

Sustainable Material Adoption in Industrial Sectors

Three Eye-Opening Statistics about the Use of Low-Carbon Materials

According to the World Economic Forum, the chemical industry is currently accountable for 8% of global industrial greenhouse gas emissions. Companies worldwide are working to lower this figure. However, a significant challenge lies in the fact that, according to CDP, nearly 77% of these emissions fall under Scope 3, which includes those generated indirectly from a company's value chain. Despite this challenge, the industry is actively exploring innovative methods to track, measure, and reduce carbon outputs across the value chain.

This is why many are turning to the use of CO₂-reducing materials. These materials have lower carbon footprints than their conventional counterparts, thereby reducing total emissions generated throughout the production process.

To gain insights into how small-to-medium-size companies are utilizing low-carbon materials, IMCD Industrial Solutions conducted a sustainability survey. The results were eye-opening.

Limited Adoption of Low-Carbon Materials Today

The survey revealed that only 50% of respondents utilize low-carbon mate-

rials today. This is the lowest adoption rate of all sustainable material types surveyed; 58% incorporate biodegradables, 64% employ renewable sources, and 79% prioritize materials that promote people's health and safety.

Despite the industry's willingness to discuss emission reduction, significant challenges are limiting progress in the market. Among the 50% using low-carbon materials, 30% cite availability as their primary challenge. Currently, these materials are not widely produced, and production is confined to specific regions, exacerbating accessibility issues.

Of the remaining 50% not utilizing low-carbon materials, 30% plan to integrate them into their production

in the next three years. When asked why they don't use these materials today, 37% claimed that good alternatives are not yet available to their industries. This can be attributed partly to the early stages of innovation and production. Limited testing and data available today make it challenging to integrate these materials into specific processes and technical requirements.

Furthermore, limited product carbon footprint (PCF) data complicates the selection process, with 27% citing uncertainty about which materials to adopt as their chief barrier. Additionally, only 13% of respondents consider themselves experts on low-carbon materials — again, the lowest proportion across sustainability areas covered.

Moving forward, it's clear that extensive efforts in knowledge sharing and data transparency are required to meet adoption targets within the next three years.

Pricing Is a Challenge, but Will Not Stop Long-Term Adoption

Thirty-three percent cited higher prices as their top challenge with



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low-carbon materials. This trend was consistent across the various types of sustainable materials surveyed; 50% expressing pricing concerns about renewable sources, 40% about biodegradables, and 26% about materials prioritizing people's health & safety.

It's widely acknowledged that sustainable alternatives tend to be more expensive than their fossil-based counterparts. This can be attributed partly to the early stages of research and development. As results become more available, processes can be optimized, leading to increased efficiency and reduced production costs. Additionally, the utilization of renewable raw materials in low-carbon material production contributes to higher prices. These materials are often scarce, dependent on weather or climate conditions, concentrated geographically, or require additional purification processes, all of which increases production costs. However, as competition amongst producers intensifies and economies of scale come into play, prices will decrease, thus lowering the barrier to entry.

Despite these pricing challenges, 57% expressed a willingness to pay more for sustainable alternatives if

State of Sustainability

For its report "2024 – 2027 State of Sustainability", IMCD Industrial Solutions surveyed top customers around the globe on their insights into eight key topics deemed pertinent to sustainability in industrial sectors. A total of 272 respondents from 25 countries answered questions about some or all of the eight sustainability focus areas. If you're interested in learning more about the data referenced in this article, you can access the full report at bit.ly/IMCD-Sustainability.





they can prove the value to their business and measure sustainable impact. This indicates that the industry is not afraid to invest and that they do not expect sustainable alternatives to be the same cost as their counterparts. Furthermore, 27% are willing to pay

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more if their customer can absorb some of the end cost. Both insights prove that price is not truly the deterrent to sustainable adoption. In fact,

only 6% indicated that budget constraints would prevent them from the adoption of sustainable alternatives altogether, an issue that was most prominent for businesses with fewer than 100 employees.

In the years to come, more meaningful and constructive conversations are anticipated surrounding the costs associated with sustainable alternatives. This improved communication and information sharing within the industry could be just the push needed to incentivize the 84% who are willing to invest more in sustainability initiatives.

Environmental Impact Is Driving Adoption

Among those currently utilizing low-carbon materials, 42% identified environmental impact as the leading factor driving their adoption. Moreover, when asked about the added

value of using these materials, 68% cited environmental impact, ranking it highest on the list where respondents could choose multiple options.

These findings were unexpected. It seemed more plausible that business considerations would outweigh environmental concerns. However, only 48% listed competitive advantage as an added value, while 35% chose regulatory compliance and another 14% checked labelling.

Environmental impact is influenced by various external factors, which can vary greatly by region. In EMEA (Europe, Middle East, and Africa), 45% identified environmental impact as their primary driver for adopting low-carbon materials, with 73% recognizing it as a value-add. Conversely, in the Americas (Canada, US, Mexico, Brazil), environmental impact was also cited as a top driver (37%) and value-add (55%), albeit with slightly less significance. Notably, in EMEA, regulations are often driven

by environmental goals, leading to a stronger commitment to sustainability within the region.

As the industry’s mindset continues to evolve and the benefits of low-carbon materials become more evident, it’s expected that there will soon be a more pronounced alignment between sustainability benefits and business value.

Further references to this article can be requested from the authors.

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