Alexia Gkika

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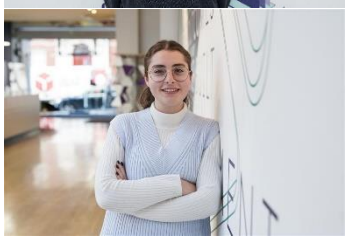


Yasmeen Alwakeel

A Survey-driven Approach to Sustainable Design
This article provides us with an opportunity to share a thorough review of the Buro Happold Lighting Manufacture Survey distributed in November 2023. Initial statistical survey results were presented by Alexia Gkika, during Light + Intelligent Building Middle East in Dubai on 16-18th January 2024.

As designers and specifiers, we may not have direct purchasing power, but we have influencing power and this is as important. We have a responsibility to deliver the Client's brief using equipment that is long-lasting, efficient and designed with sustainability and circular economy in mind.

Net zero
In the ever-evolving landscape of sustainable design, the journey towards achieving national and organisation-wide net-zero goals is full of challenges. Recently, we sent out a survey to all manufacturers tucked away in our database, driven by the goal of advancing Buro Happold's Net Zero Routemap at a discipline level. In line with other global multidisciplinary engineering companies, Buro Happold has pledged to the following commitments.

The specification process stands out as one of the critical phases in any project's journey, with a substantial influence over its carbon footprint. As specifiers, it is key that we carefully assess the embodied and operational carbon of luminaires, as well as their circularity. Many manufacturers have fully embraced and demonstrated their commitment to these sustainability principles by reporting the environmental footprint of their products using metrics and calculation frameworks such as Environmental Product Declarations, CIBSE's TM65.2 and TM66.

However, keeping pace with advancements in product development, manufacturing processes, and the increasing volume of environmental performance documentation, stands as a challenge for specifiers in staying up to date. Effectively tracking, updating, and disseminating this information is crucial in making informed decisions when specifying lighting products.

The Survey

One of the early steps that we took at Buro Happold as part of our Net Zero Carbon routemap was to gather and process data on sustainability credentials and product features from a wide range of manufacturers. This in turn will be used to aid and inform decisions when specifying products at present for the environments of the future.

The survey served a dual purpose, firstly, to update outdated manufacturer information, and more importantly, to establish a more efficient method of gauging and tracking each manufacturer's progress in their environmental journey.

To ensure our environmental performance questions were targeted, yet provided meaningful results, we performed pilot tests with manufacturers to gather valuable feedback. These questions focused around three key topics:

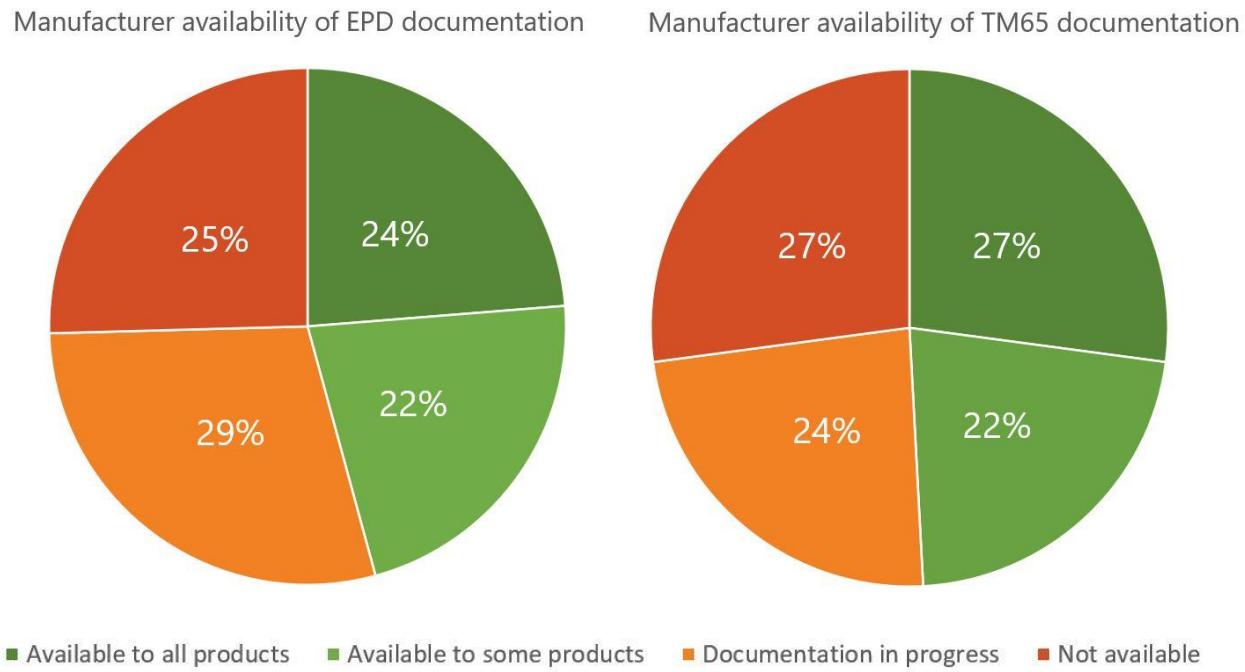
The responses feed into a real-time, centralised database. Specifiers can efficiently identify suitable manufacturers for a project by applying filters based on key criteria. As an example, using the location filters, specifiers can identify manufacturers both local to the site and sourcing components locally, reducing embodied carbon emissions associated with transport. Another advantage is that the database reduces reliance on personal preferences, enabling a fairer comparison of products.

Key findings

The survey was sent to approximately 150 manufacturers and distributors. To date, we have received 60 responses (40% response rate) from a range of manufacturers across multiple sectors. These valuable contributions have already helped us to draw some initial conclusions on the current landscape and identify areas of improvement. However, as the survey is still ongoing, it is worth noting that the encouraging percentages stated below may reflect the fact that typically manufacturers actively actioning steps to help transparency and decarbonisation would have been keen to respond early on.

Taking a first look at the availability of embodied carbon documentation, of the manufacturers that responded to date, 46% provide Environmental Product Declarations (EPDs) for either all or some of their product ranges. 49% of responses declared providing TM65 documentation. While these figures represent a great starting

point, they also highlight the potential for further progress - already evident as a further 29% are actively progressing EPD documentation and 24% progressing TM65.



Another key topic is circularity. Almost half of the manufacturers surveyed sourced components from suppliers within the same country (excluding LED modules, drivers, and reflectors). The number of manufacturers providing a TM66 circularity documentation is 40%. However, only 16% of these are third-party certified. Although, TM66 is built on a self-assessment basis, having third-party verification could help with greenwashing and harmonisation of data declared. Thus, avoiding false information leading to skewed, manipulated results.

The survey also highlighted that a significant number of manufacturers have adopted circular economy schemes, with 69% offering repair services, 47% providing take-back schemes, and 83% complying with Waste Electrical and Electronic Equipment (WEEE) regulations, which also saw a set of changes being implemented as of January 2024 – see link. It is worth noting that 30% of the respondents did not declare any sustainability initiatives, highlighting the need for ongoing engagement within the industry to increase awareness.

Next steps
Identifying areas for improvement and outlining the next steps is crucial in our journey.

- We aim to broaden the scope of our survey to a global scale. This is crucial, considering that 70% of our current responses are from Europe and the United Kingdom. This will help to gain a more comprehensive perspective on the global efforts towards sustainability.

- We value feedback from manufacturers as it helps us refine our approach and make necessary adjustments. We will continue fostering open communication in order to stay up to date with their progress in environmental efforts and product developments.

- Establish typology-dependent benchmarks for specified luminaires with environmental documentation. Keep up to date with other key industry-wide efforts such as the LCA Incubator, led by Leela Shanker, founding member of GreenLight Alliance.

- Anticipate and encourage swift adoption of any opportunity to harmonize when it comes to environmental declarations within our sector. In particular PEP PSR0014 (Product specify rules for Life cycle assessment of Luminaires), published by the LCA programme operator PEP Ecopassport. It has growing support internationally from lighting associations, standardisation bodies and even other programme operators through recognition agreements. Potentially a de-facto LCA methodology to adopt universally. Watch this space: https://www.lightingeurope.org/images/LE_-_Public_Statement_PSR0014_-_Final_-_20240116.pdf

- Repetition of tasks by isolated groups often hinders progress. We all have a joint responsibility in preserving and protecting the environment. By making survey results and data publicly accessible for manufacturers, designers, and researchers we can inspire global initiatives around sustainability. The more consistent they can be in approach the more value they present.

These steps will ensure that we remain on track in our journey towards advancing a sustainable design process. As data collection is still in progress, we hope to be in the position to publish our tracker to the industry within the first half of 2024. With the permissions of the manufacturers who contributed. If you are interested in contributing to this cause and aiding the industry in achieving sustainability goals aligned with the global net-zero vision, we invite you to participate in our survey (see attached QR code or follow the link Microsoft Forms).