

2025

Carbon Experts Report

A note from One Click LCA's CEO & Founder

Dear reader,

The construction value chain stands at a critical juncture in our collective effort to address climate change. As we release our annual Carbon Experts Report, the data reveals both encouraging progress and sobering challenges in our journey toward decarbonization.

Our comprehensive dual-survey approach, comparing year-on-year data by gathering insights from both architects, engineers, and construction (AEC) professionals and related manufacturers, demonstrates a shifting landscape. Over 60% of AEC respondents now estimate at least a 10% reduction in embodied carbon through life-cycle assessments (LCAs), with a third predicting reductions exceeding 20%. Additionally, 83% of AEC professionals state that environmental product declarations (EPDs) influence their material decision-making. According to One Click LCA software calculations, selecting the lowest-carbon emitting products across a building's material portfolio could reduce carbon emissions by more than one-third.

Despite this optimism, the report underscores critical barriers to progress. The lack of manufacturer EPDs emerged as the most significant obstacle, with 89% of AEC respondents citing it as a limiting factor. Similarly, 85% of AEC professionals highlight the absence of national regulations as a major barrier to advancing LCA practices. Manufacturers, meanwhile, continue to struggle with the complexity and cost of EPD creation and verification.

Perhaps most telling is the regional disparity in regulatory frameworks. While Europe advances with comprehensive policies like the revised Energy Performance of Buildings Directive and the Construction Products Regulation, other regions have different levels of regulatory development. This fragmentation poses a significant challenge to global decarbonization efforts, yet it offers opportunities for knowledge sharing, policy harmonization, and industry leadership in overcoming policy bottlenecks. Looking ahead, this report indicates that automation and data accessibility will be crucial drivers of progress. With 37% of AEC professionals identifying LCA automation as the most impactful factor for future time savings, the industry is clearly ready for technological solutions that can scale its decarbonization efforts.

This report is not just a snapshot of industry trends and challenges but a roadmap for collective action toward LCA, EPD progress, and decarbonization. The data suggests that we are at an inflection point where technological capability, market demand, and regulatory pressure are converging to accelerate sustainable practices across the construction value chain.

Collaboration between AEC professionals and manufacturers will be essential for advancing progress. The challenges we face are complex, but the industry is increasingly equipped with the tools, knowledge, and determination to meet them head-on.

The path to decarbonization requires sustained commitment from all stakeholders. Let this report serve as both a call to action and a practical guide for your sustainability journey.

May we lead the charge together,



Panu Pasanen
Founder & CEO, One Click LCA

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About the 2025 Carbon Experts Report

The 2025 Carbon Experts Report analyzes the results of two global surveys conducted by One Click LCA between September and November 2024. The first survey gathered responses from AEC professionals focusing on building LCAs, while the second surveyed construction product manufacturers on their use and production of EPDs as well as their challenges. Combined, these perspectives provide a holistic view of the state of decarbonization in the construction industry.

The surveys collected responses from 146 qualified experts. Respondents were approached via social media, industry networks, and email newsletters. The surveys were open to all and offered an option for anonymous responses. Responses were filtered by relevant professional sectors and countries, then merged into suitable regions for further analysis.

Most respondents in the first survey came from the field of consulting services, representing a significant proportion of participants. Meanwhile, the second survey featured responses primarily from manufacturers of construction products. The most common regions represented across the UK and Ireland, Europe, and North America.

This report follows up on the 2024 Construction LCA and Embodied Carbon Experts Outlook Report. Where relevant, the results of this survey are compared to those from previous years (2021, 2023).

The data collected through these surveys highlights critical challenges and opportunities for the construction industry as it adapts to new carbon regulations. Policies such as the EU's Construction Products Regulation (CPR) and the Carbon Border Adjustment Mechanism (CBAM) set higher standards for transparency, environmental reporting, and life-cycle assessments, impacting both AEC professionals and manufacturers globally.

This report informs policymakers and industry leaders as they refine frameworks to decarbonize construction. The findings emphasize the need for harmonized standards, streamlined data, and automated tools to support compliance and drive meaningful carbon reductions.



Executive insights

The **2025 Carbon Experts Report** highlights the urgent need for stronger collaboration between manufacturers and AEC professionals to drive decarbonization in the construction industry. While life-cycle assessments (LCAs) and environmental product declarations (EPDs) are gaining traction, significant barriers continue to slow progress.

Barriers to LCA and EPD progress in construction

A lack of regulatory support remains one of the primary obstacles to LCA adoption. **85% of AEC respondents cite the lack of national regulations as the biggest barrier to LCA progress**. Without clear policies, implementing consistent carbon reduction strategies across projects and regions remains difficult.

From a supply-side perspective, the **availability of manufacturer EPDs** is the most limiting factor in advancing construction LCA, with **89% of AEC respondents identifying it as a significant limitation in their ability to conduct LCAs effectively.** The fragmentation of EPD data further complicates adoption, making it difficult for AEC professionals to assess material impacts effectively.

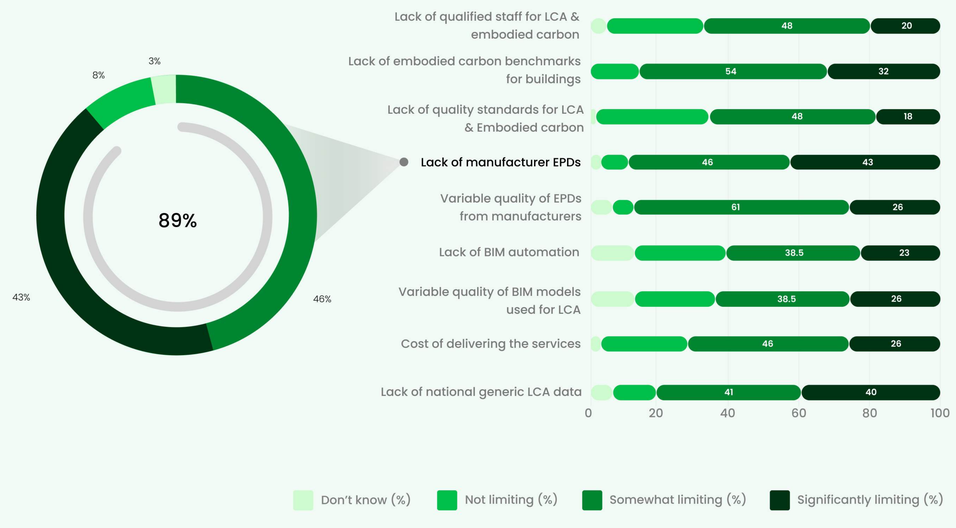
Over 80% of the surveyed manufacturers find the high cost and complexity of EPD creation and verification as the main obstacles hindering EPD progress. Many manufacturers struggle with the financial burden and technical requirements associated with producing EPDs, limiting the number of verified declarations available for material selection.

Carbon reduction can be achieved by overcoming LCA barriers

Despite these challenges, LCAs are already delivering measurable carbon reductions. **31% of AEC professionals surveyed report achieving embodied carbon reductions of up to 20%**, while 23% have achieved reductions of up to 30%. In total, more than 60% estimate at least a 10% reduction when applying LCA insights. One Click LCA software modeling suggests that carbon emissions could be reduced by more than one-third if the lowest-carbon materials were consistently selected across projects. This represents a significant incremental reduction, complementing other decarbonization measures such as energy efficiency improvements and renewable energy production.

Lack of manufacturer EPDs limits 89% of AEC professionals

FIG. 1 How limiting are the following factors to the progress of construction LCAs, by AEC respondents



EPDs strongly influence AEC purchasing decisions

EPDs are becoming an increasingly critical factor in material selection and procurement decisions. **83% of AEC respondents report that EPDs influence their decisions in building projects**, demonstrating their growing role in sustainable construction. Meanwhile, **89% of manufacturers recognize that EPDs play a significant role** in AEC purchasing decisions, reinforcing their importance in competitive positioning.

As demand for EPDs continues to rise, industry professionals anticipate significant market shifts. 80% of AEC professionals from the UK & Ireland expect a sharp rise in EPD demand within the next three years, and 75% from North America predict a “significant” increase in demand. Among manufacturers, **nearly 50% see EPDs as key to improving their market position, while almost 40% consider them essential for staying competitive.**



Closer collaboration across the construction value chain will increase carbon transparency

A key challenge in achieving broader adoption of LCAs and EPDs is closing data gaps. **36% of all manufacturers surveyed identify major data gaps across key material categories, particularly in concrete and mechanical, electrical, and plumbing (MEP) systems.** Improved communication and data sharing between manufacturers and AEC professionals will be essential to improving the reliability and usability of LCA and EPD data.

In summary, the 2025 Carbon Experts Report highlights both the progress made and the barriers that remain in advancing LCAs and EPD adoption. While regulatory gaps, data availability, and verification complexities persist, the demand for EPDs is growing rapidly. Moving forward, collaboration between manufacturers, AEC professionals, and policymakers will be essential. By streamlining EPD processes, improving data accessibility, and harmonizing regulatory frameworks, the industry can accelerate decarbonization efforts and enhance carbon transparency at scale.

1. Respondent profiles

1.1 AEC professionals

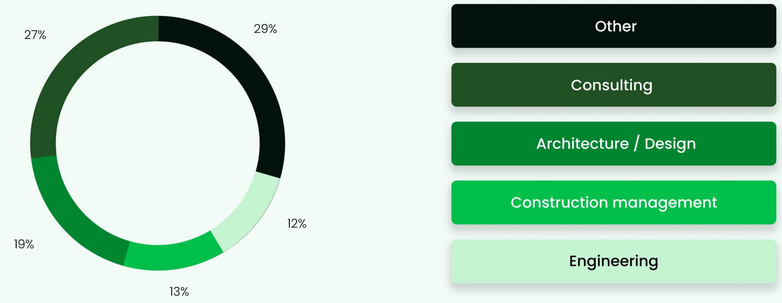
The majority of AEC respondents were located in Continental Europe (EUR; 34%) and the United Kingdom and Ireland (UK & Ireland; 32%) (Fig. 4). About 10% of respondents came from North America (NA), and 25% from the rest of the world (ROW).

The majority of the respondents identified as working in consulting services (27% of all), with the next highest share for architecture and design services (19%). The group “other” includes responses from the public sector, real estate development, product manufacturing and supply, and academia. The responses have been grouped to preserve an adequate sample in later analyses. The total count for valid responses within the AEC sector was 104.

From the AEC respondents, 36% worked in companies with less than 50 employees, 42% in companies with 50-1000 employees, and the rest in companies with over 1,000 employees. A more detailed breakdown can be seen below.

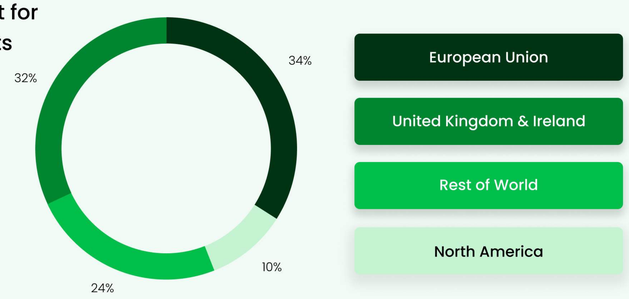
Most of the AEC respondents come from consulting & architecture

FIG 5 Field of work of the AEC respondents



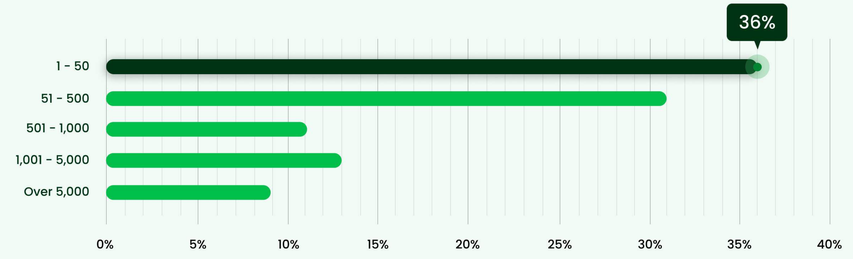
The EU, UK, and Ireland account for the majority of AEC respondents

FIG. 4 Geographical distribution of AEC respondents



Size of AEC companies by employee count

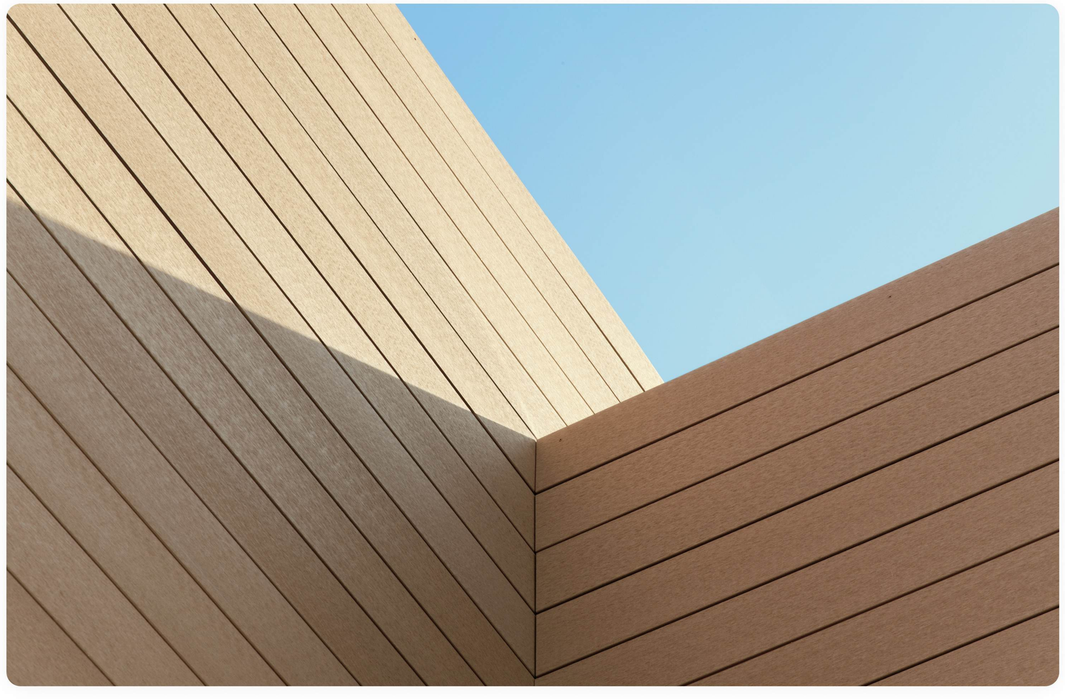
FIG 6



1.2 Construction product manufacturers

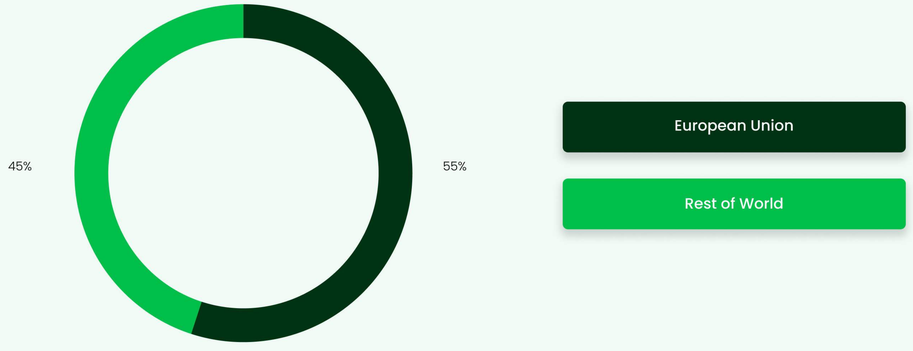
The number of valid manufacturer responses was 42. Most of the respondents were located in the European Union (55%). Any region with less than 10 responses was incorporated to other categories and for this reason North America (NA) and UK & Ireland are combined to the category Rest of World (ROW), thus representing 45% of respondents.

From the respondents, 57% worked in product manufacturing and supply, and the rest were incorporated into the category “other” to preserve an adequate sample size. This category includes a variety of respondents from architecture and design, consulting and construction management, engineering services, academia, and the public sector. A third of respondents worked in companies with less than 50 employees, a half in companies with 50-1,000 employees, and the rest in companies with over 1,000 employees (Fig 7). Most of the respondents (65% of all) had published EPDs for up to a quarter of their products.



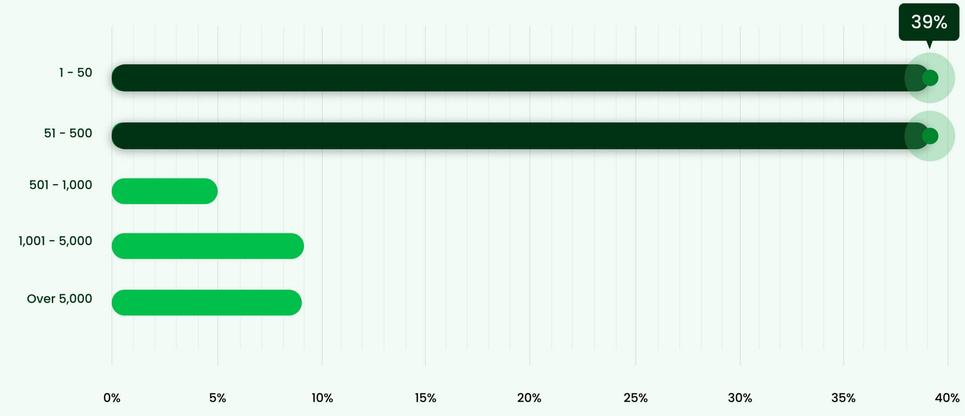
Most manufacturing respondents come from the European Union

FIG. 7 Geographical distribution of manufacturing respondents



Size of MFG companies by employee count

FIG. 8



2. Carbon reduction potential

2.1 AEC professionals: Construction LCAs

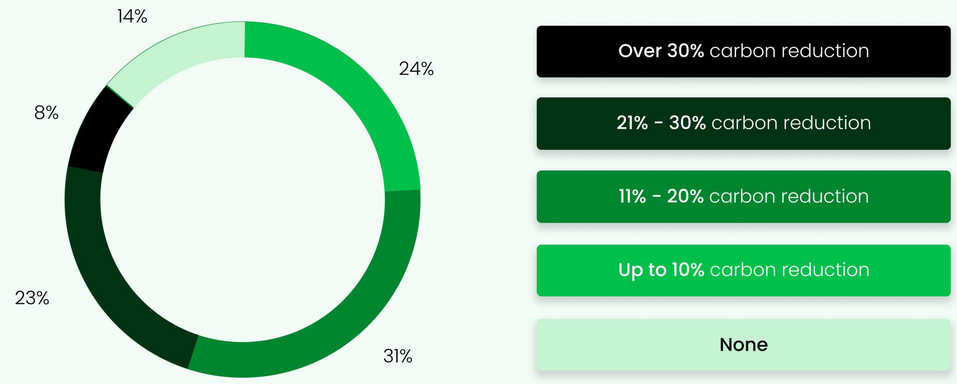
One third of AEC respondents cite a potential carbon reduction of up to 20%, while over 60% estimate at least 10% reduction in embodied carbon through LCAs.

The overall results highlight the significant potential of life-cycle assessments (LCAs) to reduce embodied carbon in construction. Among all respondents, **31% estimate reductions between 11-20%, while 23% anticipate reductions of 21-30%** (Fig. 9A). A further 25% predict smaller reductions of up to 10%, and 8% foresee reductions exceeding 30%, underscoring the broad applicability of LCAs in achieving meaningful carbon reductions across projects.

Looking at the field of work, consulting services exhibit the most cautious outlook, with 56% estimating reductions of up to 10%. Engineering services stand out as the most optimistic, with 50% of respondents projecting reductions of 11-20% and another 50% anticipating reductions of 21-30%. Architecture and design services display a balanced distribution, with 29% expecting reductions in both the 11-20% and 21-30% ranges. Similarly, construction management professionals show optimism, with 30% predicting reductions between 11-20% and another 30% estimating reductions of 21-30%.

Over 30% of AEC professionals expect 11%-20% carbon reduction

Fig. 9A Expected carbon reduction from conducting a building LCA or embodied carbon study



Carbon reduction potential across AEC disciplines

Consulting services estimate reductions of up to 10%, a solid and meaningful target within the field. Their role typically involves ensuring compliance with regulations, setting carbon strategies, and guiding clients through certification frameworks rather than direct design or procurement decisions.

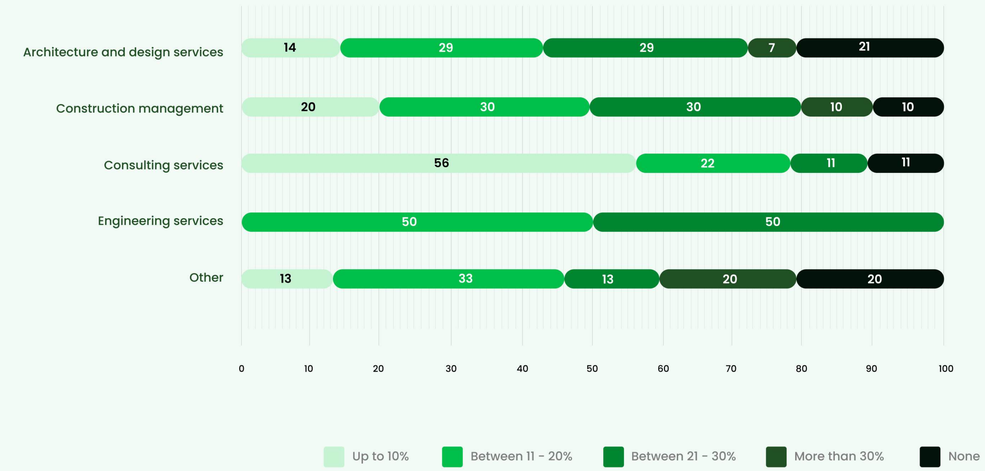
Engineering services, in contrast, anticipate higher reductions, with 50% of respondents projecting 11-20% and another 50% expecting 21-30%. Their optimism likely stems from their direct role in optimizing structural efficiency, integrating innovative materials, and enhancing energy performance. Engineering disciplines, particularly in structural and mechanical fields, have access to tools for precise carbon tracking and reduction, which aligns with their higher projected reductions.

Architecture and design services display a balanced distribution, with 29% expecting reductions in both the 11-20% and 21-30% ranges. Their potential impact depends on design choices that influence embodied carbon early in the process, though outcomes remain subject to material availability and project constraints. Similarly, **construction management professionals show optimism, with 30% predicting reductions between 11-20% and another 30% estimating reductions of 21-30%.** Their perspective may be shaped by procurement decisions, as access to low-carbon materials and construction methodologies plays a crucial role in determining achievable reductions.

Insight: The share of respondents believing in a reduction potential of more than 20% has increased over the years: 15% in 2021, 20% in 2023, and 31% in 2024. This reflects growing trust in LCAs and embodied carbon studies. Compared to 2021, the perceived carbon reduction potential in 2024 has grown by 107%.

Engineering services achieve 11% – 30% carbon cuts in building projects

FIG.9 Expected carbon reduction from conducting a building LCA or embodied carbon study





2.2 Manufacturers: Expected carbon reduction in product development

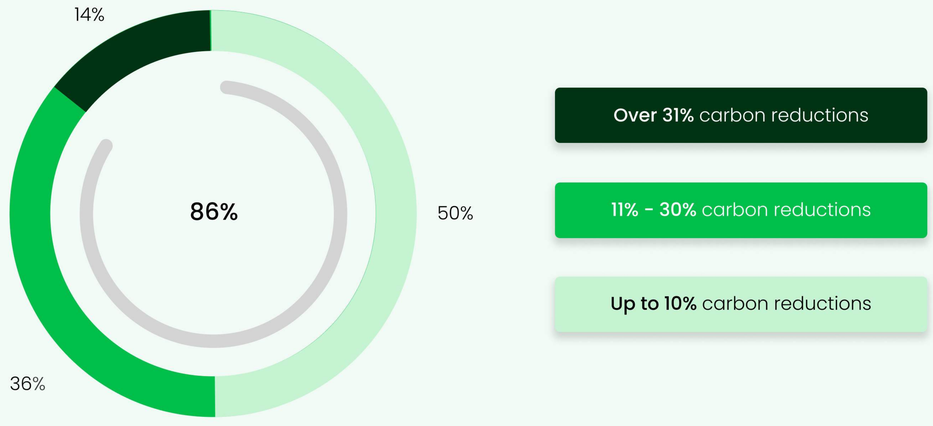


Almost **36% of surveyed manufacturers** anticipate achieving significant carbon reductions of 11-30% by applying insights from LCA in their product development process, reflecting a strong confidence in the effectiveness of these insights. Meanwhile, half of manufacturers anticipate reducing their products' impacts by up to 10%. Only 14% of surveyed manufacturers foresee reductions exceeding 30% when applying insights from LCA in their product development process. These reductions do not result from LCA itself, but from physical changes in products and sourcing decisions that manufacturers make based on LCA insights. Despite this potential, manufacturers still face challenges such as technological limitations, resource constraints, and gaps in the adoption of LCA-informed decision-making.

Insight: These results underline the importance of further investment in LCA tools, training, and practices to improve the potential carbon reduction during product development.

86% of manufacturers expect up to 30% carbon cuts

FIG.10 Expected carbon reduction from applying LCA insights in product development



3. Barriers to progress

3.1 AEC professionals: Factors hindering LCA progress

3.1.1 Demand-side limiting factors for AEC professionals

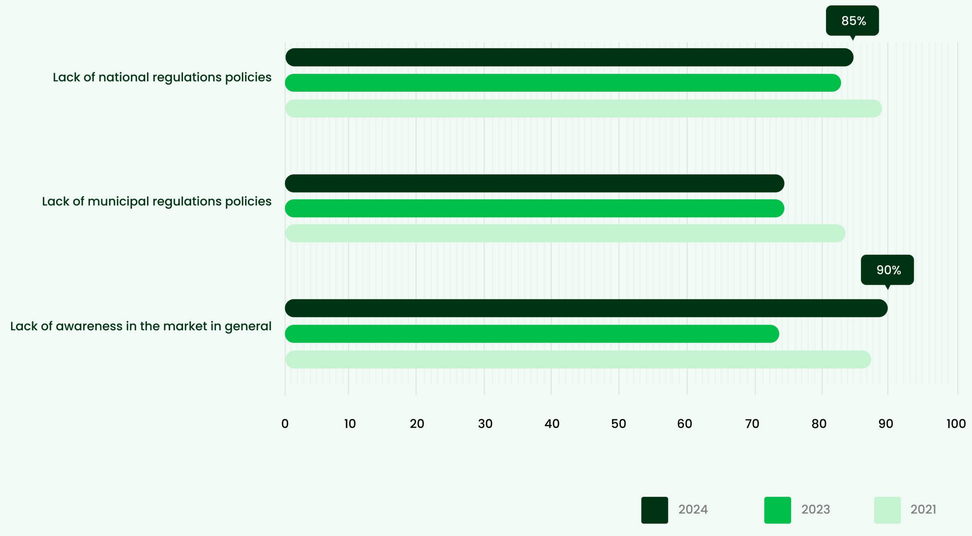
According to AEC professionals, the biggest demand-side barrier to LCA progress is the ***lack of national regulations or policies.*** A total of 35% of respondents agreed this to be the most limiting from the presented options. When comparing the perceived significance of the statement, combining responses “somewhat limiting” and “significantly limiting”, the share is as high as **85% for all AEC professionals.**

The data indicates **an overall improvement** in regulatory support for LCA, particularly at the **municipal level**, where the reported lack of regulations declined from **84% in 2021 to 75% in 2023** and remained stable in 2024. However, progress at the national level has been less consistent—while concerns about the lack of national regulations dropped from **90% in 2021 to 83% in 2023**, they slightly rebounded to 85% in 2024, suggesting that national regulatory advancements may not be keeping pace with industry expectations. While, the ***lack of awareness in the market*** is still considered a top concern among AEC professionals, with 90% agreeing.

The progress barriers for AEC professionals were investigated with two different questions. The first asked to point out demand-side factors viewed as the most significant to LCA progress; the second provided multiple options, where respondents were asked to rank these options in terms of their significance.

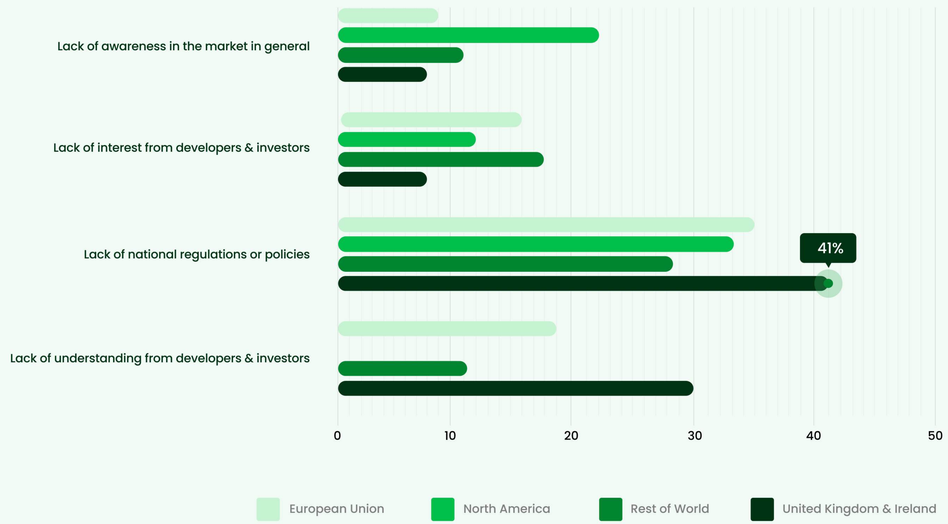
Lack of national regulations hinders LCA progress

FIG.11 Top three limiting demand-side factors for LCA progress (2024 / 2023 / 2021)



Regulations in the EU and UK, awareness in North America

FIG.12 Top four limiting factors to LCA progress by AEC respondents, regional breakdown



3.1.2 Regional breakdown

For all regions the four most limiting factors for LCA progress are:

1. Lack of interest from developers and investors
2. Lack of understanding from developers and investors
3. Lack of national regulations and policies
4. Lack of awareness in the market in general

The ***lack of interest and awareness***, as well as ***the lack of national regulations***, were especially highlighted in the geographical region of North America, where all these statements were rated as **100% "limiting."**

The rest of the world found the ***lack of national regulations and awareness*** to be key barriers, along with ***limited business value of decarbonization*** and ***lack of best practices*** (both at 79% 'limiting').

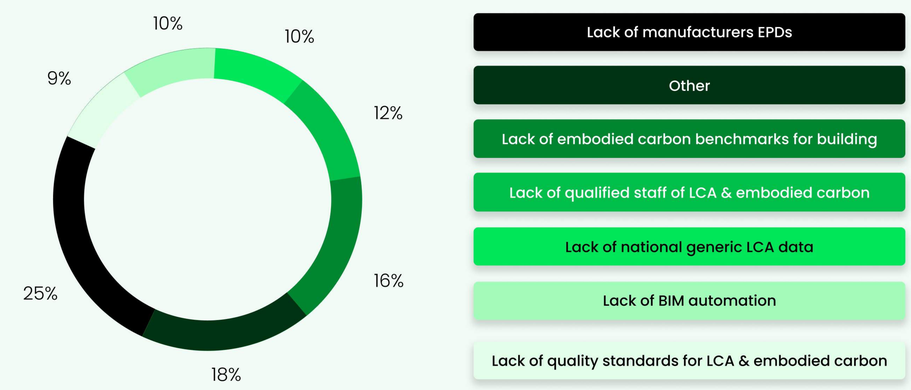
3.1.3 Supply-side limiting factors for AEC professionals

The analysis of supply-side limiting factors for construction LCAs identified the ***lack of manufacturer EPDs*** as the most significant barrier, cited by 25% of respondents (Fig. 13). This highlights the industry's reliance on transparent data from manufacturers. Additionally, 89% of AEC professionals find the lack of manufacturer EPDs to be a limiting factor in advancing LCA adoption (Fig. 1). The ***lack of embodied carbon benchmarks for buildings*** followed at 16%, emphasizing the need for standardized targets. Other key barriers included the shortage of qualified staff (12%) and lack of national generic LCA data (10%). These results underscore the need for better data infrastructure and collection, standardized benchmarks, and workforce capacity to drive LCA adoption in construction. Categories with less than five answers were grouped under "other" including the quality of BIM models, the quality of EPDs, and the cost of delivering the services.

Insight: The lack of national regulations and policies, limited market awareness, and the absence of manufacturer EPDs remain the most significant barriers to LCA adoption in the construction sector.

The lack of manufacturer EPDs is the top concern among AEC professionals

FIG.13 Supply-side factors hindering LCA progress, as reported by AEC respondents



3.2 Manufacturers: Factors hindering EPD progress

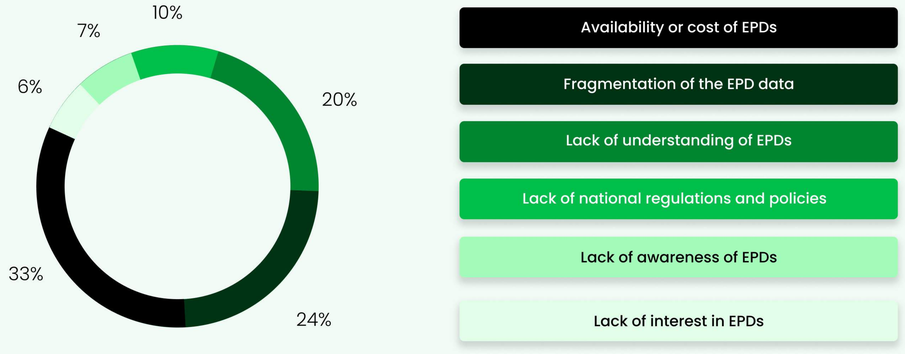
3.2.1 Demand-side limiting factors for manufacturers

Several demand-side factors hinder EPD adoption among manufacturers. The most significant is the ***availability or cost of EPDs*** (33%), reflecting the financial and logistical challenges manufacturers, especially small and medium-sized enterprises, face.

Fragmentation of EPD data (23%) further complicates access and usability, while a ***lack of understanding*** (20%) and insufficient national regulations (10%) highlight the need for education and standardization. Meanwhile, only 7% and 6% cite low awareness and interest in EPDs, pointing to a market where EPDs are recognized but remain difficult to implement effectively. This suggests that while awareness is not the primary barrier, the focus should be on improving data accessibility, harmonizing standards, and providing clearer regulatory guidance to drive broader adoption.

Availability, cost, and data fragmentation limit EPD progress for manufacturers

FIG.14 Demand-side factors hindering EPD progress for manufacturers



3.2.2 Supply-side limiting factors for manufacturers

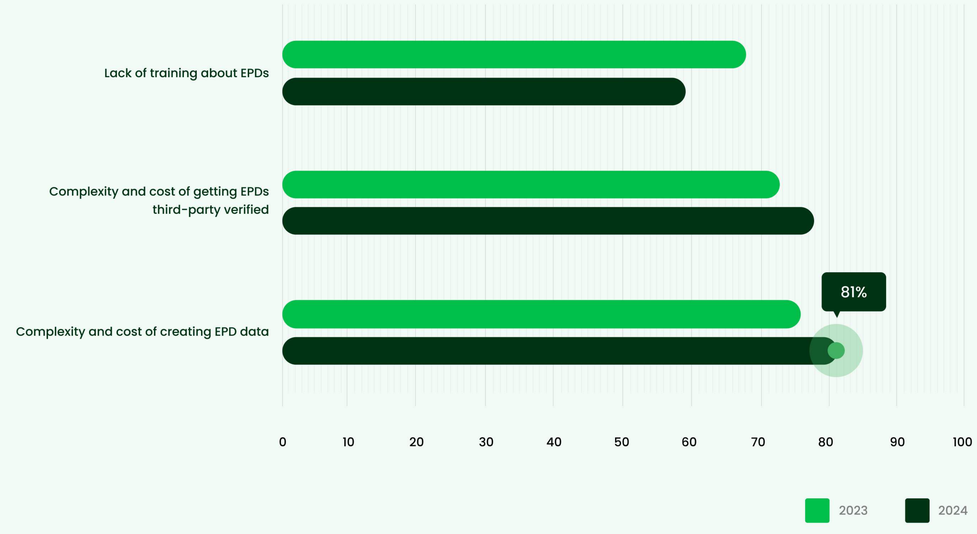
Manufacturers raised three most significantly limiting factors from the presented options:

1. Complexity and cost of creating EPD data
2. Complexity and cost of third party verification
3. Lack of training about EPDs

According to surveyed manufacturers, ***high costs and complex processes*** are the most limiting supply-side factors to EPD progress. Comparison between 2023 and 2024 show that lack of training about EPDs has reduced in significance, indicating sufficient knowledge level of the professionals working in this field. However, the ***complexity and cost of verification and creation of data*** have increased slightly in significance.

Complexity and cost hinder EPD progress

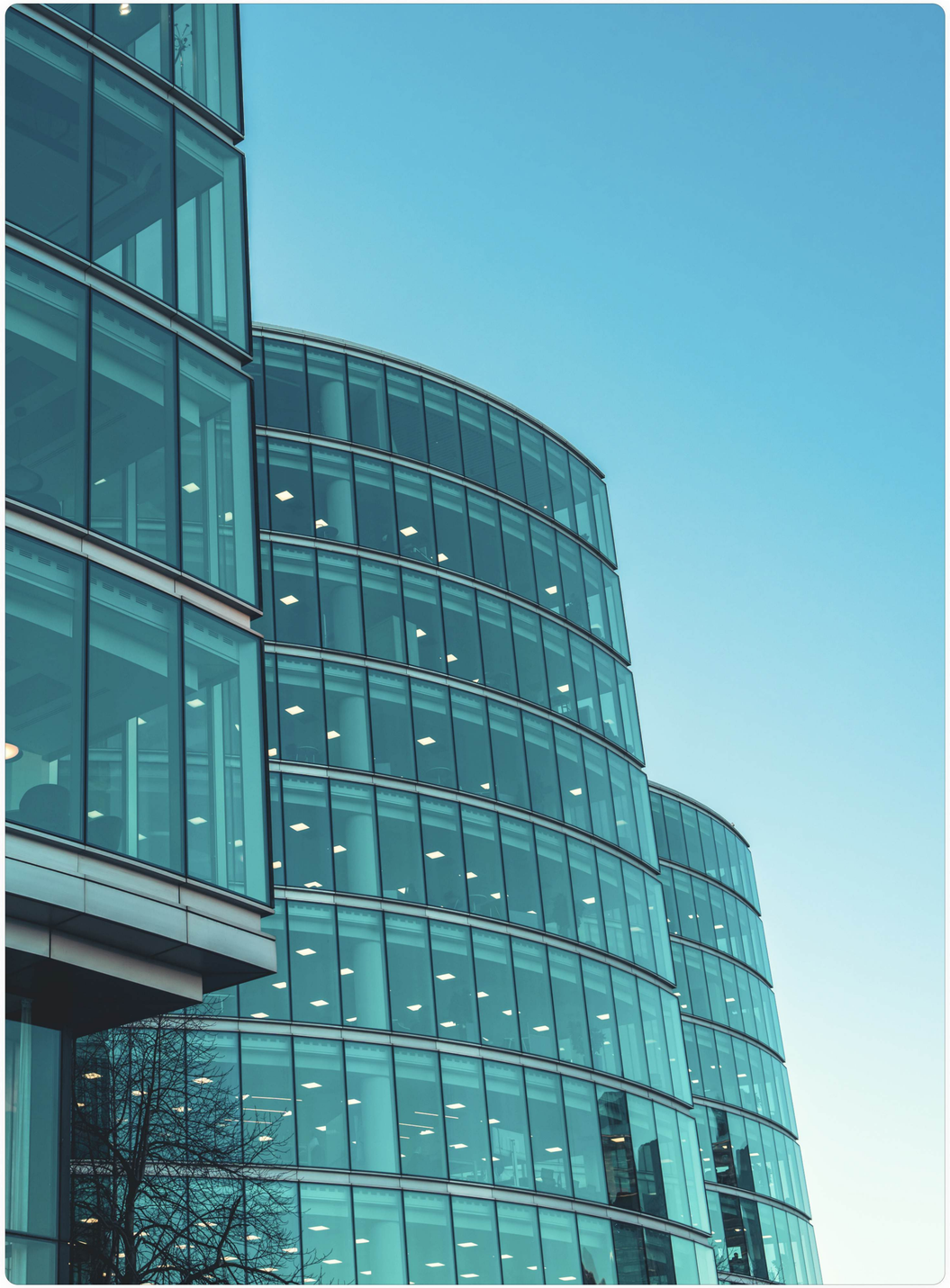
FIG.15 Top three supply-side factors hindering EPD progress in 2024 / 2023



3.2.3 Regional breakdown

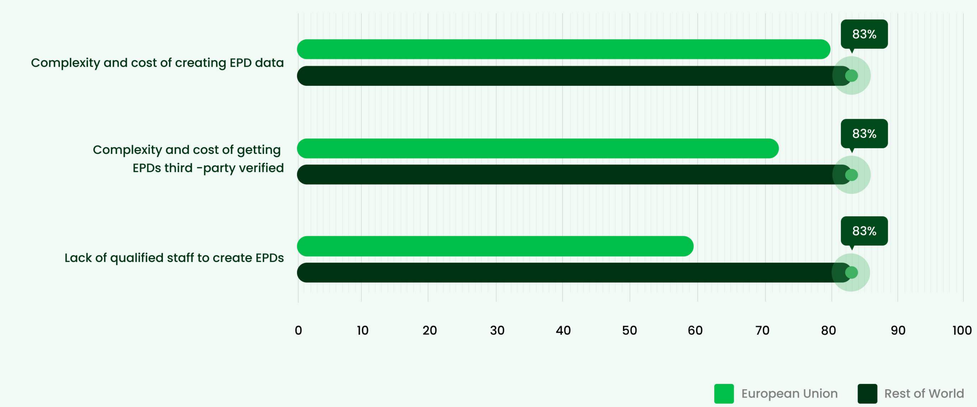
The ***complexity and cost of creating EPD data***, as well as the ***complexity and cost of third party verification*** are the factors causing most concern among manufacturers regardless of geographical region.The ***lack of qualified staff*** was seen as more limiting in the rest of the world (83%) than in Europe, where only 60% saw this as “limiting”. Among the least limiting factors identified in the survey were differences between EPD program operators and fragmentation between Product Category Rules (PCRs), though these were not major concerns compared to the top three limiting factors.

Insight: The complexity and cost of data verification and creation remain top concerns among manufacturers, both within and outside Europe. Meanwhile, a lack of training continues to be a significant barrier to EPD progress, despite a reported 13% improvement.



Cost, complexity, and staffing challenges are highest outside the EU

FIG.16 Top three factors hindering EPD progress, regional breakdown



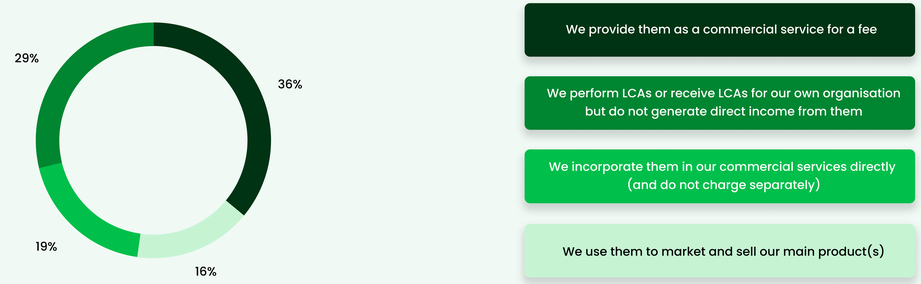
4. The value of commercializing LCAs and EPDs

4.1 AEC professionals: Commercializing LCA expertise

LCAs and EPDs are becoming important tools for architecture, engineering, and construction (AEC) professionals. Over a third of AEC respondents report generating revenue through LCA services, while the rest either use them as part of internal processes or incorporate the services in their commercial offering without additional fees.

36% of AEC firms offer LCA and embodied carbon work as a paid service

FIG.17 Characterization of LCA and embodied carbon work, as reported by AEC respondents



4.1.1 AEC professionals: EPDs as decision-making tools

83% of AEC respondents report that EPDs influence their purchasing decisions in building projects, with 38% considering them "very important" and 19% viewing them as "critical." This underscores the growing role of EPDs in material selection, particularly as sustainability considerations become more integrated into procurement processes. Notably, only 17% of respondents consider EPDs "not important," indicating that the vast majority recognize their value.

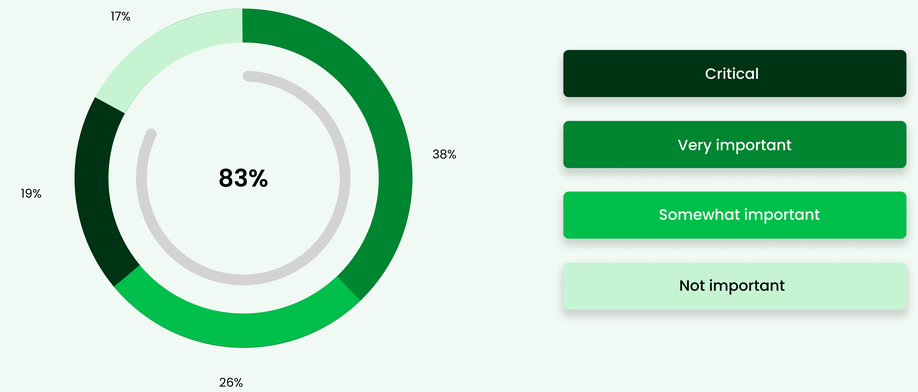
Foster + Partners, a global architectural firm known for their commitment to sustainable design, use EPDs extensively during their projects' material selection processes. According to Cinthia Espino, a Senior Sustainability Coordinator at the firm, the selection criteria depend on the project stage.

"We are using EPDs in the early design stage to create a carbon range and develop a clear picture. Then, as a project progresses, we focus on specific EPDs, such as those for low-carbon products and specifications".

Read more about how AEC professionals use EPDs to select materials.

83% of AEC professionals say EPDs influence purchasing decisions

FIG.18 The role of EPDs in influencing the purchasing decisions of AEC professionals



Regional breakdown

When questioned on the importance of EPDs in purchasing decisions, nearly 60% of AEC professionals identified EPDs as critical or very important. **The relevance of EPDs in decision-making was highest in Europe and in the UK & Ireland**, whereas respondents from North America and the rest of the world were slightly more pessimistic.

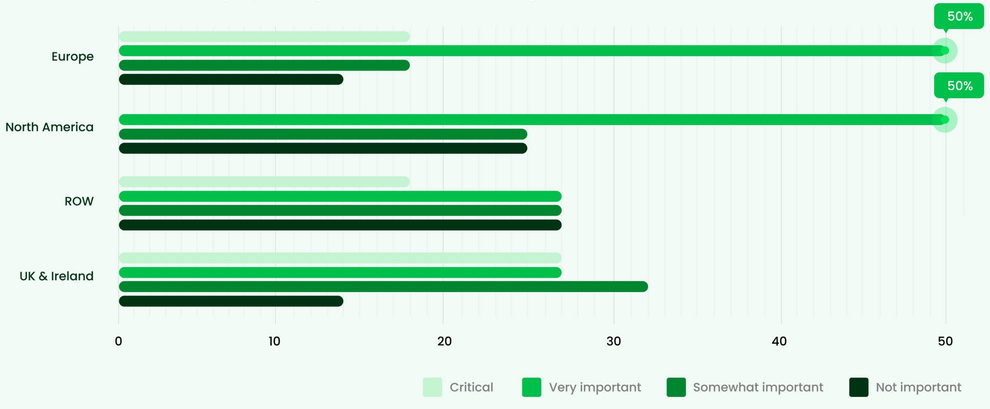
This trend is also reflected in views on supply-side limitations to LCA progress: ***lack of manufacturer EPDs*** as well as ***variable quality of EPDs*** were raised as limiting factors by both North American respondents and respondents from the rest of the world, whereas these were seen as less restrictive in Europe and the UK & Ireland (Fig. 19).

According to Matt Redding, European Sustainability Lead at Gensler, a global architecture, design, and planning firm, carbon transparency is key to reducing carbon emissions in building projects.

> **Gensler**
>
> "Carbon transparency is essential to reducing embodied emissions. Builders, architects, and developers must understand the carbon profiles of materials to make informed decisions. EPDs offer reliable data to assess material impacts, allowing project teams to compare and select low-carbon options effectively."
>
> **Matt Redding**, European Sustainability Lead

EPDs are very important for 50% of AEC pros in the EU and North America

FIG.19 The role of EPDs in influencing the purchasing decisions of AEC professionals, regional breakdown

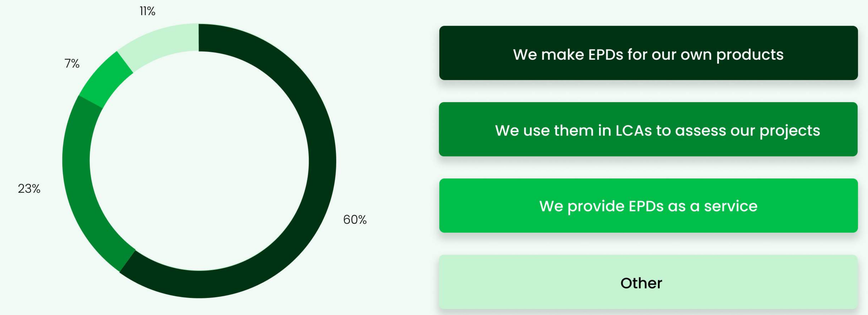


4.2 Manufacturers: Commercializing EPDs

The majority of manufacturing professionals polled reported creating EPDs for their own products (60%), while 57% of the sample identified as working in product manufacturing and supply. This means that most manufacturers create third-party verified EPDs for their product lines. Additionally, 23% of respondents conduct product LCAs to help assess the environmental profiles of their projects.

60% of manufacturers creates EPDs for their own products

FIG.21 Use third-party verified EPDs, as reported by MFG respondants



4.2.1 Manufacturers: How EPDs impact AEC material decisions

Manufacturers recognize the role of EPDs in AEC material decisions, with **89% agreeing that EPDs influence purchasing decisions**, and 39% identifying them as either 'very important' or 'critical' (Fig. 21).

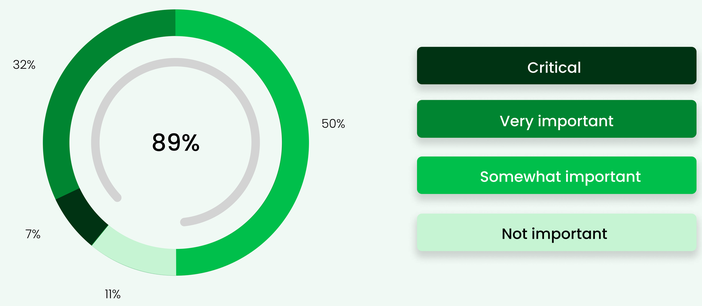
According to Andreas Lidö, Development Engineer at Heidelberg Materials Precast Abetong, having product-specific EPDs is highly beneficial as it differentiates your products:

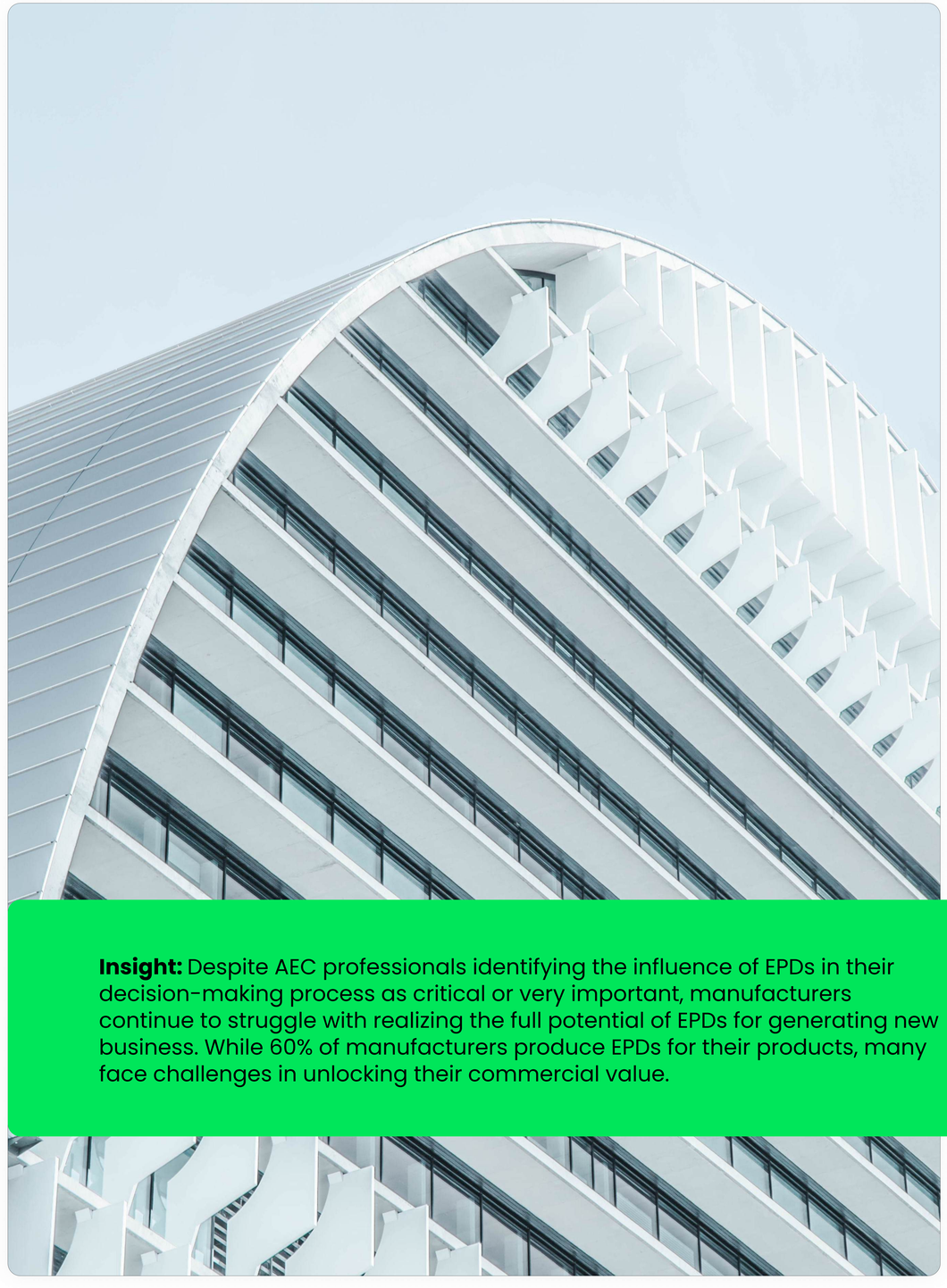
> "Not all of our competitors create EPDs, and since we do, it's a big benefit for us. Some projects we have won because we had the best EPDs and were able to provide answers surrounding them. With more and more need for reduced carbon footprint when building, EPDs will become increasingly important."
>
> **Andres Lidö**, Development Engineer

Read more about how Heidelberg Materials maximized carbon reduction through accurate EPDs.

89% of manufacturers say EPDs influence AEC purchasing decisions

FIG.22 The role of EPDs in AEC purchasing decisions by MFG respondants





Insight: Despite AEC professionals identifying the influence of EPDs in their decision-making process as critical or very important, manufacturers continue to struggle with realizing the full potential of EPDs for generating new business. While 60% of manufacturers produce EPDs for their products, many face challenges in unlocking their commercial value.

5. EPD usage in construction

5.1 Manufacturers: Benefits of verified EPDs

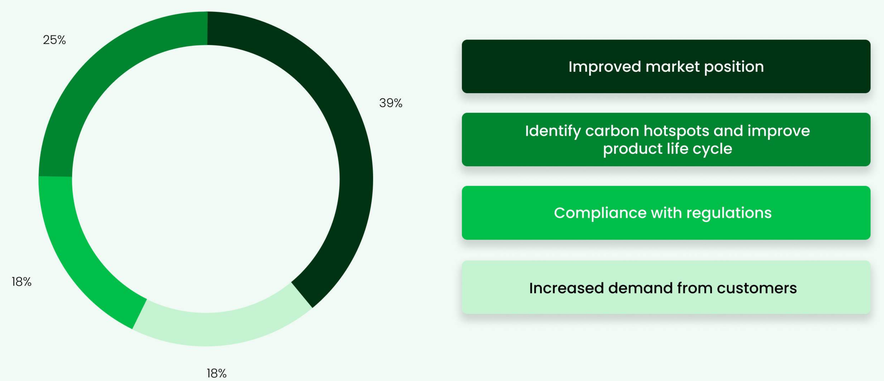
Nearly half of manufacturers identify improved market position as the primary benefit of third-party verified EPDs, while almost 40% view them as essential for staying competitive (Fig. 23). This reflects a positive shift in market demand for reliable, verified product information. Additionally, 25% of manufacturers see EPDs as crucial for ***identifying carbon hotspots and improving product life cycles***, enabling sustainability improvements. ***Compliance with regulations*** and ***meeting customer demand***, both cited by 18%, further highlight the importance of EPDs in addressing policy requirements and improving competitiveness. Transparent and verified environmental data are increasingly seen as valuable assets, positioning EPDs as essential tools for aligning regulatory compliance with market opportunities and gaining a competitive edge.

5.2 Regional trends in EPD adoption

The majority of European manufacturers (62%) report that the main influence of EPDs was to ensure **keeping up with competition.** This is in contrast with respondents from other regions, as the impacts on internal sustainability goals were seen to have the main influence (54% of responses) on creating EPDs.

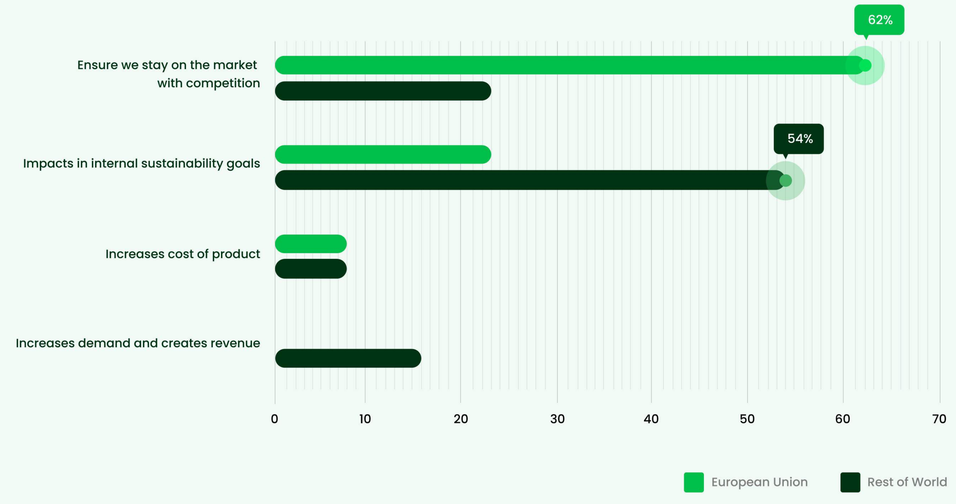
Nearly 40% of manufacturers report improved market position

FIG.23 Impact of conducting LCAs and publishing EPDs, as reported by manufacturers



EPDs help 62% of EU manufacturers stay competitive

FIG.24 Impact of EPDs on manufacturing business, regional breakdown

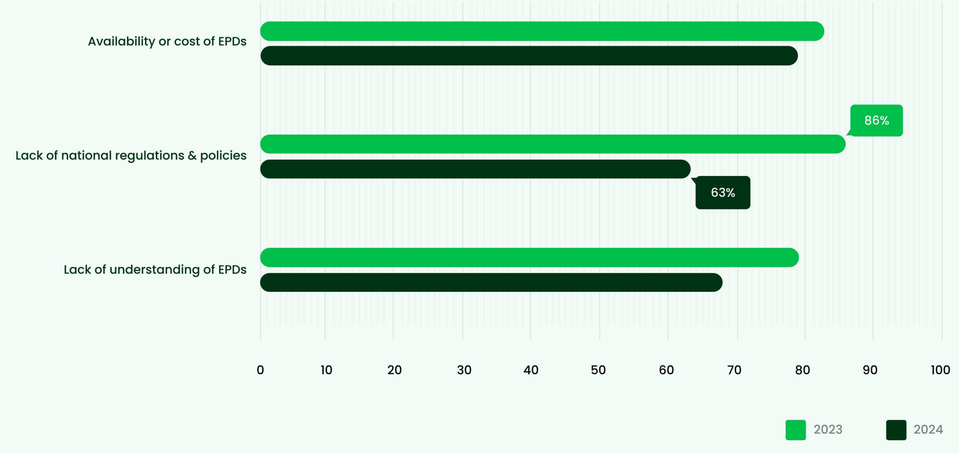


5.3 Demand-side restraints in EPD adoption

Comparing EPD demand limitations in 2023 and 2024, availability and cost constraints remained steady, with a slight drop from 82% to 81%. However, notable progress has been observed regarding ***national regulations and policies***, which show a 23-percentage-point improvement (from 86% in 2023 to 63% in 2024). This suggests that regulatory frameworks are gradually aligning with the trend toward carbon reduction. Additionally, industry understanding of EPDs appears to be improving, as indicated by a 12-percentage-point reduction in the lack of understanding (from 79% in 2023 to 67% in 2024) (Fig. 25).

Regulatory and EPD knowledge barriers dropped from 2023 to 2024

FIG.25 Top three limiting factors in EPD progress for manufacturers (2023 / 2024)



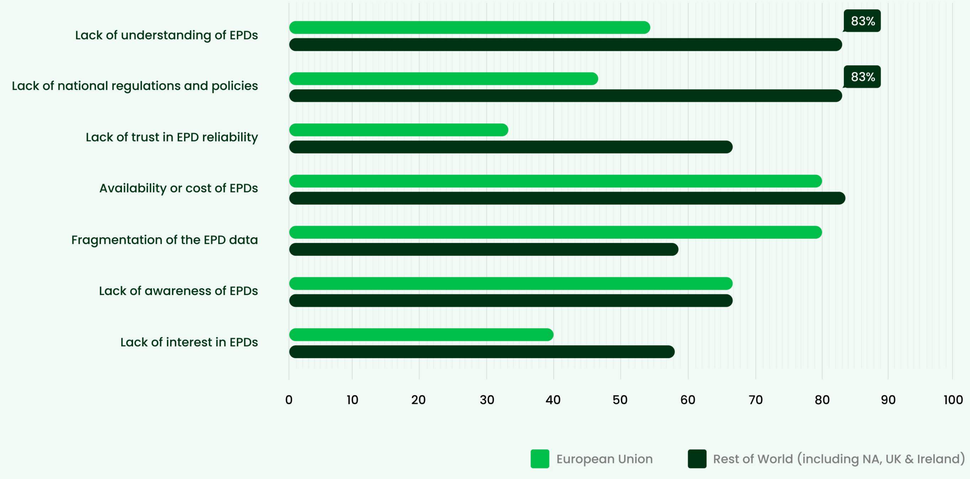
5.3.1 Regional breakdown

When viewed from a regional perspective, the restraints appear more divided. **In Europe, the *lack of trust in reliability, lack of national regulations and policies*, and *lack of understanding related to EPDs*, are seen as less limiting compared to the rest of the world.**

This highlights the effectiveness of the European Union's efforts to promote sustainability in construction, including climate impact assessments, transparency, and the reliability of data in a standardized format. However, challenges remain, as ***lack of awareness of EPDs*** **and** ***the availability and cost of EPDs*** **are perceived as limitations across all regions.** Among European respondents, the fragmentation of EPD data is also noted as a more significant constraint than in other regions.

Knowledge and policy gaps are higher outside the EU

FIG.26 Demand-side factors limiting EPD progress, by region



Insight: Progress in national regulations and improved understanding of EPDs signal a positive shift toward broader adoption, particularly in the European Union, where standardized frameworks are reducing key barriers. However, universal challenges like cost, availability, and fragmented data highlight the need for global alignment and collaboration to accelerate EPD integration.

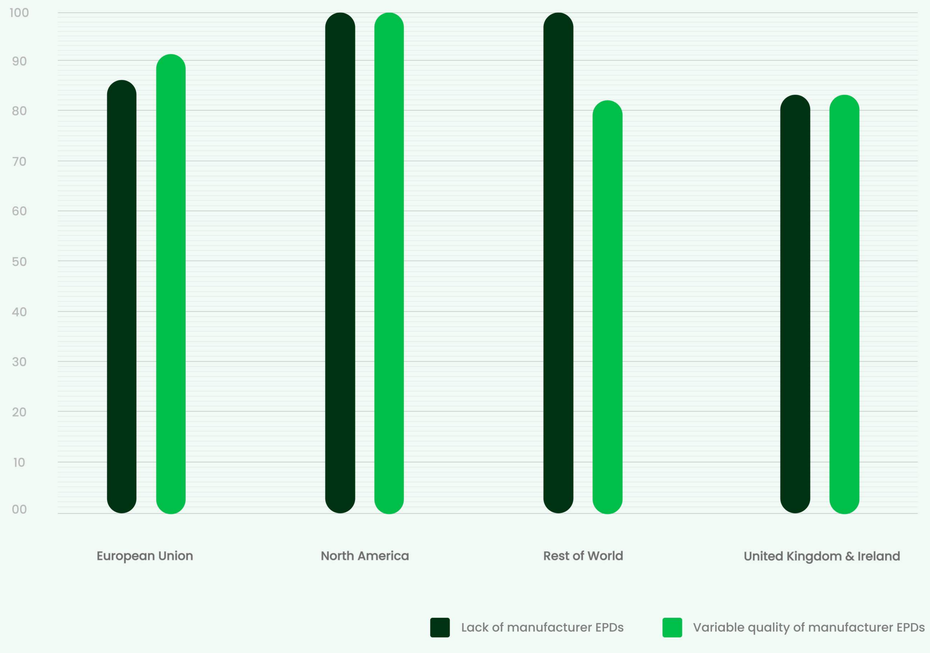
5.3.2 Barriers to EPD adoption for AEC professionals

The data highlights that **the *lack and variable quality of manufacturer EPDs* are major barriers to their broader adoption, with 100% of AEC respondents in North America and the Rest of the World identifying the absence of EPDs as a limiting factor.**

Similarly, concerns about EPD quality are widespread, with over 80% of respondents across all regions reporting it as a challenge. This underscores the urgent need for more standardized, reliable, and widely available EPDs to support informed decision-making in the AEC sector.

Lack of manufacturer EPDs reported by 100% in North America and globally

FIG.20 Factors limiting EPD quality and quantity, as reported by AEC professionals



5.4 Evolution of EPD demand within next 3 years

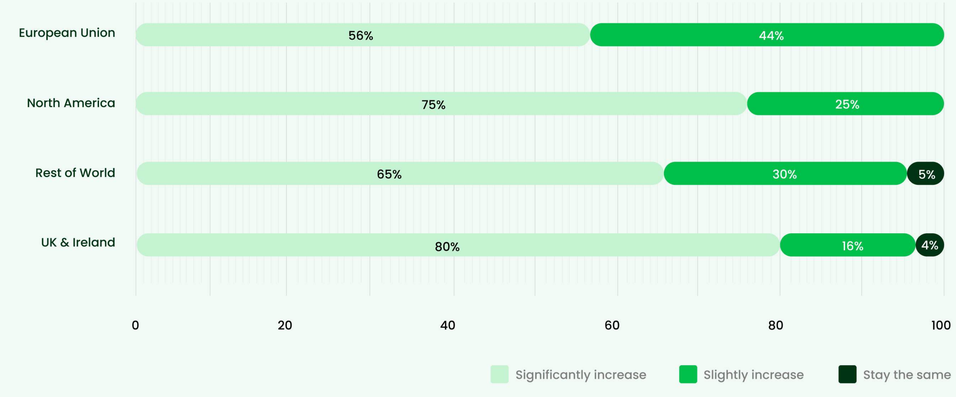
Over 95% of all respondents (AEC and manufacturing) anticipate growing demand for EPDs over the next three years. Notably, 80% of respondents from the UK & Ireland and 75% from North America predict that demand will increase 'significantly' (Fig. 27).

Confidence in EPD growth varies across regions, with the United Kingdom & Ireland showing the highest optimism—80% anticipate a significant increase. North America also demonstrates strong confidence, with 75% predicting a significant increase and 25% expecting a slight increase. The Rest of the World follows closely, with 65% projecting a significant increase, and 30% expecting a slight increase. In the European Union, expectations are more moderate, with 56% anticipating a significant increase and 44% foreseeing a slight increase.

Insight: As regulations increasingly position LCAs and EPDs as essential market assets for credibility, permitting, and investment, manufacturers that act now can gain a competitive edge and be fully prepared for mandatory environmental data reporting.

EPD demand to increase across all regions, led by the UK and North America

FIG.27 The evolution of EPD demand over the next three years, regional breakdown



5.5 Data gaps in material categories

Manufacturers identified data gaps in several material categories, with notable concerns particularly in **cements and binders (14%), mechanical, electrical, and plumbing (11%), insulation, and steel.** These categories are important components in construction, and accurate environmental data are essential for informed decision-making. For example, **cements and binders**, as primary contributors to embodied carbon due to high emissions during production, require enhanced data to optimize formulations and reduce carbon intensity. Similarly, mechanical, electrical, and plumbing systems, which involve complex assemblies with mixed materials, demand detailed data to facilitate better integration with life cycle assessments.

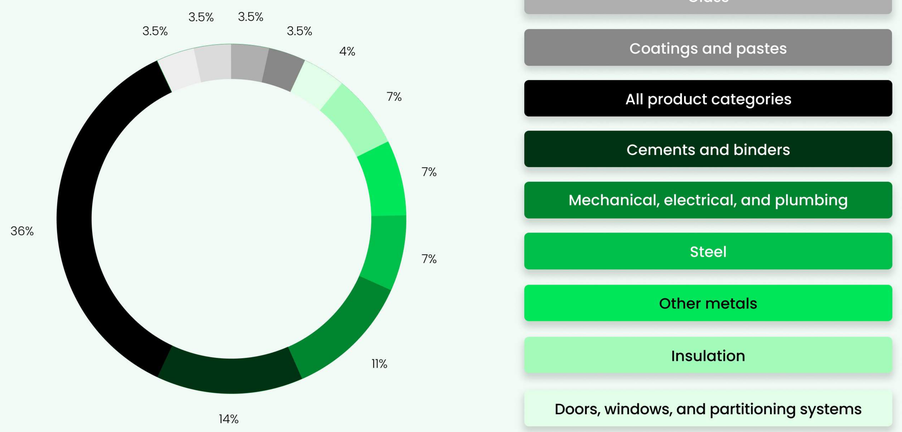
Insulation plays a pivotal role in energy efficiency, and data gaps in this category can hinder evaluations of thermal performance alongside environmental impacts. For **steel**, extensively used in structural applications, having precise data is critical for understanding variations in production processes, such as primary vs. secondary steel, and their respective environmental implications. Without this information, manufacturers and designers may struggle to make effective decisions to lower carbon footprints.

Interestingly, a significant portion of manufacturers (36%) highlighted the need for more comprehensive product data across all material categories. This suggests a systemic issue where the lack of detailed environmental data spans the entire supply chain rather than being isolated to specific materials. Addressing these gaps holistically could enhance transparency and foster innovation in sustainable construction practices.



Data gaps identified across all material categories, led by cements and MEP

FIG.28 Materials categories with identified data gaps



6: Deep dive into construction product LCAs

6.1 Integrating LCAs in product development

Integrating LCA into product development provides manufacturers with critical insights into carbon impacts, helping them improve sustainability, comply with regulations, and strengthen market positioning. As Vincent Dubois, QHSE Systems Division Manager at **Dextra Group**, highlights, LCA-driven insights can accelerate industry leadership, as seen in Dextra's EPD for rebar couplers, setting a benchmark for competitors.

Dextra

"Every project using One Click LCA was successful. In one instance, thanks to the software, we were the first rebar coupler manufacturer to publish an EPD, which really confirmed our position as market leaders. We pioneered the path to sustainability, as our competitors have not published certified EPDs yet."

Vincent Dubois, QHSE Systems Division Manager

Beyond positioning advantages, LCA enables efficiency gains and informed decision-making. Insights from the 2025 Carbon Experts Report show that while 50% of manufacturers expect modest carbon reductions of up to 10%, nearly 36% anticipate savings of 11-30% by applying LCA insights in product development.

6.2 The role of automation in improving LCA processes and outcomes

Automation is transforming the life-cycle assessment (LCA) process, enabling manufacturers to streamline workflows, reduce costs, and improve decision-making. Tools like One Click LCA integrate with Building Information Modeling (BIM) software to simplify data management, enhance accuracy, and reduce manual input errors. This approach accelerates assessments and provides actionable insights for sustainability improvements.

For example, **Sculptform** used One Click LCA to assess their aluminum products, discovering that most emissions originated in raw material production. Armed with this insight, they sourced low-carbon aluminum, reducing embodied carbon by over 70%. This shift not only boosted sustainability but also strengthened their market position. Additionally, Sculptform brought LCA management in-house, cutting costs and deepening their expertise in sustainable practices.

Similarly, **Dextra Group** leveraged One Click LCA's EPD Generator to automate environmental reporting. By streamlining data collection and calculations, they improved efficiency and accuracy while saving significant time and resources. The tool enabled Dextra to shift focus from data management to interpreting results and implementing sustainable strategies, ultimately enhancing transparency and reliability in their reporting.`

Read more about how One Click LCA tools help companies simplify and automate the LCA process.

7: Solutions and future construction trends

7.1 AEC professionals: Automation and training

LCA automation is identified as the most impactful factor for future time savings by 37% of AEC professionals. A further 24% rely on improved data availability and accessibility. Across different fields of work, automation's integration with other software is recognized as a key factor for efficiency gains in most professions. However, consulting services place greater emphasis on improved data availability as the primary enabler of time savings. Meanwhile, engineering services prioritize a trained workforce as the most significant factor. A trained workforce is particularly important in engineering services, where skill development is seen as a key factor. Reflecting this emphasis, nearly 60% of all respondents plan to hire more than one person in the next year, highlighting both the need for expertise and workforce expansion.

Insight: The majority of AEC respondents identify automation as critical to reducing the cost and time of LCAs.

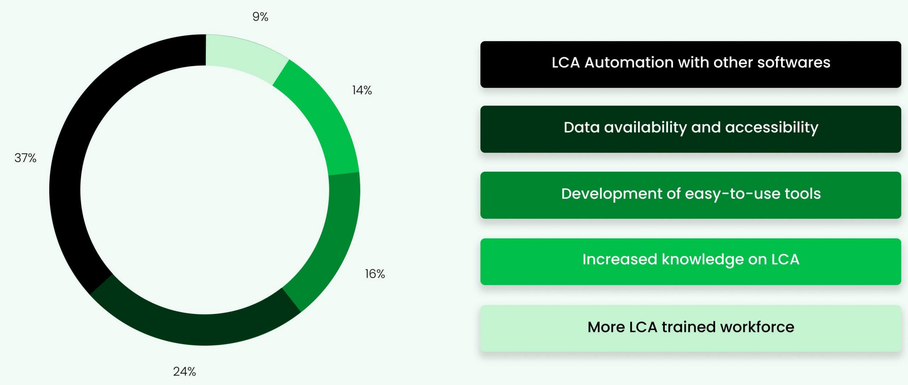
RAMBØLL

A key challenge in every project is to get quality data that can be easily added to the LCA software. One Click LCA made it easy to import data from Excel, saving my team and the contractor a lot of time. My favorite feature is the combine function, which allows us to reconstruct data and make it more accessible. Generally, there are more options for data input which results in more precise calculations.

Vegard Selvåg Ulvan, Head of LCA at Ramboll Norway

LCA automation and better data access will reduce assessment time

FIG.29 Factors reducing assessment and optimization time in the future, as reported by AEC respondents



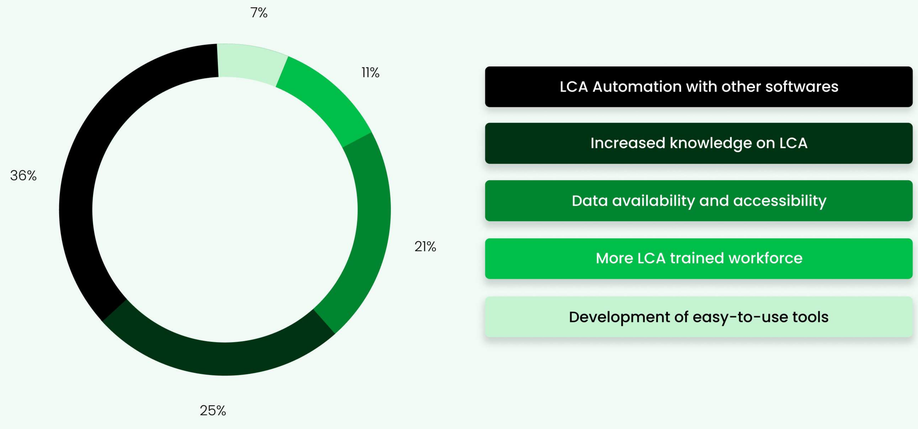
7.2 Manufacturers: Automation and accessibility

LCA automation with other software tools* (36%)** is seen as the most significant factor for reducing time spent on assessments, highlighting the role of digital integration in streamlining workflows. ***Increased knowledge on LCA* (25%)** and ***data availability* (21%)** also stand out, emphasizing the need for education and accessible data systems. Smaller contributions from a ***more LCA-trained workforce* (11%)** and ***easy-to-use tools* (7%)** suggest that technological advancements are prioritized over workforce expansion and usability improvements. A ***trained workforce is also an important factor – almost 70% of all MFG respondents aim to hire more than one person for LCA work within the next year.

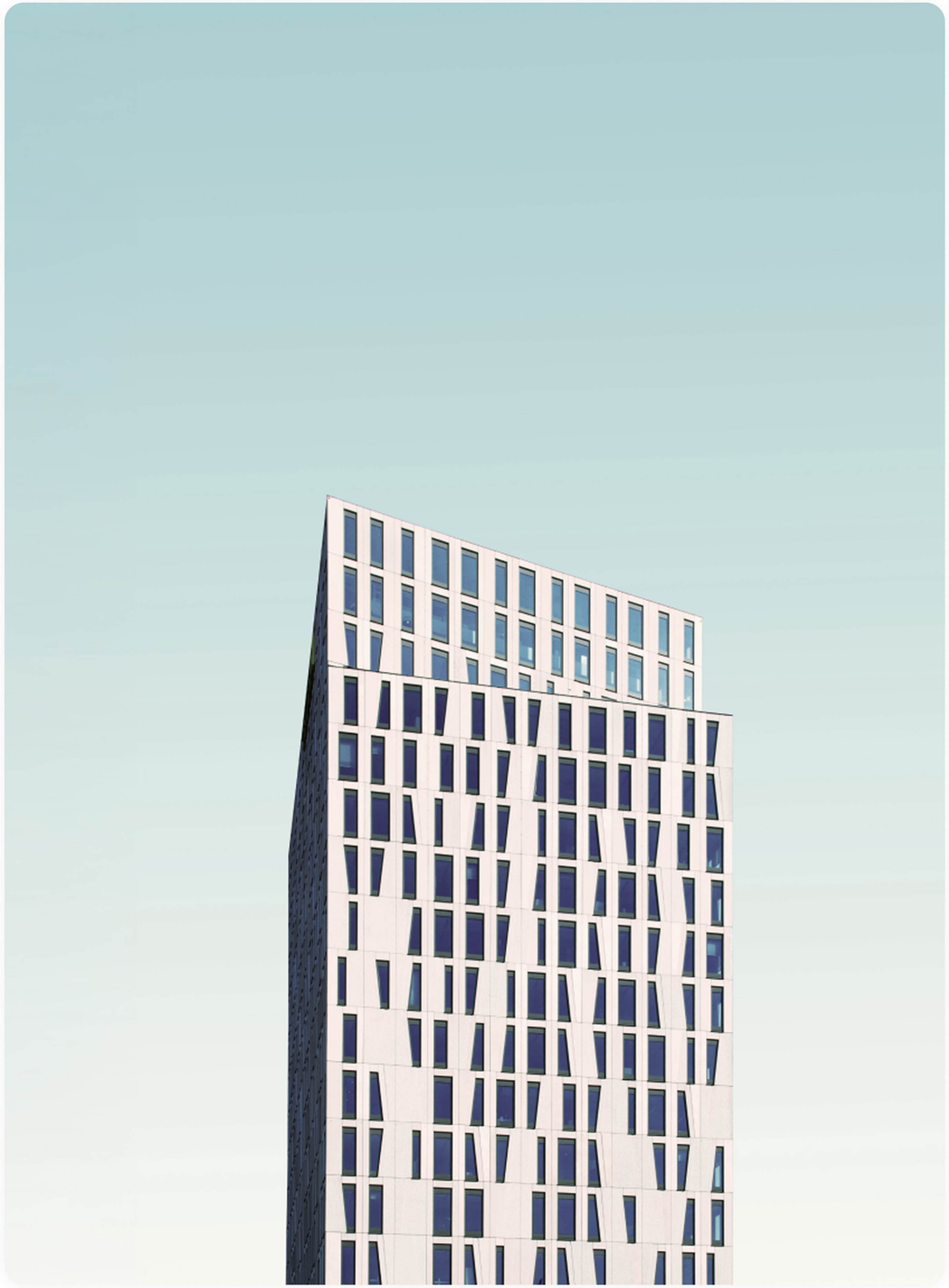


LCA automation seen as the biggest time-saver by manufacturers

FIG.30 Factors reducing assessment and optimization time in the future, as reported by manufacturers



8. Bridging the regulatory gap for LCA and EPD adoption



8.1 The impact of regulatory gaps on AEC professionals and manufacturers

A lack of national regulations is the single biggest barrier to advancing LCAs and EPD adoption in construction. According to the 2025 Carbon Experts Report, **85% of AEC professionals cite the absence of national regulations as the most significant limitation to LCA progress, while 75% report that municipal policies remain insufficient.** Similarly, manufacturers struggle with fragmented policies, with only 10% citing national regulations as supportive of EPD adoption.

This regulatory gap hinders both supply and demand: AEC professionals lack a consistent framework for requiring EPDs in procurement, while manufacturers face uncertainty regarding compliance requirements. Regional disparities in policy development further complicate standardization, creating barriers to wider LCA adoption.



8.2 Policy recommendations: closing the regulation gap to drive decarbonization

According to the **2025 Carbon Experts Report** findings, regulatory gaps are the primary obstacle to LCA and EPD adoption, and policymakers must take decisive action. These gaps underscore the need for comprehensive policy frameworks at both the national and local levels. The following recommendations outline strategies for policy improvements based on successful examples and emerging practices.

8.2.1 Strengthening national regulations

Mandating climate declarations and embodied carbon limits

- 85% of AEC professionals indicate that a lack of regulation prevents broader adoption of LCAs. Policies like Norway and Sweden's mandatory climate declarations for new buildings ensure transparency, while Denmark goes further by setting embodied carbon limits. These measures provide clarity for both AEC professionals and manufacturers, driving the adoption of EPDs as a competitive necessity.

Integrating mitigation and adaptation requirements

- France's RE2020 regulation combines carbon caps with resilience planning, creating a more comprehensive approach to climate action.
- Whole-life carbon mandates, such as those in the Netherlands and Finland, integrate carbon reduction targets into building codes, ensuring long-term impact.

Aligning with global frameworks for consistency

- The EU's Energy Performance of Buildings Directive (EPBD) requires embodied carbon reporting for new buildings starting in 2028, setting a precedent for broader adoption.
- Harmonization with standards such as ISO 14025 and EN 15804 can help streamline EPD data collection and verification, reducing administrative burdens.

8.2.2 Strengthening regional and municipal initiatives

Leverage public procurement

- Cities like London, New York, and Vancouver have implemented Buy Clean policies, prioritizing materials with low embodied carbon.
- California's CalGreen code and the Buy Clean California Act set limits on carbon-intensive materials, encouraging wider EPD adoption.

Expand local benchmarks and embodied carbon targets

- The Greater London Authority (GLA) has introduced embodied carbon benchmarks, providing a model for local adoption.
- California enforces GWP limits for concrete, which could be replicated across other materials and regions.

Scale successful regional policies to national levels

- Proven regional frameworks, such as those in Scandinavia and the UK, could inform broader national regulations to drive harmonization.

8.2.3 Incentivizing industry compliance and innovation

Tie building permits to carbon reporting

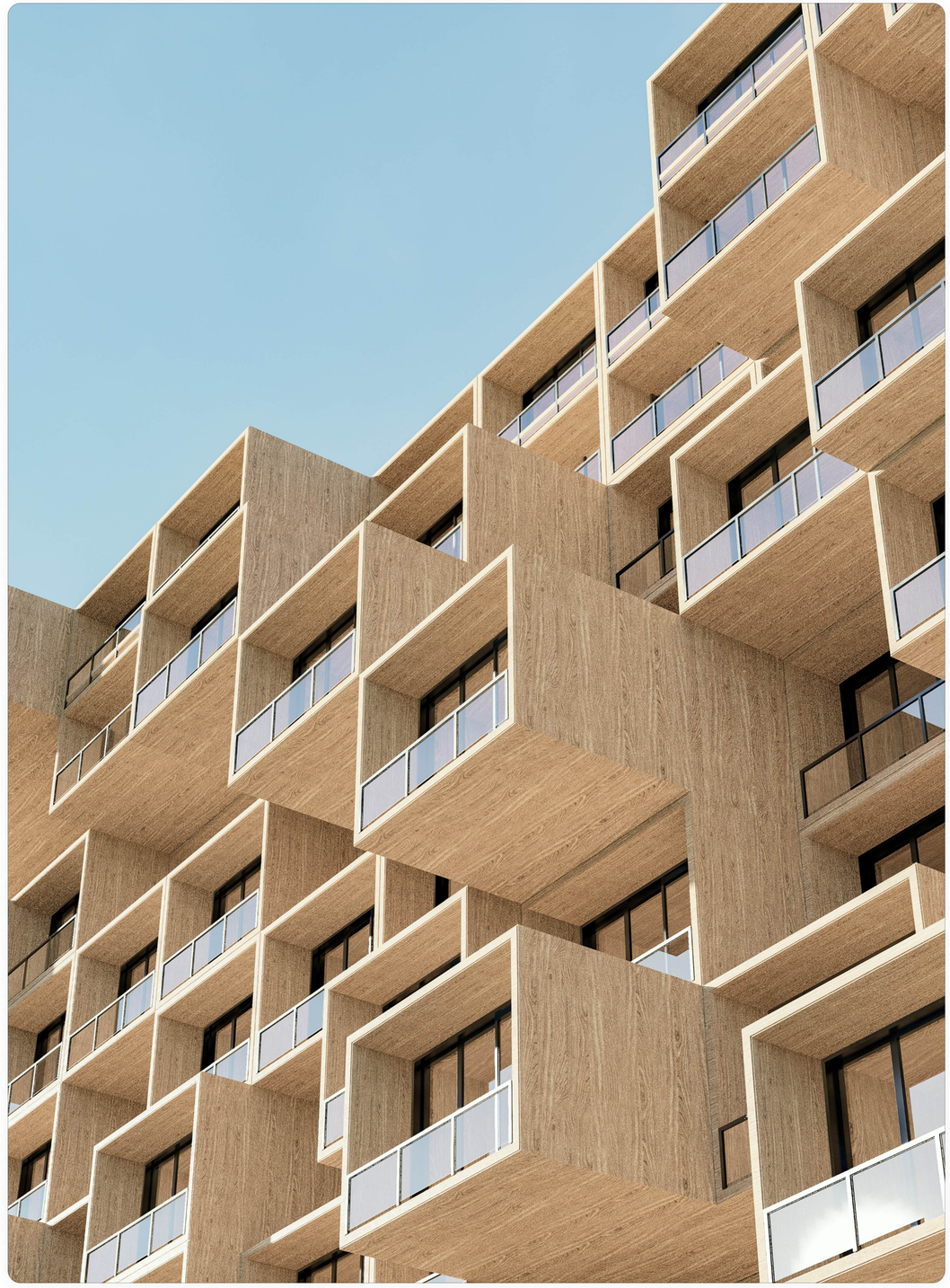
- Mandating embodied carbon assessments during planning stages, as implemented in Finland and the Netherlands, ensures sustainability is considered early in project development.

Expand financial incentives for low-carbon materials

- Subsidies and tax incentives for manufacturers producing EPDs and verified low-carbon materials can ease cost burdens, making compliance more viable.

Promote digitalization and automation

- Many manufacturers struggle with the complexity of EPD creation and verification. Supporting automated LCA tools and regulatory alignment will help bridge this gap, making compliance more accessible.





8.3 Key regional regulations supporting LCA and EPD adoption

European Union: Strengthening carbon accountability

- **Construction Products Regulation (CPR):** Adopted in 2024 and entered into force in January 2025, the CPR strengthens environmental reporting requirements for construction products, aligning with the EN 15804 standard for environmental product declarations (EPDs).
- **Energy Performance of Buildings Directive (EPBD, EU/2024/1275):** Requires whole-life LCAs for new buildings by 2028 and mandates carbon footprint limits. This will also introduce a mandate to member countries to set whole-life cycle carbon footprint limit values, which will drive the demand for EPDs and incentivise the creation of new EPDs with a clear competition advance for products that are performing better in environmental terms.
- **Taxonomy delegated act ((EU) 2020/852):** It has been in force since 2020, but so far has only been concerning larger companies.
- **The Corporate Social Responsibility Directive (CSRD):** Expands ESG reporting obligations to include supply chain carbon footprints. For manufacturers, creation of EPDs and setting roadmaps for better performance is a way of showcasing their responsibility and attracting positive visibility. The CSRD will also affect non-European larger companies that do business within the EU.
- **Carbon Border Adjustment Mechanism (CBAM):** Aims to prevent carbon leakage to locations outside the EU due to increased sustainability requirements. Cleaner industrial production is thus promoted also outside EU by ensuring a fair price on the carbon emitted during the production of carbon intensive goods.The system enters the test phase in 2025.
- **Ecodesign for Sustainable Products Regulation (ESPR):** The regulation aims to increase transparency and harmonisation between different product groups. Introduces a Digital Product Passport for construction materials. The goal is to prevent greenwashing, increase energy and material efficiency, and allow for more effective surveillance and reporting.

United Kingdom: Mandatory regulations and voluntary frameworks

In the UK, efforts to reduce carbon emissions in construction are supported by key regulations and standards, both mandatory and voluntary:

- **Part Z:** An industry-led initiative pushing for mandatory whole-life carbon assessments in UK building regulations. It aims to establish clear embodied carbon reporting requirements, aligning the UK with global best practices in carbon reduction.
- **BREEAM:** The Building Research Establishment Environmental Assessment Method (BREEAM) is a voluntary scheme. It is not a regulatory requirement but a widely recognized framework used to assess the environmental performance of buildings and infrastructure. A BREEAM certification is often required by many city councils for large developments, further solidifying its importance in shaping sustainable urban growth.
- **UK Carbon Border Adjustment Mechanism (CBAM):** Set to be introduced in 2027, aims to align imports with domestic sustainability standards by imposing tariffs on products with high carbon footprints, encouraging fair competition.
- **The London Plan:** The London Plan sets strategic guidelines for development in Greater London, emphasizing sustainable construction and carbon reduction. It includes requirements for whole-life carbon assessments (WLCA) for major developments and promotes the use of low-carbon materials and energy-efficient designs. The Plan establishes benchmarks for embodied carbon emissions and encourages compliance with net-zero goals.





North America: Regional and state-led initiatives

- **Buy Clean:** The Buy Clean initiatives for carbon-intensive materials and products in federal projects have been in use in 12 leading states since 2023. These policies promote lower-carbon materials by requiring environmental product declarations (EPDs) to provide transparent data on embodied carbon. This approach helps architecture, engineering, and construction professionals and manufacturers align with market demands and sustainability goals. In January 2025, the Trump administration rescinded the federal Buy Clean program, which may impact federal procurement policies, but state-level Buy Clean initiatives continue independently,
- **The Enhancement and Standardization of Climate-Related Disclosures for Investors:** The Securities and Exchange Commission (SEC) disclosure rules mandate publicly traded companies to disclose direct greenhouse gas (GHG) emissions when considered material to investors.
- **ASHRAE/ICC Standard 240P:** It provides a framework for evaluating greenhouse gas emissions throughout a building's lifecycle, supporting decarbonization efforts across the industry.
- **California's Green Building Standards Code (CalGreen):** The CALGreen Code mandates resource efficiency, waste reduction, and the use of environmentally sustainable materials in construction projects. It requires minimum thresholds for waste diversion from landfills, promotes the use of recycled and regionally sourced materials, and encourages water and energy conservation practices.

Canada: Regional efforts to cut carbon emissions

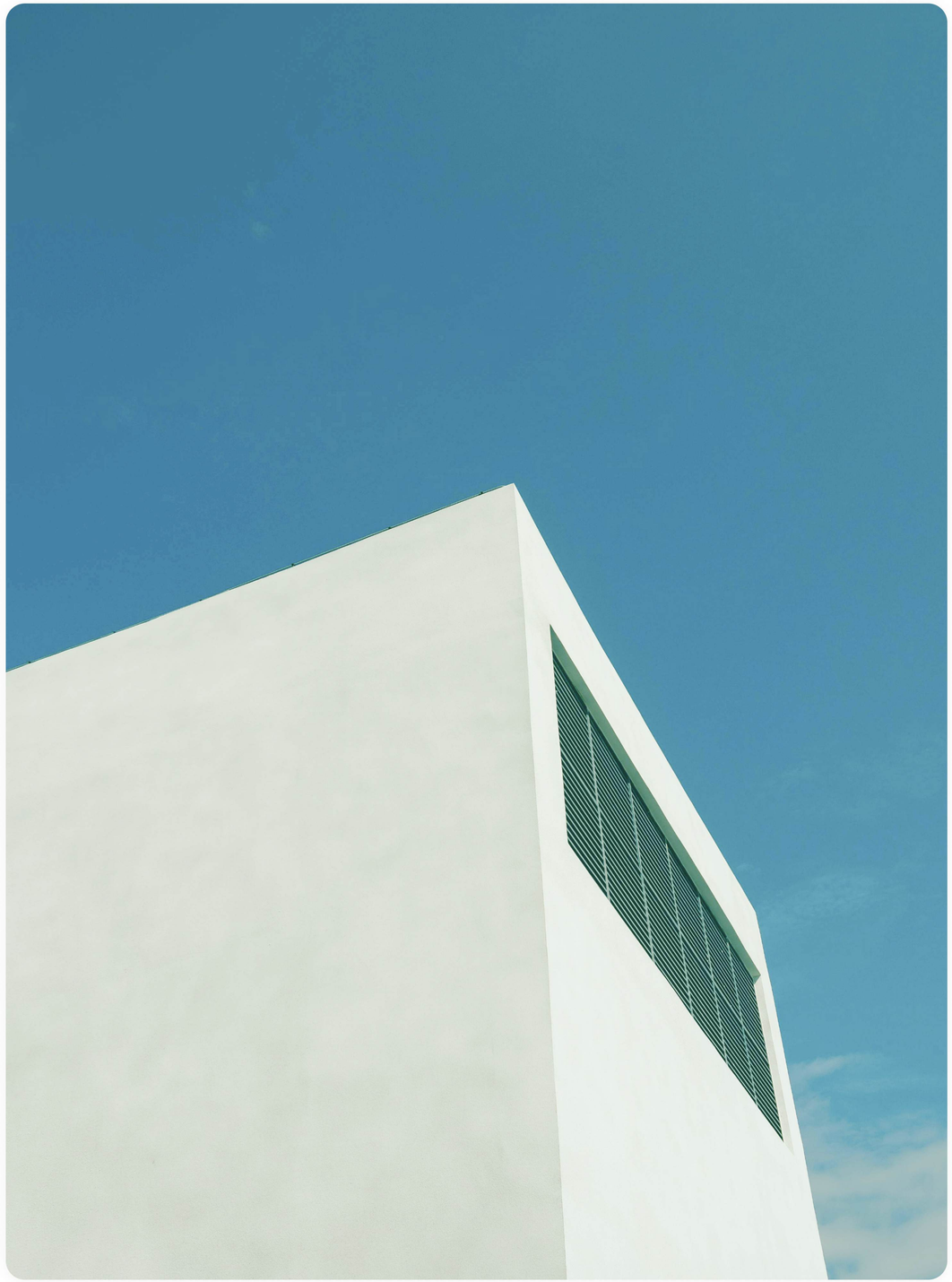
- **Vancouver's Greenhouse Gas Intensity (GHGi) Limits:** A regulatory framework applying to new building developments, starting in 2026. The policy introduces strict limits on greenhouse gas intensity and sets heat energy intensity targets for 2040.
- **Toronto Green Standard (TGS):** A set of sustainability guidelines for new developments, including requirements for reducing embodied emissions in construction materials. It serves as a performance-based standard to support low-carbon, environmentally responsible urban growth.
- **2024 Canada Green Buildings Strategy:** A national strategy aimed at achieving building decarbonization by 2050. It includes "Buy Clean" measures for public and federal projects and promotes modernization and innovation to support low-carbon construction practices.

Asia-Pacific: Communities spearheading environmental progress

Historically, voluntary certification schemes such as LEED, BREEAM, and Green Star have dominated the market, but recent developments in low-carbon construction, transitioning from voluntary certification schemes to mandatory regulations.

- **Australia:** The National Australian Built Environment Rating System (NABERS) has launched its Embodied Carbon Rating Tool, enabling new buildings and partial rebuilds to measure and compare their upfront embodied carbon with similar structures.This tool is expected to become a national standard, with legislative effect already in place in New South Wales under the Sustainable Buildings State Environmental Planning Policy (SEPP).
- **New Zealand:** Mandatory carbon counting for the construction industry will commence in 2025, requiring reporting on embodied and operational carbon for new buildings. This initiative aims to reduce the carbon footprint of new constructions, aligning with international climate goals.
- **Singapore:** The Building and Construction Authority (BCA) has introduced Green Mark 2021, emphasizing the reduction of embodied carbon across a building's life cycle. This certification is required for government-funded projects, promoting sustainable construction practices.
- **Japan:** Initiatives include the CASBEE certification system, subsidies for low-carbon materials, Zero-Energy Building (ZEB) goals, and retrofitting programs. These efforts aim to reduce embodied carbon and align with Japan's 2050 carbon neutrality target. The government also offers subsidies to promote low-carbon materials and technologies in construction.





8.4 The path forward: Regulations and cross-sector collaboration

The **2025 Carbon Experts Report** makes it clear: without stronger national and municipal regulations, LCA and EPD adoption will remain stalled. Countries with clear mandates are making faster progress, while those without face significant barriers in material transparency, procurement decisions, and carbon benchmarking.

Policymakers must act to close this regulatory gap by implementing national carbon reporting requirements, harmonizing regional frameworks, and integrating financial incentives for compliance. The importance of enhanced communication across the entire value chain, highlighted by the report's findings, underscores the need for closer collaboration between AEC and manufacturing sectors. National and regional governments must work together to scale effective policies, integrating climate adaptation measures alongside mitigation goals. Clear, actionable guidelines are critical to ensuring consistent implementation and alignment of these efforts, paving the way for a sustainable and low-carbon future.

Section 9: About One Click LCA

Used in 170+ countries, One Click LCA is the leading end-to-end sustainability platform for construction and manufacturing. The AI-powered software decarbonizes and drives sustainability across the construction value chain with scientific, easy-to-use, automated life-cycle assessment (LCA) and environmental product declarations (EPDs) to calculate and reduce the environmental impacts of building, infrastructure, and renovation projects and products. The platform also allows assessment of circularity, life-cycle cost, and biodiversity.

One Click LCA is used by blue-chip enterprises like AECOM, Arcadis, Foster+Partners, WSP, ArcelorMittal, Geberit, and Saint-Gobain, among others. It offers a unique global database with +250,000 LCA datasets; supports +80 standards and certifications, including LEED, BREEAM, GRESB and other national regulations; and seamlessly integrates with +20 of the most widely used BIM software tools, including Autodesk Revit®, Tekla Structures® and Bentley iTwin®. One Click LCA was founded in Helsinki, Finland in 2001, with a team of +200 people on all continents.



Connect with an EPD & LCA expert today

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Section 10: Appendix

10.1 Glossary

Life-cycle assessment (LCA): Life-cycle assessments (LCAs) measure the environmental impacts of a building across four key stages—product, construction, use, and end-of-life—covering material extraction, energy use, maintenance, and disposal, while also considering recycling and reuse potential.

Environmental product declaration (EPD): An EPD is a document that transparently reports the environmental impact of a product or material, based on a product life-cycle assessment (LCA). The LCA evaluates the environmental effects throughout the product's lifecycle, from raw material extraction to disposal.

Third-party verified EPD: A third-party verified EPD is an independently reviewed and certified document that transparently reports the environmental impact of a product or material based on a LCA. The third-party verification process ensures that the EPD complies with international standards (e.g., ISO 14025, EN 15804) and that the data is accurate, consistent, and reliable, providing credible and comparable environmental information for decision-making.

Energy Performance of Buildings Directive (EPBD): The EPBD is a European Union regulation that improves energy efficiency in buildings by setting performance requirements, mandating energy performance certificates (EPCs), and promoting low-carbon technologies and whole-life carbon assessments (LCAs) to support decarbonization.

Construction Products Regulation (CPR): An EU regulation that sets harmonized rules for the marketing of construction products to ensure they meet performance and sustainability standards. It supports environmental and safety goals by requiring product declarations, including Environmental Product Declarations (EPDs).

Carbon Border Adjustment Mechanism (CBAM): EU policy designed to prevent carbon leakage by applying a carbon price on imports of certain goods, including materials used in construction, based on their embedded carbon emissions. It ensures imported products face the same carbon costs as those produced within the EU.

Buy Clean California Act: A law in California that mandates the use of low-carbon construction materials in public infrastructure projects. It sets limits on the global warming potential (GWP) of materials like steel, glass, and insulation, requiring EPDs to verify compliance and promote sustainable procurement.

Environmental impacts: Environmental impacts refer to the effects a product, process, or activity has on the environment throughout its life cycle, including resource use, energy consumption, emissions, pollution, and waste generation, influencing ecosystems and climate change.

Generic LCA data: LCA data with average values for materials, processes, or products, often from public databases. It serves as a benchmark when specific data is unavailable but may lack product-specific detail.

Building Information Modeling (BIM): BIM is a digital process for creating and managing detailed 3D models of buildings. It enables collaboration, improves design accuracy, and supports life-cycle assessments (LCAs) and sustainability analysis in construction projects.

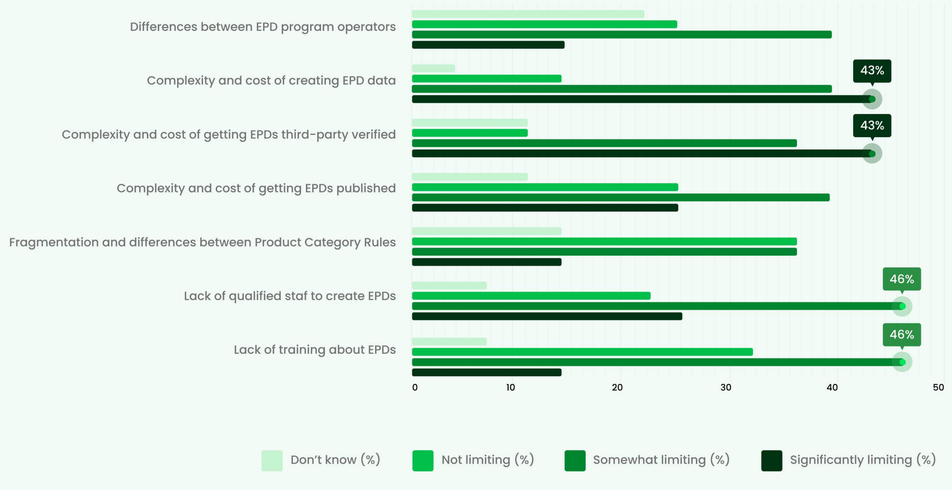
Program operators: Program operators are independent organizations responsible for developing and managing the rules and frameworks for creating Environmental Product Declarations (EPDs). They ensure compliance with standards and oversee verification processes to maintain data quality and transparency.

Product Category Rules (PCR): They are guidelines that define the methodology for conducting life-cycle assessments (LCAs) and creating environmental product declarations (EPDs) for specific product categories, ensuring consistency, comparability, and compliance with standards like ISO 14025.

10.2 Supporting graphs and charts

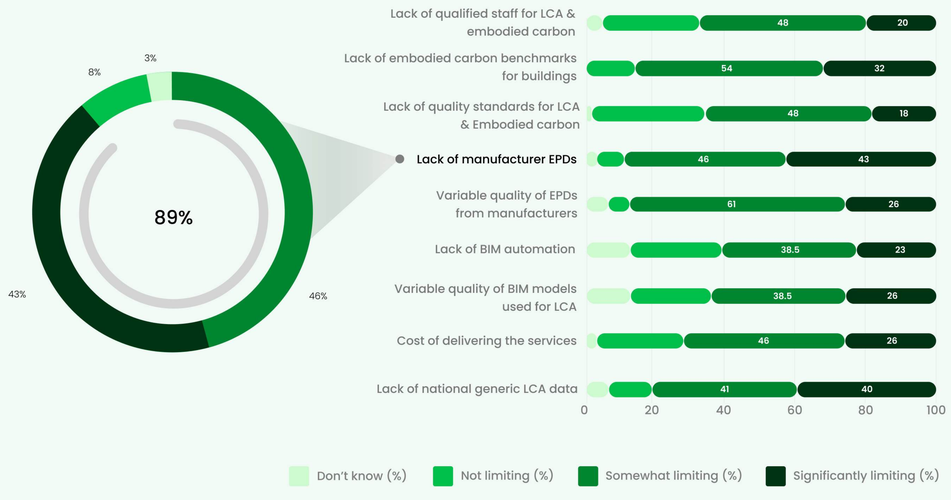
Manufacturers struggle with ‘complexity’ and ‘costs’

FIG. 2 Supply-side factors limiting EPD progress, as reported by manufacturers



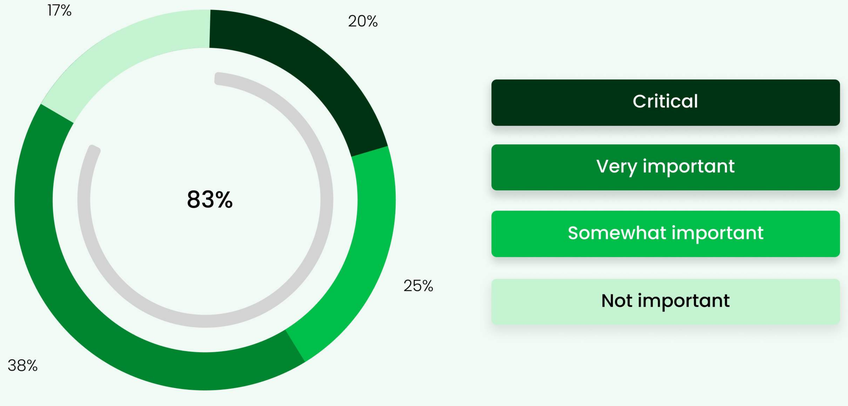
Lack of manufacturer EPDs limits 89% of AEC professionals

FIG. 1 How limiting are the following factors to the progress of construction LCAs, by AEC respondents



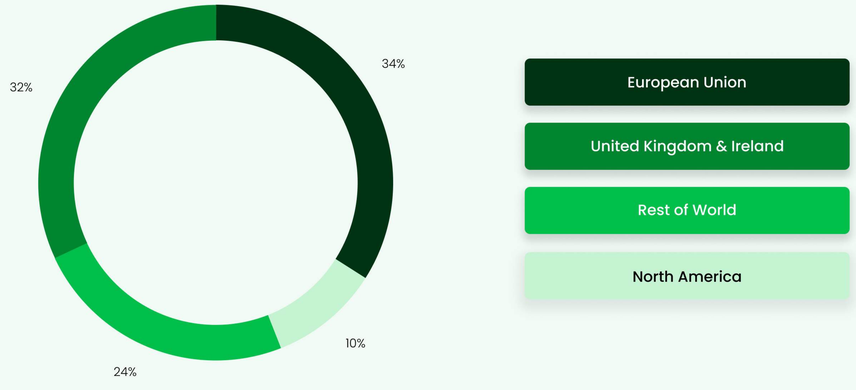
83% say EPDs influence their purchasing decisions

FIG. 3 Importance of EPDs in influencing AEC purchasing decisions



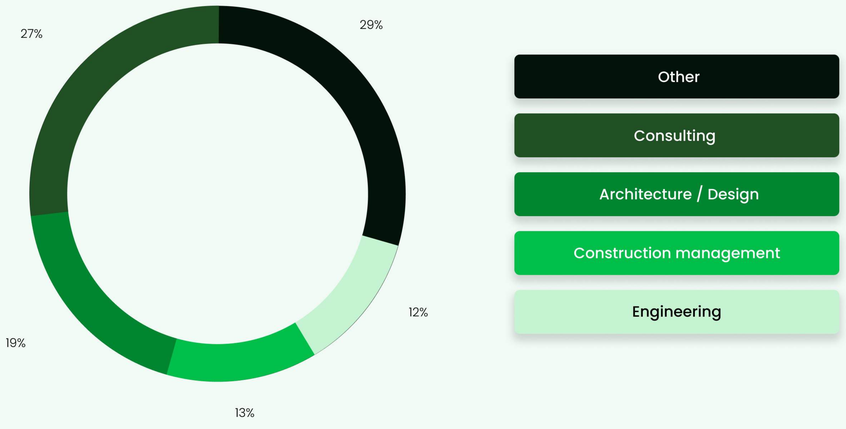
The EU, UK, and Ireland account for the majority of AEC respondents

FIG. 4 Geographical distribution of AEC respondents



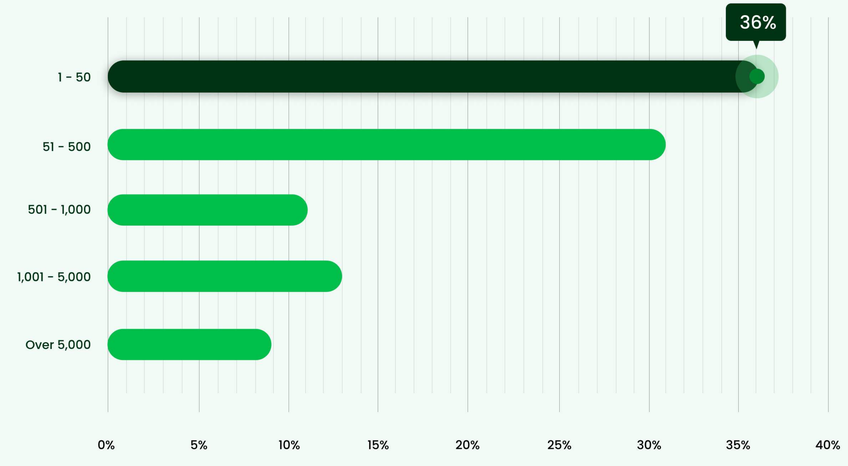
Most of the AEC respondents come from consulting & architecture

FIG 5 Field of work of the AEC respondents



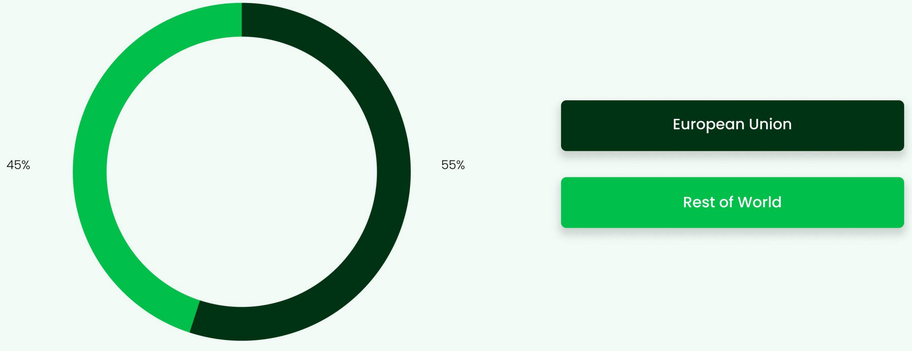
Size of AEC companies by employee count

FIG 6



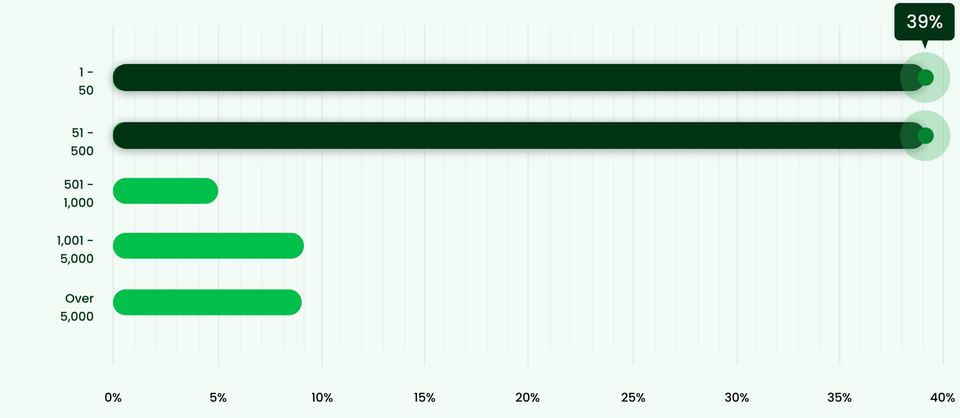
Most manufacturing respondents come from the European Union

FIG. 7 Geographical distribution of manufacturing respondents



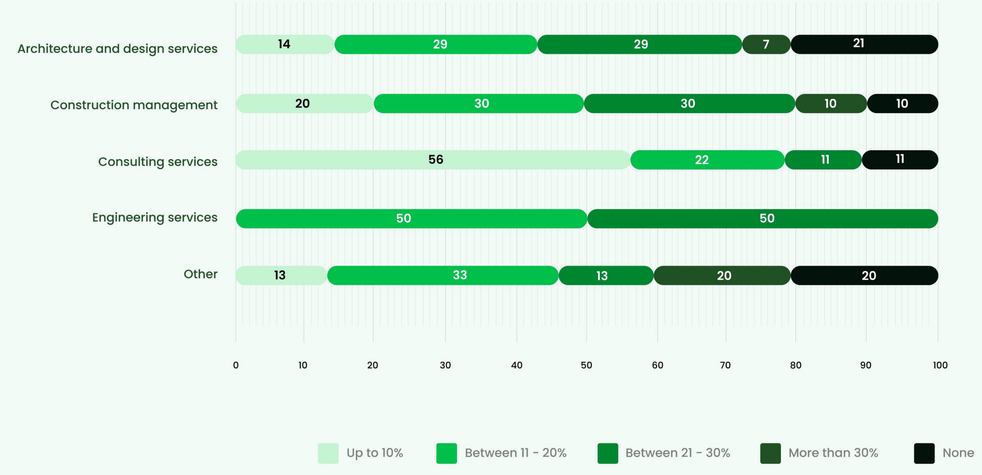
Size of MFG companies by employee count

FIG. 8



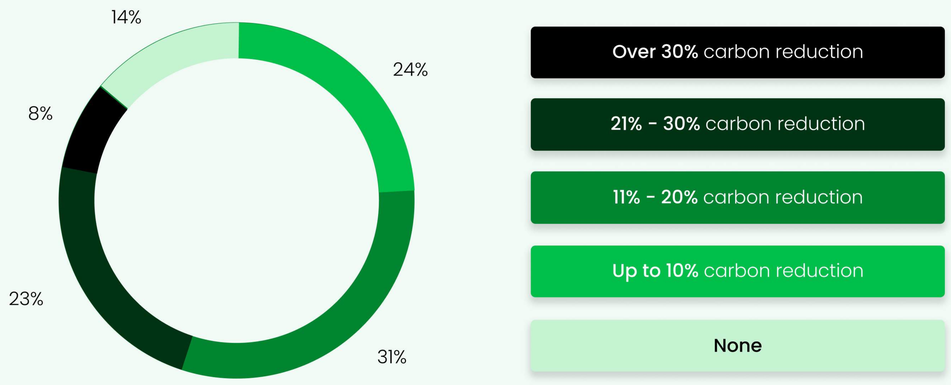
Engineering services achieve 11% – 30% carbon cuts in building projects

FIG.9 Expected carbon reduction from conducting a building LCA or embodied carbon study



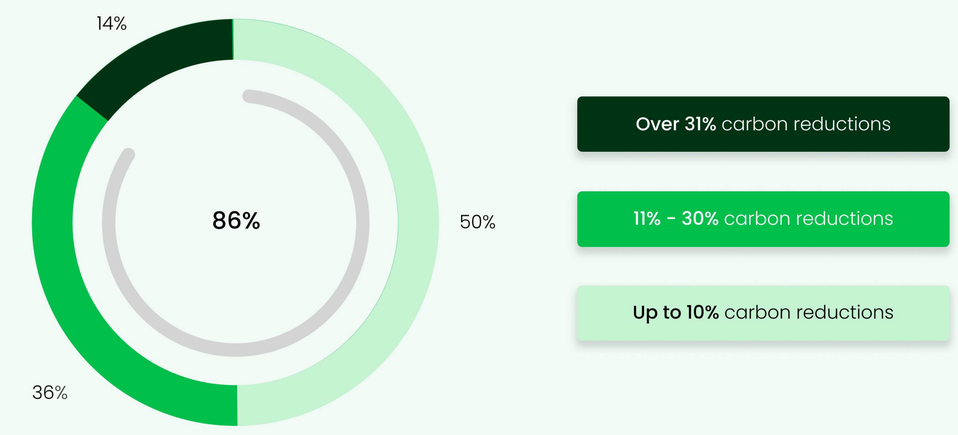
Over 30% of AEC professionals expect 11%-20% carbon reduction

Fig. 9A Expected carbon reduction from conducting a building LCA or embodied carbon study



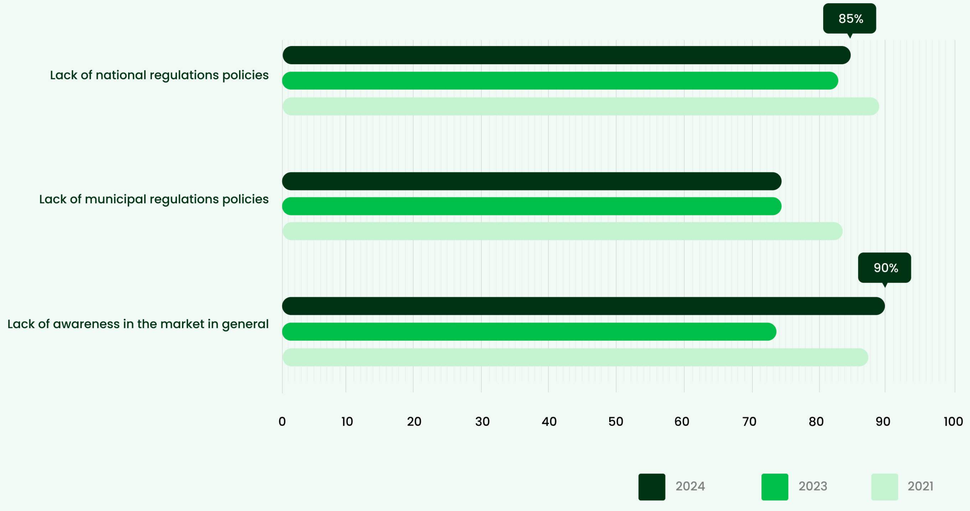
86% of manufacturers expect up to 30% carbon cuts

FIG.10 Expected carbon reduction from applying LCA insights in product development



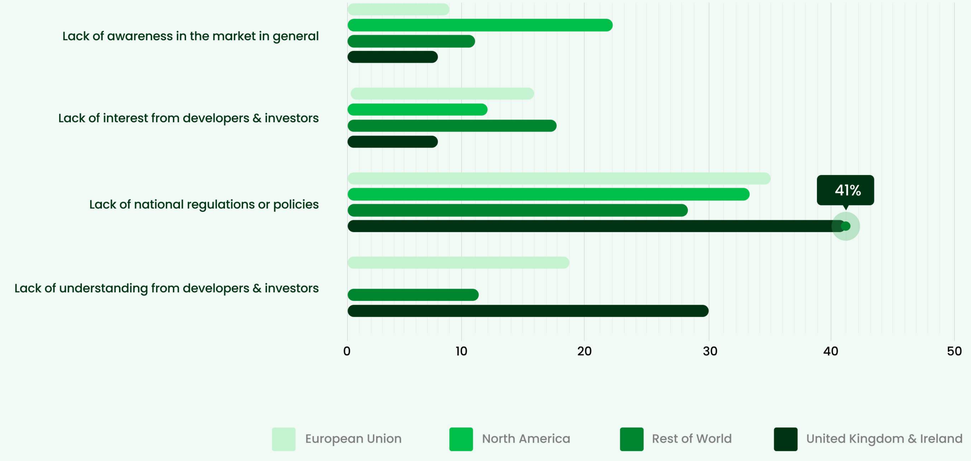
Lack of national regulations hinders LCA progress

FIG.11 Top three limiting demand-side factors for LCA progress (2024 / 2023 / 2021)



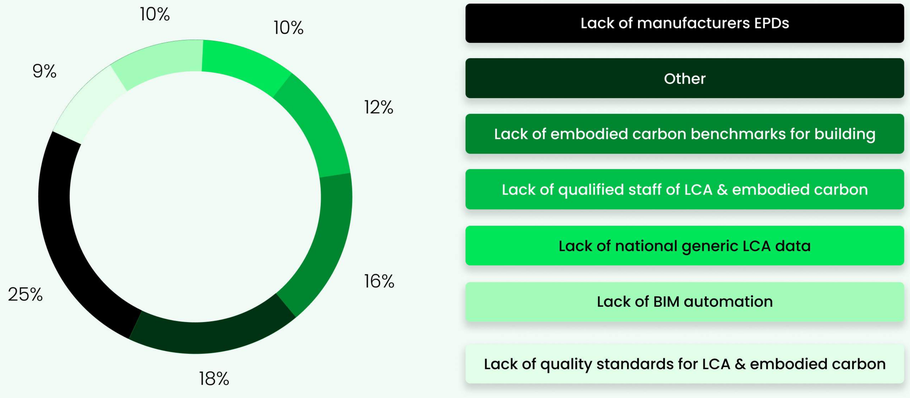
Regulations in the EU and UK, awareness in North America

FIG.12 Top four limiting factors to LCA progress by AEC respondents, regional breakdown



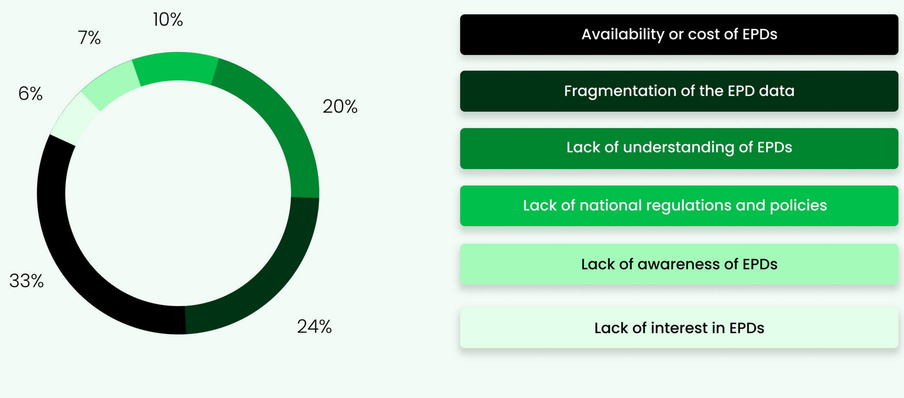
The lack of manufacturer EPDs is the top concern among AEC professionals

FIG.13 Supply-side factors hindering LCA progress, as reported by AEC respondents



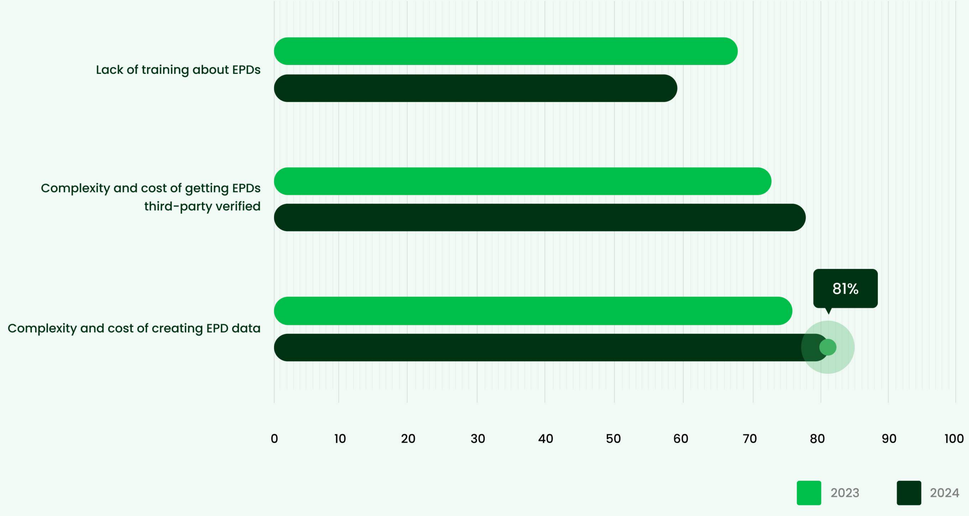
Availability, cost, and data fragmentation limit EPD progress for manufacturers

FIG.14 Demand-side factors hindering EPD progress for manufacturers



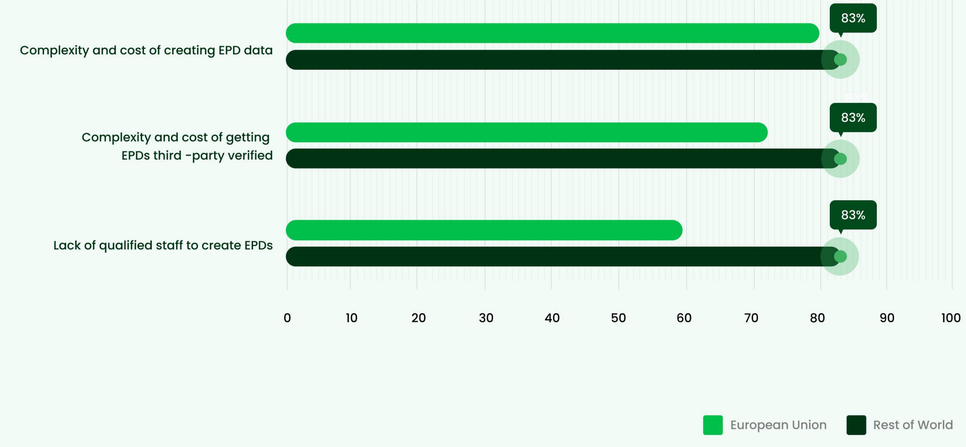
Complexity and cost hinder EPD progress

FIG.15 Top three supply-side factors hindering EPD progress in 2024 / 2023



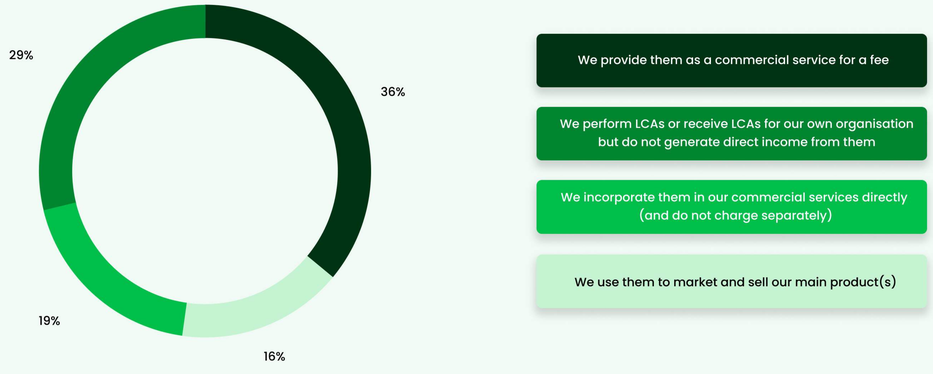
Cost, complexity, and staffing challenges are highest outside the EU

FIG.16 Top three factors hindering EPD progress, regional breakdown



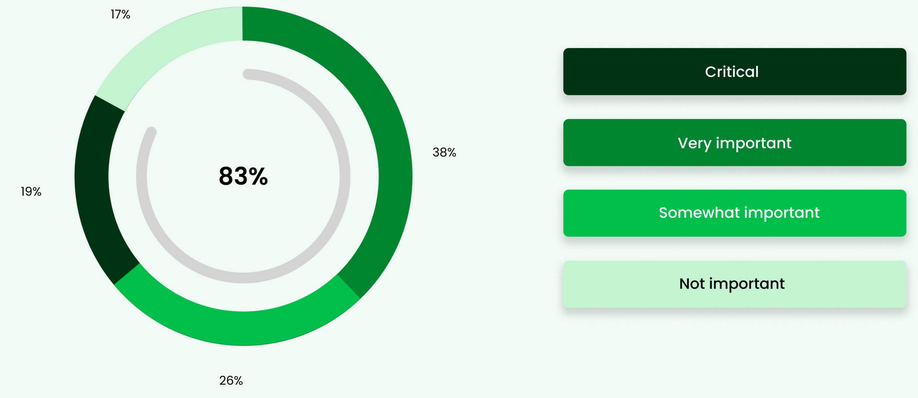
36% of AEC firms offer LCA and embodied carbon work as a paid service

FIG.17 Characterization of LCA and embodied carbon work, as reported by AEC respondents



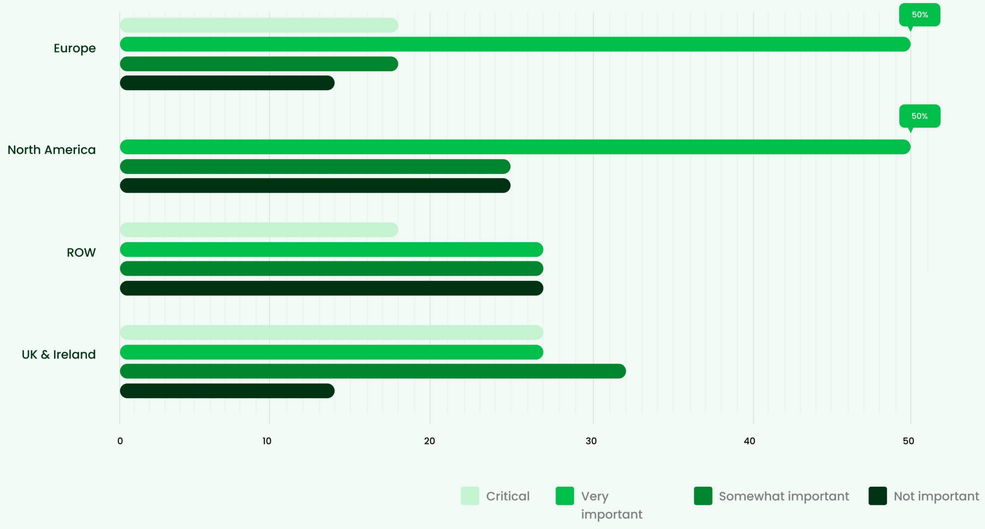
83% of AEC professionals say EPDs influence purchasing decisions

FIG.18 The role of EPDs in influencing the purchasing decisions of AEC professionals



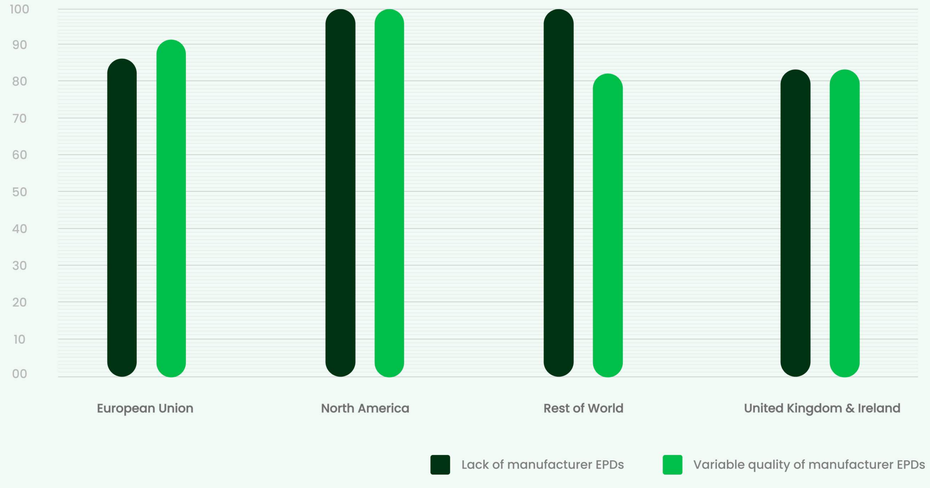
EPDs are very important for 50% of AEC pros in the EU and North America

FIG.19 The role of EPDs in influencing the purchasing decisions of AEC professionals, regional breakdown



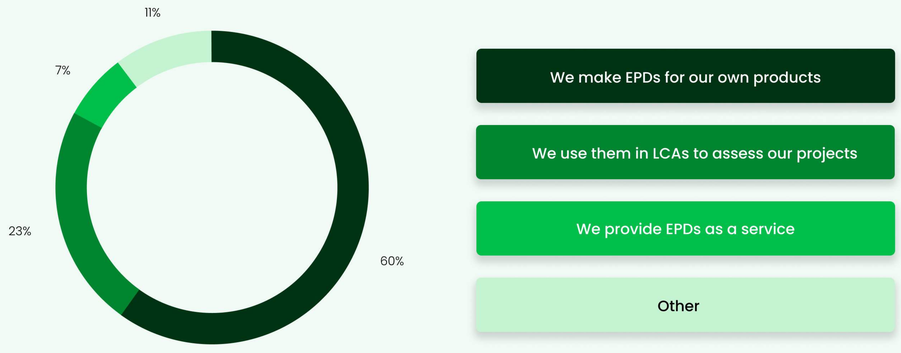
Lack of manufacturer EPDs reported by 100% in North America and globally

FIG.20 Factors limiting EPD quality and quantity, as reported by AEC professionals



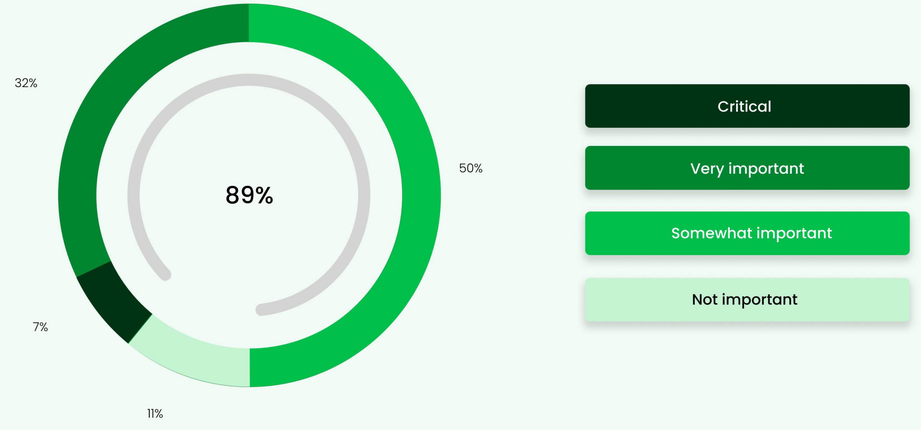
60% of manufacturers creates EPDs for their own products

FIG.21 Use third-party verified EPDs, as reported by MFG respondants



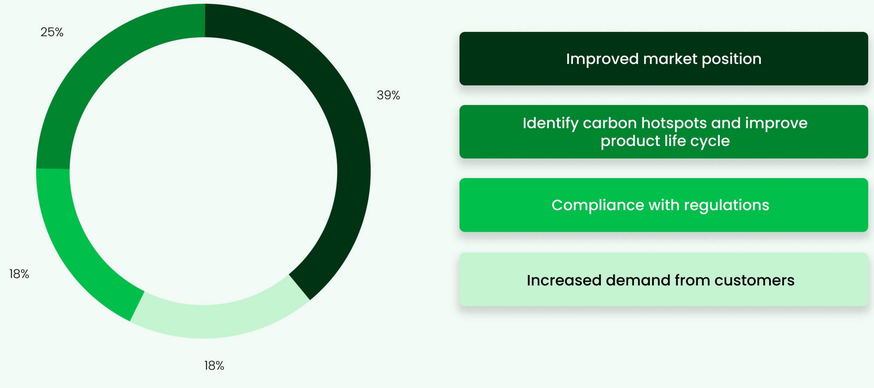
89% of manufacturers say EPDs influence AEC purchasing decisions

FIG.22 The role of EPDs in AEC purchasing decisions by MFG respondants



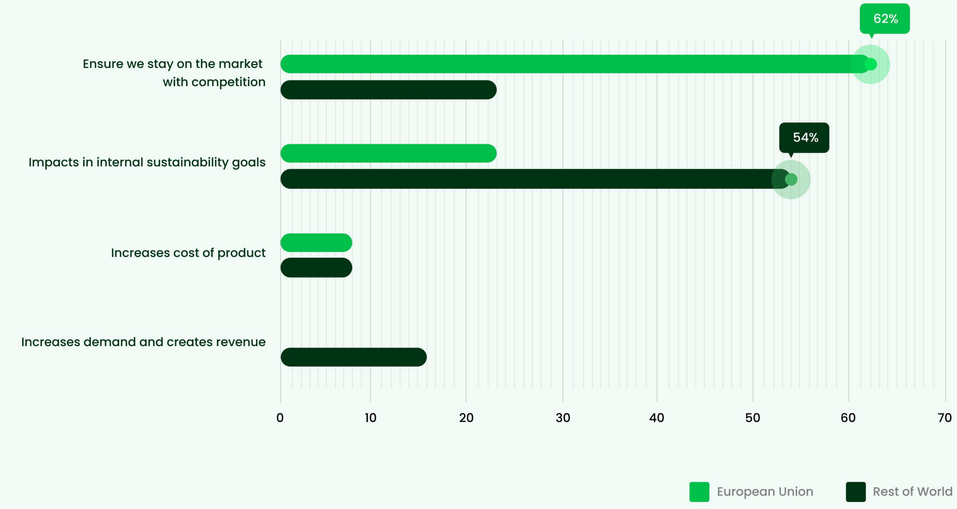
Nearly 40% of manufacturers report improved market position

FIG.23 The role of EPDs in influencing the purchasing decisions of AEC professionals



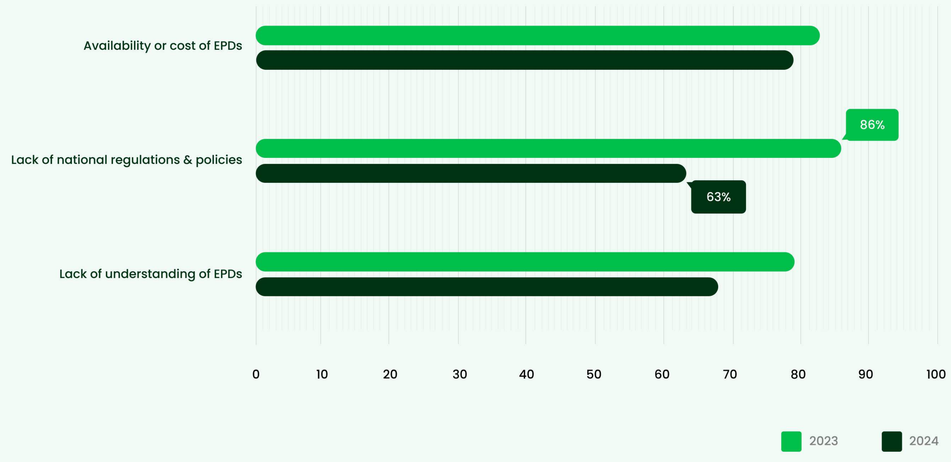
EPDs help 62% of EU manufacturers stay competitive

FIG.24 Impact of EPDs on MFG business, regional breakdown



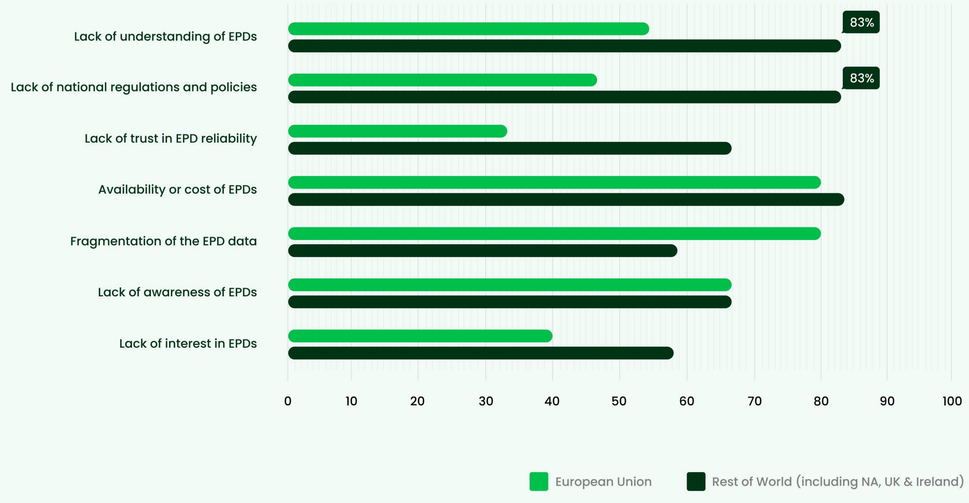
Regulatory and EPD knowledge barriers dropped from 2023 to 2024

FIG.25 Top three limiting factors in EPD progress for manufacturers (2023 / 2024)



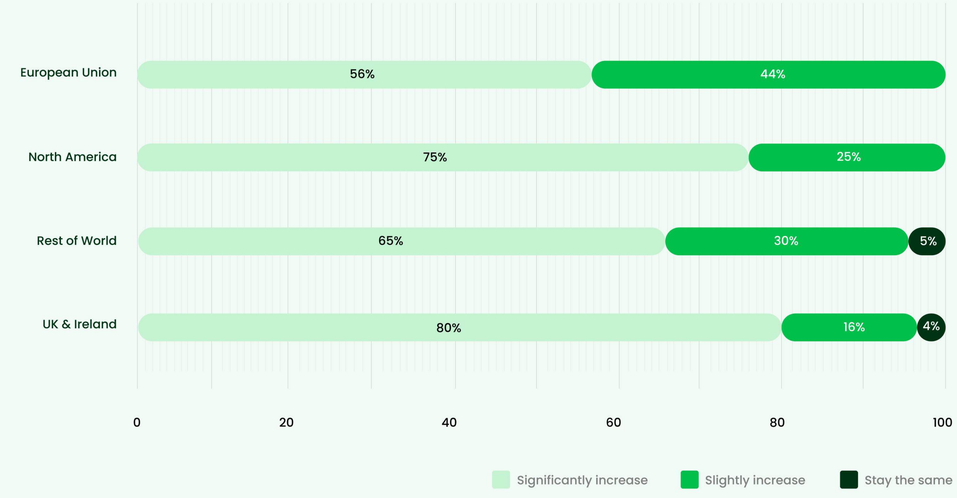
Knowledge and policy gaps are higher outside the EU

FIG.26 Demand-side factors limiting EPD progress, by region



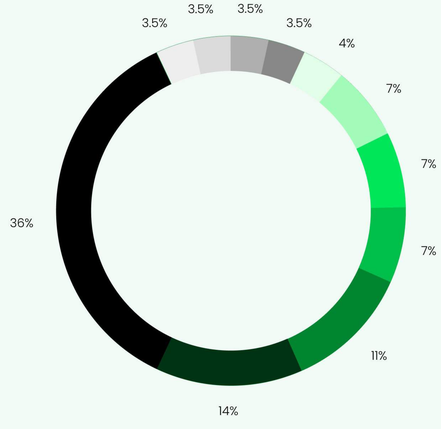
EPD demand to increase across all regions, led by the UK and North America

FIG.27 The evolution of EPD demand over the next three years, regional breakdown



Data gaps identified across all material categories, led by cements and MEP

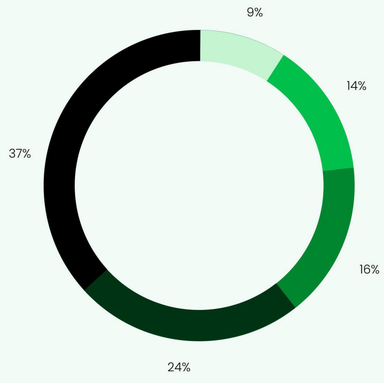
FIG.28 Materials categories with identified data gaps



- Plastic membranes
- Gypsum and plasters
- Glass
- Coatings and pastes
- All product categories
- Cements and binders
- Mechanical, electrical, and plumbing
- Steel
- Other metals
- Insulation
- Doors, windows, and partitioning systems

LCA automation and better data access will reduce assessment time

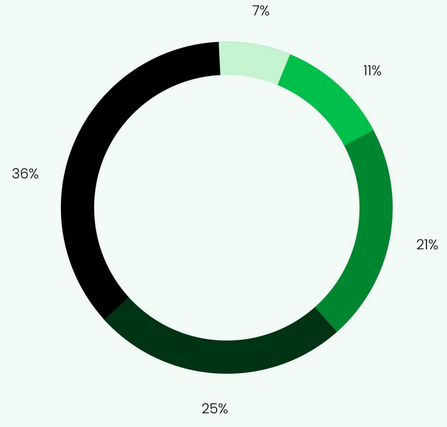
FIG.29 Factors reducing assessment and optimization time in the future, as reported by AEC respondents



- LCA Automation with other softwares
- Data availability and accessibility
- Development of easy-to-use tools
- Increased knowledge on LCA
- More LCA trained workforce

LCA automation seen as the biggest time-saver by manufacturers

FIG.30 Factors reducing assessment and optimization time in the future, as reported by manufacturers



- LCA Automation with other softwares
- Increased knowledge on LCA
- Data availability and accessibility
- More LCA trained workforce
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