs, OPW included several other GPP requirements listed below. These criteria have been incorporated into carpet tile specification over several iterations and have proven to be valuable in obtaining high-quality carpet tiles that will last a long time, thereby reducing emissions by extending the lifespan of the tiles.





## Criteria Used

### Technical Specifications

#### Pile Weight and Type of the Carpet Tile

Both the pile weight and type play pivotal roles in determining a tile's durability. OPW identified three specific pile weights: 600g/m<sup>2</sup>, 750g/m<sup>2</sup>, and 1300g/m<sup>2</sup>, along with three pile types: Loop, Shredded/Loop, and Cut Pile. By offering a diverse selection of pile weights and types, OPW can optimize tile selection for each space, ensuring longevity and suitability.

#### Pile Content: 100% Bulk Continuous Filament (BCF) Solution Dyed Nylon or Equal and Approved

Similar to the pile type, this requirement aims to increase the lifespan of the carpet tile. Nylon is very durable, and the solution-dyed process improves stain resistance and colourfastness. We will accept alternatives to nylon if they meet the durability standards below.

#### Environmental Product Declaration (EPD) Requirement

Tenderers must submit a valid EPD in accordance with ISO 14025 and EN 15804 or equivalent, carried out or verified by an independent accredited third party for each range submitted. The requirement for a verified EPD enables the comparison of GWP for each range.

**Note:** Ireland's "[Green Public Procurement Strategy and Action Plan 2024-2027](#)," endorses the use of EPDs in technical specifications as best practice. It also references GWP as a metric and mandates its use from 2026.

#### Maximum Global Warming Potential (GWP)

Maximum GWP of 8kg CO<sub>2</sub>e for modules A1-A3 (Cradle to Gate) of the EPD for each range submitted. Setting a limit on the GWP emissions, as reported in the EPD, removes the worst offenders who are still manufacturing tiles with bitumen-based backing. The tiles in the 1300g/m<sup>2</sup> range have a limit set to 20kg CO<sub>2</sub>e due to less competition in this pile weight. If OPW were to set the limit lower, they would not have any submissions for this range.

#### Pile Yarn Recycled Content

Pile yarn must contain a minimum of 75% recycled content. Setting a minimum on the recycled content of the yarn removes manufacturers that are using a high content of virgin materials. The majority of tiles with GWP below 8kg CO<sub>2</sub>e will exceed 75% recycled content.

#### Tile Backing Recycled Content

Tile backing must contain recycled content. This criterion ensures tiles submitted are not made from 100% virgin materials for the tile backing. There is more variation in the recycled content of the backing than in the yarn, so OPW did not set a minimum.

#### Wear Classification

Wear Classification: EN 1307 Class 33 – Commercial Heavy Use. This standard allows us to verify the tiles are suitable for heavy use and will have a long life.

#### Colour (Light) Fastness

Colour (Light) Fastness: ISO 105/B02. This standard allows us to verify the tiles will not fade in colour and therefore have a long life.

#### Castor Chairs Pass EN985

The standard "EN 985" relates to the performance of textile floor coverings, specifically in the context of their suitability for use under castor chairs, like those commonly found in office environments. This standard ensures the long life of the tiles in an office setting.

#### Adhesive

A release tackifier adhesive must be applied all over. The criteria ensure that a section of the tiles can be removed without damaging the tile or the floor if a section of the tile needs to be replaced. This is essentially a design for disassembly requirement.

#### Eco Certification

BREEAM/BRE/LEED A rating or equivalent ECO Certification to be included for each range.



## Criteria Used cont.

### Award Criteria

#### Product Take Back

To contribute to the circular economy, tenderers should include details of a third-party certified post-consumer collection & reclamation program such as the Interface ReEntry®, Tarkett ReStart® Recycling Programs, or equal and approved. Tenderers must include a percentage (%) difference (if any) per square meter in the Pricing Schedule to cover this service. The award criterion accounts for 250 points out of a total of 1300 points. The two programs mentioned above are examples of take-back programs that either clean and reuse the tiles removed, or the nylon and backing of the tiles are separated and used in the production of new tiles.

#### Global Warming Potential (GWP)

To limit the GWP of the ranges submitted, points will be awarded for carpet tile ranges with relatively low GWP as reported in their EPD. The GWP assessed will be limited to modules A1 to A3 in the EPD (Cradle to Gate).

#### Breakdown of points awarded:

< 3.99kg CO <sub>2</sub> e = 100 points
≥ 4kg CO <sub>2</sub> e < 4.99kg CO <sub>2</sub> e = 80 points
≥ 5kg CO <sub>2</sub> e < 5.99kg CO <sub>2</sub> e = 60 points
≥ 6kg CO <sub>2</sub> e < 6.99kg CO <sub>2</sub> e = 40 points
> 7kg CO <sub>2</sub> e = 0 points

Points awarded for Range 1 (600g/m<sup>2</sup>): where multiple ranges have been submitted, points for GWP will be awarded based on the average GWP of all ranges submitted. Example: Range 1(a) GWP is 4.65kg CO<sub>2</sub>e and Range 1(b) GWP is 3.95kg CO<sub>2</sub>e; the average GWP of (a) & (b) is 4.3kg CO<sub>2</sub>e, therefore, this submission will receive 80 points in section D for their Range 1 (600g/m<sup>2</sup>) submission.

## Year Contract Signed

2022

## Outcome

The inclusion of green criteria in this procurement process has had the following significant impacts:

- ensured a long first life for the carpet tiles and opened up the possibility of a second life through the take-back program
- gave OPW the opportunity to signal to the market that they are monitoring the GWP of the products they procure
- allowed OPW to set an initial GWP baseline at the specification and award stages
- now that the market is aware of OPW's use of EPD data, the next time it goes to market, OPW will review the cut-off limits at the specification stage and may only award points for tiles with lower GWP than in this instance of the RFT
- as well as acting as a signal to the market, ensuring that tile ranges have an EPD provides the opportunity for the OPW Architect Section to incorporate the EPD data into their Building Information Modelling (BIM) models. This enables the assessment of the impact of the carpet tile element at the project design stage.



## Outcome cont.

In terms of awarding the contract, the impact was significant. The points available for green criteria accounted for 550 out of a total of 1300 points. In the past, the price would have carried a larger percentage of the points. However, with the addition of the EPD criteria, the overall GWP of the ranges submitted became the deciding factor. The difference between the winning tender and the runner-up was approximately 100 points, and this difference was due to the GWP reported in the EPDs.

The Furniture Division compared the results of this tender, SD-01-22 (published in June 2022) with the previous tender, SD-04-20, (published in November 2020) which did not require Environmental Product Declarations (EPDs) or utilize GWP as a metric. The comparison below illustrates the impact of incorporating EPDs and GWP metrics into our procurement process.

As part of the RFT, three ranges of carpet tile per tender were requested (1 – 600g/m<sup>2</sup>, 2 – 750g/m<sup>2</sup> & 3 – 1300g/m<sup>2</sup>). Ranges 2 and 3 are infrequently used. The majority of tiles are from Range 1, weighing 600g/m<sup>2</sup>.

For SD-01-22, three options at range one were requested, all 600g/m<sup>2</sup>. The GWP of the three options were averaged, resulting in the figures below. In contrast, the previous tender, SD-04-20, required only one option within this range.

SD-01-22\_Supply-Installation-Carpet-Tiles: Range 1(a, b, c) – Average GWP: 4.21kg CO<sub>2</sub>e per square meter.

SD-04-20\_Supply-Installation-Carpet-Tiles: Range 1: 9.55kg CO<sub>2</sub>e per square meter.

The substantial reduction in emissions between the two tenders can be primarily attributed to the inclusion of GWP as a criterion.

The impact of these changes will continue to be monitored on an ongoing basis to ensure that OPW's procurement process remains environmentally responsible and sustainable.

## Lessons Learned/Challenges/Success Factors

This tender competition was the first in which OPW used an EPD in accordance with ISO 14025 and EN 15804 as a requirement. Given the obvious advantage of using EPDs as a metric when evaluating a product, OPW started to ask for EPDs on all furniture framework contracts. Unfortunately, the furniture industry has been slower to adopt EPDs, and as a result, OPW made the submission of an EPD an optional award criterion to encourage suppliers to invest in EPDs for their products. OPW have now started to see greater uptake in EPDs in the Irish and international furniture market. Also, due to the large number of standards and other certifications required to be submitted for each carpet tile range, it has become necessary to ask tenderers to start formatting their submissions in a standard file structure. This enables the efficient evaluation of documents by avoiding the need to hunt for certificates and standards with obscure names in a folder with 50 files.

The availability of carpet tiles with a pile of 1300g/m<sup>2</sup> has reduced over the years. In the next iteration of the competition, OPW will reassess and perhaps reduce the requirement to 1200g/m<sup>2</sup>. This will hopefully result in more submissions to the tender competition.

OPW will review how points will be awarded for the take-back option so that they are awarded on a per-range basis instead of on a per-tender basis. This will allow OPW to award points more granularly than in the current version.

## Contact Details

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